CapitalTwo Financial Textbook

CapitalTwo Team

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Introduction

Introduction

Repo for passages

Budget

BUDGET

A budget is an itemized summary of likely income and expenses for a given period of time. It's a breakdown of the money you will bring in and what you plan to do with that money over the span of a day, week, month, semester, or year. Budgets can be made using a spreadsheet, online tool, or just a pen and a piece of paper. Regardless of what method you use or how much money you have to work with, a budget will help to keep you organized, give you a better idea of your financial situation, and allow you to feel more confident in the financial decisions you make.

A budget helps you identify unnecessary expenditures, allows you to adapt quickly if your financial situation changes, and makes it more likely for you to achieve your financial goals.

Step 1

The first step in creating a budget is to set your goals. What are your financial goals? Do you have debts you need to pay off? Do you want to minimize the debt you graduate with? Are you trying to save for a car, a vacation, or your future? Whatever your goals, make sure they are SMART.

- **Specific**: Write your goal so it's clear and specific -- "I want to have enough in my savings account to cover "

- **Measurable** : How much do you need? -- Enough to cover repairs to my car, and other unexpected expenses, $1,000.
- **Attainable**: Break your goal down into bite-sized pieces, these are the steps you'll take to reach the goal. --- How much will you need to save each month to get to $1,000 within the time frame you have set for yourself?
- **Relevant**: You always want your goals to align with your values as well as the vision you have for your future. Be sure that the goals you are creating support what matters most to you.
- **Time-bound**: Your goals must have an end date. Having deadlines keeps you from putting it off until tomorrow.

More On Budgeting

Identify Your Income & Expenses

The most important step to creating your budget is to understand how money comes in and why it goes out.

What are my Sources of Income?

List all the sources of money flowing into your bank account (e.g., work, student loans, parents) each month, and the amount that comes in from each source. If you get only one disbursement per semester from financial aid (e.g., student loans and scholarships), you can determine the monthly allowance by taking the amount refunded to you less the cost of your books and dividing it by the number of months in the semester.

Example | You earn $400/month from your job, and you expect to receive a $1,200 refund after all your financial aid disburses. For budgeting purposes, you have $600/month flowing into your account for a six-month period of time. Although the entire refund of $1,200 will be deposited into your account in August, it needs to last you to the end of December.

Where is My Money Going?

The best way to get an understanding of your current spending is to analyze what you buy and create a list of total expenses. This includes major expenses such as bills and transportation along with items you may not always realize are adding up, like streaming services and cups of coffee. If you use a debit or credit card for most of your purchases, you can download a list of transactions from your online account. If you're a cash user, you'll probably need to track your spending by hand for a few months to create your list. Track your purchases for at least a month, but a more accurate understanding of your expenses will require tracking for 3-6 months.

Once you've compiled your list of transactions, categorize each expenditure and then total each category by month. This will give you the best snapshot of your expenses and allow you to see how much income you will need to bring in to cover your costs or what needs to be cut down to stretch your dollars the furthest.

Commonly used spending categories

Category	
Food	Groceries • Dining Out
Utilities	Electricity • Water • Heating • Garbage • Phones • Television • Internet
Housing	Mortgage/Rent • Property Insurance • Property Taxes • Household Repairs
Transportation	Fuel • Tires • Oil Changes • Maintenance • Parking Fees • Repairs • DMV Fees
Recreation	Gym Membership • Subscriptions • Entertainment
Personal Care	Hair Cut • Toiletries • Cleaning Supplies
Medical	Doctor's Visits • Medicines
Giving	Tithing • Charities

Category	
Savings	Emergency Fund • Retirement • Big Purchase

Develop Your Plan

Develop Your Plan

To figure out which expenses you can cut, put your expense categories into two buckets -- Needs and Wants. A **Need** is something you must have to live or work. A **Want** is something you would like to have. Your wants will be the first place you cut expenses.

Need

Financial needs are expenditures that are essential for you to be able to live and work. They're the recurring expenses that are likely to eat up a large chunk of your paycheck — think mortgage payment, rent or car insurance.

Here's a short list of some common expenses that fall under needs:

- Housing
- Transportation
- Insurance
- Gas and electricity
- Food

Want

Wants are expenses that help you live more comfortably. They're the things you buy for fun or leisure. You could live without them, but you enjoy your life more when you have them. For instance, food is a need, but daily lunches out are likely more of a want.

