

Money Management Curriculum

Module 2: Loans and Credit Cards

Project Team:

- Ruby Ward, Professor, Utah State University
- Trent Teegerstrom, Associate Director of Tribal Extension, University of Arizona
- Karli Salisbury, Research Associate, Utah State University
- Kynda Curtis, Professor, Utah State University
- Staci Emm, Extension Educator and Professor, University of Nevada Reno
- Carol Bishop, Extension Educator and Associate Professor, University of Nevada Reno



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Agriculture

National Institute
of Food and
Agriculture



Acknowledgments: Vicki Hebb, reviewing content, and Russ Tronstad (University of Arizona) and Stuart T. Nakamoto (University of Hawaii), content.

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Module 2: Loans and Credit Cards

Teaching Notes:

The PowerPoint presentation for this module is short because this module is interactive and focuses on learning to use the MyFi Assist app. We encourage you to study the examples thoroughly. Module 2 breaks down the different components that make up an interest rate, which are time, inflation, and risk. It is important to stress to your students that time and inflation are the same for everyone; it is the risk component that varies from person to person. In this module we don't break down a credit score (see module 4 for more detail about credit scores), but it should be emphasized that credit scores have a big effect on the risk component of an interest rate. Module 2 introduces MyFi Assist, a free financial assistant app. If possible, encourage your students to download the app. MyFi Assist will be used throughout the Money Management Modules and can be a great resource for your students' personal finances. Using MyFi Assist, we have created several examples to show the effects of different interest rates on credit cards, vehicle loans, and home loans. Encourage your students to come up with their own examples as well. The big takeaway from this module is that interest rates have a big effect on how much you have to pay back, which in turn has an effect on how much you have to work to pay that money back. Someone who buys everything on credit will have to work more than someone who saves and then pays cash for the same items.

Educational Objectives:

- Understand the components of an interest rate
- Understand the relationship between your credit score and interest rates
- Learn how to use MyFi Assist to make money management decisions
- Understand the effects of time and interest rates

Discussion Topics:

- Why do we make choice to pay for to have something now?
- What is interest?
- What are interest rates?
- Risk is the factor that affects a person's individual rate. How does knowing this affect you? What does it make you think?
- How are you affected by interest rates, credit cards and loans?

Resources:

- **Worksheets:**
 - a. **MyFi Assist Worksheet** – This worksheet will help your students become more comfortable using the features that the MyFi Assist app has. It has additional examples that the presentation does not cover. Using this worksheet will help your students understand loans and credit better. Covering concepts like: the negative effects of over using credit, the overall impact of an interest rate on the total amount owed on a loan, only paying the minimum payment means it

Module 2: Loans and Credit Cards

will take more money and time to pay that loan off, and the sooner you start saving the better off you will be in the long run.

- **Other:** MyFi Assist app

Outline:

1. Components of an Interest Rate
 - a. Time
 - b. Inflation
 - c. Risk
2. Credit Score vs. Interest Rate
3. MyFi Assist
 - a. Example 1 – Purchase a Pickup for \$30,000
 - b. Example 2 – Pay off a Credit Card with a \$1,800 balance
 - c. Example 3 – Table Comparing Interest Rates and Hours Worked
4. Paying Credit Cards
5. Paying for House Loans
6. Take-Home Message
7. Money Management Module Review
 - a. Module 1: Record Keeping
 - i. Keep track of your income and expenses
 - ii. A good set of financial records will help you build a budget and make better financial choices
 - b. Module 2: Loans and Credit
 - i. Use MyFi Assist to become more savvy about credit card usage
 - ii. Build a budget that will help you become free from credit cards for unexpected expenses
8. Reminder to Keep Track of your Budgeting Exercise

Managing Money Curriculum

Module 2: Loans and Credit Cards

Components of Your Own Budget and Financial Plan



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THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE AND LIFE SCIENCES
Cooperative Extension
What Works Program



University of Nevada
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Key Concepts

- What is included in an interest rate
- Introduction to MyFi Assist app and how to use it
- Finding current interest rates in your area
- Effects of time and interest rates

Homework Assignment:

Keep track of your income and expenses



Components of Interest Rates

If you want to buy a soda.....

- At a movie theater: \$3-4
- At a gas station: about \$1.20
- At a grocery store: about \$0.60
- On sale at a grocery store: \$0.30

Why did you pay more?

