

7.6.3: Credit Cards Auto Loans and Other Personal Debt

How Much Have Americans Borrowed?

Prior to the Pandemic (and the subsequent recession), household or consumer debt outstanding was at an all-time high.

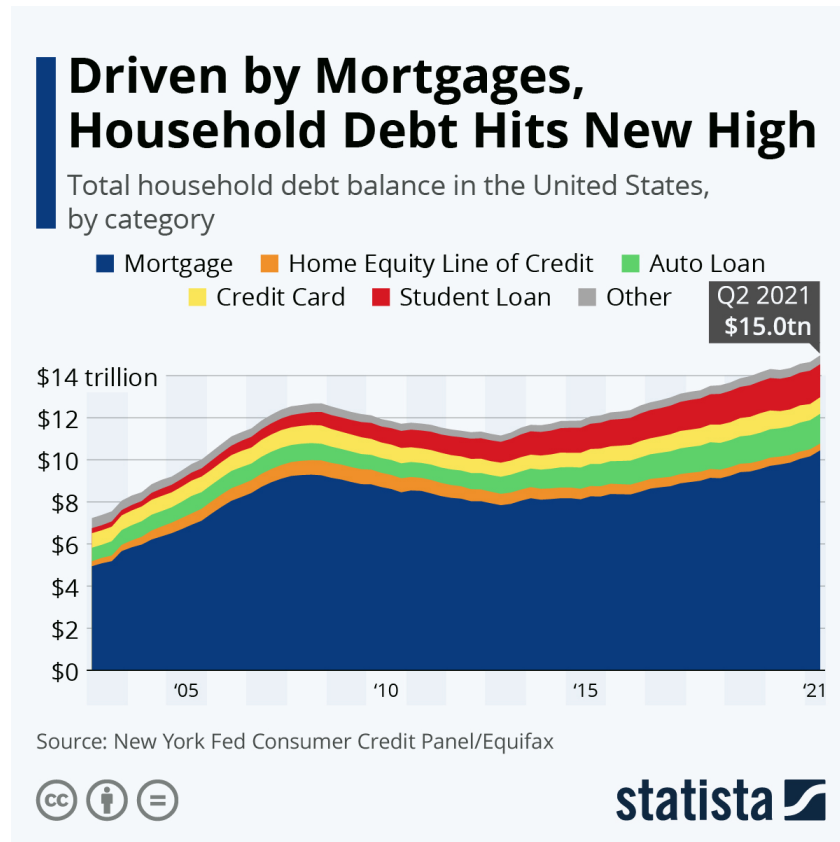


Figure 7.6.3.1: Household Debt Hits New High by Statista is used under a CC BY-ND 3.0 License.

The total amount of consumer credit outstanding at the end of the first quarter of 2020 was \$14.3 trillion. Of this amount, here are the types and amounts of the outstanding loans as of the end of Q1, 2020 (note that the Pandemic Recession began in February 2020, but the President's order to shut down restaurants, hotels, bars, etc. was March 16, 2020).

Household Debt and Credit Developments as of Q1 2020

CATEGORY	QUARTERLY CHANGE * (BILLIONS \$)	ANNUAL CHANGE** (BILLIONS \$)	TOTAL AS OF Q1 2020 (TRILLIONS \$)
MORTGAGE DEBT	(+) \$156	(+) \$469	\$9.71
HOME EQUITY LINE OF CREDIT	(-) \$4	(-) \$20	\$0.39
STUDENT DEBT	(+) \$27	(+) \$49	\$1.54
AUTO DEBT	(+) \$15	(+) \$66	\$1.35
CREDIT CARD DEBT	(-) \$34	(+) \$45	\$0.89
OTHER	(-) \$5	(+) \$23	\$0.43
TOTAL DEBT	(+) \$155	(+) \$632	\$14.30

*Change from Q4 2019 to Q1 2020

** Change from Q1 2019 to Q1 2020

Figure 7.6.3.2: Household Debt and Credit Developments as of Q1 2020 by Federal Reserve Bank of New York has no known copyright restrictions.

What Determines Interest Rates

As a practical matter, we need to divide interest rates into short-term interest rates—those where the principle must be repaid in one year or less—and long-term interest rates—those where the principle must be repaid over a period in excess of one year. Some short-term interest rates include credit cards, treasury bonds with maturity of less than one year, business or personal lines of credit, and corporate paper loans. Long-term interest rates include automobile loans, home mortgages, student loans, and home equity lines of credit.

Interest rates, both short- and long-term, are ultimately determined like any good or service; that is, by the laws of demand and supply. The equilibrium interest rate and equilibrium quantity of loans borrowed is determined by the intersection of demand for loans and supply of loans. The graph below calls the good we are examining financial capital. It is often also called the demand and supply of loanable funds or the demand for and supply of loans.

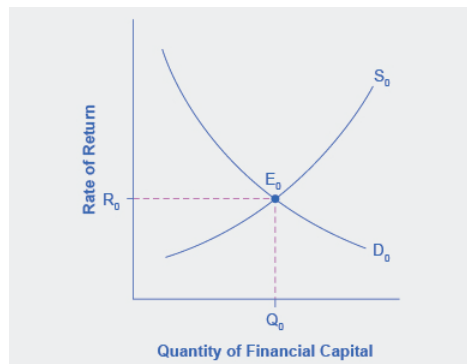


Figure 7.6.3.3: The United States as a Global Borrower Before and After U.S. Debt Uncertainty by Steven A. Greenlaw and David Shapiro is used under a CC BY 4.0 License.