Wants typically include things such as:

- Travel
- Entertainment
- Designer clothing
- Gym memberships
- Coffeehouse drinks

If your current spending is disproportionate based on the list you made, there's good news: You can make adjustments. Here's a simple way to start:

- **Move things around** Take a close look at your categories. Some of the items you've indicated as needs may actually be wants, or vice versa.
- **Trim spending on needs** The cost of your necessary spending isn't always fixed. Shop around for a better rate on your phone plan, cable package or even your insurance to save money on your needs.
- **Trim spending on wants** Consider downsizing your wants if they're taking over your budget. Limit how many days you dine out, for example, or opt for more affordable lodging the next time you travel.

Track Your Progress

Monitor & Track Your Progress

Once you have your spending plan in place, you'll need to monitor and track your progress either monthly, or at a minimum, quarterly. There are a number of tools you can use, spreadsheets, third party apps, bank apps, etc. Budget apps make it easy to monitor your spending plan. They can help you keep an eye on your account balances, remind you to pay your bills on time, and track your spending to help you stay within your budget.

Check out our budgeting app!

Evaluate & Adjust Your Plan

As your circumstances change, keep evaluating and updating your plan to accommodate these changes. Your needs and wants won't necessarily be the same as your wants and needs from the previous month. For each type of "want," decide on a reasonable monthly limit that will help you balance your budget. If you can't trim enough from your "wants" in order to balance your budget, you will need to reduce your variable needs expenditures in the short-term and perhaps your fixed needs expenditures in the long-term. This may mean taking the bus instead of driving and finding less expensive housing next year.

Make your plan work for you!

Cryptocurrency

Cryptocurrency

Introduction To Cryptocurrency

What is Cryptocurrency?

A cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology—a distributed ledger enforced by a disparate network of computers. A defining feature of cryptocurrencies is that they are generally not issued by any central authority, rendering them theoretically immune to government interference or manipulation.

Cryptocurrencies are systems that allow for the secure payments online which are denominated in terms of virtual "tokens," which are represented by ledger entries internal to the system. "Crypto" refers to the various encryption algorithms and cryptographic techniques that safeguard these entries, such as elliptical curve encryption, public-private key pairs, and hashing functions.

Blockchain

In banking, this is done with ledgers which track the flow of money through accounts. With cryptocurrency, the task is undertaken with blockchain using a form of math called cryptology. Blockchain is a secure record of every single transaction made using a cryptocurrency. Verified transactions are added to the blockchain as part of the mining process. Mining is therefore not just about creating new money but also validating transactions. While it's possible to buy cryptocurrency- all you need is a digital wallet as part of a free app or a cryptocurrency tax software — finding places that will accept it, the variable transaction charges and volatile exchange rates make buying and selling with it difficult.

Applications of Cryptocurrency

Cryptocurrency could transform the way we do transactions. The so-called distributed ledger technology behind blockchain can be integrated into all sorts of business processes that require trust among multiple parties. That's because blockchains store information that are both secure and transparent. Pretty exciting, but how is that possible? For one thing, because of the blocks themselves. Now, rather than a long string of records, information in a blockchain is cut up into sealed blocks. Thanks to the use of cryptography, it is impossible to change or counterfeit the records in the block. But what's inside these blocks?

Each block contains certain data, for example when selling an exclusive painting you want the block to have information on the name of the painting, the artist the previous owner, the new owner, the time of the sale and transaction. Next to the data, each block has an identifiable hash. This is a unique code, that functions like a fingerprint.

Types Of Cryptocurrency

Types of Cryptocurrency

The first blockchain-based cryptocurrency was **Bitcoin**, which still remains the most popular and most valuable. Today, there are thousands of alternate cryptocurrencies with various functions and specifications. Some of these are clones or forks of Bitcoin, while others are new currencies that were built from scratch.

Bitcoin

In 2009, Satoshi Nakamoto, a pseudonymous individual or group, proposed an electronic payment system that is based on peer-to-peer network which is supported by cryptographic proof instead of relying on trust or a third party system. To prevent problems such as double spending, bitcoin transactions are recorded on a public ledger using blockchain technology so everyone in the world can verify who gets paid first. Each transaction is seen as a case-sensitive address which anyone can generate in order to receive the coins. As of Nov. 2019, there were over 18 million bitcoins in circulation with a total market value of around $146 billion.

Altcoins

Some of the competing cryptocurrencies spawned by Bitcoin's success, known as "altcoins," include Litecoin, Peercoin, and Namecoin, as well as Ethereum, Cardano, and EOS. Most altcoins hope to either replace or improve upon Bitcoin or even with each other. Altcoins can vary widely from each other and each altcoin promises features such as faster transaction speed, more secure privacy, proof-of-stake and many more. Today, the aggregate value of all the cryptocurrencies in existence is around $214 billion—Bitcoin currently represents more than 68% of the total value

Pros And Cons

Advantages and Disadvantages of Cryptocurrency

Advantages

Cryptocurrencies hold the promise of making it easier to transfer funds directly between two parties, without the need for a trusted third party like a bank or credit card company. These transfers are instead secured by the use of public keys and private keys and different forms of incentive systems, like Proof of Work or Proof of Stake.

