INVESTING

Disclaimer: These notes are provided for educational purposes only, do not take any of the following information for granted. Investing of any kind involves risk, including the possible loss of the money you invest. Providing personalized financial planning or investing advice takes time, it is essential that you conduct your own research by assessing your unique goals and circumstances, and draw conclusions for yourself using critical thinking.

"An investment involves doing something today with the expectation that it will pay off in the future."

Basics

- Read and think more
- The information is out there, often for free
- Internet and friends aren't the best source of information
- Build your knowledge from evidence, not judgements or opinions
- The more evidence you gather, the more likely you are to make the right decision
- The right way to invest has been solved
- Learn investing based on science
- Start saving money now, no matter how small
- Cash depreciates with inflation, money is better invested in stocks and bonds
- Doing nothing with your money means you will lose spending power over time
- You invest money as a way to grow your wealth and outpace inflation
- Consider your financial circumstances before investing
- Only invest what you can afford to lose, and never borrow money to invest
- Investing is simple, but not easy
- Investing is about discipline and temperament
- Investing is a test of delayed gratification
- Start early, time is your biggest asset
- The biggest returns come from the earliest dollars
- Give every dollar a job and don't play with money
- Investing must be rational
- Never invest in anything you can't understand
- When promised quick profits, respond with a quick no
- Abnormally high returns are a classic attribute of scams
- Beware of geeks-bearing formulas
- Investing is a faith-based industry
- The stock market and inflation are both unpredictable
- Certainty does not exist in the world of financial markets
- We don't know anything about the world one second from now
- Past performance does not guarantee similar future outcomes
- We can only learn about the past and assume the future will be similar
- There is no risk in the past, we always know looking back what we should have done
- The stock market is where you make your money
- Don't invest in stocks any money you will need within the next 5 years
- Successful investing is long term, that's when the equity market risk tends to pay off
- The shorter your horizon, the more likely it is you can underperform by very large amounts
- Have a sensible and diversified lifelong investment approach that you strongly believe in
- Any strategy can significantly underperform other benchmarks over a decade; you pick your poison
- You must have the confidence and patience to wait out those long periods of subpar performance
- You will always have assets that are doing poorly at any one time
- Evaluate performance based on extensive track records and persistent risk premiums

- 10 years is very likely to be nothing more than noise and should be ignored
- The best portfolio is the one you will stick with regardless of market conditions
- Buy right, be committed to index investing
- Be skeptical of anything that isn't a low-cost index fund
- Keep your investments simple, a 3-fund approach is a good starting point
- A globally diversified portfolio of index funds is the winning strategy
- Only a foolish investor puts all their eggs in one basket
- Keep your costs to a minimum
- Always translate fees into dollars
- Expensive investments underperform inexpensive ones
- Lower expenses means higher returns
- Every dollar you save in expenses is a dollar that can keep growing for you
- Hold tight, have a commitment to be a buy & holder
- Investing is about the ability to stay the course through good times and bad
- It's crucial to stick with your strategy and not jump ships
- Activity is the enemy of investment returns
- If the active investors sell, the passive "know-nothings" and long-term "buy-and-hold" investors win
- You can beat most pros by sticking to a passive approach, and you'll earn the market's returns
- If you hold on to your investments, you are highly likely to get above-average returns
- You lose money shifting from one perfectly reasonable asset allocation to another
- Prudently consider the costs of making any changes
- Don't peak, as far as you are concerned, the stock market does not exist
- A 50% devaluation in stocks should not cause the long-term investor to panic
- Losing money in the short term is part of making money in the long run
- Be methodical, keep your emotions from corroding sound intellectual decisions
- Tuning out the financial media is an easy win

Investing Principles

- The core principles of investing always apply

1. Build a portfolio based on academic research and peer-reviewed evidence
2. Markets are not perfectly, but highly efficient. Outperforming through active management strategies like individual stock picking and market timing is next to impossible on a risk-adjusted basis
3. All risk assets have very similar **risk-adjusted** returns. Valuations and expected returns move until they reach an equilibrium. It doesn't make them better investments, it makes them equally risky once we adjust for all risk
4. Invest in as many unique or independent sources of risk as you can identify to broaden your diversification. You are dampening the risk of your portfolio, making it more efficient, and dramatically cutting the tail risk
5. Allocate more of your portfolio toward assets that you have greater confidence in, based on evidence like risk factors and valuations

100% Equity

- Is behaviorally risky for most people
- Depends on you ability to take risk and psychological tolerance for volatility
- You need to be comfortable with 50% drops to be confident investing in a 100% equity portfolio
- The main reason why people should own bonds is because they can't handle the volatility
- Adding bonds makes sense for investors who are risk averse or have a short-term time horizon
- A 100% stock allocation can underperform 90/10 over a decade or more
- Everyone, regardless of their time horizon, should have some exposure to bonds (Berger)
- Almost never appropriate for the vast majority of people (Swedroe)
- Be extremely sure you can handle the risk, have a very stable job and an extremely long investment horizon

2-Fund Combo (U.S.)

- 50% LB, 50% SV
- Historically more profitable than the UBH 10-Fund, without taking more risk

3-Fund Portfolio
- Great core portfolio, should represent the foundation of any investment strategy
- Simple, powerful and sophisticated
- Driven by 3 asset classes: U.S. stock, international stock, and bonds
- Weighted more towards equities than bonds
- Compounded at an annual growth rate of 8.5% since 1987, assuming a $10K starting balance and no monthly contributions (50–30–20)

5-Fund Portfolio
- Adds SV and EM
- **M1 Finance** · 5-Fund Portfolio

4-Fund Combo (U.S.)
- 25% in each LB, LV, SB, and SV
- Paul Merriman favors the 4-Fund Combo over the total market index, less risky and higher return

4-Fund Combo (World)
- 25% in each U.S. LB and SV, DM LV and SB
- Has virtually the same historical return at almost the same risk as the UBH 10-Fund

4% Rule
- The most you can take out of your portfolio yearly, adjusting for inflation, with the goal of not running out of money (cover your annual expenses based on your savings return on investments)
- Financial freedom is defined as having 25 times your annual expenses in savings
- Good place to start but has some clear negatives
- 4% is too aggressive, a more reasonable guideline is between 2.5 and 3.5% (Berger, Felix & Swedroe)
- Assumption that your retirement will last 30 years based on historical data of U.S. stocks & bonds portfolio (no international stocks asset class)
- Unlikely that U.S. returns will be representative of people's portfolios going forward
- A retirement window of 50+ years narrows the withdrawal rate down to 3–3.5% if you are solely relying on it as your income
- Does not account for investment fees (i.e. 1% management fee = reduce first year withdrawal by 10%)
- Allocation matters, you need equity between 50 to 75% in your portfolio during retirement for the 4% rule to work (favoring 75%) [study]
- Being able to spend $100K annually requires $2.5M in savings according to the 4% rule (not inflation-adjusted)
- Based on the worst case scenario from historical U.S. market and inflation (1966). Has consistently survived very difficult times since 1926, but does not take into account modern market trends

4% Rule Statistics (Michael Kitces)
- 96% chance of dying with at least as much money as you starting principal
- 50% chance of doubling your money
- 25% chance of tripling your money
- 4% chance you finish with less than your starting principal
- 1% chance you end up with $0 dollars

→ Following the 4% rule, on top of your lifetime expenses

60/40 Portfolio
- Generic 60/40: 60% S&P index fund, 40% intermediate-term U.S. Treasury fund or total bond market fund (which includes investment grade corporate bonds)

- Has done very well overtime, similar performance to equity-only with lower volatility, great combination of growth and stability
- Is much more likely to provide ≤5% returns instead of >10% as it has over the last 36 years
- Is the most likely to withstand a retirement lasting 30 years following the 4% rule

90/10 (SCV)
- Outperformed the S&P 500 71% of the time over 5-year periods, 83% over 10-year periods, 94% over 15-year periods, and 98% over 20-year periods

401(k) Traditional
- 401(k) contribution limit is $19.5K under 50 and $26K over 50 (variable annually)
- Open a 401(k) if your employer offers one, otherwise open a Roth IRA
- Increase contributions wherever possible and ideally max out, then open Roth IRA
- 10% tax penalty if you withdraw before the age of 59½ and are not retired
- 401(k) were not meant to replace the pension system but intended to supplement pensions and social security
- Roth 401(k) have RMDs until 2024, lower tax liability after you hit retirement

401(k) Workplace
- Opened by your employer, contributions are deducted from your paycheck and invested on your behalf, comes off your income and subtracted from taxable wages
- Employer designs the account and determines what funds are held, you choose from a set menu of investments
- Few offer exposure to S and V stocks
- Invest in low-cost index funds covering TSM (U.S. & ex-U.S.), and bonds. If none apply, pick an appropriate target retirement fund covering those classes
- Contribute at least up to the match the employer provides, try taking full advantage (usually 6% of income), it's free money. If you can invest beyond your employer's 401(k), contribute to a Roth IRA
- When changing jobs, ask for a 401(k) rollover into your new employer's Rollover IRA (unlimited protection from creditors), if not possible go with new 401(k)
- Employer matching always goes to Workplace 401(k) even if your contributions go to a Roth 401(k)

529 Plans
- Money grows tax-free until taken out to pay for educational expenses (secondary education, college)
- Roll over any leftover funds into a Roth IRA and do not close a 529 account once depleted

Actively Managed Funds
- Experts evaluating stocks and bonds and picking out the best ones to try outsmart the market
- The markets are highly efficient, active management is largely a loser's game
- You are betting that your active manager will be able to outperform by selecting the right stocks and bonds at the right time
- No statistically significant evidence of persistent performance supporting the existence of skilled or informed mutual fund portfolio managers beyond luck or randomness
- You are taking extra risk in return for a small chance at beating the market
- Active managers fail at continuing to deliver persistent market beating returns
- 89% failed to beat their benchmark index when we correct for survivorship bias
- Less than 2% (1% after tax) of active managers are outperforming the market
- The return of active managers, net of fees, is almost always lower than a comparable index fund
- Only 6% have beaten index funds on an after-fee basis in the long run
- Much more expensive than index funds, taxes are generally the highest cost of active management
- Tax-inefficient, can distribute capital gains each year even without selling shares
- 2–5% lower average 20-year CRR compared to index funds
- Investors are exposed to market risk and active risk

Advisors
- The investor-savvy person is by far better equipped to choose a high quality financial advisor
- Many make the same errors that a typical individual investor would
- Financial advisors' beliefs are usually more informed than their clients'
- May reduce the perceived riskiness of investments and allow risk-averse investors to earn a higher expected return than they would on their own
- Consulting with an expert can assist with optimizing trade-offs, reducing complexity, and saving time spent in inaction, all within the context of your specific goals, preferences and values
- Additionally, expert advice can help overcome poor decision-making due to narrow framing, confirmation bias, overconfidence bias, and short-term emotions
- The first role any good advisor should be that they play devil's advocate with the investor before they implement a financial plan
- Another key role is to provide the education that allows the investor to stay disciplined
- Hire skilled financial advisors with reasonable fees, without any conflict of interest
- A growing list of advisors have turned to hourly or fixed fees which almost always favor the client (generally far less expensive than the AUM model)
- High-cost advisors (commissioned brokers or fiduciaries charging AUM fees) will put you in complicated investment strategies instead of simple low-cost index fund portfolios
- A good wealth manager should integrate into a plan estate, taxes, life insurance, retirement, etc.
- CPAs are not great at retirement planning and helping you think through all the issues
- Never allow an advisor to take custody of your assets

Alternative Investments
- Are a broad category of investments typically sold as having higher potential returns or diversification benefits than regular stocks and bonds
- Are principally sold on the basis of exclusivity to the "financial elites" (wealthy individuals, pension funds, college endowments, etc.)
- Have an illiquidity premium

Asset Allocations
- Never put all of your money in just one equity asset class
- You shouldn't go below 50% in stocks during retirement, between 50–75% (4% rule)
- 10% at highest in cash, some of which should be part of your bond portfolio
- 5% in Treasury bills
- Never exceed 5% at highest of your portfolio in commodities or speculative assets (Bogle)
- Remain committed to the original weighting of your equity during your glide path, lower the volatility by adding more fixed income (Cock & Merriman)
- Larry Swedroe does not make changes to his asset allocation, unless there are major market moves and yields get to absurd levels

Asset Classes
- Most of the money you make on a diversified portfolio will be determined by your asset classes
- You should not have exactly the same amount of risk in each of your assets, put more weight on the ones you believe will deliver above market returns, or have unique risks that are rewarded, like S and V
- Owning asset classes in market cap weights will only give you exposure to the market facot. It is only by increasing exposure beyond market cap weights that factor exposure can be obtained
- You must have an allocation above market β in order to get meaningful exposure to the S and V risk premiums (>10% for S and >20% for V)
- S beats L, V beats G
- Prioritize V first, Size second, and geography third
- V is a much stronger and more dependable factor in terms of premium than Size
- You should own S companies and both LV and SV companies (Cock)
- SV and LV generally tend to go up and down together
- SV has beaten LG by over 4% annualized from 1926 to 2020 (83% of the time over 10-year periods)

- SV has historically outperformed LB 56% of the time
- SV has had a historical return of 13% against <9% for SG
- S&P 500 has had the lowest returns out of all U.S. equity asset classes
- LV, DM, & EM are less tax-efficient than S&P 500 & SV

Asset Locations
- <u>Taxable</u>: Blend (U.S. & DM) > EM Blend > LV and SV (U.S. & DM) > bonds > REITs
  ↳ equity-oriented, low-cost index funds that generate little annual taxes
- <u>Traditional IRA / Work 401(k)</u>: fixed income (helps reduce RMDs and tax implications), TIPS, REITs, insured CDs, TDFs
  ↳ interest-bearing bond funds
- <u>Roth</u>: SV (U.S. & DM) > EM Blend > Dividend-paying stocks > Blend & LV (U.S. & DM) > REITs > bonds
  ↳ longer-term equity, riskiest asset classes with the highest expected returns
- Optimal asset location add 0.23% per year to after-tax returns to an ETF portfolio

Asset Pricing
- The process of trading results in information being reflected in prices
- The market is a difficult opponent to defeat in an asset pricing competition
- Prices contain all relevant information about the expected return of a stock at a point in time
- Trading sets prices; each trade is a vote for the price going up or down. The aggregation of all of these votes is the current price, which is the market's best guess at the actual value of a company
- Future stock price changes are based on new information, which is impossible to predict reliably
- Financial markets are efficient nearly all the time, the current market price of stocks and bonds is the best estimate of the right price
- Markets are efficient at allocating capital, therefore you should allocate your capital the same way the world does today (Swedroe)
- Efficient markets accurately price past success, risk, and expected future return into stocks
- Whenever you get costs above the sustainable level of production, that's a sign there is a bubble which will burst, it's only a question of time