5

Components of Interest Rates

You wanted it NOW!

- If you are going to wait, you would need to be compensated.
- This is just like interest.
- You are willing to pay more to have it now.
- So in order for the bank to give you money now, you have to pay for it.
- Or in order for you to let someone else use your money now, they need to pay you.

6

Interest Rates

The three components are

- Time
- Inflation
- Risk

Time and inflation are the same for everyone

Risk is the only factor that varies from person to person

7

Slide 7: Time, or the “real” interest rate, is the amount of return a lender would want in exchange for letting the borrower use the money. There is no inflation or risk taken into account.

Inflation is the amount of return that would offset the devaluation of money due to inflation.

Time and inflation rates do not vary from person to person.

Risk is determined by whether or not the lender believes they will be paid back.

Interest Rates – Time

One component of an interest rate is time

- Someone is compensated for delaying the use of their money
- In the case of a loan, the bank is compensated
- In the case of savings, you are compensated

8

Slide 8: You can refer back to slide 4 where we spoke about situations where you pay more because you don't want to wait.

This is the same for everyone. It is part of an interest rate but not the reason that someone pays more or less than another person.

Interest Rates - Inflation

When I was your age...

- In 1950 a candy bar cost \$0.05
- Was candy more or less expensive then?
- Just looking at the price we would say less expensive.
- However, inflation makes it more difficult to tell.
- Inflation means that everything becomes more expensive over time.
- Some things become more expensive faster, while others can be slower.

9

Slide 9: Inflation is the devaluation of money over time. \$100 in today's money does not have the same value that \$100 will have in 20 years.

If the inflation rate were 10% and you borrowed \$100, at the end of the year you would need to repay \$110.

Again remember that while inflation can change over time, it is the same for everyone. Inflation does not explain why one person pays more or less in interest.

Inflation

- To find out the value of something in today's dollars, use an inflation calculator.
- One is available at www.bls.gov:
http://www.bls.gov/data/inflation_calculator.htm

10

Slide 10: Screenshots of the inflation calculator are included for convenience in the next few slides. If you have an internet connection, you may want to go directly to the online version, which is based on the consumer price index (CPI). The index examines how much it costs to purchase a group of similar goods in each year. That cost sets the index, which is often viewed as a measure of inflation.

The screenshot shows the Bureau of Labor Statistics website with the 'CPI Inflation Calculator' tool. The page title is 'Databases, Tables & Calculators by Subject'. The calculator interface includes a text input field for a dollar amount, a dropdown menu for the base year (set to 1980), and another dropdown menu for the target year (set to 2016). Below these fields is a 'Calculate' button. A small text box below the button says 'About the calculator' and 'How to Browser? Have not access.' Below the calculator is a section titled 'About the CPI Inflation Calculator' with a paragraph of text explaining that the calculator uses the average Consumer Price Index for a given calendar year and that the index value has been calculated every year since 1913.

11

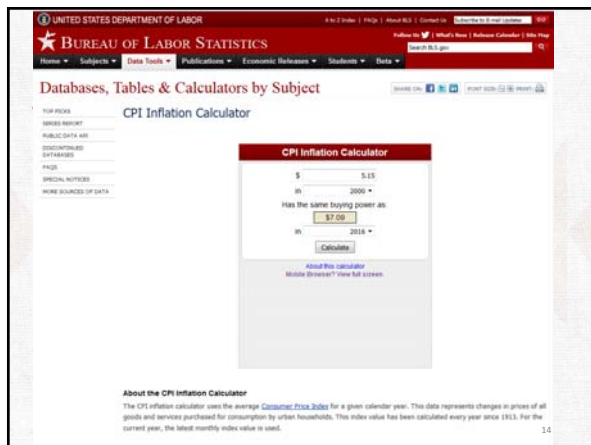
Inflation

- If you delay the use of your money, it will buy less in the future.
- You need to be compensated for the effects of inflation.
- Inflation is another component of interest rate.

12



Slide 13: You can discuss whether a candy bar is more expensive now. Some things have gotten more expensive and others less. It can also be fun to look at how much they made at their first job or how much a house or vehicle cost



Slide 14: This is the minimum wage in 2000

Component of Interest Rates – Risk

- The bigger the risk (chance) of no repayment, the bigger the payout should be.
- You need to be compensated for the risk of lending through a bigger return.
- This happens through a higher interest rate.
- If you are a bigger risk, the bank may charge a higher interest rate if they lend money to you.