In modern cryptocurrency systems, a user's "wallet" or account address, has a public key, while the private key is known only to the owner and is used to sign transactions. Fund transfers are completed with minimal processing fees, allowing users to avoid the steep fees charged by banks and financial institutions for wire transfers.

Disadvantages

The semi-anonymous nature of cryptocurrency transactions makes them well-suited for a host of illegal activities, such as money laundering and tax evasion. However, cryptocurrency advocates often highly value their anonymity, citing benefits of privacy like protection for whistleblowers or activists living under repressive governments. Some cryptocurrencies are more private than others.

Bitcoin, for instance, is a relatively poor choice for conducting illegal business online, since the forensic analysis of the Bitcoin blockchain has helped authorities to arrest and prosecute criminals. More privacy-oriented coins do exist, however, such as Dash, Monero, or ZCash, which are far more difficult to trace.

Criticism of Cryptocurrency

Since market prices for cryptocurrencies are based on supply and demand, the rate at which a cryptocurrency can be exchanged for another currency can fluctuate widely, since the design of many cryptocurrencies ensures a high degree of scarcity.

Bitcoin has experienced some rapid surges and collapses in value, climbing as high as $19,000 per Bitcoin in Dec. of 2017 before dropping to around $7,000 in the following months. Cryptocurrencies are thus considered by some economists to be a short-lived fad or speculative bubble.

There is concern that cryptocurrencies like Bitcoin are not rooted in any material goods. Some research, however, has identified that the cost of producing a Bitcoin, which requires an increasingly large amount of energy, is directly related to its market price.

Cryptocurrency blockchains are highly secure, but other aspects of a cryptocurrency ecosystem, including exchanges and wallets, are not immune to the threat of hacking. In Bitcoin's 10-year history, several online exchanges have been the subject of hacking and theft, sometimes with millions of dollars worth of "coins" stolen.

Nonetheless, many observers see potential advantages in cryptocurrencies, like the possibility of preserving value against inflation and facilitating exchange while being more easy to transport and divide than precious metals and existing outside the influence of central banks and governments.

Investing

Investing

Investment

Investment

An investment is a purchase that generates income passively for its owner. What we mean by passive income is that the owner of the investment has to devote very little time and/or resources into generating a profit. The most common forms of passive income are stocks, properties, and bonds.

Why Invest?

When people get paid from their jobs, the money is normally deposited to their bank account, where it grows very slowly, between 0.5% to 2% per year. Investments offer higher growth at the cost of higher risk. The stock market offers an average growth of ~10%/year, but comes with the risk that you lose money should the market crash.

What are Stocks?

We will begin by discussing investment in stocks, as this is generally where most people start their investing journey. A stock is a share of a publicly traded company. Companies enter the stock market with the intention of gaining money from investors that they can use to grow their business. Investors enter the stock market with the intention of determining which companies are in the best position to improve.

Stock Market

What's the Stock Market?

You can think of the stock market as similar to a farmer's market for stocks. There are multiple buyers, multiple sellers, and all parties are looking to get the best deal possible. Sellers will always sell to the buyer who is offering the highest price, but buyers will always buy from the seller who offers the lowest price, assuming the goods are the same. The stock market operates under a similar principle, but instead of buying vegetables you're buying companies!

How does the Stock Market Work?

Let's imagine we have a company that wants to enter the stock market. Before entry, the company's value will be appraised. Our example company has a value of ~$1000! The company decides that they want to offer 100 shares, which means each share will be worth ~$10 each. People who think the value of the company will increase (known as Bulls on Wall Street) want to buy the stock at a low price so they can make a profit by selling at a higher price. A bull is interested in finding a seller who has less confidence in the stock that would be willing to sell for a smaller profit. For example, a shareholder who thinks the stock price will fall (known as a Bear on wall Street) would be happy to sell at the current stock price. If a buyer who believes the stock will soon be worth $15 offers $10 to a seller who believes the price will soon be only $8, both parties would be happy to accept the deal as they forsee a better outcome than their current situation.

How is the Price of a Stock Set?