Avantis & Dimensional
- Factor-tilted funds following proprietary indexes
- Focus on the profitability and financial quality factors of a company
- Manage relatively low-cost, systematic, transparent, and replicable (semi-passive) V tilted strategies
- Slightly more volatile but higher expected returns because of their tilt toward S and V
- Are expected to outperform in the future well more than enough to offset the higher expense ratios
- Define their universe differently to index funds, based on academic research
- Are active in defining their universe, but are passive once they implemented the strategy
- Have lower P/E and P/B ratios compared to similar Vanguard funds
- Expected 0.5 to 1% higher compound than index funds over the long term
- Avantis uses profitability and other factors to define V
- Avantis mirror the approach of Dimensional fund advisors
- Avantis is lead by former executives from Dimensional

Baby Steps
- 1. Debt-free (student, auto & credit loans), 2. Emergency fund (6–12 months income), 3. 15% rule into retirement, 4. Save money for kid's college, 5. House paid off using disposable income, 6. Max out retirement accounts (mutual funds), 7. Increase generosity and enjoyment
- Live frugally as if you are "broke" until step 3

Bear Markets
- Are normal and an inherent part of the market
- Have never been permanent
- Expect one in every 3.5 years

- Drop on average by 35% for 13 months
- Take on average 2.25 years to return to the previous peak
- During bear markets, stay committed to your designated allocation
- In the accumulation phase, dollar-cost average because you get to buy more shares at lower prices
- The U.S. stock market has had 27 bear markets from 1900 to 2020
- Are a huge advantage to young investors

Bonds
- Giving the issuer a loan at a predetermined interest rate at set intervals for a specific duration
- Backed by the full faith and credit of the U.S. government
- Are less risky than stocks and have correspondingly lower expected returns
- Have historically been considered a conservative and safe investment tool for risk-averse investors
- Risk minimization strategy, stabilize the volatility that you are willing to accept
- Not meant to maximize wealth, point is to not lose money during a bad market
- Provide the ballast when stocks go down, good for stability and capital preservation
- Bond prices and yields move in an inverse relationship: the higher the price, the lower the yield
- When you hold a bond to its maturity, the returns will be much more consistent and predictable
- CRR 3.3% (short-term), 5% (intermediate-term), 5.6% (long-term)
- Holding intermediate-term bonds with low expenses gives more return than short-term bonds while not taking on all the risk of longer-term bonds (Berger)
- Bonds with quicker maturity rates are typically less sensitive to fluctuations in interest rates
- When interest goes up, the value of a bond goes down
- A bond-heavy portfolio will struggle to provide sufficient returns to keep up with inflation
- Short-term bonds and TIPS help protect against interest rate risk
- Both I Bonds and TIPS are inflation-adjusted
- I Bonds perfectly match future U.S. inflation, whereas certain TIPS don't
- Nominal Treasuries, TIPS, and I Bonds are exempt from state income tax
- Bond funds are more efficient and more liquid than individual bonds
- Do not invest in bonds if you are putting money away for the long term
- If you have a pension covering your annual projected expenses in retirement, holding little to no bonds can be justified if you can take the volatility of your portfolio
- Well diversified bonds are government, corporate, securitized (mortgage-backed securities)
- Government bonds are more than likely to do better in a catastrophic event than corporate bonds
- Corporate bonds offer higher yields due to higher credit risk, illiquidity, and being callable
- Corporate bonds are not only subject to the volatility caused by interest rate swings, but they are also dangerously closely tied to the health of a company
- Any interest paid is treated as ordinary income tax by the IRS

Bonds (High-Yield)
- Riskier bonds with lower credit ratings (risk of default)
- Face major uncertainties, too risky to provide stability
- Don't use HY bonds for the "safe portion" of your portfolio
- 3.4% of HY bond issuers were unable to pay back their bond holders
- Have not been able to realize greater risk-adjusted returns (Swedroe)
- Should only make up a small portion of your fixed income holdings
- Ben Felix does not recommend having HY bonds
- Never hold individual HY bonds
- Are tax-inefficient

Bonds (Municipal)
- Backed by the creditworthiness of a municipal issuer
- Carry lower rates of return (yields) compared to regular bonds
- Interest is exempt from federal income taxes, but not always from local income taxes

- Those issued by a state government are typically free from state taxes, and those by municipality or town may also be exempt from local taxes
- Generally, you must live in the state that issued the municipal bond for the interest to be free from local income taxes
- Tax-efficient way to obtain income, low historical volatility and adds diversification
- Should be part of every balanced and diversified portfolio for taxable accounts
- Although the income from municipal bonds is exempt from federal tax, you may owe taxes on any capital gains realized through the fund's trading or distributions
- For some investors, a portion of the income may be subject to state and local taxes, as well as to the federal alternative minimum tax

Books

- **Berger** Rob — *Retire Before Mom and Dad*
- **Bernstein** William J. — *The Four Pillars of Investing: Lessons for Building a Winning Portfolio*
- **Bogle** John C. — *The Little Book of Common Sense Investing* (Indexing)
- **Ferri** Richard A. — *All About Asset Allocation*
- **Heys** Paul — *Spending Your Way to Wealth*
- **Lindauer** Mel, **Larimore** Taylor & **LeBoeuf** Michael — *The Bogleheads' Guide to Investing*
- **Merriman** Paul — *We're Talking Millions! 12 Simple Ways to Supercharge Your Retirement*
- **Robbins** Tony — *Money: Master the Game: 7 Simple Steps to Financial Freedom*
- **Swedroe** Larry E. & **Berkin** Andrew L. — *The Incredible Shrinking Alpha*
- **Swedroe** Larry E. & **Grogan** Kevin — *Your Complete Guide to a Successful and Secure Retirement*
- **Zweig** Jason — *Your Money and Your Brain*

Brokerage Firms

- Pick a commission-free broker with low expenses like Vanguard, Fidelity, or Schwab
- If your account has between $500K and $5M in it, you will have to weigh the risk against the added hassle of splitting your accounts across several brokers
- If you have over $5M at a single account type at one broker-dealer, it becomes worth making the extra effort to split your assets across multiple institution or legal entity
- Hold your taxable and retirement accounts on different platforms for convenience calculating RMDs
- Robinhood is not a place for long-term investors

Budgeting

- 50 – 30 – 20 rule: spend up to 50% of your net income on needs (housing, food, utilities, medical, clothes), 30% on wants (restaurants, streaming subscriptions, travel, gifts), 20% towards saving goals (paying down debt, emergency fund, investing in 401(k), IRA)
- 1 number rule: net disposable income (take home pay – fixed monthly expenses including debt & loans) – periodic annual expenses – savings goals = monthly budget divided by 4.3 to have weekly amount

Bull Markets

- Average 107% over 31 months

Buying the Dip

- Waiting to buy an asset once its value has abruptly fallen
- You may potentially wait a long time out of the market and lose on market rise
- Putting your money to work as you have it to invest and not waiting is the best approach
- Trails LSI most of the time and by a wide margin on average, does not outperform DCA consistently
- There is never a complete green flag that will tell you when it's safe to invest back in the market

Capital Gains

- Short- and long-term capital gains are subject to taxes, but differently

- ST capital gains receive less preferential tax treatment
- You certainly want to avoid ST capital gains at all costs, taxed as ordinary income
- LT capital gains are taxed more favorably, incentivizes to hold investments for longer
- Realized and unrealized capital gains or losses refer to the amount of profit or loss an investor makes when they sell an investment for a higher or lower price than it was purchased
- Realized gains are subject to capital gains tax and can be considered either short-term or long-term
- Unrealized gains are not taxed by the IRS and must be reported in the year they occur
- Unrealized means profits or losses that have occurred on paper, but the relevant transactions have not been completed

Cash
- Has lower returns compared to stocks and bonds in all interest environments
- The less we hold in cash generally the better, as we lose out on market returns
- Set aside enough cash to cover your living expenses for the next year
- Don't keep over a few months' worth of expenses in cash
- Does not offer a hedge against falling expected returns, or protect against inflation
- During retirement, save enough cash or Treasury bills to cover between 6 months to 1 year's worth of living expenses. You can have up to 10% in cash which should be part of your bond allocation. Going beyond that can lower your returns due to the absence of market returns
- Moving 10% of your bond allocation to cash may reduce your returns
- Include in your bond allocation anything in cash that is not designated for a specific purpose over the next year (i.e. T-bills)

Certificates of Deposit
- If you want guarantees, buy CDs
- Low-risk, short-term, low-return investments
- Do better than stocks ⅓ of the time
- Best suited when looking to save money in the short term or want to avoid any kind of risk

Commodities
- Prices can be volatile
- Are all identical before expenses, you should go for the cheapest available

Companies
- **Alibaba**: you will have to deal with the political issues surrounding it, which are very hard to predict
- **Ark**: Family of actively managed funds investing in tech and innovation related companies, fast-paying returns with dramatic drops over a short period of time
- **Tesla**: share price has done much better than the market expected, reflects the current beliefs about Tesla's innovation and profitability, unreasonably high valuation that can't be justified based on the company's performance or relative to its business fundamentals, unlikely to continue surprising the market, too much uncertainty around Elon Musk, rising competition of EVs (fairly new industry subject to all kinds of unknowns)

Compound Interest
- Can turn an average-income earner into a millionaire
- Small consistent amounts added over time lead to huge results
- Even a modest contribution will grow over time if invested in stocks, mutual funds, or exchange-traded funds (ETFs)
- Start small and build up as much as you can afford, be patient, and you will be on the path to building wealth and financial freedom
- Starting later will necessitate more up-front investment to reach the same goals

Credit Cards
- Always save and invest rewards

- Get out of credit card debt switching from high-rate cards to those with 0% balance transfer

Cryptocurrencies
- Non-productive assets that serve decentralized payment applications
- Do not rely on a single centralized issuing authority or sovereign government
- No underlying intrinsic value besides a nominal amount
- Prices are extremely volatile, not a sustainable investment
- Valuations are based on speculation; you are essentially gambling
- Supply and demand are highly uncertain
- Unlimited supply of Bitcoin alternatives, price should be **asymptotically** close to 0
- Uncertain governance and poor regulations
- Far from being adopted as a mainstream payment system for transactions
- Gains are taxed in many countries
- Just because crypto is available to everyone, doesn't make it suitable for everyone
- Are an irrational investment fad about the potential for earning high profits
- The future of crypto is unknown, keep these risks in mind
- Better off avoided altogether

Currencies
- Traditional currencies do not have a positive expected return
- One currency does not provide better exposure over another
- Price fluctuations are random and volatile
- Don't try to predict currency conversions, convert and spend money when you need to (Zoril)

Dave Ramsey
- Put 15% of your monthly disposable income into your retirement accounts
- Dave Ramsey's 4 types of mutual funds: growth, growth & income, aggressive growth, & international

Day Trading
- Individuals are less well informed than institutions are when placing trades
- You are competing against skilled active manager and financial institutions, high-frequency trading algorithms, and the collective wisdom of the market
- A stock being sold means it's thought to be overvalued, whereas a stock being bought is thought to be undervalued; only one can be right, the other is being exploited
- More trading leads to a higher likelihood of poor performance
- Investors who buy and hold are consistently more successful than those who move in and out of the market
- Is not a profitable activity, in part due to costs
- Underperforms passive investing after trading losses, commissions, transactions, taxes, and market timing losses
- Only 1% of day traders reliably earn positive excess returns after costs

Debt & Loans
- Getting debt under control is one of the single best things you can do to survive a bad market
- Arbitrary line for interest rate should be 5%
- Plus intéressant financièrement de réduire la durée tout en gardant l'échéance de mensualités (économie sur la durée d'intérêts en plus de l'assurance) lors d'un payment forfaitaire

Decision-Making
- A lot of decisions in investing are driven by irrational emotions
- If we can understand the power of a compelling narrative to make us behave irrationally, we might be better equipped to make better decisions and feel less anxious during challenging and uncertain times
- Always implement a methodical decision-making process as opposed to an emotional one
- Don't engage in resulting; you cannot evaluate the quality of an investment decision by its outcome

- Judge the outcome of your decision based on the quality of your process used to make that decision
- Making a good investment decision does not mean that you will get the outcome that you hoped for

Defensive Strategy
- Set liquidity aside
- Get a job, side gig, or work longer
- Reduce your cost of living, move to a lower cost area
- Cut expenditures and eliminate unnecessary expenses
- Invest in a way that you can easily get out if you want to
- Prioritize diversification at every level
- Spread your money amongst all equity asset classes
- Reduce your fees to a minimum
- Optimize your tax liability
- Get better return on investments

Direct Indexing
- Takes advantage of tax-loss harvesting
- Comes with a fee (0.25–0.40%)
- You end up with a large complex portfolio of several hundred positions
- No easy way to simplify or get out without incurring capital gains tax (wiping out TLH benefits)
- Only benefits high-net-worth individuals in the top tax brackets who have large investments outside of their taxable equity accounts that give out regularly arising short-term capital gains (derivatives and hedge funds)
- Good if you plan to donate the direct indexing portfolio to charity

Diversification
- Defensive investment strategy that can be summed up as "don't put all your eggs in one basket"
- Significantly reduces the role of luck and increases the reliability of the investment outcome
- The shorter the horizon, the more important the principle of diversification becomes
- Don't get caught up in returns, the bigger part of the equation is the comfort that having diversification provides
- Protects against ignorance, we don't know which stocks will be most successful in the future, or which country they will reside in, so we diversify globally
- 1.3% of global stocks were responsible for generating all of the excess market returns (net wealth creation) above Treasury bills from 1990 to 2018, 61% of the remaining firms generated a loss (study)
- Adding independent risk assets tends to increase expected returns and reduce market volatility, while also reducing the need for fixed income
- You are more likely to build a profitable financial future by adding asset classes that are uncorrelated and have evidence of delivering a consistent premium
- Diversification across many uncorrelated assets dramatically reduces uncompensated risk while maintaining exposure to the compensated risk of the market
- Every risk asset will go through very long periods of poor performance at any one time. This is not a reason to concentrate or avoid an asset class, but to diversify across as many uniques sources of risk that provide persistent premiums as you can identify
- A total loss is much less likely when you properly diversify your investments in a globally diversified portfolio of index funds. We would need to be in a situation where nobody expects any business to earn any profits in the future
- You cannot determine the diversity of a portfolio by simply looking at the number of funds, always look at equity fee, holdings and characteristics
- A broadly diversified portfolio of stocks and bonds made 6–8% a year during the worst decade for stocks since the 1930s
- Diversify across geographies, risk factors, and asset classes
- Factor diversification has been more effective than asset class diversification in general, and in particular during crises