Slide 15: As an example, use two members of the audience. Have them come up and pretend that one has a job and always returns stuff when they borrow it. If it is a youth, you can say they always get their homework done. The other one borrows things and never returns them, they don't have a job, their homework is always late, etc. Have the audience choose which one they would be willing to lend their money to. After they choose the responsible one, you can ask them why they chose that person. You can also ask them what it would take to loan their money to the slacker. They should be willing to make a loan if the person gives them something really good or more money.

Risk

- A credit score is a measure of risk.
- Find current interest rates for various loans at <http://www.myfico.com/CreditEducation/Calculators/loanrates.aspx>
- Choose your state and the type of loan

Slide 16: Module 4 will go over credit scores in detail and also talk about ways to improve your score. They are introduced here as a way to show how different the rates are because of risk.

Credit Scores vs. Interest Rates

Credit Score	Interest Rate
720-850	3.606%
690-719	5.008%
660-689	6.781%
620-659	9.265%
590-619	14.614%
500-589	16.978%

- Example rates by credit score for Arizona
- 60-month new auto loan

Source: MyFico.com

Slide 17: This is a good place to reinforce the idea that time and inflation are the same for everyone, but the reason these rates are different is because of the perception of the risk of lending to someone with different credit scores.

Practical Use

- What does all this really mean?
- Let's put it into practice



- MyFi Assist – an app for “My Financial Assistant”
 - Free
 - Available in IOS and Android
 - Can be personalized to your situation

More information about the app and other materials are available at DiverseAg.org/Money

Slide 18: MyFi Assist will be used to calculate different examples here. Information on how to use the app and other materials is available at DiverseAg.org/Money.

Screen shots and the example is here, but it would be useful to have participants download the app and use their own examples. For example, buying a horse, saddle, etc.

Example 1

- You would like to purchase a pickup and need to borrow \$30,000 now. You will pay it off with monthly payments over 4 years. The interest rate is 6% annually.
- Use MyFi Assist, “Paying for a Loan”
 - Calculate the monthly payment
 - Calculate how many hours you would need to work per month if you make \$12 per hour .
 - What is the total you will pay for the pickup?
 - Is it more than \$30,000?

Slide 19: To answer the hours worked, you will need to put “hours worked” and “\$12” in the personal preferences of MyFi Assist. Use the “Paying for A Loan”

Example 1 Cont.

- You would like to purchase a pickup and need to borrow \$30,000 now. You will pay it off with monthly payments over 4 years. The interest rate is 6% annually.
 - Calculate the monthly payment **\$705**
 - Calculate how many hours you would need to work per month if you make \$12 per hour . **58.7 hours per month**
 - What is the total you will pay for the pickup?
 - Is it more than \$30,000? **\$33,818.**
The extra amount is interest.

The total amount of interest is \$3,818.44

You will have to work 318 hours just to cover the interest

Slide 21: Here is where you can see why we put in an item and amount of the item in the personal preferences. In this case we used hours worked and \$12 per hour. Other ideas are calves, bales of hay, energy drinks, packs of cigarettes, etc. Anything that the business produces, or that individuals buy regularly.

In future modules we will talk about wants vs. needs.

How would the payment and hours worked each month vary with the interest rate? Complete the table:

Credit Score	Interest Rate	Monthly Payment	Hours Worked/Month
720-850	3.89%		
690-719	5.72%		
660-689	8.30%		
620-659	10.58%		
590-619	16.61%		
500-589	19.06%		

22

Slide 22: Remind them that an interest rate is based on time, inflation, and risk but that risk differs by person. It is the risk that changes the credit score from 3.9% to 19.1%. A future module will talk about credit scores and what they can do to fix theirs.

This chart is to allow the audience to continue with the example in the previous 2 slides. Borrowing \$30,000 for a truck and paying it off over 4 years. The personal preferences are still hours worked and \$12.

You could also look at changing the down payment amount.

Even if it is not realistic to get your credit score to the highest level, even improving it enough to go up a couple of levels makes a difference. Conversely, doing things that will bring your credit score down just enough to drop by one level could have significant difference in payments.