We can see who creates the demand for loans and the supply of loans by using a simple model known as the circular flow of the economy. Households supply labor to firms and receive wages in return. Firms produce goods and services by using labor along

with the plants and equipment they own (physical capital), as well as natural resources and raw materials (sometimes called “land”). Firms then sell these goods and services to households (consumption spending). Households spend some of their disposable income and save some of it:

$$\text{Disposable Income} = \text{Consumption} + \text{Saving}$$

Households put their savings into banks or stocks or bonds, therefore:

$$\text{Savings} = \text{Investment}$$

The savings that households deposit in banks are the Supply of Loanable Funds.

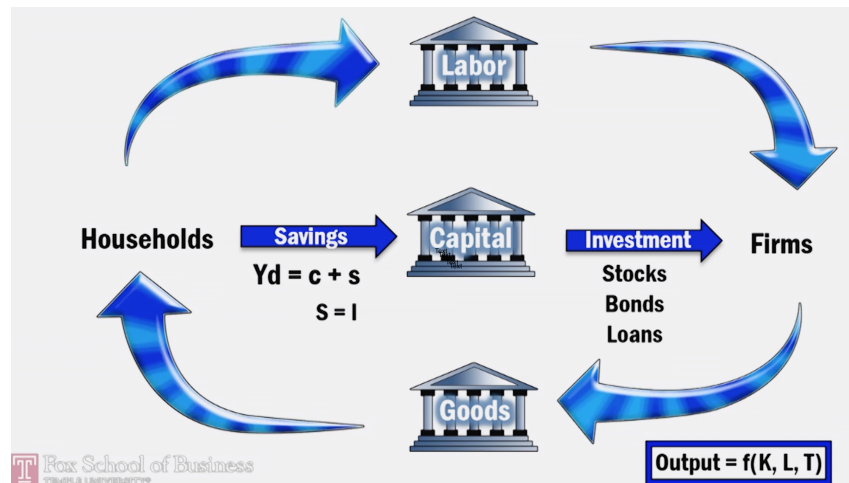


Figure 7.6.3.4: Market for Loanable Funds

Households supply Loanable Funds to banks through deposits. How much Loanable Funds households supply is determined by the price they will be paid for their savings (the interest rate) and other factors, such as how much income they make. Firms, households and the government demand Loanable Funds. The price of Loanable Funds and other factors, such as the state of the economy, determine how large the demand is. Banks are the intermediaries, who collect the deposits and lend them out to the borrowers, adding a markup, of course, to cover their overhead and to create a profit for their stockholders.

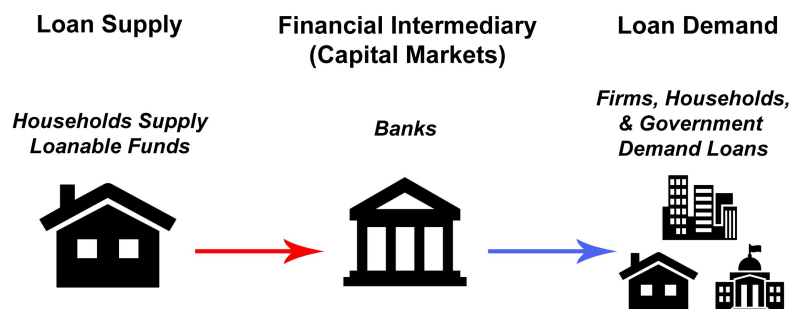


Figure 7.6.3.5: The Three-Sector Economy Model by North Broad Press adapts *Owning a Home, Bank Account, Government Building, and Ciudad* (by Ecelan) and is used under a CC BY-SA 4.0 License.

In general, financial intermediaries are in business to make a profit. While this is not true of credit unions, they still have to pay interest to their depositors, cover their workers’ wages, and fund overhead; they just do not have to make money above their expenses to pay to stockholders. In any case, financial intermediaries supply banking services. As a producer of banking services, we can characterize their production function like any other firm:

$$\text{Output} = f(K, L, T)$$

$$K = \text{PhysicalCapital(Plants, EquipmentandRawMaterials)}$$

$$L = \text{Labor}(\# \text{ of Employees or Annual Hours Worked})$$

$$T = \text{Technology}(\text{Level of Technology, e. g. handmade or automated})$$

For any firm, the definition of profit is:

$$\text{Profit} = \text{Total Revenue} - \text{Total Costs}$$

For financial intermediaries, their total revenue is the interest they earn on the loans they make plus some investment returns (usually Treasury Bonds). Their costs are the interest they pay their depositors, interest on Commercial Paper, physical capital expenses, and employee wages. Thus, a financial intermediary defines profit as such:

$$\text{Profit} = \text{Interest Earned on Loans} -$$

$$\text{Interest Paid on Deposits Cost of Plants and Equipment} - \text{Wages Paid to Employees}$$

To cover all its expenses, the financial intermediary must decide what breakeven interest rate it must charge on its loans. In order to understand this, we can think of interest rates as having three components:

1. A Risk Premium
2. Expected Inflation
3. The Time Value of Money

Let's imagine you are going to throw a party for all your friends. You have saved \$1,000 and have exactly enough money to buy 20 kegs at \$50.00 apiece. A couple weeks before the party, your best friend says his car broke down, and he really needs it for work. It will cost \$1,000 to fix it, and he asks you to lend him \$1,000.00 and promises to pay you back within one year with interest. Tough call, right? It is your best friend, of course, so you lend him the money for one year. But what interest rate should you charge? Let's examine the components.