Dividend Growth Stocks

- Dividend growers tend to be V companies with robust profitability and conservative investment
- Targeting V stocks directly as opposed to chasing dividends is a much more sensible approach
- Should be completely irrelevant, no financial or logical reason to prefer dividend-paying stocks
- Excluding companies that do not increase their dividends leads to a substantial loss in diversification
- No evidence that investors can pick dividend-paying stocks consistently in order to beat the market
- Funds with a 3–5% yield or higher is a red flag
- Can result in overpaying for yields when interest rates are low, driving down returns by 2–4% per year
- Go in a Roth IRA, although some can still be tax-efficient unless yields are over 3–4%, wouldn't exclude holding SCHD in taxable (Berger)

Dividends

- The distribution of a company's profits (business success) to a shareholder
- Most are payed at the end of each quarter, in majority in December
- Are not related to expected returns, but are an important component of total returns
- Focus on maximizing total returns and after-tax performance instead of reaching for dividends
- Don't make us wealthier, simply move money from one pocket to the other
- Dividend-paying stocks are not inherently better investments than non-dividend-paying stocks
- Dividends alone, or the growth of dividends, are not an indication about the quality of an investment, nor a guarantee for better future returns
- The distribution results in a reduction in share value, lowering the intrinsic value of your investment
- Reinvesting dividends in extremely important, direct them towards funds that need rebalancing
- Spending your dividends results in a lower ending net worth
- Are by no means a guaranteed source of income, firms can reduce or eliminate their dividends
- 60% of U.S. stocks and 40% of international stocks don't pay any dividends
- Are a tax drag, dividend holders pay taxes whether they spend their dividend or not
- Taxed at the income level on cash flows
- Domestic dividends are often more favorable from a tax perspective
- To qualify for the maximum tax rates of 0%, 15%, or 20% that apply to long-term capital gains, dividends must have been paid by a U.S. company or a qualifying foreign company
- Less volatile than company price and earnings, but produced the smallest V premium
- Dividends are not an inflation hedge

Do-It-Yourself

- Investors must report their cost basis, including any capital gain or loss incurred in taxable accounts, accurately to the IRS at tax time

Economy

- If you work in the U.S., your labor capital is highly correlated with the risks of the U.S. economy
- Japanese stocks have had a 0.61% CRR from 1989–2019, that's 30 years of negative real returns
- China's economy will be significantly slowing down in the future (Swedroe)
- Markets are highly efficient and have become increasingly connected to each other

Education

- Learn evidence-based investing from the peer-reviewed academic research and empirical evidence
- Be disciplined, educate yourself on financial planning, keep up-to-date with tax laws and investment products, and maintain your cognitive abilities into an old age
- Just taking a 6-month course on investing isn't enough. You must pursue it, keep learning and stay on top of it for the rest of your life
- You must be willing to learn what an investment advisor needs to know and become financially literate
- Numerate people have a significant advantage over those who are not (Kahneman)
- The people who are most likely to get an education come from STEM backgrounds

- Some people will never want to do it on their own, they need someone to hold their hand, help them stay the course, and guide them

Emergency Fund

- Liquid reserves on hand for the unexpected, usually 6 months of savings
- However inconvenient it may be, a rainy day is not an emergency
- A true emergency is unlikely to occur more than once or twice a year; in fact, you may go for years between emergencies
- Don't confuse the breakdown of your washing machine (which is utterly predictable except for the timing) with an emergency

Emerging Markets

- Are volatile, but also offer diversification to DM portfolios
- Deserve a place in a well-diversified portfolio (Felix)
- In addition to DM, you need to have EM (Cock)
- Uncertain whether they will deliver a large premium over DM
- Seeking exposure to multiple risk factors with EM makes sense
- Do not to assign an aggressive overweight in pursuit of higher expected returns
- The free-float capitalization weights that most fund providers use are a sensible starting point
- Ideal adjusted allocation is 17%, expected to increase as EM share in global GDP rises (2020 study)
- U.S. and DM companies have indirect EM revenue exposure
- Generally have greater political risk, less developed stock markets, and tighter control on foreign investors than DM do
- Outperformed DM 42% of the time from 1900 to 2020
- Underperformed in the '90s and '10s, dramatically outperformed in the '70s, '80s, and '00s
- Have a high expected return (Shiller PE of 13 compared to 38 for the U.S. (2021))
- Come with higher costs and taxes over DM
- Tend to have higher dividend yields (income) than DM stocks
- Not all index fund providers have the same definition of EM
- The U.S. was an emerging market 150 years ago

Emotions

- Keep your emotions out of the decision-making process
- Don't give in to emotional impatience or wishful thinking
- Have very limited emotional reaction to small gains and to small losses
- Keep your politics and religious views out of investing

Entertainment Money

- Do not spend on play money
- Recognize you are playing, not investing
- The house always wins, the odds are great you are going to lose
- Nothing wrong with setting aside a small budget for entertainment purposes
- Never put in more than you can afford to lose
- Paul Merriman does not have $1 invested for fun

ESG

- Screens companies and industries based on issues like climate change, social causes, and diversity
- Will likely drive up the valuations of firms with higher ESG scores, lowering their expected returns
- Green stocks have higher fees, are less diversified than a total market index fund, and may well underperform in the long run
- Green stocks have higher valuations because they offer a climate risk hedge
- Green stocks are somehow safer, less subject to consumer boycotts and environmental regulations
- The excluded brown stocks will have lower valuations, driving a brown stocks premium in the future

- The impact of climate change on the expected returns of high-emission firms is already well captured by existing prices and proxies for future expected cash flows
- Brown stocks outperformed green stocks by about 2.5 to 3% a year
- There is a cost of capital incentive for firms to reduce their exposure to climate risks by turning green
- ESG investing pushes companies to have higher ESG scores, virtuous circle driving behavior leading to positive social impact
- Corporate behavior is also changing to make efforts and take action on diversity and climate issues to get better ESG scores
- Satisfied employees that are more productive increase a company's profitability, people want to work for companies that express and live their values
- People who want to put their money where their values are should expect, according to the research, lower expected returns. That doesn't mean ESG is a bad investment or a completely irrational decision, you are just willing to express your values at the expense of lower returns
- Owning the less green companies too and participating in their transition towards being greener might be the best way to do well by doing good (Felix)
- ESG criteria and definitions vary greatly across agencies and regulatory bodies
- The highest performing industries in the U.S. and the UK are alcohol and tobacco
- >25% of U.S. domiciled assets are invested in sustainable strategies (2018)

Estate & Inheritance
- Transfer on Death Plans are not an effective way to save on death transfer taxes
- The benefits of working with a wealth advisor is to create a wealth plan that integrates your estate, taxes, savings, insurance, and life planning in general
- Anyone inheriting an IRA will generally be required to take a required minimum distribution
- Estate planning attorneys can be great at minimizing taxes but fail to account for the unexpected life events
- High net-worth individuals should move assets into irrevocable trusts (you can get up to $23M excluded from an estate as a couple and save on taxes)

ETFs
- Basket of securities that trades on an exchange, like a single stock, and follows an index
- Follow the evolution of a stock market index (or one or more financial assets, such as gold) by replicating the rise and fall in the price of this index (or of these assets)
- Attempt to spread out risk among multiple investments, but allow investors to purchase exposure through a single security
- Inherently more tax-efficient than traditional mutual funds because of minimal portfolio turnover
- Often have lower fees than their comparable mutual funds, especially those built to mirror indexes
- Pay attention to the expense ratio, market cap, P/E and P/B
- Not all ETFs are created equal, don't only look at only cost
- If owned for less than 1 year, the gains are taxed at the same rate as ordinary income. If held for longer than a year, the profits are taxed at capital gains rates
- Pay dividends but typically don't distribute capital gains, as opposed to mutual funds
- Any interest or dividend income is taxable in the year the payment is received, regardless of whether the ETF is still held
- Some dividends from equity ETFs are "qualified" and are taxed at similar rates to capital gains
- ETFs and index funds legally cannot pass on tax losses to their investors
- **Paul Merriman** · Best-in-Class ETF Recommendations

ETFs vs. Mutual Funds
- Both are index funds and represent a broadly diversified portfolio of securities
- ETFs have lower expenses and generate less taxes in a taxable account than if a similarly structured mutual fund was held in the same account
- ETFs can be purchased during market hours, similar to stocks, whereas mutual funds can only be traded at the end of the day

- ETF buys on the ask price and sells on the bid price, that difference is called the spread

Expats
- Be prepared to say that you are unemployed or retired when moving to a new brokerage
- Expats living in Europe without a U.S. address cannot trade US-based stocks, mutual funds or ETFs (account may get frozen)
- Certain countries don't recognize the tax benefits of Roth and tax withdrawals
- Ireland has aggressive tax rules called deemed dispositions where you owe tax on your capital gains whether you sell anything or not
- Investing in non-US based holdings as a non-US resident significantly complicates filing up 1040 tax form and should be avoided
- Non-US citizens that invest in the U.S. market are taxed 30% on dividends
- Do not hold PFIC
- **Rob Berger** · Investing and Retirement for Expats | Live Interview with Mark Zoril

Expense Ratios
- Are the most proven predictor of future fund returns (study)
- Are one of the most important factors when choosing an investment
- Funds with lower fees have on average performed better
- High expense products tend to give lower rates of return per unit of risk
- Evaluate the best financial products based on quality and price
- Choose quality of performance and profitability over price
- You should be willing to pay for slightly more expensive funds if they offer deeper exposure to risk factors that deliver a premium large enough to offset the cost
- Look at cost of unit per risk of exposure to the factor(s) and what you expect that premium is
- Choose funds that you believe will deliver the most value in the context of the overall portfolio
- 0.20% or lower are very inexpensive, 0.25% are inexpensive, 0.30% are relatively inexpensive

Expenses
- The #1 expense in your life is retirement
- Some of the largest expenses for households include housing, education, and transportation

Factor Investing
- Maintaining consistent factor exposure is a tough benchmark to beat

FDIC & SIPC
- FDIC will only recover securities if the insolvent holding firm was a bank
- SIPC does not protect against market price drops or claims in excess of insurance limits
- Keeping your accounts to each stay under the $500K limit (and not hold cash in excess of $250K) is the only way to know that you'll be 100% covered
- **The Wealthfront Team** · FDIC and SIPC Insurance: What’s the Difference?
- **Rob Berger** · What Happens to Our Investments if Schwab, Fidelity or Vanguard Collapse?

Fees
- May be worthwhile in exchange for good advice
- Every basis point erodes wealth over time
- The higher the commission, the worst the investment
- Lower expenses guarantees us a better rate of return in the future
- Avoid annual or recurring fees, favor hourly or fee-for-service/fixed
- A vast majority of commissioned brokers and registered financial advisors (fiduciaries) charge 1% of AUM (industry standard)
- Never pay anyone over 1% for advisory fees, whether flat, hourly, or as a percentage
- Don't pay anyone over 0.30% of AUM, no good reason to pay higher (0.50% for Rob Berger)
- Aim at getting your annual investment fees below 0.10% ($1K for every $1M)

Financial Independence

- Grow the gap between income and expenses, invest that gap, repeat
- Earn more or spend less

Formulas

- Earnings Yield = 1 ÷ P/E ratio × 10^2 (best estimate over the long term for stock returns)
- Expected Bond Return: (Effective Duration × 2) – 1 years = over the next … years average returns (SEC yield) should roughly equal the asset's current yield
- Expected Inflation: TIPS Yield – Nominal Bond Yield
- Estimated Monthly Cost of Home Owning: (Value of the home you are considering × 4%) ÷ 12
- Market Value = Expected Future Profits ÷ Discount Rate
- Tax Efficiency: Income ÷ Distribution NAV = 10^{-2}% of yours assets distributed as dividends (lower = better) (Income → Distributions)
- Taxable Equivalent Yield to Equal Tax-exempt Return = Tax-exempt Yield ÷ (1 – Tax Bracket)
- Total Return = price appreciation (capital gains (value of stock over time)) + dividends

Fund Providers

- Not all funds are created equal
- Have different definitions of quality
- You should not only look at only cost
- Look at characteristics such as cost, market cap, holdings, P/E, P/B, and P/CF
- It is critical to evaluate how funds are designed, how they trade, what securities they exclude, etc.
- You should not invest until you have done deep due diligence on the skills of the management team and the investment researchers

GDP

- Roughly capture a country's "relative economic importance"
- Historically, as GDP per capita grows, capital markets in an economy become more sophisticated

Geographic Asset Allocation

- No objectively optimal geographic allocation, making the choice mostly arbitrary, as long as global exposure is achieved
- Following a simple equal split across domestic and international stocks is a sensible solution (Felix)
- A good starting place for a U.S. investor is owning 50% U.S. and 50% international, even if the U.S. represents 40% of the global equity market (Swedroe)
- 50% of your stocks should be outside the U.S. (recommended by the academics)
- Volatility reduction can be achieved while maintaining a minor home country bias
- Maximum volatility reduction is achieved by allocating 50–60% of a portfolio to international equity, adding above 60% can increase volatility for an investor in a given country (2019 study)

Gold

- Primarily used as a store of value
- Non-income producing asset, does not generate cash flows
- Non-productive asset, sits there and does nothing
- Has zero real expected return
- Inconsistent returns over time, lower than stocks
- Historically poor hedge against inflation, not a good long-term investment
- Has gone 23 years where it lost 85% of its real value (1980–02)
- Bonds historically do better in the bad times
- Always in tax-advantaged accounts (complicated and expensive tax rules)
- Taxed as a "collectible" by the IRS, up to 28%
- Invest in gold ETFs rather than physical gold

- Avoid Gold IRA companies
- A small allocation can be reasonable, don't exceed 5% at highest

Glamour Stocks
- Solid companies that tend to have done well in the past and are unlikely to become financially distressed in the near future
- Objectively good companies on the rise to becoming household names, and have often delivered exceptional returns to their investors, but are bad long-term investments
- Counter-intuitively, the higher returns come from the less popular shunned companies, not the glamorous high-flyers and hyped-up innovative ones
- Only the really early investors that get out at the right time have a potential for huge returns
- Collective excitement has a tendency to drive up stock prices, lowering expected returns, and can lead to bubbles which will eventually burst
- Investors may be too optimistic about the growth prospect of a glamorous firm, like Apple or Tesla, irrationally bidding up their prices, and reducing their expected returns
- Companies with high brand prestige tend to have lower future returns and sharpe ratios, and are not fundamentally less risky than V stocks
- If people are excited about an investment, it probably isn't a good one