As the market changes, buyers gain and lose confidence in different companies. If our example company encountered an increase cost in materials, investors might be concerned that a decrease in profits will follow, which will decrease the value of the company. As a result, some people shift from a Bullish outlook to a Bearish outlook (positive to negative). As people lose confidence in the stock, current shareholders are willing to sell at a lower price. You wouldn't charge the same price for cheese that had gone bad, right? As the price of the stock falls, some investors regain confidence in their ability to make a profit. If our share price fell from $10 to $8, and our investors think it will be worth $9, then this price drop is enough to encourage them to buy again. When the price reaches a point in which there is equal supply and demand for the stock, we say the price has reached equilibrium. Every time you buy a stock, you are the Bull who believes the value will increase and you are buying a share from a Bear who believes the value will drop.

Picking Stocks

What Stock Should I Buy?

When it comes to picking stocks, there is no surefire way to determine which companies will rise and which will fall. If we did, everyone would have already bought it and the price would have risen to equilibrium as a result. For this reason, taking investment advice from people online can be risky. If you're reading about a stock online, it's likely that everyone else did too and the price may have risen since the publishing of the article. Second, it's possible that people are posting misleading information in an attempt to beat the market.

Who do I Trust Instead?

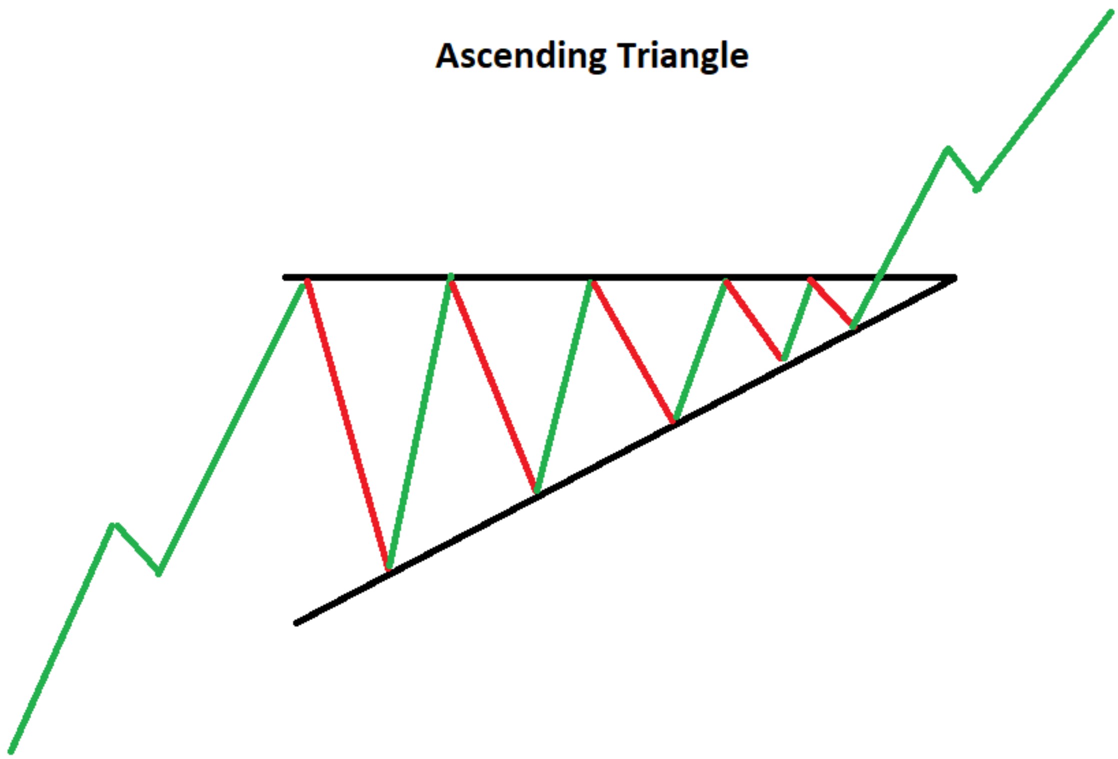
There are varying schools of thought around strategies for maximizing profit in the market, but it should be noted that most are not all that effective.