First, you are giving up using your \$1,000 for the party (Consumption), and you deserve some interest payment. This is known as the time value of money. The time value of money over the long term has historically been 2 to 3% (a rate we have seen on long-term loans when there is no inflation).

Second, when you get the \$1,000 back, you want to still be able to buy 20 kegs of beer. If the cost of the kegs has inflated, you want the principal amount you lent to still be worth \$1,000, so you want the future or expected inflation rate to be applied to the principal. Let's say this is 2%.

Finally, there is a risk premium on top of all this. Let's say you expect your friend to only pay back 95% of the principal. You want to be made whole, so you charge this risk premium of 5% on top of the other two components. This part of the analogy does not work as well, but in real world banking, if you have \$1,000,00 in loans outstanding and historically 5% of the loans default, you have to get that 5% back first before you can start earning on your money. If we add these components all together, you would charge your friend 9% for a one year loan of \$1,000.

1. A Risk Premium: 5%
2. Expected Inflation: 2%
3. The Time Value of Money: 2%

Figuring this all out can be mentally exhausting, so financial intermediaries use a shortcut. U.S. Treasury Bonds are considered the safest investment in the world, so the U.S. is charged an interest rate that includes only the time value of money plus expected inflation. For example, let's say a ten-year U.S. Treasury Bond pays an annual interest of 4%. Since we know the time value of money is 2%, these must be the components of that 4% interest rate:

1. A Risk Premium: 0%
2. Expected Inflation: 2%
3. The Time Value of Money: 2%

As a short cut, financial intermediaries look at the market interest rate on the appropriate term length U.S. Treasury Bond and match it to a loan they are making with the same term length and add a risk premium. Let's look at the current rates for Treasury Bills, Treasury Notes and Treasury Bonds. The maturity of a Treasury obligation is its term; that is, when the principal amount will be paid back in full.

1. Treasury Bills mature in one year or less.
2. Treasury Notes mature in two to ten years.
3. Treasury Bonds mature in longer than ten years.

Table 7.6.3.1: Daily Treasury Yield Curve Rates (Treasury Bills and Bonds)

Date	1 Mo	2 Mo	3 Mo	6 Mo	1 Yr	2 Yr
8/7/20	0.08%	0.09%	0.10%	0.12%	0.14%	0.13%

Date	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
8/7/20	0.14%	0.23%	0.41%	0.57%	1.01%	1.23%t

Source: U.S. Treasury

These yields can be graphed into what is known as a yield curve. The yield curve will shift as the various rates change so there will be a new yield curve every day. Note that the longer the maturity of the Treasury Notes and Bonds, the higher the interest rate. To put it simply, the longer the maturity, the higher the expectation of a bigger inflation rate, thus the expected inflation component increases. Note that during the Pandemic Recession, the Federal Reserve Bank reduced short-term interest rates to effectively zero and reduced long-term interest rates to historical lows by buying Treasury Notes. For an example, see below for the historical rates on the bond market bellwether: the Ten-Year Treasury Note. (A bellwether is a leader or a leading indicator of a trend. The lead sheep of a flock has a bell around its neck and is called the bellwether.)

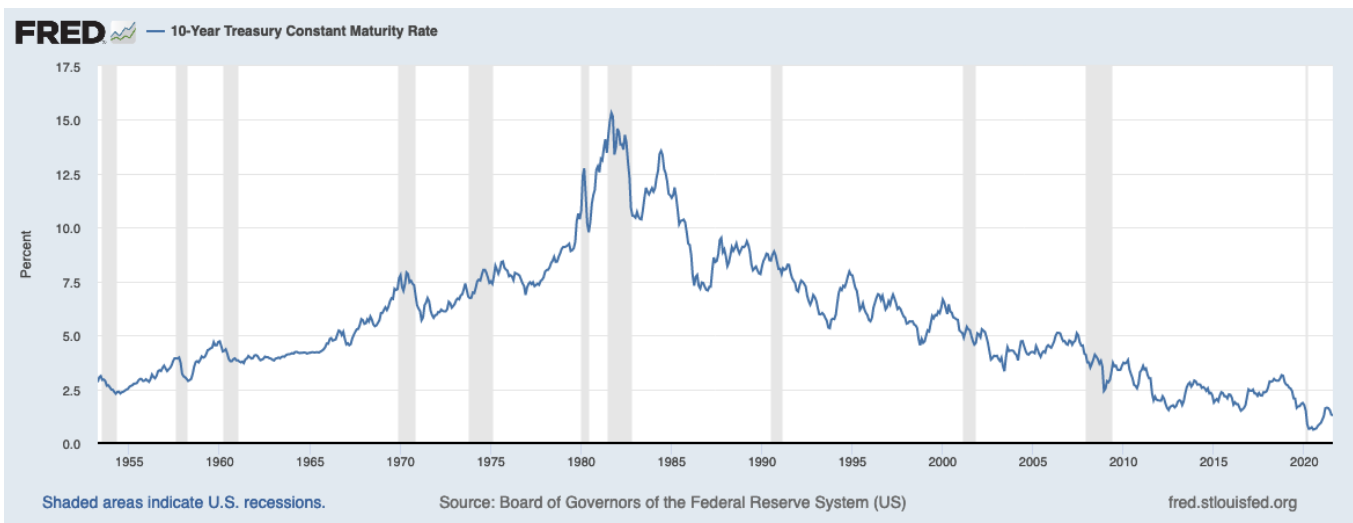


Figure 7.6.3.6: Board of Governors of the Federal Reserve System (US), 10-Year Treasury Constant Maturity Rate [GS10], retrieved from FRED, Federal Reserve Bank of St. Louis; October 1, 2021.