Global Market Capitalization
- Publicly traded company stocks represented by country or economic area based on their relative size
- Following market cap weights for geographic allocations is not optimal to get the full benefits of global diversification (Felix)
- The U.S. makes up over 50% of the global stock market cap (2023)
- 2023: 41% U.S., 33–44% DM, 15% EM (42% of global GDP)
- 2030: 35% U.S., 35% DM, 30% EM (50% of global GDP)
- 2050: 27% U.S., 26% DM, 47% EM (60% of global GDP)
- 2075: 22% U.S., 23% DM, 55% EM (68% of global GDP)

Hedge Funds
- Have higher advisor-fees

Holdings
- Overall U.S. market: 100–500 (highly driven by LG)
- U.S. SV: 500+
- DM: 2,500+
- EM: 2,500+
- If you want to truly diversify, you need to own 5K to 10K different stocks
- A factor-based portfolio with exposure to more than market β will require 10K+ securities

HSA
- Health Spending Accounts are highly tax-efficient: tax-deductible contributions, earnings grow tax-free, tax-free spendings on qualifying medical expenses
- Can take money out at any time tax- and penalty-free if it's for qualified healthcare expenses
- 10% penalty if you withdraw <65 for non-qualified medical reasons
- Available if you have a tax-deductible healthcare plan + some employers offer matching contributions
- You can use an HSA to enroll in Medicare premiums but not supplemental Medigap
- Save receipts to pull out money in the future (no time limit)
- Inheriting an HSA incurs taxes

I Bonds
- Cannot be sold for the first 12 months
- You pay a penalty of 3 months interest if you sell before 5 years
- Not an attractive strategy in high-interest (high-yield) environments

- Treasury bills and CDs are better short-term fixed income investments
- You can defer taxes until you sell the bond
- Only consider I Bonds in a taxable account if tax-deferred accounts are not an option

Illiquid Assets

- 2 to 3% premium
- If you don't need liquidity, own more illiquid assets to earn the premium
- Most investors don't need more than 5% liquidity in any one year
- Have at highest 30% in illiquid assets

Index Funds

- Grouping of stocks assembled to be a representation of a market
- Passively capture market returns as opposed to trying to beat them
- Are passive because there is no individual stock picking or market timing
- The idiosyncratic risk can be mostly diversified away by investing in a whole asset class
- Only invest in those with good extensive track records
- Always figure out what index (benchmark) the fund tracks
- Relatively low turnover hence why they are relatively tax efficient
- Average 0.05–0.10% expense ratios compared to 1% or more for an actively managed fund
- It's almost always true that over the long term, the less expensive index funds outperform the more expensive ones in part because of the difference in fees (study)
- The odds that any other investment or strategy will outperform the buy & hold low-cost passive index approach over a 20-year period are slim to none
- Bond mutual funds and ETFs tend to pay interest monthly whereas stock mutual funds and ETFs tend to pay interest plus dividends quarterly, and most of it in December
- Indexing is a perfectly good, low cost, transparent strategy, but there are clear negatives that can be minimized or eliminated through factor-tilted funds
- Mixing and matching investment products from different fund providers can lead to problems, minimize overlapping exposure
- Represent 7.4% of the total global market (2017 study)

Individual Stock Picking

- Is largely a losing game, like trying to find a needle in a haystack, or winning the lottery
- Identifying successful stocks ahead of time is next to impossible and not something you can do consistently
- Most stocks perform poorly while only a very few perform exceptionally well, driving massive returns
- You are far more likely to pick a losing stock that trails the index and has negative absolute returns, which can result in substantial and unrecoverable losses
- Can lead to an unnecessarily wide dispersion of outcomes, with a heavy skew toward negative one
- Buying individual stocks in considered speculation, not investing (Swedroe)

Individual Stocks

- Do not earn a place in a portfolio (Merriman & Swedroe)
- Diversification is not owning individual stocks
- Companies can disappear, taking their share price with them
- If you own an individual stock but would not buy more at the current price, you shouldn't keep it
- Prices typically move to some extent with the market, but may also fluctuate due to a company's specific circumstances
- If a company does what the market expects it to do, expect to earn close to the market return, while also taking on the risk of that individual company not delivering on its expectations. Only if the company exceeds current expectations should you expect to outperform the market
- Complete loss is normal during a bear market and should be expected
- Investors owning individual stocks are exposed to both market risk and idiosyncratic risk
- Uncompensated risk can easily dominate, do not expect a positive outcome

- Investors are subject to familiarity bias and overconfidence bias
- Individual stock investors should read the analyst reports
- Should not exceed 1 to 2% of your portfolio, and only if you must really speculate

Inflation
- Goes through higher and lower periods
- Is the most predictable risk
- Plan and invest with inflation in mind
- Averaged 3% over the last century, 5% from 1970 to 1999
- You must make 6% on your investment a year, or you lose purchasing power otherwise
- Bonds and HY cash accounts don't always keep up with inflation

Inflation vs. Deflation
- Inflation isn't a good thing, per say, but it is the lesser of two evils
- One person's spending is another person's income. Higher wages come from higher prices, and vice versa
- Deflation might sound appealing regarding prices, but it also means lower wages, lower economic growth, and job loss
- As long as the economy is growing, deflation is rare

Insurance
- Is a risk management service
- Expect in most cases to lose money, but the reason why we buy insurance is to cover what is too expensive for us to bear the risks
- The risk of not having insurance is generally greater than the cost
- Life and disability insurance are some of the most important components of a financial plan (Felix)
- Rob Berger doesn't have life insurance, says he doesn't need it
- Never buy permanent life insurance

International Exposure
- Home bias is a strong draw
- Primary reason for investing internationally is not for higher returns but as a hedge against the huge potential concentrated risk
- Protects against the adverse effects of holding concentrated positions in countries with poor long-term economic performance, gaining long-term access to foreign economies outside of home country
- Some markets will decline permanently, or at least for some extended periods of time
- A true economic catastrophe occurring in one country is unlikely to also happen in all other countries with functioning public stock markets
- Insurance policy against something catastrophic happening in the U.S.
- No reason to isolate investments to just the U.S. market since we don't know how it's going to fare compared to the rest of the world
- Combining U.S., DM, and EM improves the risk and return characteristics of a portfolio
- Rob Berger is much more comfortable having direct international exposure
- A worldwide strategy is more prudent if you do not want isolated risk
- Betting on just one country increases the likelihood of a bad outcome, no matter how dominant its market cap is at the moment
- Foreign tilt diversifies your labor capital (human effort used in production)
- Most of the returns of markets oversees comes from the local economic activity happening in those that produce their own goods and services
- Countries with stronger economic growths have historically had lower stock market returns
- The U.S. has more exposure to Technology, whereas international tends to be Manufacturing
- Bogle and Buffett argued against (post-WWII global dominance of U.S. economy attitude), they would both be wrong from a theoretical perspective
- Investing outside your home country tends to comes with higher costs and taxes

- Foreign dividends can be taxed less favorably than domestic qualified (eligible) dividends
- The returns from foreign dividend income are fully taxable, which increases the cost of ownership

Investing vs. Paying Off Debt
- Pay off high-interest debt and have an emergency fund before putting money into investments
- Any double-digit debt needs to be a priority
- If the interest rate is under 5%, keep investing
- If you have low-interest debt, focus on your retirement savings while paying down the loan at whatever the minimum requirement rate is
- The lower your rate, the more likely you should just make the minimum payment and funnel as much as you can into investing
- Don't be afraid of using more than 1 approach depending on your circumstances (comfort level, mental model, and life plans)
- If you have debt, pause IRA or 401(k) and get debt-free fast by living frugally (Ramsey)

IRA (Roth)
- Earnings grow tax-free but no upfront tax benefit on contributions
- Protects about the risk of higher taxes in the future
- Should be the last money you withdraw in retirement
- Lifetime tax-free income when withdrawing during retirement
- Contributions are funded with after-tax dollars
- Contributions can be withdrawn at any age, penalty-free, but not until 59½ and the account is at least 5 years old
- More flexible withdrawal rules than those for traditional IRAs and 401(k)s
- Ordinary income tax on earnings + 10% penalty if IRS rules are not met
- Subject to contribution and income limits ($6,5K and $153K in 2023 for single filers)
- Not subject to Required Minimum Distribution rules
- Buying and selling stocks within the Roth IRA has no tax impact at all
- May be better if you don't need tax deductions from your income to reduce your tax bill or you expect to be in a higher tax bracket when you retire than you are now
- Can be opened at any age
- Especially beneficial for younger investors as there is greater saving potential due to tax-free compounding
- The goal is to leave it there any never take anything out, double-edged sword
- Cannot convert Taxable to Roth
- Great wealth-transfer strategy, inheriting a Roth IRA as a beneficiary is tax-free if the 5-year rule is met

IRA (Traditional)
- May be better if you live in a higher tax bracket state and expect to retire in a lower tax bracket state
- Deposits are generally held with pretax dollars
- Withdrawals are taxed based on your ordinary income rate in retirement
- Contribution limits vary each year and depend on your age
- Can be opened by anyone, not necessarily through an employer
- No set menu of investments, people choose which funds to invest on their own
- Provides more control over what you are investing in compared to 401(k)
- No tax consequences for rebalancing
- You must earn income to contribute
- Your income may prohibit you from contributing to a Roth IRA
- Putting aside 6K a year in IRA at 8% return = $1M in roughly 20 years and $2.5M in 45 years (0.25% fee = $250K loss)

Large Cap Growth
- Huge popular companies with high prices, their products and services are used or admired by consumers, and their business are robust profit-generating machines

- Make up a large portion of the stock market and drive the economy
- Companies viewed as less risky will have a lower discount rate and therefore a higher price
- When stocks are expensive relative to the past, future returns tend to be lower
- Most of those stocks get great returns when they become large companies
- Great companies no longer pay huge returns once their share price got bid up. The trick is investing in them before they become great companies, but this is more akin to playing the lottery
- Historically, successful companies have not been able to maintain their exceptional growth forever
- Delivering unexpectedly good stock returns requires to deliver financial results that are better than the already high expectations that the market has set for them
- Tend to eventually see their valuations decrease as their profitability and earnings growth decline while their cost of capital decreases, pushing down their valuations
- The 10 largest companies at the start of the decade trailed the market as a whole by 1.51% for the decade that followed
- The GAFAM make up nearly 20% of the U.S. stock market, Apple alone make up 6% (2020)
- AT&T, GM, and GE have played crucial roles in shaping the world that we live in today, but that has not necessarily made them good long-term investments
- Has historically delivered lower average returns than SV

Larry Swedroe
- Trained Economist
- One of the best in the industry as a teacher
- Load up on S and V tilts for U.S., DM, and EM
- Only owns SV in equity (highly profitable and higher quality companies) in U.S., DM, and EM
- Allocates 50% to U.S., 35% to DM, and 15% to EM (2022)
- Favors systemically managed factor funds over pure indexing
- Uses fund families that follow an academically supported, systematic approach (AQR, Avantis, Bridgeway, Dimensional)
- 3% is the new 4% rule for safe withdrawals
- Favors TIPS for safe bonds
- Doesn't own corporate bonds, but owns Municipal
- Rebalances on a regular basis following the 5–25 rule
- Encourages having an umbrella insurance policy
- Big believer in living with no debt or leverage
- Owns alternative investments like reinsurance, life & structure settlements, long-short factor funds, alternative and private lending funds
- 100% equity when starting out, hit a home run and went down to 60/40 because he didn't need to take the risk, hit another big home run, went down again to 30/70 where he is currently at
- Defines success by helping position family and kids to be financially secure and have careers they enjoy
- Creates analogies to help people understand the complex concepts found in the world of investing
- Lives somewhere in Missouri
- Portfolio: 40↑% alternatives, 30% equities, 30↓% high-grade Treasury & Municipal bonds
  ↳ 50/50 in U.S. and international equity, highest returns per unit of risk and very steady performance

Long Term
- Mid- to long-term investment is 5 to ideally 10+ years
- Favor a majority of diversified group of equities over bonds
- The risk of losing money decreases the longer you hold your investments in a "risky" portfolio

Long-term Care
- Very expensive
- More than half of the population will need long-term care
- The older we live, the more risk we have of heavy medical expenses like long-term care

- Not having long-term care insurance can be a variable that forces very high spending later in life
- Combine life insurance with long-term care

Losses

- People suffer from loss aversion, yet volatility is a part of investing
- Accepting the potential for losses is an important part of investing
- Markets tend to increase in value given a long enough time horizon
- Over long periods, the short-term declines in portfolio value are just noise
- It is by enduring that volatility in the short-term that investors can achieve higher expected returns

Lump Sum Investing vs. Dollar-cost Averaging

- DCA is just taking risk later
- DCA is in itself a form of market timing and should not on average give you a better result than LSI
- Delaying a LSI is also form of market timing
- More likely to be better off LSI rather than spreading it out over time, most of the time
- LSI beat DCA 67% of the time across all asset classes using historical data (2012 Vanguard study)
- DCA beat LSI when the stock market was down or largely overvalued (study)
- DCA can fail over short-term periods and with individual stocks
- DCA forces you to buy more shares when the market is down and fewer when the market is up, you are getting in at lower prices (buying stocks "on sale")
- All DCA does is alleviate any concerns over investing at the worst possible time
- If you are primarily concerned with minimizing risk and potential feelings of regret resulting from LSI immediately before a down-market turn, DCA is the better option
- Impossible to know in advance whether one will perform better than the other over time

Market Crashes

- Global stocks lost 31% in WW1, 15% in WW2, 54% in the 1929 Wall Street crash, 47% in the 1973 oil shock crisis and recession, 44% in the 2000 Dot-com bust, and 41% in the 2008 global financial crisis

Market Timing

- Is impossible to do successfully and consistently
- Returns are driven by events that cannot be forecasted
- Few if any can anticipate the stock market, no one can do so consistently, and even the experts frequently get it wrong
- No level of education or intelligence makes it possible to beat the market
- Markets are highly efficient, you almost never stand a chance of beating it on a risk-adjusted basis
- The market is the wisdom of everyone involved, you can only beat it if you know something that everyone else doesn't
- Is mostly driven by emotions and intuition, the prudent strategy is you shouldn't try
- Don't time based on valuations (P/E) or factors, except maybe at extreme levels (Swedroe)
- It is far more sensible to simply capture the returns of the market using low-cost index funds
- Significant trading costs and tax consequences for jumping in and out of the market