Trust the Market

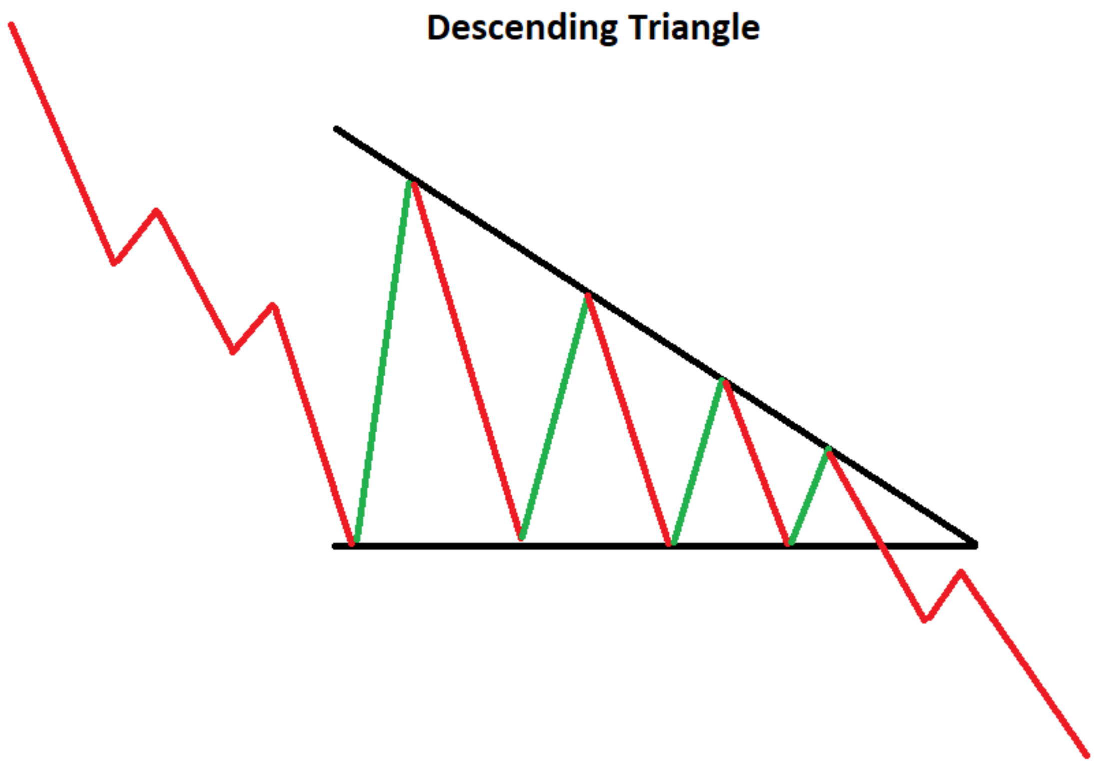
In 2008, billionaire Warren Buffett challenged a hedge fund that over the course of ten years, no matter what portfolio they built, he would be able to beat them by simply investing in the S&P 500 (An index fund that represents the performance of 500 top companies). In the end, Buffett was right and not only did he beat the hedge fund, but he did it with a fraction of the effort. This is to say that historically, the stock market as a whole has grown, so by simply investing in the market instead of a single company you can save yourself some trouble.

Trust Indicators

As your understanding of the market improves, you can try to apply some more complicated techniques to your investing. One of the most commonly known indicators is the ascending triangle pattern:



As you can see, the price of the stock is alternating between increases and decreases, with the magnitude of the changes decreasing over time. By drawing one line connecting all of the switches from increasing to decreasing, and drawing another line connecting all of the switches from decreasing to increasing, we can see that they connect to create an arrow pointing upwards, which is a good sign for the stock. The opposite of an ascending triangle pattern is the descending triangle pattern:



Trust Your Gut

It is your money after all! Not only do investors enter the stock market with the hopes of making profit, but some people also find thrill in the process of researching and investigating companies they think are promising. Others simply choose companies they are fond of. Since the market is a guessing game, nobody can be definitively wrong in making an investment until they see the outcome.

Other Investments

What are some Non-Stock Investments?

As we discussed earlier, an investment is any purchase that generates passive income. Beyond stocks, the other most prominent investments for young investors are property and bonds.

Bonds

Bonds are loans provided to corporations or governments that offer a fixed return at the end of the loan period. A bond is similar to a stock in that the bond purchaser is providing money to the bond seller in the interest of receiving more money at a later date, so that the seller can use the money in the meantime to make necessary improvements. There are three main differences between stocks and bonds.

Bonds are a Fixed Length

When purchasing a stock, the buyer reserves the right to sell that stock at any time, at whatever the market price for the stock is at that time. When buying a bond, the buyer and seller agree to the length of the term. For example, a 10 year bond means you won't be able to access those funds again for 10 years.

Bonds are Guaranteed Money

Whereas the stock market is variable and depends on market factors to determine a price at any given time, a bond seller and buyer agree to a rate of return at the beginning. For example, if you bought a 1 year bond with a 5% rate of return for $100, you are guaranteed to receive $105 at the end of that year, where a stock has no guarantee attached.

Bonds have Lower Avg Returns

Because bonds are guaranteed to return a profit, they offer lower returns than stocks. Intuitively, this makes sense because if we had a choice between a guaranteed bond and a non-guaranteed stock that we expected to make the same amount of money, we'd always choose the one with a guarantee.