Looking back at setting interest rates, we can examine auto loans and mortgages to get a better idea of how this works. For an auto loan of 48 months, banks will take the 5-year Treasury Note and add a risk premium. For a 30-year mortgage, banks will take the 10-year Treasury Note and add a risk premium. By subtracting the corresponding Treasury Note rate to the auto loan or mortgage rate, we can calculate the risk premium. For example, this is how these rates looked as of August 7, 2020.

Table 7.6.3.2: Auto Loan and Mortgage Rates

Loan	Loan Rate	Treasury Note Rate	Risk Premium
Auto Loan (48 months)	4.27%	5 yr Note = 0.23%	4.04%
Home Mortgage (30 years)	3.08%	10 yr Note = 0.57%	2.51%

The risk premium added to the similar term length U.S. Treasury Bill or Bond often follows the default rate on that type of loan. This is because if, for example, 3% of your automobile loans are not paid back, you have to recover that 3% before you can earn any interest. Here are the historical delinquency rates on various loans (90 days overdue):

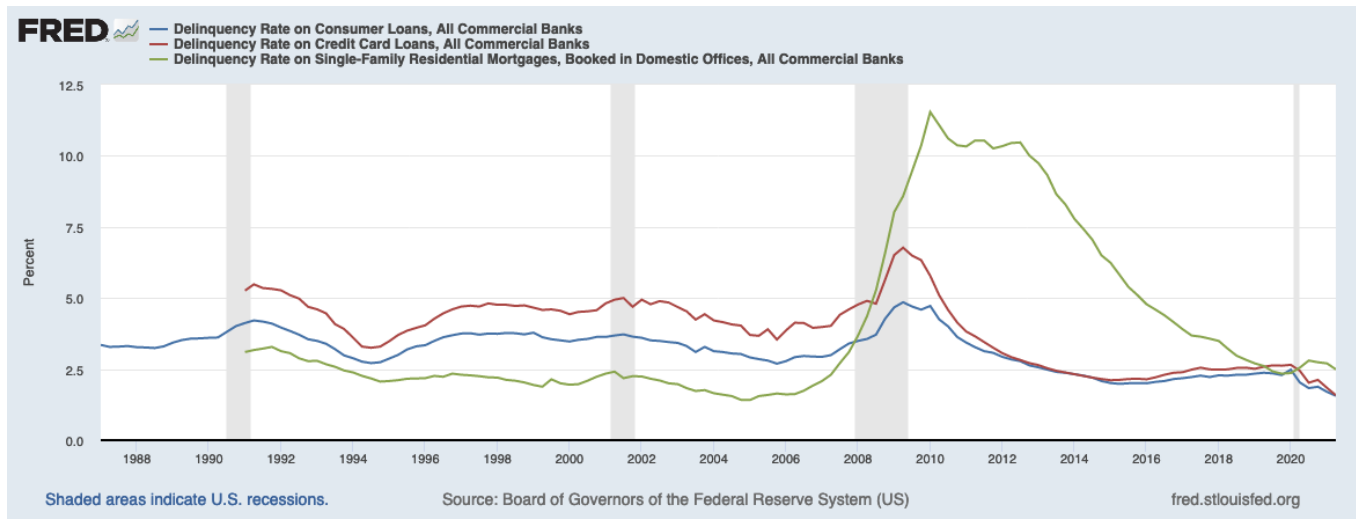


Figure 7.6.3.7: Board of Governors of the Federal Reserve System (US), Delinquency Rate on Consumer Loans, All Commercial Banks [DRCLACBS]; Delinquency Rate on Credit Card Loans, All Commercial Banks [DRCCLACBS]; Delinquency Rate on Single-Family Residential Mortgages, Booked in Domestic Offices, All Commercial Banks [DRSFRMACBS]; retrieved from FRED, Federal Reserve Bank of St. Louis; October 1, 2021.

Your Credit Score

The Fair-Isaac credit score (FICO) is the most popular credit score used by financial institutions and other firms interested in your financial stability. Its scale ranges from 300 to 850, and since most Americans have a score of 700 or above, people with that magic 700 (or higher) are considered prime credit risks. Your FICO score is made up of a weighted mix of your financial transaction history. Here are the weights (and their explanations).

Payment History (35%)

The first thing any lender wants to know is whether you have paid past credit accounts on time. This helps a lender figure out the amount of risk it will take when extending credit. This is the most important factor in a FICO Score. Be sure to keep your accounts in good standing to build a healthy history.

Amounts Owed (30%)

Having credit accounts and owing money on them does not necessarily mean you are a high-risk borrower with a low FICO Score. However, if you are using a lot of your available credit, this may indicate that you are overextended. Banks might interpret this to mean you are at a higher risk of defaulting.

Length Of Credit History (15%)

In general, a longer credit history will increase your FICO Scores. However, even people who have not been using credit for long may have high FICO Scores, depending on how the rest of their credit report looks. Your FICO Score will look at how long your credit accounts have been established, including the age of your oldest account, the age of your newest account, and an average age of all your accounts. It will also factor in how long specific credit accounts have been established and how long it has been since you used certain accounts.