Money

- Medium that facilitates economic activity
- Essential to any functioning capitalist economy
- Serves as a means of exchange, unit of account, and a store of value
- Money creation in the economy comes from demand for loans from credit-worthy borrowers
- Necessity to meet basic needs and reduce stress
- Focusing on money alone rather than what it affords is a mistake
- We are hard-wired to always want more, and never truly feel satisfied because we adapt so quickly
- The thought of obtaining more money activates the same regions in the brain as drugs, it's addictive
- Making more money can come from working more hours, increasing the amount of money that you can make per unit of your time, or from investing

- 40 to 65 year old is usually when most of your money will be invested

Money Market Funds vs. Short-Term Bonds
- MMF are short-term debt securities that mature in less than one year, most mature in 3 months or less
- STB funds typically invest in bonds that mature in 1 to 3 years
- MMF are cash investments, they are considered extremely safe and conservative, especially during volatile times. Account value typically remains stable or slightly increases
- MMF are the lowest risk option on the fixed income risk-return spectrum, followed by STB
- MMF are excellent for emergency funds
- STB are relatively low-risk, predictable income, but carry more risk than MMF
- STB typically have stronger returns (higher yields), but are more sensitive to interest rates
- STB typically decline during periods of raising interest rates, MMF won't experience downsides at all
- Many investors use STB as a higher-yielding alternative to MMF
- Overall, STB appear to be a better investment than MMF
- If you need to use the money within a year, MMF are generally the better option
- If you need money in the short-term, bonds are a perfectly reasonable thing to have
- A government or federal money market fund is a reasonable approach, or a HY savings account
- MMF: VMFXX (Default) & VMSXX
- STB: VWSTX, VBIRX, VFSUX (Merriman), & VWSTX
- STB ETFs: SPTS, SHY, SCHO, VGSH, & BSV

Mortgage
- Is an unrecoverable housing cost
- Gradually pay it back in lump sums (Berger)
- Should not be more than 2.5 to maybe 3% for a duration of over 5 years
- A home equity line of credit loan is callable, the bank can change the terms of the loan at any time

Mutual Funds
- Mutually funded, highly-traded, large amount of assets under management
- Pick funds with low management expenses, that are commission-free (no load) and tax-efficient
- Average expense ratio of 0.80% for equity
- Can distribute capital gains even when you don't sell anything
- Front-end loads typically charge around 5.75% for equity, there's absolutely no reason to invest in load mutual funds
- Many brokers charge a commission when you purchase a mutual fund (not for ETFs)
- Usually pay an extra fee for buying a specific mutual fund from a different broker (i.e. Vanguard at Fidelity)
- Perform at 10% and double about every 7 years

Net Worth
- Improving and growing your net worth should be your ultimate goal
- Always keep an eye on its progress

P/E Ratios
- The more you pay for earnings, the lower the expected return should be
- SV globally is trading at very low P/E ratios (2022)
- The U.S. is at 17, DM at 13, and EM at 10 (2022)

Panic!
- Never let panic take over the decision-making process
- The worst time to get out is when the market declines
- If you panic and sell when the market is down, you will never recover
- Buy when everyone is panicking and sell when everyone is greedy
- Uncertainty in the market increases risk, driving down asset prices, and increasing expected returns

- Equity investors earn the risk premium when the market is down

Paul Merriman

- Draws out monthly distributions from a short-term investment-grade bond fund (adds 1 to 1.5% compared to a money market fund)
- Takes out 5% on the first week of every year because he over-saved
- Does not invest $1 for fun, nor is he for owning individual companies
- Splits his equity equally between U.S. and international
- UBH 10-Fund (World): 10% each in LB, SB, SV, REITs, int'l LB, int'l LV, int'l SB, int'l SV, EM
- Has 50% in intermediate-term bonds, 30% in short-term bonds, 20% in TIPS
- 2-Fund: 25% LB, 25% SV, 25% intermediate-term bonds, 15% short-term Treasuries, 10% TIPS
- World 4-Fund Combo: 25% LB, SV, int'l LV, int'l SB
- Early riser, 3–4 in the morning
- Born October 18th, 1943
- Wife's birthday on October 15th
- Granddaughter born in November 2022 (50/50 split between S&P & SV)
- Live on Bainbridge Island, WA

Portfolio

- S/B allocation is the single most important decision of any investment plan, before choosing to add separate asset classes
- A portfolio tilt towards SV and away from LG is sensible (Felix)
- A globally diversified portfolio with S and V tilts has added higher long-term returns per unit of risk, dampened volatility, reduced extreme drawdowns, and increased recovery times after crises
- You can build your portfolio from different fund families, if they are low cost and track the same index, they are basically the same thing
- The more securities held, the more absurd and nightmarish tax filing gets
- Never cash out more than 5% of your portfolio

Premiums

- A persistent and globally pervasive market performance above Treasury bills over a long period of time and across multiple economic regimes, sectors, and industries, and that survives transaction costs
- We expect a positive long-term expected outcome for maintaining exposure to a premium (priced risk)
- There must be logical, behavioral or risk-based reasons for you to believe the premium will persist
- Never take an investment risk that doesn't have a long track record of paying a persistent premium for the risk you are taking
- Diversification is the answer to capturing equity premiums
- Combining multiple risk premiums together in a portfolio not only increases expected returns, but also adds independent sources of expected return, increasing the reliability of the long-term outcome
- The 5-factor model risk premiums are persistent through time in the U.S., DM, and EM
- The market premium is well-documented around the world as far as we have data, and it's sensible that it will persist based on the way capitalism functions
- The premiums for stocks and bonds above cash are historically persistent, even at higher interest rates
- All premiums can decay because of popularity, valuation loss due to speculation, or regime change in profitability
- There is a non-zero chance of living through a decade of flat or negative risk premiums for stocks

Psychology

- **Behavioral Biases**: Cognitive dissonance, confirmation, familiarity, growth opportunity, hindsight, home country, loss aversion, mental accounting, overconfidence, recency, selection, status quo, survivorship, trend
- **Endowment Effect**: Investors have a preference for familiar or well-known investments, with a strong tendency to overvalue assets that they already own. They are also less willing to part with an asset that they own

- **Myopic Loss Aversion**: Investors are distinctively more sensitive to losses than to gains, and evaluate their portfolio frequently even when having long-term investment goals
- **Sentiment Hypothesis**: The halo of positive sentiment misleads investors into the belief that companies with relatively positive sentiment will yield higher future returns with lower risk than stocks of companies with relatively negative sentiment
- People of myopically loss averse
- Seeing your portfolio less frequently is associated with earning higher returns

Questions to Ask Your Advisor

- What are your fees?
- What is the annual growth rate of my portfolio?
- Why am I not invested in low-cost index funds?
- I would like to sell all of my investments and move into a very simple portfolio of low-cost index fund, without triggering a lot of taxes due to the built-in unrealized capital gains
- If I withdraw funds from my accounts, what strategy do you recommend to help reduce the potential tax liability?
- Are there opportunities in my portfolio to offset capital gains I've recognized with capital losses?

Real Estate

- Should be a lifestyle decision more than an investment goal
- Has globally appreciated at 1.3% a year after inflation from 1900 to 2017, compared to 5.2% for global stocks. Rapidly rising RE prices in our current economic environment make this easy to forget
- The average 25-year pre-tax return is of around 6.40% per year (home price increase + net rental income), compared to 7.29% for a globally diversified equity portfolio of index funds
- The historical return on global housing from 1870 to 2015 was 7.05% compared to 6.89% for stocks, but it meant you had to invest in property in all 16 of the countries used in the study
- Had you invested in Australia, France, Japan, Portugal, Spain, Italy, Switzerland, the UK, or the U.S. during that time period, you would have been better off investing in global stocks
- Biggest issues are illiquidity, management intensiveness, and inability to properly diversify
- Most individual investors don't have enough capital to purchase many houses all over the world
- Diversifying properties globally is financially and logistically challenging, exposing to idiosyncratic risk
- Is not a passive but operational business which comes with many costs
- One of the best characteristics of owning shares in a publicly traded company is that there is no management involved, unlike RE where the owner is responsible for maintaining the physical property, finding tenants, negotiating leases, collecting rents, and responding to urgent tenant issues
- Hiring a property management company comes with a high cost, which reduces your returns
- Can be very profitable if you know how to do it and want to do it
- Only invest if you have experience in the market, otherwise not worth the extra hassle-factor
- Rental properties are high-hassle; commercial and retail centers, office buildings are low-hassle
- Reality Income Corp performed very well over the last couple decades

Rebalancing

- Forces you to sell high and buy low, takes emotions out, and protects you from bubbles
- Biggest benefits come at times when markets go in different directions, allowing you to take advantage of diversification (different asset classes and sub-asset classes outperform over different cycles)
- Doesn't necessarily guarantee better returns over certain market environments
- No optimal frequency or threshold when selecting a rebalancing strategy (study)
- Stay committed to rebalancing during both bull and bear markets
- Rebalancing after equities drop is difficult for many investors
- Always rebalance by adding new assets when you make contributions
- You lose money rebalancing too often
- Annually or every 18 months is reasonable (Merriman)
- You can choose to take cash and rebalance on a quarterly basis (Berger), or still take cash every quarter but rebalance only once a year. Both options work fine, do what's best for you

- Be efficient in rebalancing by reducing your overlap between funds
- Rebalancing can trigger taxes in taxable accounts

Rebalancing (Opportunistic)
- Considered the best way to go about rebalancing
- 20 Approach: i.e. 50% allocation at 20% window (±10% range), ≥60% rebalance to 55%, ≤40% rebalance to 45%
  ↪ Optimal rebalancing band is 20%
- 5–25 Approach: 5% rebalancing band for major asset classes (>10% allocation), 25% for sub-asset classes (≤10% allocation) (i.e. ±2.5 band of min. 7.5 and max. 12.5)
- Consider opportunistic rebalancing (bands) for taxable accounts with significant investments (5 or 6-fund portfolio) but not for 3-fund or target-date retirement fund

Red Flags
- Actively managed mutual funds, art and collectibles, buying on margin, commodities, contract for differences (CFDs), covered calls, cryptocurrencies, day trading, derivatives, downside protection, gambling products, gold and precious metals, high-yield bonds, hedge funds, illiquid products, individual stocks, initial public offerings (IPOs), lottery tickets, tactical asset allocation decisions, market timing, master limited partnerships (MLPs), non-fungible tokens (NFTs), non-traded real estate investment trusts (REITs), options and futures, permanent insurance, preferred stocks, special-purpose acquisition company (SPACs), specific currencies, speculative assets, structured notes, thematic ETFs, timeshares, variable or equity-indexed annuities, viatical settlements
- Any of the things the passive index fund investor would say you shouldn't do, like paying high fees, making impulsive decisions, and playing with money

REITs
- Invests primarily in income-producing real-estate assets
- Do not earn any allocation in the portfolio that falls on the efficient frontier
- Are not adding any expected return in excess of what could be achieved through stocks and bonds, but they are adding uncompensated risk
- The risk of RE is primarily driven by the idiosyncratic risk of the RE sector, which is a risk without expected positive return
- The returns of RE, including REITs, can be explained by exposure to risk factors that we already get from stocks and bonds
- Returns are explained by the market, Size and V factors, plus the term and credit factors which explain fixed income returns. A portfolio already exposed to these factors does not need to add REITs
- Far more efficient, cost effective, and statistically reliable to gain the factor exposure of REITs through a factor loaded portfolio of stock and bond index fund ETFs
- Tax-inefficient, have high income yields that are fully taxable as income
- Distribute 90% of their profits as dividends, typically taxed as ordinary income
- Not taxed at corporate level, so the holder pays taxes
- Generate a lot of income, hold in tax-deferred IRA or 401(k)
- Hold in market cap weight

Relationships
- It's important for both partners to be financially literate and for one to not yield responsibility for the finances to the other

Renting vs. Owning
- Renting is exchanging money for the use of a good without any expectation of a residual value
- Renting is not throwing money away, it's an unrecoverable housing cost
- Renting is a better option from the perspective of well-being (Felix)
- Renters have much more freedom of mobility, with little to no maintenance costs
- The average U.S. monthly mortgage payment is 52% higher than the average apartment rent (2023)

- Home ownership is not an inherently great investment, high historical returns come from buying property and renting it out
- House prices can be volatile in the short term, subject to windfalls and falling markets
- Homes are depreciating assets both physically and functionally
- Buildings never go up in value, only land can (Avery)
- Moving from renting to owning will not make you happier or more satisfied in the long run
- Homeowners face unrecoverable housing costs, similar to paying forms of rent, which include maintenance, property tax, mortgage interest, renovation, home insurance, opportunity cost, and high cash flow expenses. Together they can end up costing more than rent
- Property tax and maintenance can be reasonably estimated at each 1% of the home value per year
- No guarantee that expensive home improvements will actually pay off
- The cost of capital for owning a home instead of investing in stocks is one of the biggest costs (3% opportunity cost)
- Owners are more often forced to commute, heavy traffic increases stress and is not adaptable to
- Homes are positional goods, part of the appeal comes from how it compares to other homes
- Owners' total costs are likely to be more stable than rent; hedge against housing costs
- The U.S. is a nation of homeowners, over half of people own where they live
- For most Americans, half of their wealth is in their house
- The RE and home improvement industries have self-serving motivations to make home ownership sound appealing
- Both are sensible financial decisions that can result in comparable long-term wealth accumulation
- A renter who is taking the difference in total unrecoverable costs between renting and owning and investing that difference in stocks can expect a similar net worth outcome to an owner
- Decide based on what works best for your lifestyle, not on some extrinsic or financial motivation of unrealistically high future housing appreciation
- If the lifestyle trumps the financials, buy a home

Required Minimum Distributions
- Currently starting at 72 years old
- Taxed at ordinary income rates
- Could potentially raise your tax bracket at some point

Retirement
- If you are able and willing, keep working as long as you can. You are effectively introducing a large safe asset to portfolio
- Working longer at a more enjoyable job has a big impact on the amount of saving and risk-talking required to fund financial independence
- Think about how much you need in retirement, not how much you want
- Always overestimate your longevity by over-saving twice as much as you think you will need
- You are still a long-term investor in retirement, likely to last 35 years
- Make sure you keep enough equity risk, don't get too conservative
- Sweet spot is 63% in stocks at the time you retire at age 65
- Save 50% more than what you need for retirement
- Set aside a sufficient "cash-cushion" (and other highly stable conservative investments like short-term government bonds) from your investments to handle your living expenses for 5 years during retirement
- Take no more than 1 year worth of expenses out of your portfolio in cash (Bengen & Evensky)
- Purpose, relationships, health (exercise & diet), safe spending (social security & RMDs)
- Highest rates of suicide in among recently retired men