Property

Investment properties are another great way to generate passive income, although they generally require more maintenance than stocks (The plumbing in your stocks will never explode, flooding your entire basement) and cost more up-front than stocks generally do. That being said, the government offers some opportunities for young people to invest in property. One of the most powerful tools for property investment on a budget is a FHA Loan. An FHA loan allows buyers to purchase their first property with a down payment as low as 3.5%. That means you could purchase a half-million dollar investment property for only $17,500 down. Obviously, you would still be on the hook for the mortgage payments, but if you use this FHA Loan to buy a multiplex you can live in one unit and rent out the others to cover the mortgage payments.

Loan

Loan

Borrowing

Borrowing Fundamentals

Most students use federal loans to help finance their studies and some may turn to private loans. Taking out a loan is an important financial decision that can affect a student for years to come. It is critical for students to understand their loan options and associated responsibilities in order to make good borrowing decisions.

Before taking out a loan, students should be encouraged to use all available grants and scholarships since they do not need to be paid back. After accepting all grants and scholarships, students should consider if they are eligible to participate in the Federal Work-Study Program. Many work-study job opportunities are on or near campus and earnings from this program do not reduce eligibility for grants in the future. Students should consider the time commitment when working and weigh this with the need to focus on academic studies.

Private Loans

Private loans should be the last financing option to be considered and used. Private student loans are nonfederal loans made by a lender, such as a bank, credit union, state agency, or a school. They do not typically offer many of the benefits of federal student loans, such as fixed interest rates and income-based repayment plans. Borrowers of private loans also have fewer options for forbearance or deferment, and may have more difficulty getting back into good standing after default. Students should be encouraged to seek financial counseling before taking out private loans.

Borrower Responsibilities and Options

Whether using federal or private student loans, students should be aware of the details of their loan(s), as well as their responsibilities and options as borrowers. Some questions to ask are:

- Is it necessary to accept the full loan amount that is offered?
- When does the repayment period begin?
- Does interest accrue while the student is enrolled in school?
- How long is the repayment period?
- When will a loan be considered delinquent?
- If a loan becomes delinquent, when will it enter default?
- Can a defaulted loan be rehabilitated?
- What are the repayment options and when is it necessary to select one (e.g., at time of origination versus upon graduation)?
- What can be done to reduce debt burden (e.g., pay interest or a small amount of loan principal) while in school?

Repayment

Understanding Repayment

Establishing contact with the loan servicer(s) prior to beginning repayment will help avoid misunderstandings about the payment amount and schedule. Students should be mindful of keeping the school and loan servicer updated on any changes in their contact information, such as their mailing address, that could lead to missing important notices or correspondence.

As a reminder, private loans have different repayment options and requirements than federal loans. Borrowers of private loans should be encouraged to contact their loan holders for relevant repayment information.

Borrowers experiencing difficulty meeting their repayment obligations may have options, including loan consolidation, changing repayment plans, deferment, or forbearance. Educated borrowers are more likely to appropriately use these options to avoid delinquency or default. Schools should strive to educate students about these options, as borrowers lacking the ability to repay their loans often let them lapse into default or delinquency when they could benefit from those options available to them.

Federal Direct Loan Repayment Options

Standard Repayment Plan

- Time borrower has to repay: Up to 10 years. (10- to 30-year repayment period for Direct Consolidation Loans)
- Payments remain constant throughout the repayment period.
- Borrower will pay less interest for the loan over time under this plan than he or she would under the other plans.
- The loan will be paid in full by the end of the repayment period.

Graduated Repayment Plan

- Time borrower has to repay: Up to 10 years. (10- to 30-year repayment period for Direct Consolidation Loans)
- Payments start low and gradually increase every two years over life of loan.
- The loan will be paid in full by the end of the repayment period.

Extended Repayment Plan

- Time borrower has to repay: Up to 25 years.
- Payments will be an amount that ensures the loan will be paid in full in 25 years. Borrower can choose to make either fixed or graduated payments.
- Borrower must have more than $30,000 in Federal Direct Loans to qualify.
- The loan will be paid in full by the end of the repayment period.

Income-Driven Repayment Plans

- Time borrower has to repay: Up to 20 or 25 years depending on the repayment plan.
- Monthly payment amount tied to borrower's income and adjusted annually.
- Any outstanding balance remaining at end of loan repayment period will be forgiven.

Retirement

Retirement

Intro To Retirement

Retirement

Everyone dreams of retiring someday, but getting there isn't always as easy as it seems. Planning for retirement from an early age is one of the most empowering things that a young adult can do for their future self. Social Security, investing, saving, and budgeting all play a part in the age that you will be able to retire.