Credit Mix (10%)

FICO Scores will consider your mix of credit cards, retail accounts, installment loans, finance company accounts, and mortgage loans. However, it is not necessary to have one of each.

New Credit (10%)

Research shows that opening several credit accounts in a short amount of time represents a greater risk, especially for people who do not have a long credit history. If you can avoid it, try not to open too many accounts too rapidly.

FICO is the leading credit scoring model. In 2006, the three major credit bureaus—TransUnion, Equifax, and Experian—joined forces to create VantageScore in order to compete with FICO. The VantageScore 3.0 is used mainly by the credit card and auto

sectors while the FICO score is used by the mortgage sector. The weights used by VantageScore 3.0 are similar to the weight of your FICO score. Here are a few facts about credit scores:

- Average FICO Score: 706
- Average VantageScore: 685
- Average U.S. Household Credit Card Balance: \$8,602
- Average Annual Percentage Rate on Credit Cards: 17%
- Amount of Time Adverse Info Stays on Your Credit Report: 7 years

Source: FICO, Vantage, Federal Reserve Bank, 2019

How to Get and Maintain a Good Credit Score

Your parents and acquaintances likely have a lot of advice on how to get and maintain a good credit score. Some of this advice is correct, but some of it is a myth.

In her 2019 article, “9 Myths About Credit Scores,” Demetria Gallegos presents a comprehensive overview of the do’s and don’ts of credit scores. Gallegos points out that with the near universal use of credit scores today by banks, landlords, employers, rental agencies, and others, your credit score represents more than the financial aspects of your life. Your credit score can be the key to a better standard of living. Gallegos debunks the common myths around credit scores; I have listed these below and included my commentary (Gallegos (2019)).

Myth: Checking My Credit Score Hurts My Credit Score.

There is a difference between a hard inquiry and a soft inquiry. A hard inquiry is when a bank checks your credit in order to evaluate whether they will extend a loan to you. A soft inquiry is an employer checking your credit as part of a background check on you or a utility company checking your FICO score to set up a new account. Each hard inquiry will drop your FICO score by a few points. Almost all soft inquiries will not. If you are simply checking on your credit score, there will be no loss of points. You can check your credit score for free on a number of websites, like Discover Credit Score, Credit Karma, or Mint.

Discover Credit Score is best in terms of data sharing and solicitation. If you just want to check your credit score, they do not share your info with any other credit card company or commercial enterprise. Credit Karma has the most comprehensive information available, providing a look at all of your outstanding credit and information reported to two of the three credit agencies. It also allows you to dispute a late report or other inaccurate information directly from their website. However, they do sell your info to credit card companies, and you will likely receive credit card solicitations. Mint is owned by the accounting and financial software company, Intuit, and is primarily a free personal budgeting site. You will need to sign up for the personal budget offering before you can enter the site.

Myth: If I Pay My Bills on Time, That is All I Need to Worry About.

All you have to do is look at the credit score components above to realize that paying your bills is not enough on its own. Pay attention to how much credit you have available and how much of your total credit is outstanding. As a rule of thumb, you should only have about 30% of your total credit limit outstanding. Try spreading your purchases among two or more credit cards. Call your credit card companies and ask for your credit limits to be increased. If you have good credit, the credit card companies will oblige you 80% or more of the time. This will immediately reduce the percentage of your outstanding credit.

Myth: Carrying a Balance on My Credit Card Helps Boost My Credit Score.

Carrying a balance will not help your credit score. In fact, if the balance is above 30%, it will hurt your credit score.) In addition, carrying a balance if you can afford to pay it off just costs you interest payments.

Myth: Closing an Old Credit Card with a High Interest Rate Will Help My Score.

Since the amount of outstanding credit in part determines your credit score, it is best to pay off high interest credit cards and leave them open. Do not cancel them unless they charge you an annual fee. If there is a fee involved, call the credit card company and ask them to substitute a card without a fee and ask to have the same credit card number.

Remember, the length of the credit extended helps your score. FICO ignores the closed account status and continues averaging the age of the closed account with your open accounts. Vantage, however, removes closed accounts (and your payment record) from its calculation, so you lose the value of positive payment on a past account. The best policy is to keep high interest credit cards open and use lower interest credit cards for purchases.

Myth: Opening a New Retail Credit Card Is Good for My Credit Score.

Retailers entice you with 0% interest and other incentives to open new credit cards. When you do, the average age of your credit gets younger, and you lose a few points from the inquiry. In addition, the interest rate from the retailer after the initial period is generally higher than the average interest rate on your other credit cards.

Myth: It Hurts My Credit Score to Comparison Shop for a Mortgage, Auto or Student Loan.

The credit rating models take comparison shopping into account. If the credit rating agencies see multiple hard inquiries around the same time, they will assume you are shopping around. However, there is a time limit on this. VantageScore bundles similar inquiries within 14 days into one hard inquiry. FICO has shopping periods of 14 to 45 days, depending on the type of credit. In any event, a good tip if you are buying a house is to wait till after closing to take on any new credit for furniture or appliances. This will assure the highest credit score as you go into closing.

Myth: The Older My Unpaid Debt, The More It Hurts Me.