Retirement Accounts
- Designed with retirement in mind
- Open Traditional if living in top tax-bracket states to save on income tax when making contributions; opt for Roth when living in low income-tax states (tie goes to the Roth)

- Traditional retirement accounts have tax deductions the year you make contributions but you pay ordinary income taxes when you take money out during retirement
- Contribution limits apply to all accounts, should you have several of the same category opened
- Individual 401(k) and IRA have tax-advantages but you must be aged 59½ before taking money out or you pay a 10% tax penalty
- Traditional 401(k), Roth 401(k) and IRA have Required Minimum Distribution rules
- Traditional 401(k) if living in top-bracket high income-tax state, Roth 401(k) if living in lower-brackets
- Making changes to your portfolio (such as rebalancing) is tax-free
- Workplace retirement accounts (opened by employer): 401(k), 403(b) (non-profit), 457 (civil servants, gov workers), thrift savings plan (military, postal service) have no contribution or income limits
- Workplace 401(k) and IRA may have matching contributions from employer, tied to how much you contribute yourself
- Matching is critical and the number 1 priority (it's free money)
- Take full advantage of the matching your employer contributes to
- Matching = 70% rate of return on your money after tax, which is excellent
- Prioritize a 401(k) if there is a matching incentive, otherwise skip it and max out your Roth IRA and HSA. Once they are maxed out focus on a taxable brokerage account
- Always prioritize Matching over Roth over Traditional
- Maxing out order: Matching 401(k) > HSA > Roth IRA > 401(k) > Taxable
- During your working years put money aside in retirement accounts that pay matching contributions (Roth IRA, 401k, 403b) and max them out. If you live in high-tax states (≥30%) favor the Traditional IRA
- Save a minimum of 15% of your household income in retirement accounts (Roth IRA, 401k) [study]

Returns

- Come from the relationship between a company's future profits (expected returns) and how much an investor paid (market valuations) for those profits at the time, not from a company's growth
- If the goal is increasing expected returns, tilting a portfolio toward companies with smaller size, lower prices, and robust profitability, is a sensible way to go
- Adding an extra 0.5% can supercharge your rates of return
- Aim at making 9% in the accumulation phase, and 7% during retirement

Risk

- Risk and return are always related
- We cannot control or predict the outcomes, but we can choose the type and amount of risk we take
- Removing risk inevitably reduces expected returns and higher expected returns indicate more risk
- Find the lowest risk way to achieve the rate of return that you need
- Investors have a long track record of being compensated by positive stock returns over the long run in exchange for taking risk
- If you don't take any risk in financial markets, you should expect very low returns
- The market delivers the positive return (risk premium) over the long term
- Comes from not knowing what you are doing, which can cost you money (expenses, taxes, little diversification, lower returns)
- When starting to invest at a young age, implying more remaining earning capacity, you have a long runway to deal with or recover from any kind of mistakes you might make. You have less flexibility and margin of error as you age, and the closer you get to retirement
- The other part of the picture that is never included in the story is what things you don't expect will happen to you (job, children, or health related)
- Things don't always turn out the way we want or expect them to

Risk Factors

- The S&P 500 is a single factor giving you exposure to the market risk
- V gives you exposure to two risk factors, market and V
- SV gives you exposure to three risk factors, market, Size and V

Rob Berger

- Holds 6 asset classes (2022): 25% U.S. Stocks, 10% S, 15% DM, 10% EM, 30% bonds (splits between Treasuries & TIPS), 10% REITs
- Big believer in having SC, EM and maybe REITs
- Is against seeking out investments that are income producing strategies (high dividend yields)
- Stays out of trendy "high-flying" companies with crazy valuations that everyone is talking about
- Tilts towards V through the individual stocks he owns, AAPL, BRK.B, BAC, WFC respectively
- Buy good companies, hold them forever
- Has for a long time tilted his portfolio towards SCV
- Owns VTEB (2023) and VBR (2022)
- Wouldn't go higher than 20% in developed markets and 10% in EM
- Reluctant to take on credit risk, investing in HY corporate debt (junk bonds) and EM debt
- Retirement years ratio: 70% stocks, 30% bonds
- Portfolio: 85% low-cost index funds, 15% individual stocks
- Started investing with a 6-month CD in 1982
- Reads 25 pages a day, early in the morning and during breaks
- Born in 1967, Columbus, OH
- Lives in Fairfax, VA
- Drives a Honda Odyssey
- **Rob Berger** · Work stress/Quitting a job

Robo Advisors

- Important to weigh the costs against a DIY approach
- Are of benefit if you can't take action, procrastinate, of struggle to stay disciplined
- Automated portfolio recommendations tend to be on the conservative side
- Use automation to tax-loss harvest on an individual stock level using a direct investing strategy
- No benefits to TLH by year 5 if you invest a lump sum in a direct indexing portfolio (study)

Rollovers

- Traditional 401(k) → Rollover 401(k)
- Roth 401(k) → Roth IRA

S&P 500

- 500 largest public U.S. companies selected by a committee
- One of the oldest and best known indexes
- Benchmark most U.S. investors are in essence competing with
- Not the most reliable approach to capturing U.S. stock returns
- Covers roughly 80% of the available U.S. market capitalization
- Driven by the top 50 LG companies (represent 34% of holdings)
- Dominated by the Magnificent 7 tech stocks (>13% in AAPL & MSFT alone)
- Does not offer exposure to global stock returns, despite its constituents having global revenue sources
- It's phenomenal historical performance is unlikely to repeat itself in the future
- Has been historically less profitable than all other U.S. equity asset classes over time
- Is not the only index that you should own, nor the best for your U.S. stock exposure (Felix)
- The best bet is owning the total U.S. market, almost identical long-term return (+0.2% over 92 years)
- Its industry composition has changed materially since inception, from steel, chemicals, auto, and oil in the 1950s to technology and healthcare today (2020)
- 11% average 40-year CRR since 1948
- 1975–1999: 17.2% CRR, the best 25 years in market history
- 1995–1999: 28.5% CRR, the best period
- 2000–2017: 5.4% CRR, less than government bonds

Saving

- Spend less than you make
- Don't save what's left after spending, spend what's left after saving
- Small increases over time turn into piles of cash
- The biggest savings, if they occur early, have the biggest impact because of compounding
- Aim at always saving and investing at minimum 20% of your monthly disposable income (or as much as you comfortably can), 15% at very least (does not include employer match)
- Save 30% (20% if you earn under 2K€ /mo), put 15% into savings and the other 15% in investment accounts (Manuel Diaz)
- Includes towards your emergency fund, debt, retirement savings and investment accounts
- Put aside $200–500 each month to reach $1M–2.5M (assuming a 9% rate of return over a working career of 40 years)
- Get your career going, have an emergency fund, stay debt-free and then start growing with stock mutual funds in a Roth IRA

Semi-Passive Funds
- Follow a systematic, transparent, and replicable strategy
- Purposely deviate from their benchmark to try to achieve better results
- Intelligently screen out companies with specific characteristics or traits that the research has shown to underperform
- Give you access to highly differentiated, unique risk assets
- Active in how they construct their eligible universe, but systematically passive once implemented
- Any fund can be called "active" depending on how their universe is defined. All index funds are passive because there is no individual stock selection or market timing involved, but not all passive funds that don't do any stock picking are index funds

Short-Term
- 1 to 5 years
- Hold money in a HY cash savings account that is FDIC insured, or in CDs

Short-Term Bond Funds
- Short-term gives a better rate of return
- Higher return than money market funds

Single Premium Immediate Annuities (SPIA)
- Just like buying a pension
- Monthly guaranteed lifetime income in exchange for a lump-sum payment
- Not adjusted for inflation
- Ideal age to buy an annuity is between 70 and 80
- Don't pay a commission to get in
- Harder to leave money for children or charity
- Delaying Social Security is the best annuity you can buy
- Never buy an annuity with payments starting immediately, budget for your life expectancy covering the self-funding period then get an annuity covering the tail end (maybe past age 85)
- ½ of your net worth in SPIA, the other half in ⅔ income fund and ⅓ balanced index fund

Small Cap
- Companies with a small market cap size of under $2 billion trading well below their intrinsic values
- Has had the best asset class return for stocks historically
- Significantly outperformed and less volatile than S&P 500
- 16.2% average 40-year CRR compared to 10.9% for S&P 500
- 99% chance of outperforming the S&P 500 after 20 years, 99.9% chance after 40 years
- 2000–2017: 8% CRR
- 37.2% loss in 1929 but 125.2% gain in 1933
- 10% allocation in portfolio

‣ **M1 Finance** · 4-Fund Portfolio

Small Cap Growth
• Low profitability, high volatility, and high investment stocks
• Lottery-like stocks (high share turnover and low institutional ownership)

Small Cap Value
• Highest return per unit of risk of all equity asset classes
• Adding 20% in SV is likely to increase the annual return by 1%
• Provides diversification of unique sources of risk that are uncorrelated with market β
• Has historically been a better diversifier to DM and EM without adding significantly more risk
• Expected to have a 2–3% premium over the S&P 500
• Does better on average (74%) than the S&P 500 in the bad times
• Pays a premium in the U.S. as it does in international markets (but lacks historical data)
• Can go through long periods of underperformance
• May not pay off over a time horizon of under 10 years
• Only right if you can stick with it and completely ignore the market
• Danger of overcommitting to SV is you are close to or already in retirement (short-term risk)
• Too many people know about SV today, likely to have lower returns than in the past (Merriman)
• Recognized premium driving more demand than in the past, forcing valuations up which in theory leads to lower future returns
• Hold in Roth IRA

Social Security
• Delay taking it for as long as you comfortably can, ideally until you reach full retirement age, this will lead to more money you may need later
• Delaying is a 8% a year **guaranteed** increase in benefits, until you reach 70
• Depends on your life circumstances, it may be that you can't afford to wait, and/or you may not live the average life expectancy of someone your age

Spending
• 2 ways to expand markets: one is you export, the other is you make your citizens want more than they need, having them buy into the story of more is better
• Our spending habits change whether the market is up or down

Stock Market (U.S.)
• Good choice as long as the country is holding on its feet
• Not a mysterious thing, truly a vote on capitalism every day
• Financial markets do go up and down, but over time the ups exceed the downs
• Outperformed risk-free Treasury bills 96% of the time over 15-year periods from 1928 to 2015
• 36% chance of being worse off than Treasury bills over 1-year periods across global markets
• Underperformed Treasury bills for 3 periods of at least 13 years, a cumulate of 45 of the last 90 years, but dramatically outperformed in the other 45 years
• 10% return isn't guaranteed every year, but if it's compounded over 90+ years it's probably a good enough track record to assume it is sustainable and repeatable in the future
• The best performing 4% of U.S. stocks explain the returns of the entire U.S. stock market since 1926
  ↳ the remaining 96% of stocks collectively matched the returns of Treasury bills
• 96% of all U.S. companies make 3% a year and over 50% don't make any money, many of them go out of business
• 40% of all U.S. stocks suffered a ≥70% decline in value from their peak, without a significant recovery, between 1980 through 2014, recovering at best to a 60% decline from their peak
• Catastrophic losses are more frequent for certain sectors like Technology (57%), Communication Services (51%), and Energy (40%)
• U.S. firms generate almost 50% of the revenue from outside the U.S.

- Typically has a higher P/E and P/B compared to international markets
- Relative domestic peace and success in foreign wars over the last 100 years has played in the favor of exceptional post-war results of the U.S. financial markets

Stocks
- Supply capital to businesses to finance their operations in exchange for a positive expected return
- Wealth maximization strategy; own as much stocks as you can tolerate, ride it out, modulate spending
- Highest expected return asset, compensate for the fact that they are riskier investments
- Prices theoretically reflect the present value of expected cash flows discounted at a rate that is based on risk (current expectations of a company's risk and future expected earnings)
- The expected future profits are not guaranteed, so stocks are purchased at a discount
- If things work out as expected for the company, the shares deliver their portion of the expected profits
- Expected returns are not dictated by the profits that a company generates, but by the discounted price you payed for those expected profits
- The investment return is the difference between the discounted price payed for the expected future profits and the actual profits that accrued to the shares
- The discount rate and the expected return are synonymous
- Paying a lower price leads to higher realized returns
- Global stocks have returned 8% per year from 1994 through 2017, a real 5.2% from 1900 to 2021
- Have outperformed a risk-free investment >90% of the time over 15-year periods
- Are exposed to economic cycle risk
- Go down on average about 30% of the years
- You will likely face frequent 50% market declines in a given year over a 40-year investment horizon
- Estimated 4.08% chance of a negative equity period over 30-year periods (academic debate)
- Total return is typically calculated considering both capital gains and dividends received
- Good for taxable and retirement accounts

Stocks vs. Bonds
- Stocks represent ownership, bonds represent debt
- Stocks are the gas, bonds are the breaks
- Stocks outperform bonds, while bonds are less volatile
- Stocks and bonds are generally imperfectly correlated
- Every 10% increase in stocks is likely to add about 0.5% to the annual return
- Global stocks delivered a real 5.2% annualized return compared to 2% for bonds from 1900 to 2019
- Over 30 years at those rates, stocks increased purchasing power by 2.5× more than bonds
- Stocks are less risky and have more reliable outcomes than bonds over the very long term (≥30 years)
- The lower real returns of bonds call into question their true safety from an inflation perspective
- Bonds can outperform stocks over a 10 to 15-year window
- A 20/80 portfolio has 5× higher returns than having no stocks at all
- Equity to bond volatility is 20:5

Strategy
- Have a disciplined approach to long-term investing
- Don't start investing until you have a financial plan and know what you are trying to achieve
- An investment policy statement outlines your underlying assumptions (investment plan, risk tolerance) and should include your asset allocation and rebalancing table. Review and update it every year
- It is crucial to plan out, put in writing, and stick to your strategy. This helps avoid market timing
- Every single strategy that involves risk assets will go through long periods of poor performance
- Choose a strategy that you will stick with through thick and thin
- You must have a strong belief in your strategy and be confident in the approach you are taking
- What portfolio would you be comfortable owning if you couldn't make any changes for 25 years?
- Having a lifetime investment philosophy will help you stay the course
- Follow a simple low-cost index fund approach. Tilting away from that can significantly increase your volatility and make you underperform the market