Why Retire?

Most people spend the beginning of their life in school, and then transition into a full-time job where they work to pay off their monthly expenses like rent, food, utilities, etc. If one is lucky enough to have extra money after paying for all of their necessities, they are faced with a decision to either save that money, or spend it on non-necessities. In our consumer culture, it can be very tempting to spend your extra money on commodities that you believe will make you happier. It's important to remember that every time you buy something you don't need you are delaying your own retirement, so it's important to weigh each purchase carefully.

Social Security

At the age of 67, the US Government will begin to pay you Social Security benefits. Throughout your entire life, each time you received a paycheck some money was deducted towards Social Security, which acts as a safety net for individuals who are unable to work. Essentially, people who are currently working are subsidizing the social security of the retired, with the understanding that they will one day retire and the new generation of workers will fund their retirement. That being said, it's important to understand that Social Security is a fragile system. At its inception, the United States had 10 workers for each person receiving Social Security. As the baby boomer generation retires, that ratio will drop to 2 workers for each retiree, meaning either the retired will receive 1/5 of the money they received at the beginning of Social Security, or each workers will be required to commit 5x more money towards Social Security taxes than they initially would've needed to.

When to Retire?

While Social Security benefits don't begin until 67, it is possible to retire earlier if you plan for it from the beginning. Additionally, people who are just beginning their careers shouldn't put too much faith in Social Security, for the reasons listed above. Private retirement accounts are a great tool when used in conjunction with Social Security, as you know all of the money in the account will be yours someday.

Personal Retirement Accounts

Personal Retirement Accounts

Personal retirement accounts have many similarities to investment portfolios in general, but there are some differences between the two that are important to understand. First, retirement accounts generally have restrictions surrounding the age at which you can remove the funds. Unlike traditional investments where you can withdraw your assets from the market at any time, retirement accounts require users to pay a penalty if they want to withdraw the money before the age of withdrawal. Second, personal retirement accounts give users the option to pay taxes on their investment upon deposit, instead of upon withdrawal (Roth). Lastly, some employers offer to match their employee's contributions towards their retirement account, which is essentially just free money.

IRA vs. 401k

There are a few major differences between IRAs (Individual Retirement Accounts) and 401(k)s (Employer Sponsored Retirement Accounts). The most obvious distinction between the two is that anyone can start an IRA but you must go through your employer to start a 401k. Additionally, the age for penalty-free withdrawals for 401k is 55, whereas it's 59.5 for IRAs. Third, the maximum yearly contribution for IRAs is $6,000, and the maximum yearly contribution for 401(k)s is $19,000 Lastly, both allow for contribution matching, but in different manners. IRAs allow parents to match their child's contribution, and 401(k)s allow employers to match their employee's contributions.

Traditional vs. Roth

As we touched on above, retirement accounts come with the option of paying your taxes during the deposit instead of upon withdrawal of the funds. This is known as a Roth account. The benefits of Roth accounts are best utilized by young investors, who expect to be making more money later in their career and therefore expect to pay higher taxes in the future. For example, imagine you are a fresh college graduate making $50k/yr. If you invested into a Roth account, your income would first be taxed and then money from your net income would be added to your retirement account, where it would grow and be tax-free upon withdrawal. Alternatively, if you chose a Traditional account, you would add funds to the account before taxes, but be required to pay taxes on withdrawal.

Let's do the math on what your taxes would look like upon deposit and withdrawal of the investment.

Deposit

Traditional $50k gross income

-$5k to Trad. account

$45k pre-tax income

8.5% tax * $45k = $3,825 taxes

$45k - $3,825 = $41,175 net income

Roth $50k gross income

8.5% tax * $50k = $4,250 taxes

$50k - $4,250 = $45,750 net income

-$5k to Roth account

= $40,750 net income

In both cases we end up with $5,000 in our account, but using the Roth account leaves our net income $425 lower than the net income for the Traditional account. It's important to note, however, that the investment we made in our Roth account is tax-free, whereas the investment in the Traditional account is yet to be taxed. Let's assume our investment makes 7% growth per year. If we invest at age 22 and leave the money to grow until we are 55, we can expect our investment to grow by 9.3x! This makes our $5,000 investment now worth $46,500. At age 55, we are further along in our career and now make a salary of $125k/yr. Let's look at our taxes again as we try to withdraw the funds.