Late payments, collections, foreclosures and Chapter 13 bankruptcies remain on your credit report and hurt your credit score for seven years. However, the older the credit problem, the less it affects your credit. So if you have an unfortunate event like a bankruptcy or foreclosure, stay current with any new or existing credit you are not delinquent on. As to collections, credit card companies aggressively pursue delinquent accounts for about two years. After that, they often sell the delinquent debt to collection agencies and take the debt off their books. If a legitimate collection company contacts you, you should try to make a deal to pay only part of the debt. Collection companies usually buy delinquent debt for 20% of its full value, so anything they collect over that is profit. The Consumer Financial Protection Bureau (CFPB) has established rights for you when dealing with collection companies. They cannot threaten or harass you. If they do, contact the CFPB.

If you have gone through a bad financial period, a good way to re-establish credit is to get a secured credit card. With this type of card, you deposit money into your financial institution and spend up to that preset limit. If you pay off the charges each month, your credit score will improve, and in about a year (maybe less), you can likely get a regular credit card again.

Myth: Selecting “Credit” While Using Your Debit Card for a Purchase Is Good for My Credit Score.

There is no effect at all on your credit score if you select “credit” when using a debit card. However, you should be sure that your financial institution does not charge any fees for debit transactions.

Myth: Credit Reports Are Accurate.

Credit reporting firms make mistakes. An incorrect score could come from something as simple as someone who shares your name being put on your report; it could also be the result of a criminal stealing your identity and taking out credit cards in your name. Experts advise each of us to check our credit reports every four months. The most effective way to do this is to take advantage of the free credit reports to which every consumer is entitled. You are entitled to one free credit report each year from each of the three credit-reporting companies (Trans-Union, Experian, and Equifax).

Order a credit report every four months but order the report from a different one of the three credit-reporting companies each time. That will give you three free reports each year spaced out every four months. You can also monitor your credit through Credit Karma. It is free and alerts you if there is a significant change in your credit score or if there is a hard inquiry.

Pay for Deletion

Finally, if you are seriously delinquent on a credit card, you can try a discussion called pay for deletion. Since the financial institution will have to sell the debt for 20% of its face value to a collection company once they write off the debt, the collection specialist at the financial institution (before it gets sold to a collection company) will be willing to make a deal. Offer them 30% or 40% of the outstanding balance with the agreement that he/she will delete the negative reporting from the credit agencies report.

Credit Rating Agencies

The three major credit rating bureaus in the United States are Experian, Equifax, and TransUnion. These agencies pay financial institutions to send them your credit data every month, including credit limits, the amount of utilized credit, and your payment history. The credit agencies use this to calculate your credit score and sell these reports to banks, credit unions, landlords, auto finance companies, and even potential employers. Unfortunately, these credit scores have become the be-all and end-all of your ability to get a loan or a credit card, not to mention the interest rate you will pay for that loan or credit card.

As was stated earlier, a FICO score of 700 or higher is golden. In 2019 67% of Americans had a FICO score of 670 or higher. The majority of Americans have a FICO score of good or better. Banks often see a FICO score of 700 or better as the “sweet spot” for them to extend credit at a reasonable interest rate. This does not mean that you cannot get a credit card or an auto loan if you have a score less than 700, but you will pay a higher interest rate, so it is worth aiming for. Your FICO score will improve if you use only 30% or less of your credit limits, so having more credit cards but not using them improves your score. That means you should get credit cards but do not use them.

The financial institutions used to report on your financial activity to the credit scoring agencies at the end of each month, but now they seem to be reporting weekly or even daily, so check Credit Karma at least every two weeks. It will give you a good sense of how credit scores fluctuate based on your activity. Most importantly, you should immediately report any errors. You can do this for free on the Credit Karma website.

Good and Bad Debt

Certain assets are worth borrowing money for. We can call these investments. Borrowing to go to college, to purchase a house, or to buy an automobile are all investments; these are good debt. A house is an investment because it will appreciate in value and will save you rent, while education is an investment because it will lead to a better job and higher income. An automobile is an investment because you will likely need one to commute to your job.

Bad debt is borrowing for consumption. Do not borrow on a credit card unless you can pay it off at the end of the month. You do not really need that 55-inch TV; you can buy it if you have the money to buy it, but do not finance it with a credit card. Of course, if you are unemployed and need to use your credit card to buy food, that is another matter. In that case, the hopeful outcome will be that you will find a new job and the credit card debt will just be temporary.

Credit Cards Are Addictive

The nature and structure of the human brain makes it difficult to not run up credit card debt. Our brain almost automatically compares cost to benefit when we are considering a purchase; however, benefits are evaluated in a different part of the brain than costs. The reward center of the brain, the ventral striatum, activates in response to the item we want. The prospect of getting that item feels good. On the other hand, the insula, the area of the brain that evaluates pain and expected loss, reacts to actually having to pay for the product. Using a credit card to purchase something, whether we need it or not, gives us a sudden rush of instant gratification. However, we do not feel the pain of having to pay for it until the credit card bill arrives.

Credit cards are addictive because they hijack the ventral striatum (part of the dopamine system) which gives us the pleasure of buying something we want. On top of this, at least eight percent of men and women are addicted to shopping, only further triggering the potent addiction mechanism of credit cards.

How to Use Credit Cards Wisely

We all need credit cards. We need them to pay for airplane tickets, hotels, and things we order online. Also, having a large credit limit but using very little of it will increase your FICO Score. However, here is my best advice. Only buy something with a credit card that you can pay off at the end of the month when your credit card bill arrives. It is as simple as that!