- Tune all the noise out, invest assiduously and don't pay attention to what is going on in the world on a regular basis
- Follow a methodical, systematic strategy and keep your emotions out of the decision-making process
- Stay in the market and keep to your asset allocation plan regardless of market conditions, variations and valuations
- There is no logic in picking which day of the week is best to buy or sell (Berger)

Target-Date Retirement Funds
- Professionally manage your money with the level of risk they believe you should have
- Automatically adjust the amount of equity and fixed income as you age
- Simplified approach for people who don't want to spend any time managing their portfolio, has its weaknesses
- You gain simplicity by owning just 1 fund, but you are giving up some control over your asset allocation
- One size fits all, built for the slowest hiker (over-conservative)
- Tend to have too much in bonds for young investors
- Mainly U.S. LG driven
- Too little V and S, build around that by combining an additional 20% in SV
- Can be reasonable particularly if you are starting out in a 401(k), but not suitable once you get near or enter into retirement
- Can be expensive (more than robo-advisors) and distribute capital gains
- Available in most 401(k)

Tax-loss Harvesting
- Any realized losses can help lower your tax bill
- If you know you're going to have realized gains, it may make sense to look for opportunities to realize losses to offset them
- You can use up to $3K of net losses a year to offset ordinary income on your federal income taxes
- Advantages decay over time due to accumulated gains offsetting tax-losses over the long-term
- Eventually, the benefits diminish to 0
- Can introduce portfolio tracking error into your accounts
- There may also be unintended tax implications
- Daily interest-paying bonds are more efficient for TLH

Taxable Brokerage Accounts
- Potentially incur a tax every time you trade
- Designed for general savings and investing purposes
- Should be closely considered
- May be better for wealthy people in higher tax brackets compared to traditional IRAs, where withdrawals are taxed as ordinary income
- Taxed at nearly all levels including realized capital gains and dividends, and interest earned
- Be thoughtful of what you invest in because once you get locked in, making changes and rebalancing have tax implications
- Project several decades forward when your investments will have generated significant capital gains
- Always consider the tax consequences whenever you sell an investment
- Long-term capital gains are taxed at 15%
- Never hold mutual funds that distribute capital gains, or HY stocks (high dividends)
- Shares held for >1 year and qualified dividends will be taxed at the lower long-term capital gains rate
- Never automatically reinvest interest or dividends, deploy them into fund that needs rebalancing
- Hold low-cost stock index funds and tax-exempt Municipal bonds
- Avoid income generating securities like REITS, total bond funds, and TIPS

Taxable vs. IRA
- Consider your financial situation now, as compared to your financial situation when you plan to retire. Will you benefit more from tax perks now or then?

- Take advantage of multiple account types and explore these options to see how each works with your personal plan
- If you are able to save more, open a taxable brokerage account or joint brokerage account and save as much as you can there

Taxable vs. Tax-Exempt Bonds

- Taxable bonds have to attain significantly higher yields to obtain the same returns as tax-exempt bonds
- Most investors in higher federal income tax brackets gain larger returns with tax-exempt bonds
- Generally, a minimum of $100K is needed for tax-exempt bonds to be considered cost efficient

Taxes

- Paying taxes means your investments made you money with gains, that's a good thing
- Efficient tax management can save you 1–3% each year in return
- Your taxes are for the most part, throughout the entire world, determined by the country you live in, regardless of whether you have multiple nationalities
- Expect that in the future you might have a higher tax rate (Merriman)
- A single tax-filer has different brackets in the U.S. than someone married filing jointly
- Your income, marital status, and whether you (or your spouse) have workplace retirement accounts can prevent you from deducting contributions on your income tax return
- Inheriting a traditional IRA has tax consequences
- The marginal tax bracket in 1970 was 70%

TIPS

- Do well when inflation is higher than what the market expects
- Generally backed by more secure issuers
- Principle (market) value goes up with inflation
- Provide a constant real return (net of inflation) determined at time of purchase
- Cannot lose principal if held to maturity, you get at least face value if not more if there is inflation
- Holding to maturity means you are getting inflation protection without losing your original principal (even during deflation), selling before maturity means you are speculating on the public's changing attitudes towards the need for inflation protection, and can lose your principal if sold at the wrong time
- Some TIPS have been issued with negative real yields to maturity, meaning their return will not match official U.S. inflation
- Objective is to diversify the bond portion of your portfolio against inflation risk
- Good complement to regular bonds but should not be your only bond holding
- Have a lower yield compared to regular bonds
- One cannot predict whether inflation will end up being higher or lower over a period of time to what the market expects; "two-horse race betting on two horses" by splitting TIPS and bonds equally (Berger)
- It's reasonable to go with short-term TIPS and intermediate-term Municipal bonds
- You pay taxes including on the inflation adjustments every year (money you have not yet received)
- Best suited for tax-deferred (non-Roth) IRA accounts
- Never own TIPS in a taxable account

TIPS vs. I Bonds

- For long-horizon investors, TIPS have significantly higher after-inflation yields
- I Bonds have a slightly more favorable tax treatment compared to TIPS

Total Market Index Funds (U.S.)

- Track the market-capitalization-weighted index
- Are by definition the average portfolio of all investors
- If you own the entire market, you get the market return
- Captures the long-term returns of capitalism as a whole
- Cheapest and most tax-efficient way of investing, for most people

- Best bet is to consistently own the entire U.S. stock market through a globally diversified portfolio of low-cost total market (market capitalization weighted) index funds (Felix)
- Not well diversified, you concentrate 85% of your risk in one single factor, market β
- Be willing to accept wherever the market is tilting to for the simplicity of owning just one fund
- Cap weighted, L stocks make up most of the market, and highly driven by LG
- No enough exposure to S and V to obtain those risk premiums
- Optimal for the average investor, but suboptimal for anyone who has more or less sensitivity to the risk of the market. You may want to tilt towards or away from riskier stocks
- Tilting away from market indexing to target multiple risk factors in a portfolio is sensible
- Starting with a total market index fund and adding some extra weight to V, or better yet, SV, is a much more statistically reliable bet than following the crowd into LG
- 24% blends in the Technology sector, compared to 11% in ex-U.S. markets
- The more you stray away from the total market, the greater the risk you take
- Owning all stocks in the market guarantees you will get the mean return, and eliminates the specific (idiosyncratic) risks of each company or sector
- Better bet over the S&P 500, nearly identical historical returns

Treasury Bills (T-Bills)
- Risk-free asset
- Short-term U.S. Government bonds that pay very competitive yields and mature at 1 month
- Not subject to state and local income tax
- Good alternative to bank savings account with low APY for easily accessible cash
- Averaged a 3.3% return historically
- Outperformed the S&P 500 over 3 decades since 1930

Valuations
- Are theoretically the discounted value of a company's expected earnings
- Current valuations are one of the best metrics for predicting expected future returns, not past performance or historical data
- Lower company valuations lead to higher expected returns
- Higher valuations predict worst worst-case outcomes and less good-case outcomes
- Historically, periods of high prices have often been followed by lower returns
- Paying a low price for an OK company is far better in terms of expected returns than paying a high price for the best company in the world
- The value of a company is fairly subjective, but if markets are good at aggregating information, and if crowds are wise, we can be fairly confident that the listed price for a stock is the best depiction of the company's actual value

Value
- Stocks that have higher expected returns than the market
- Has historically offered an independent source of risk, which is a diversification benefit
- Investing in companies with low prices has produced reliably better outcomes, with theory predicting similar outcomes in the future
- Empirically, V stocks tend to be under distress, have high financial leverage, face substantial uncertainty in future earnings, and deliver low returns when labor income and consumption fall
- Overweighting V stocks relative to the market to capture a meaningful risk premium is not a bad idea
- If you are willing and able to take on the added risk, stick with the strategy, and earn higher expected returns for doing so, tilting towards V stocks can make a lot of sense
- You might have to stick with 20 years of underperformance and hang on to that 1 extra year to finally get the positive expected outcome
- Since 1928, V stocks were profitable 3 out of every 4 calendar years
- The value premium tends to be strong in recessions and in early stage recovery
- One of the best ways of hedging against a recession is adding more V stocks
- Long-term evidence and logic that V stocks will continue to outperform over time

- Premium is likely to be bigger than it's been in history going forward (Swedroe)

Value vs. Growth
- V stocks tend to be much riskier than G stocks in bad economic times and only slightly less risky in good times, and are more sensitive to market cash flow shocks than G stocks
- V stocks tend to have lower prices because they are less profitable and have higher cost of capital
- G stocks tend to have high prices because they are highly profitable and have low cost of capital
- Technology companies (AAPL, AMZN, META, TSLA) tend towards G whereas consumer companies (HD, VZ, JNJ, BAC) tend towards Value
- Best bet is to hold a good blend of V and G that covers the whole market
- Tending towards one side runs the risk of substantially underperforming the market on the long run
- Target the sweet-spot between V stocks with high yields and G stocks with lower yields
- Berger thinks V will overtake in the next 10 years

Vanguard
- Highly ethical, only behave in a way that is in the investor's best interest
- Shares are mutualized (owned by the investor)
- Well designed funds, cheapest way if you want to own a market-like portfolio
- Follows published indexes, traditional index mutual fund approach
- Can have their trades anticipated by the market which potentially means slightly lower returns
- Big "retail shop", cannot provide the same depth of exposures to S and V as Avantis or DFA because they have too much cash flows
- If you want a cheaper approach with shallower exposures, Vanguard funds might be appropriate
- Some are stuck emotionally with owning just Vanguard

Variable Spending Strategy
- Spending a percentage of the portfolio each year by only increasing or decreasing the previous year's dollar spending amount by a ceiling and a floor, sensitive to inflation rates
- More efficient than trying to spend the same dollar amount adjusted for inflation each year
- More consumption variability allows retirees to consume more of their wealth while they are alive

Volatility
- Is a risk for a short-term, or emotional investor
- Is less relevant the more you can handle risk
- Decreases the longer your investment horizon is
- Investing in multiple uncorrelated risk factors and adding global equity decreases portfolio volatility
- Our concern isn't the volatility of any one investment or asset class but of the portfolio as a whole
- Currency exposure contributes very little to the overall volatility effect of diversifying outside of the U.S.
- The less volatile your portfolio is, the more likely you are going to be able to stick to it (study)
- Fairly normal portfolio volatility (stdev) is around 15% (Berger)

Warren Buffet
- One of the most successful investors of all time, has been extremely competent at making good long-term decisions
- Be skeptical of history-based models, they tend to forget to examine the assumptions behind the models
- <u>Portfolio</u>: 90% low-cost S&P 500 index fund (VOO) + 10% short-term government bonds (VGSH)
  ↳ Low-cost investments covering the whole market and heavily weighted in favor of equities

Withdrawal Strategy
- Determine how much fixed income you need according to your lifestyle
- Subtract how much you have coming in from other sources (benefits, pension)
- Take out your whole year's worth of income at the first week of each year
- Aiming at living off 3% is a very safe withdrawal rate

- Take money out on a quarterly basis following the 4% rule to match dividend payouts (Berger), but monthly or yearly withdrawals are perfectly good options too
- Carry over any monies you have left at the end of the year towards the next year, unless the amount is substantial and you don't need cash in the short-term, in that case reinvest
- Once you start drawing down from your non-retirement accounts, take all income produced from the investments (dividends, interest, and capital gains) and move it to your MMF, rather than reinvesting it, so you don't end up paying taxes twice
- Beginning market conditions matter a lot
- Ideal conditions to start withdrawing: low equity valuations, good cash and bond yields, low inflation
- Different strategies: adjust for inflation, use guardrails (Vanguard Dynamic Spending)
- **Withdrawal order**: taxable > tax-deferred > tax-free

Young Investors

- Will likely have decades that make 6% and others 18%
- Adding 10% S could increase the CRR by 0.6% for young investors
- Should not have exposure to bonds until they are 40 years old, provided they have set money aside for the short term (Merriman)
- What young people need is growth, not "protection" from temporary stock market fluctuations
- Paul Merriman recommends young investors a Roth IRA that is all SV and LV (World), or just all SV
- The first 5 years of the money you put away can, theoretically, represent 40% of the value of your portfolio over the long term
- A dollar invested in your mid-20s is likely to be worth nearly 5× as much a dollar invested in your mid-40s

- **3-Fund Portfolio**

  “You won’t be hearing about a 3-fund portfolio if you go to a high-cost investment advisor or a commission broker because it won’t make them any money — you will hear complicated investment strategies. You will hear the same thing from expensive advisers who charge a percentage of assets under management, many of them are fiduciaries.” — Rob Berger

- **Ben Felix**

  “Financial markets are the best information processing machines that humans have ever created.” — Ben Felix

- **Companies**

  “Invest in companies you understand, with high profit margins, and that are likely to endure 10 to 15 years time.” — Warren Buffett

  « Il faut investir dans des boîtes qui produisent de la valeur et pourront s’auto-suffire pendant des dizaines d’années. » — Romain Lanéry

  “The best thing that happens to us is when a great company gets into temporary trouble… We want to buy them when they’re on the operating table.” — Warren Buffett

  “Buy into a company because you want to own it, not because you want the stock to go up.” — Warren Buffett

- **Cryptocurrencies**

  « Dans l’écosystème des cryptomonnaies comme dans le milieu financier traditionnel, quand c’est trop beau pour être vrai, mieux vaut se méfier. » — Pauline Armandet

- **Debt**

  “You really don’t need leverage in this world much. You can lose leverage, and it’s the only way a smart guy can go broke. If you’re really smart, you’re going to make a lot of money without borrowing. There’s no interest in it.” — Warren Buffett

  “Active trading, attempts to ‘time’ market movements, inadequate diversification, the payment of high and unnecessary fees to managers and advisors, and the use of borrowed money can destroy the decent returns that a life-long owner of equities would otherwise enjoy. Indeed, borrowed money has no place in the investor’s tool kit.” — Warren Buffett

- **Education**

  “Investing in your own financial literacy may be one of the best investments that you can make.” — Ben Felix

  “Financial literacy appears to be a distinct form of education that contributes to financial outcomes beyond academic education.” — Ben Felix

- **Emotions**

  “The key to success is emotional stability.” — Warren Buffett

“By framing broadly, it is very important not to have overly strong emotional reactions.” — Daniel Kahneman

- **Fees**

“If returns are going to be 7 or 8% and you are paying 1% for fees, that makes an enormous difference in how much money you’re going to have in retirement.” — Warren Buffett

- **Index Funds**

“Only invest in index funds because they charge much lower fees.” — Teresa Ghilarducci