Slide 23: You could also look at changing the down payment amount. Change the number of years for the loan. Let the class come up with examples. That is a \$220 difference, or an extra 19 hrs a month. That is just for one expense.

How would the payment and hours worked each month vary with the interest rate? Complete the table:

Credit Score	Interest Rate	Monthly Payment	Hours Worked/Month
720-850	3.89%	\$676	56
690-719	5.72%	\$701	58
660-689	8.30%	\$737	61
620-659	10.58%	\$769	64
590-619	16.61%	\$860	72
500-589	19.06%	\$898	75

23

Example 2

- You want to pay off a credit card with a balance of \$1,800. The interest rate on the credit card is 12%.
- If you were to make the minimum monthly payments of \$25, how long would it take for you to pay it off?
- How long would it take to pay it off if you increased the monthly payments to \$75?

24

Slide 24: This example shows how to use the “Pay Off Credit Card”. The examples here still have the personal preferences set to \$12 and Hours Worked.

MyFi Financial Assistant

How long will it take to pay off my debt?

What is the annual interest rate?

What's the balance you owe today?

How much will you pay each month?

Calculate

Time to pay off balance: 127.93 Months

The total amount you will pay in interest is 1,398.25
 After making all your payments you will pay 3,198.25

You will need 77 hours worked each month
 The total amount is equivalent to 2616 hours worked
 The total amount is equivalent to 114.84 hours worked

Example 2 Cont.

- If you were to make the minimum monthly payments of \$25, how long would it take to have you pay it off?
 - 128 months and \$1,398 in interest on the original balance.**
- How long would it take to pay it off if you increased the monthly payments to \$75?
 - 28 months and \$269 in interest on the original balance.**

25

Slide 25: Some research has shown that people that try to pay off debt as fast as they can are more successful than those that plan to do it over a longer period of time.

Part of the reason is that especially with higher interest rates, the faster you can pay it off the less you have to pay.

Paying Credit Cards

- The interest rate on a credit card and the amount paid each month will determine how long it will take to pay off a credit card.
- Use MyFi Assist "Pay Off Credit Card."
- \$1,200 owed and you will pay \$50 each month
- How many months will it take if your interest rate is 5%, 10%, 15%, or 20%?

26

Paying Credit Cards

- Use MyFi Assist "Pay Off Credit Card."
- \$1,200 owed and you will pay \$50 each month. You make \$12 per hour.
- How many months will it take if your interest rate is
 - 5% - 25.3 months, work 106 hours
 - 10% - 27 months, work 112 hours
 - 15% - 28 months, work 120 hours
 - 20% - 31 months, work 129 hours

27

Slide 27: You can again refer back to the idea of risk and what it means if your interest rate is higher. The higher your rate, the more hours you have to work to pay for the credit card.

If you have a lot of consumer debt, you are always paying a lot more for what you buy or you are always working a lot more hours to pay for it.

Sometimes the best thing is to try to get out of debt as fast as possible, but it still comes down to keeping track or your expenses and coming up with a plan to pay off the debt. We will go over this in later modules.

Paying Credit Cards

- Use MyFi Assist "Pay Off Credit Card."
- \$1,200 owed and you will pay \$50 each month
 - 5% - 25.3 months, work 106 hours
 - 10% - 27 months, work 112 hours
 - 15% - 28 months, work 120 hours
 - 20% - 31 months, work 129 hours
- Assume the rate is 20% and you make the minimum monthly payment of \$25
 - 97 months, work 203 hours
- Assume the monthly payment is \$21
 - 184 months, work 322 hours

28

Slide 28: These examples show the difference in interest rates and how much they have to pay.

Ask them if they can buy the same things if they are paying more in interest. If two people have the same job and one buys an item with savings and the other always borrows the money and makes minimum payments, can they afford to buy the same things? Assume they work the same number of hours each week.

If you buy on credit do you have to work more or less hours?

If your interest rate is higher do you have to work more or less hours?

Anything they pay above the \$1,200 is interest. The only difference in all of these examples is the interest paid, not what they originally purchased.