Withdrawal

Traditional $125k gross income

+$46,500 ROI

= $171,500 gross income

18.84% tax rate

$171,500 * 18.84% tax = $32,310 taxes

$171,500 - $32,310 = $139,190 net income after including ROI

Roth $125k gross income

16.9% tax rate

$125,000 * 16.9% tax = $21,125 taxes

$125,000 - $21,125 = $103,875

$103,875 net income

+$46,500 ROI

= $150,375 net income after including ROI

As we can see, the loss of $425 net income at age 22 allowed us to earn an extra $11,000+ at the age of 55. For this reason, a Roth account is generally thought to be better for young investors than a Traditional account

Taxes

Taxes

Intro To Taxes

Taxes

"Our new Constitution is now established, and has an appearance that promises permanency; but in this world nothing can be said to be certain, except death and taxes." -Benjamin Franklin

While nobody enjoys paying taxes, we all acknowledge their critical role in keeping society functioning. Taxes fund infrastructure (roads and utilities), healthcare (medicare and medicaid), retirement (social security), veterans benefits, education, etc. and these are only for our federal taxes! States also have control over their own taxes, and vary from nonexistent in some states to over 13% in states like California.

Types of Taxes

There are a multitude of different types of taxes, so we will try to cover the most important ones here. They are:

- Federal Income Tax: Income Tax paid to the federal government (Progressive)
- State Income Tax: Income Tax paid to a state government (Varies by state)
- FICA Tax: Tax for Medicare/Medicaid/Social Security (Regressive)
- Capital Gains Tax: Tax paid on profits earned from investment (Progressive)
- Property Tax: Tax based on property value, paid to local government (Regressive)
- Sales Tax: Tax paid on goods bought/sold (Regressive)
- Payroll Tax: Tax paid upon payment for labor (Flat)

Tax Systems

As you may have noticed above, we have separated these taxes into 3 distinct categories (Progressive, Flat, Regressive). These terms refer to the amount each individual pays in taxes relative to others with different incomes. We can think of them as follows:

- Progressive: People with higher incomes pay a higher percent of their income to this tax
- Flat: All people pay the same percent of their income towards this tax
- Regressive: People with lower incomes spend a proportionally larger chunk of their income on these kinds of taxes

Using some examples from above, we can see why a certain tax was put into each category:

- Sales Tax: Sales tax is regressive because if someone who makes $10 and someone who makes $100 pay the same amount of tax for an apple, but that amount is a larger portion of the poorer person's income
- Payroll Tax: Payroll tax is flat because all employees pay 6.2% of their income to the payroll tax, no matter the income
- FICA Tax: FICA Tax is flat up to $137k/yr, but is considered regressive because all money earned after $137k is exempt from the tax, so the wealthy pay a lower % of their income to this tax (This is part of the reason Social Security is underfunded).
- Property Tax: Property tax is regressive because 2 people with different incomes could live in properties of the same value and both pay the same amount in property taxes
- Federal Income Tax: Federal Income tax utilizes a system of tax brackets in order to tax higher earners at higher percentages (We'll talk more about tax brackets in the next passage)

More On Taxes

More on Taxes

Let's continue from where we left off in the previous passage.

Tax Brackets

In the United States, tax brackets are the most popular way of implementing a progressive tax structure. Remember that a progressive tax structure is one in which higher income earners pay a higher percentage of their income in taxes than earners below them. We use tax brackets in order to achieve this progressive tax structure without disincentivizing people from earning more. One of the most common misconceptions surrounding tax brackets is that if you get a promotion you could be bumped into a higher tax bracket, which would cause you to pay more in taxes than the size of your promotion and you'd net less money than you did before. This idea is 100% false and impossible under the federal tax system. The following video does a great job explaining how tax brackets work, as well as putting misconceptions to rest:

Tax Brackets

Filing Taxes

Filing taxes can be a pain, even more so here in the US than in other developed countries. In nations like Norway, Sweden, and even Estonia, the government is responsible for figuring out who owes what in taxes, and send the information onto the citizens for confirmation, sometimes even through a text message. The entire process takes less than 10 minutes.

We are left to wonder...why in the world do us Americans make it so hard for ourselves to do taxes? This podcast by Reply All about TurboTax sheds some light on why the process here in the US is like pulling teeth (hint: If the process were easier, people probably wouldn't pay TurboTax to do their taxes for them).

With all that being said, it's understandable to feel overwhelmed by the tax filing process. We're here to ease you into the basics so you don't need to spend any money paying someone else to do it for you. At the most basic level, doing your taxes requires 2 documents, a W-2 that lists your income for the year, and a Form 1040 that you will fill out and send to the IRS. The full process is too tedious to explain here, so we're directing you to another great resource that will walk you through the process step-by-step. You should note that this video will not apply fully to everyone and you should always file the forms that apply to your specific situation.

Filing Taxes