Credit Card Providers and the Games They Play

Credit card providers begin their games with enormous marketing efforts. Credit card providers either email or snail mail over two billion new offers for credit cards per year in the United States. Given that there are 159,000,000 individuals employed in the U.S. (and presumably able to pay a credit card bill), this corresponds to six new credit card offers each year for each employed person.

Second, the fees for late payment or exceeding your credit limit are exorbitant, ranging from \$30 to \$41. According to the Consumer Financial Protection Bureau, credit card companies raked in \$12 billion in late fees in 2020, when millions of workers were laid off. Consumers with subprime credit cards and private-label store cards are particularly susceptible, especially in relation to their credit limits. The report also highlights that consumers living in low-income and majority-Black communities are disproportionately impacted by credit card late fees.

Third, the offers of 0% “introductory” interest for a period of time is not really 0% interest. The credit card companies charge you a 3% to 5% “processing fee,” which covers their cost of funds, and then the rate jumps to 15% to 25% when the period is up.

Finally, Visa and Mastercard are virtual duopolies in their marketplace. A duopoly is a market that has only two competitors in it. These credit cards have the overwhelming majority of market share and their above-normal profits are evidence monopolistic

behavior.

Auto Loans and Leases

Taking out a loan to buy an automobile is good debt. If you live in America's suburban sprawl, you typically need a car to travel to work. Purchasing an automobile is a big event in most people's lives, so try to get advice from a parent or friend who has experience in that area. An automobile is, in economist's jargon, a durable good, a good that lasts over three years. The price to consider when purchasing a durable good is the user cost. The user cost of a car is the total monthly (or annual) cost of financing and operating the vehicle. Specifically, these are the costs you need to investigate:

- The annual finance payment
- The annual fuel cost
- The annual maintenance cost
- The annual insurance costs
- The annual replacement costs of tires, etc. (most important when a car is over 3 years old)
- The trade-in value

These costs can vary significantly among various makes and models of cars. The largest component of your user cost is the financing. Interest rates for automobile purchases will vary with the market interest rate and generally track the 5-year U.S. Treasury Bill, plus a risk premium. According to The Wall Street Journal, as of August, 2021, the average rate on a 48 month new car loan nationwide was 4.06%. Based on this, we can determine the annual user cost of a \$30,000 car:

Table 7.6.3.3. Annual User Cost of a \$30,000 Car

Annual Finance Costs	\$8,148	(\$679 per month)
Annual Insurance	\$1,134	
Annual Fuel Costs	\$2,392	(16,000 miles per year at \$2.99/ gallon)
First Year Maintenance	\$500	(Oil change and tire rotation)
TOTAL	\$12,174	

The financing rate varies significantly with market interest rates, and often the auto manufacturer will give lower rates in order to sell specific models. Be sure to ask for a dealer quote on financing your car. You can use an auto loan calculator to figure out your monthly finance costs.

A common saying in the auto industry is that your new car is worth 25% less the minute you drive it off the dealer's lot. In actuality, your car's value decreases around 20% to 30% by the end of the first year. From years two to six, depreciation ranges from 15% to 18% per year, according to recent data from Kelley Blue Book, which tracks new and used-car pricing. As a rule of thumb, in five years, cars lose 60% or more of their initial value. However, this can vary widely among makes and models, so it is worthwhile to investigate to what extent your chosen vehicle keeps its value. Remember that you will never recoup the cost of premium customization you may buy on your new car. Special models, expensive wheels, or deluxe sound systems will not increase the trade-in value of your car. Essentially, this money you are throwing away.

Unfortunately, 2021 was a bad year to buy a new or used vehicle. As we exited the Pandemic Recession, the demand for new automobiles increased while at the same time there were serious supply shortages of the computer chips that run everything in today's sophisticated cars. In addition, the prices of used cars increased 40% over the year 2020. However, this inflation in auto prices should be temporary, so here are some ways to minimize your user cost when buying a car in years like 2021.

1. Finance your purchase through a credit union. For example, I have seen rates between 1% and 2% on new auto loans at Pentagon Federal Credit Union.
2. Finance your loan over 60 months in order to bring down your monthly payments.
3. Do not load your car up with customizations.
4. Buy a used car with a warranty instead of a new car.

You should first establish a monthly budget, keeping in mind the user costs. Then make a list of the few cars that will fit that budget. Drive the three cars that fit your budget and choose the one your gut tells you that you like the most. That way you will be happy with the purchase.

As an economist, I recommend leasing your car instead of purchasing it. Leasing is just another method of financing your car purchase, with a number of added benefits. Leasing significantly reduces your monthly payment, helping your cash flow. When you purchase a vehicle outright, you pay interest on the amount you borrow. You also have to pay off (or amortize) the entire cost of the vehicle over the term of the loan (typically 4 to 7 years). When you lease a vehicle, you pay interest on the amount you borrow, but you only have to amortize the difference between the purchase price and the vehicle's residual value. Here is an example of a purchase vs. lease monthly payment:

Purchase

- Price: \$32,000
- Loan: \$30,000
- Interest rate: 4%
- Term: 48 months
- Monthly Payment: \$677.00

Lease

- Price: \$32,000
- Loan: \$30,000
- Interest rate: 4%
- Term: 36 months (almost all leases are for 36 or 39 months)
- Monthly Payment: \$535.00

When you purchase a car, you must pay sales tax up front. Not all states have sales taxes, but in Pennsylvania, for example, where the sales tax is 6%, this would be \$1,920. For a lease, you only pay sales tax on the lease payment every month. You can purchase the car or truck at the end of the lease for the residual value, or you can just turn the vehicle in and lease another new vehicle.