Paying for Home Loans

- MyFi Assist can also be used to look at home loans.
- The interest rate on a home loan does not vary as much as the interest rate on auto loans. Why?
 - The house provides collateral. With bad credit you may not get a loan, or the amount you can borrow will be significantly less.
 - Use "Paying for a Loan" to look at how much monthly payments would change with different interest rates and different down payment amounts.

29

Paying for Home Loans

- MyFi Assist can also be used to look at home loans.
- Use "Paying for a Loan" to look at how much monthly payments would change with different interest rates and different down payment amounts.
- Use "Pay Off Credit Card" to look at how making larger payments can reduce the amount of time to pay off the mortgage.

30

Take Home Message

- Lower credit scores mean higher interest rates.
- Higher interest rates means borrowing will cost you more.
 - You will have to work more hours to pay for it
- If you make smaller credit card payments, it will take you longer to pay the balance off and you will end up paying more.

31

Money Management Review

- Module 1: Record Keeping
 - Keep track of your income and expenses
 - Find a record keeping system that works for you and update it often
 - A good set of financial records will help you build a budget and make better financial choices
- Module 2: Loans and Credit
 - Use the MyFi app to become more savvy about credit card usage.
 - Build a budget that will help you become free from credit cards for unexpected expenses

32

Long Term Assignment

Remember to track your
Income and Expenses

Next Lesson: Applying for a Loan – The 5 C's of Borrowing

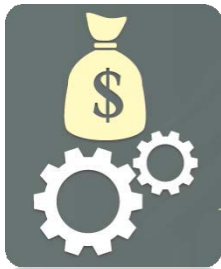
Questions?

33



Thank you!

Download *MyFi Assist* from



OR



Learn how to examine different financial situations, such as

- Paying off credit cards
- Applying for loans
- Investing in a savings fund

Personal Preferences: Before using *MyFi*, set up your personal preferences. Your personal preferences can be anything that has meaning for you, as well as a monetary value. *MyFi Assist* will translate the monetary value of loan payments, interest rates, and savings into a value of your personal preference. If you like to look at your spending in terms of how many hours you work use “Hours Worked” and setting the value to your hourly pay rate. For this worksheet we are using “Head of Cattle” and setting the value to \$1,000.

Using Credit: Credit is a tool, just like a drill is a tool. If you know how to use a tool correctly, you can do things that you would not be able to do without the tool. However, used incorrectly, you can get hurt. Anytime you use a tool, you should first understand how the tool works to use it safely. Credit is the same.

Example 1:

Jake and George both have cow-calf operations. They each buy feed for \$4,000. George pays cash for the feed, while Jake buys it with credit and then pays it off. Each head of cattle can be sold for \$1,000.

How many head of cattle did George have to sell to earn enough to pay for the feed?

If Jake used a credit card with 18% interest to buy the feed and it took him 1 year to pay off the credit card, how much did he end up paying?

How many head of cattle did Jake have to sell to pay for the feed? _____

Note: Use the “**Paying for a Loan**” to answer the second question. Make sure your personal settings were set to # of Cattle and \$1,000/Cattle.

If Jake and George sell the same number of cattle, but Jake always buys feed on credit, can they purchase the same amount of feed? Yes or No

When would credit be a useful tool?

How does the interest rate affect your payment?

Interest is what you pay someone (i.e., a bank) for using their money. It is set based on time, inflation, and risk. Time and inflation are the same for everyone, but risk may change.

Example 2:

Assume you purchase a truck for \$15,000 with no down payment. Use “Paying for a Loan” to fill in the table.

Fico Score	APR	Monthly Payment	Total Head of Cattle	Total Paid	Interest Paid
720-850	3.5 %				
690-719	4.9 %				
660-689	7.4 %				
620-659	10.1 %				
590-619	16.4 %				
500-589	18.3 %				

Source: <http://www.myfico.com/myfico/creditcentral/loanrates.aspx> (Utah 48 month used auto loans.)

Minimum Payments: Making the minimum payment may save you money in the short term, but in the end you will pay hundreds more than the original loan amount. Also, making just the minimum payment on unsecured loans, like credit cards, could raise a red flag for lenders; it may show that you are not capable of taking on additional loan payments. If you can pay more than the minimum payment, do it.

Example 3:

Assume you want to pay off a \$5,000 credit card balance that has a 12% interest rate. Use “Pay Off Credit Card” to fill in the table.