What to Do if You Fall Behind

Communicate with your lender if you are having any difficulty in making your vehicle payment, whether you are purchasing or leasing. Often, there are programs to assist you. For example, during the pandemic, Citibank allowed auto loan customers to skip up to three payments. You may also get a cheaper rate. The important thing is to call your lender the first time you are going to miss a payment, before you go into default. Default happens when you are 90 days delinquent on a loan payment. Here is the delinquency rate of credit card debt compared to other types of debt. Note that student loans have the highest delinquency rate of all types of debt.

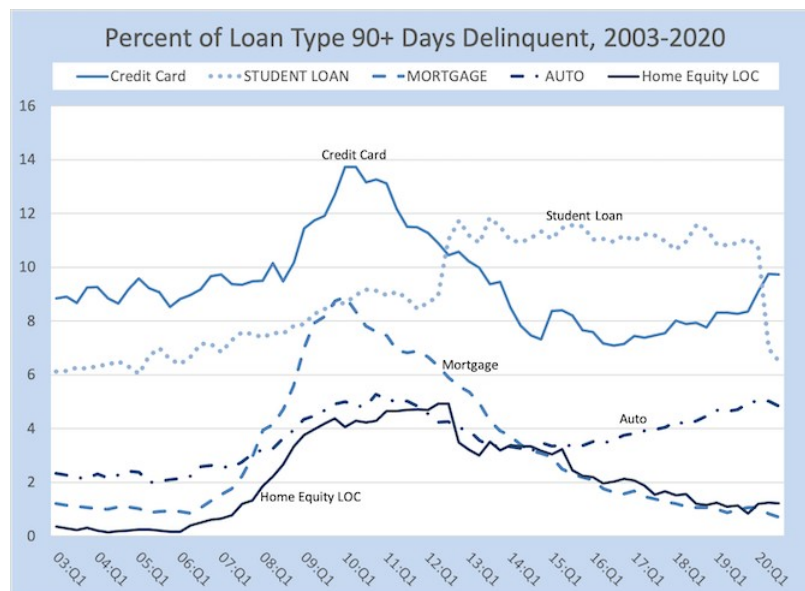


Figure 7.6.3.8: Percent of Balance 90+ Days Delinquent by Loan Type by Fred Rowland is used under a CC BY-NC 4.0 License. Source: Federal Reserve Bank of New York (11/2020).

Personal Loans

It is always a good idea to establish a line of credit, a type of personal loan, with your lenders. Establish a line of credit that covers you if you overdraw the checking account. This way you will avoid any overdraft fees. Revisit this line of credit at least once per year. If your payments have been on time, ask to increase the line of credit. Of course, do not borrow money unless you really need to, but it is good to have a line of credit available for emergencies. Also, your FICO score is based in part on your credit limit and how much of that limit you are using. By increasing your line of credit but not using it, you can improve your FICO score.

Personal loans without collateral to secure them will have a higher interest rate associated with them. However, personal loans are much cheaper than borrowing on your credit card, which is another reason that a line of credit is valuable.

Pay off the Debt With the Highest Interest First

Benjamin Franklin said, “A penny saved is a penny earned.” This is also true of debt. While you might try your best to avoid it, you still can end up with credit card or personal loan debt. Your personal debt will most likely have an interest rate of 9% or above. This is unsecured debt: debt with no asset like a car or house that can be repossessed. Secured debt, like an auto loan, mortgage, or student loan, will have an interest rate under 9%. Be sure to cover your monthly payments so you can maintain your credit rating, but if you have some money left over, make payments on your credit cards and personal loans first.

Identity Theft

There are plenty of criminals out there trying to steal your identity and use it to commit fraud. The internet has made it both much easier to do so and much harder to catch these criminals. Given this serious risk, here are some of the things you should not do:

- Never give out your internet password. Not even your internet provider will ask for it.
- Never give out your social security number. Even your bank or credit union will only ask for the last four digits to use for account access.
- Never give out personal information to someone calling you. If it is someone you do not know, ask for a phone number and say you will call them back.

If you have been the victim of identity theft, the Federal Trade Commission says this is what you should do:

1. Call the companies where you know fraud occurred and speak with their fraud department.
2. Place a fraud alert and get your credit reports. Place a free, one-year fraud alert by contacting one of the three credit bureaus.
3. Report identity theft to the FTC.

After this, you will need to try to recover from the identity theft.

1. Close any new accounts opened with your stolen identity.
2. Call your accounts and get them to remove any bogus charges.
3. Call the credit bureaus and correct your reports.
4. Consider a freeze on all your accounts and credit cards. Open new ones.
5. Check your credit reports each month.

The Last Resort: Bankruptcy

If you cannot get accommodation or your debt is just too high to work out from under, the last resort is bankruptcy. Keep in mind, however, that it will not discharge your student debt. Ask someone you know to be informed for a good bankruptcy attorney or look up legal aid. Do not think that bankruptcy is a stigma. Plenty of people have declared bankruptcy, recovered and become successful.

7.6.3: Credit Cards Auto Loans and Other Personal Debt is shared under a [not declared](#) license and was authored, remixed, and/or curated by Donald T. Wargo, Temple University.