Monthly Payment	Total Paid	Interest Paid	Total Head of Cattle	Time to Pay off Balance
\$100				
\$150				
\$200				
\$250				

Money Management Module 2: MyFi Assist Worksheet

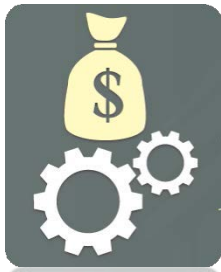
Savings: The more time you have, the more your money will grow. Find out how much you would have to save each month to become a millionaire by the time you are 65 if you start saving when you are:

Start Saving at	Earn 7% interest		Earn 10% interest	
	Interest Earned	# of Cattle / year	Interest Earned	# of Cattle / year
15 years old				
25 years old				
35 years old				
45 years old				

Note: Use the “Savings Payment” to calculate the answers. Assume you have nothing saved now and you will need \$1 million.

What effect do interest rate and time have on the amount you need to save each month? What does this tell you about saving for retirement?

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OR



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How many head of cattle did George have to sell to earn enough to pay for the feed?

4 Head of Cattle

If Jake used a credit card with 18% interest to buy the feed and it took him 1 year to pay off the credit card, how much did he end up paying? **\$4,400**

How many head of cattle did Jake have to sell to pay for the feed? **4.4 Cattle so 5 Cattle**

Note: Use the “**Paying for a Loan**” to answer the second question. Make sure your personal settings were set to # of Cattle and \$1,000/Cattle.

If Jake and George sell the same number of cattle, but Jake always buys feed on credit, can they purchase the same amount of feed? Yes or **No**

When would credit be a useful tool?

When you want to buy a house or invest in your business by buying large equipment.

How does the interest rate affect your payment?

Interest is what you pay someone (i.e., a bank) for using their money. It is set based on time, inflation, and risk. Time and inflation are the same for everyone, but risk may change.

Example 2:

Assume you purchase a truck for \$15,000 with no down payment. Use “Paying for a Loan” to fill in the table.

Fico Score	APR	Monthly Payment	Total Head of Cattle	Total Paid	Interest Paid
720-850	3.5 %	\$355	16.1	\$16,096	\$1,096
690-719	4.9 %	\$344	16.5	\$16,549	\$1,549
660-689	7.4 %	\$362	17.4	\$17,375	\$2,375
620-659	10.1 %	\$381	18.3	\$18,296	\$3,296
590-619	16.4 %	\$428	20.6	\$20,553	\$5,553
500-589	18.3 %	\$443	21.3	\$21,263	\$6,263

Source: <http://www.myfico.com/myfico/creditcentral/loanrates.aspx> (Utah 48 month used auto loans.)

Minimum Payments: Making the minimum payment may save you money in the short term, but in the end, you will pay hundreds more than the original loan amount. Also, making just the minimum payment on unsecured loans, like credit cards, could raise a red flag for lenders; it may show that you are not capable of taking on additional loan payments. If you can pay more than the minimum payment, do it.

Example 3:

Assume you want to pay off a \$5,000 credit card balance that has a 12% interest rate. Use “Pay Off Credit Card” to fill in the table.

Monthly Payment	Total Paid	Interest Paid	Total Head of Cattle	Time to Pay off Balance
\$100	\$6,933	\$1,966	7	70 months
\$150	\$1,112	\$1,112	6.1	41 months
\$200	\$5,782	\$782	5.8	29 months
\$250	\$5,607	\$607	5.6	22 months

Savings: The more time you have, the more your money will grow. Find out how much you would have to save each month to become a millionaire by the time you are 65 if you start saving when you are:

Start Saving at	Earn 7% interest		Earn 10% interest	
	Interest Earned	# of Cattle / year	Interest Earned	# of Cattle / year
15 years old	\$889,869	2/year	\$965,367	1/year
25 years old	\$817,130	5/year	\$924,100	2/year
35 years old	\$704,911	10/year	\$840,742	5/year
45 years old	\$539,283	23/year	\$683,948	16/year

Note: Use the “Savings Payment” to calculate the answers. Assume you have nothing saved now and you will need \$1 million.

What effect do interest rate and time have on the amount you need to save each month? What does this tell you about saving for retirement?

The higher the interest rate and the longer amount of time you have to save, the less you have to invest each month. The sooner you start saving for retirement the better.