“If you like spending 6 to 8 hours per week working on investments, do it. If you don’t, then dollar-cost average into index funds.” — Warren Buffett

“The best way in my view is to just buy a low-cost index fund and keep buying it regularly over time, because you’ll be buying into a wonderful industry, which in effect is all of American industry … People ought to sit back and relax and keep accumulating over time.” — Warren Buffett

“Indexing is the way to go. Invest in great American businesses without paying all the fees of a mutual fund manager and hang on to those companies, and you will win over the long term.” — Warren Buffett

“If you invested in a very low-cost index fund — where you don’t put the money in at one time, but average in over 10 years — you’ll do better than 90% of people who start investing at the same time.” — Warren Buffett

“By periodically investing in an index fund, the know-nothing investors can actually outperform most investment professionals.” — Warren Buffett

“A low-cost index fund is the most sensible equity investment for the great majority of investors. My mentor, Ben Graham, took this position many years ago, and everything I have seen since convinces me of its truth.” — Warren Buffett

- **Investing**

“The most important investment you can make is in yourself.” — Warren Buffett

« Investir permet un rendement d’épargne supérieur au taux d’inflation dans l’objectif de rapporter des revenus complémentaires qui ne sont plus liés à un travail. » — Manuel Diaz

“Investing is putting your money to work with a reasonable expectation of increasing, on an after-fee basis, the purchasing power of your money.” — Warren Buffett

“I made my first investment at age eleven. I was wasting my life until then.” — Warren Buffett

“Luck is a big deal with investing, so is when we are born, who our parents are, and how we treat others.” — Paul Merriman

“Investing is not about me becoming the richest guy in the room, but it’s about making the money I need to support my lifestyle in retirement, and leaving some of it to my kids.” — Tom Cock

« N’investit jamais dans quelque chose que tu ne comprends pas. Il n’y a rien de magique, lorsqu’on te promet peu de risques et beaucoup de rendements c’est qu’il y a un problème quelque part. » — Manuel Diaz

“We should focus our time on making sure we are allocating enough money in the things that will be worth more in the future.” — Paul Heys

“There is nothing wrong with a ‘know nothing’ investor who realizes it. The problem is when you are a ‘know nothing’ investor but you think you know something.” — Warren Buffett

“Investing $1M is no different or more difficult that investing $1K, but your advisor will tell you otherwise.” — Rob Berger

“What you really want to do in investments is figure out what’s important and knowable. If it’s unimportant or unknowable you forget about it.” — Warren Buffett

“Smile when you read a headline that says ‘Investors lose as market falls.’ Edit it in your mind to ‘Disinvestors lose as market falls — but investors gain.’ Though writers often forget this truism, there is a buyer for every seller and what hurts one necessarily helps the other.” — Warren Buffett

“If I knew where I was going to want to live the next 5 or 10 years, I would buy a home and I’d finance it with a 30-year mortgage… It’s a terrific deal.” — Warren Buffett

“Don’t pass up something that’s attractive today because you think you will find something way more attractive tomorrow.” — Warren Buffett

“To invest successfully over a lifetime does not require a stratospheric IQ, unusual business insights, or inside information. What’s needed is a sound intellectual framework for making decisions and the ability to keep emotions from corroding that framework. You must supply the emotional discipline.” — Warren Buffett

“The time to buy stocks is consistently over time. You should never buy your investments with the idea, ‘I have to get a certain return.’ You should look at the best return possible and learn to live with that. But you should not try to make your investments earn what you feel you need. It doesn’t work that way. The stock doesn’t know you own it.” — Warren Buffett

“Optimism that is the enemy of the rational buyer.” — Warren Buffett

- **Investing Principles**

“Have a well thought out plan, diversify globally across many sources of risk, stay the course, ignore the noise, rebalance, tax manage.” — Larry Swedroe

“If young investors keep their fees low, invest in an aggressive portfolio, and maintain strict discipline, they are putting themselves in the best possible position to build wealth.” — Ben Felix

“Be the market, keep your costs low, be tax efficient, tune out the noise, pay attention to the academics. Everything else will simply cost you more money.” — Tom Cock

“Long-term investors are better off minimizing their costs, capturing the returns of global markets using low-cost index funds, and controlling their level of risk through their mix between stocks and bonds.” — Ben Felix

"Make decisions based on evidence, be highly diversified, do not take more risk than you have the ability, willingness, and need to, all risk assets go through long periods of underperformance, and don't judge your decision by the outcome, but by the quality of your processing." — Larry Swedroe

- **John C. Bogle**

"It's amazing how difficult it is for a man to understand something if he's paid a small fortune not to understand it." — John C. Bogle

- **Larry Swedroe**

"Tell someone a fact, they will learn. Tell someone a truth, they will believe. Tell someone a story, it will live in their hearts forever." — Larry Swedroe

"Getting good returns is much more about temperament than intelligence. It's really about discipline." — Larry Swedroe

"Invest in things that you have built your own confidence in, that you can stick with for the long term, and that have a history of great success." — Larry Swedroe

- **Market**

"As far as you are concerned, the stock market does not exist. Ignore it." — Warren Buffett

"As long as you have a plan and know what you are trying to achieve, your portfolio is about you, not about the market." — Tom Cock

"We don't lose sleep worrying about our investments and day-to-day stock market variations." — T.R.

"Buy a stock the way you would buy a house. Understand and like it such that you'd be content to own it in the absence of any market." — Warren Buffett

"Anything can happen in stock markets and you ought to conduct your affairs so that if the most extraordinary events happen, that you're still around to play the next day." — Warren Buffett

"The years ahead will occasionally deliver major market declines — even panics — that will affect virtually all stocks. No one can tell you when these traumas will occur." — Warren Buffett

"The [stock] market is there only as a reference point to see if anybody is offering to do anything foolish. When we invest in stocks, we invest in businesses." — Warren Buffett

"The true investor welcomes volatility … a wildly fluctuating market means that irrationally low prices will periodically be attached to solid businesses." — Warren Buffett

"If you go back to 1800, it took 80 percent of the labor force to produce enough food for the country. Now it takes less than 3 percent. Well, the truth is that market systems move people around." — Warren Buffett

"Don't beat yourself for not knowing what the market will look like in the future, nor trick yourself into thinking you can figure it out. It's impossible to time the market." — Rob Berger

- **Money**

“One of the great tragedies in America is that despite the importance of investing and what money can buy — financial security, a nice retirement, good education for your kids, travel, whatever is important to you — most people are not educated about money.” — Larry Swedroe

« L’argent fonctionne uniquement lorsqu’il est en mouvement. De l’argent stagnant perd de sa valeur s’il n’est pas placé, ne serait-ce que par le mécanisme d’inflation. Il faut vite mettre en mouvement cet argent sinon il se déprécie. » — Manuel Diaz

« On travail pour gagner de l’argent et on épargne pour le faire fructifier. » — Manuel Diaz

“Never depend on a single source of income. Make investment to create a second source.” — Warren Buffett

« Tu dois rapidement te créer des sources de revenus qui n’ont aucun rapport avec ton travail. Fais en sorte que ton niveau de vie te permet d’épargner pour que cette épargne te rapporte des revenus complémentaires passifs. » — Manuel Diaz

“Making money is about understanding ways in which you can bring value into society. Scaling then becomes a matter of maximizing that amount of value.” — James Jani

- **Paul Merriman**

“If you stay diversified and the market goes down and then recovers, the odds are you will be in pretty good shape.” — Paul Merriman

“Academics know a better way of investing than Wall Street and are the best source in the industry for advice.” — Paul Merriman

“Bear markets represent a period where we are not doing as well as we were before. We face bear markets all the time in our personal life.” — Paul Merriman

“The payoff for getting a good education is the biggest return you are ever going to get. Find yourself some good teachers.” — Paul Merriman

“It is as important to know about the confidence and ethics of the firm that the advisor works for as the advisor themselves.” — Paul Merriman

- **Philosophy**

“Once you’ve won the game, you should stop playing.” — Larry Swedroe

“Humility is a hallmark of people who are financially successful.” — Jonathan Clements

- **Risk**

“Hope for the best but prepare for the worst.” — Paul Merriman

“The greatest threat to your financial future is you.” — Jonathan Clements

“If you’re not willing to lose half of your money, you shouldn’t be in the stock market.” — Peter Lynch

- **Rob Berger**

“One of the hardest things to investing is sticking to your approach because it’s always going to be the case that some other approach is making more money.” — Rob Berger

“Successful investing ignores the pundits and prognosticators.” — Rob Berger

“Part of demystifying investing is taking mystery and fear out. It isn’t complicated but there are things to know, and once you know it, it’s kind of easy.” — Rob Berger

“Investing is pretty easy, anyone can do it. It can be a little intimidating and unnerving, but the hardest thing to do is not do anything.” — Rob Berger

“Most portfolios should stick to a diversified total market approach as much as is possible.” — Rob Berger

“Find every dollar you can to save and put to work in an investment account.” — Rob Berger

- **Saving**

“The great majority of people do not build up any wealth because they do not practice the self-discipline of saving some of their income every month.” — John Templeton

- **Taxes**

“Writing checks to the IRS that include strings of zeros does not bother me … Overall, we feel extraordinarily lucky to have been dealt a hand in life that enables us to write large checks to the government rather than one requiring the government to regularly write checks to us-say, because we are disabled or unemployed.” — Warren Buffett

- **Stocks**

“If you are not willing to own a stock for 10 years, do not even think about owning it for 10 minutes.” — Warren Buffett

“Only buy something that you’d be perfectly happy to hold if the market shut down for 10 years.” — Warren Buffett

« La première règle en matière d’actions pour gagner en bourse c’est d’y toucher le moins possible. » — Romain Lanéry

“All there is to investing is picking good stocks at good times and staying with them as long as they remain good companies.” — Warren Buffett

“In the great majority of cases we simply do not know enough about the industry or company to come to sensible judgments — in that situation we pass.” — Warren Buffett

“Most people get interested in stocks when everyone else is. The time to get interested is when no one else is. You can’t buy what is popular and do well.” — Warren Buffett

- **Strategy**

“The most important thing to get right is choose a strategy you will stick with through thick and thin.” — Larry Swedroe

“Have a strong belief system in your strategy, you have got to believe in it so strongly that you are willing to stick with it for the rest of your life.” — Ricki Ferri

“I’ve said ‘stay the course’ a thousand times, and I meant it every time.” — John Bogle

“An investor should act as though he had a lifetime decision card with just twenty punches on it.” — Warren Buffett

“Wall Street makes its money on activity. You make your money on inactivity.” — Warren Buffett

“Much success can be attributed to inactivity. Most investors cannot resist the temptation to constantly buy and sell.” — Warren Buffett

“The stock market is a wonderfully efficient mechanism for transferring wealth from the impatient to the patient.” — Warren Buffett

“Be rational more than smart and invest with temperament, not intellect. Keep your mind when the world is losing theirs — time is your friend, impulse your enemy.” — Warren Buffett

“What you need is the temperament to control the urges that get other people into trouble in investing.” — Warren Buffett

“You cannot stick with a strategy if you are only interested in short-term results.” — Warren Buffett

“Investors should remember that excitement and expenses are their enemies.” — Warren Buffett

“I if you do not take the time to learn, you are not going to have the conviction to stick with an investing strategy until it benefits you.” — Chris Pedersen

- **Warren Buffet**

“When trillions of dollars are managed by Wall Streeters charging high fees, it will usually be the managers who reap outsized profits, not the clients. Both large and small investors should stick with low-cost index funds.” — Warren Buffett

“We have long felt that the only value of stock forecasters is to make fortune-tellers look good.” — Warren Buffett

“In terms of cryptocurrencies, generally, I can say with almost certainty that they will come to a bad ending.” — Warren Buffett

Glossary

- **3-Factor Model**: 90% of the differences in returns between diversified portfolios can be consistently explained by having exposure to 3 independent equity risk factors: the market (market β), company size (S stocks), and relative price (V stocks). Later research uncovered additional premiums
- **5-Factor Model**: Includes profitability (strong operating profitability) and investment (conservative growth in book value)
- **Active Investing**: Buying and selling assets based on predictions about the future
- **Active Management**: Use of analysis and intuition to protect from a downturn
- **Active Trading**: Buying low and selling high as the price fluctuates
- **Alpha**: Excess risk-adjusted performance, same amount of risk while delivering a higher return
- **Asset Classes**: stocks, bonds, REITs, alternatives, and cash
- **Bear Market**: A peak to trough stock market decline of at least 20%; a majority of investors sell causing overall stock prices to drop
- **Bond**: Lended money to the U.S. government in exchange for receiving interest and getting the return of your money when redeemed at maturity; matures at minimum over 1 year
- **Bond Effective Duration**: If interest rates go up by 1%, the value of the fund goes down by …%
- **Bucket Strategy**: Setting aside a bucket of money for near-term expenses
- **Bull Market**: The economy is growing, a majority of investors are buying, characterized by an overall rise in stock prices
- **Capital Gains**: Profit realized from the sale of an investment; the difference between your tax basis (what you paid for the shares) and what you receive on the sale of the shares
- **CAPM**: Capital Asset Pricing Model; first to quantify the relationship between exposure to risk and expected returns of stocks; single-factor model proven to have significant shortcomings
- **CD**: Lending money to a bank with the guarantee that they will pay back your money when you want it along with interest
- **Commodity**: Raw material that can be used in the production of something useful; precious metals
- **Compensated Risk**: Systematic risk that the market prices into securities; buying future earnings at a discount; sensible to be exposed to
- **Compound Interest**: Interest that accrues on the initial principal, including the accumulated interest from previous periods of the deposit or loan
- **Core** = Blend
- **Cost Basis**: The initial value of a security or mutual fund that an investor owns
- **Cost Basis Method**: Imported calculation used to determine gains and losses on any shares sold in a taxable account; the difference between the price you paid for your shares and your sell price
- **Cost of Capital**: Evaluation of whether a projected decision can be justified by its cost. For publicly traded companies, a lower cost of capital should mean more investment in projects, and higher economic growth
- **Efficient Market Theory**: Prices fully and accurately reflect all available information and are as close to right as they can get. Academic model, markets are not perfectly efficient but behave like they were
- **ESG**: Companies in the energy, utilities, and industrials sectors that focus on issues like carbon emissions; tech companies, data privacy; apparel firms, supply-chain oversight
- **ETF**: Exchangeable-traded fund; basket of securities that mirrors an underlying sector or index
- **Fiat**: Money issued and controlled by a government working with a central bank; stability comes from an economy's productivity and the state's endorsement and protection if its use; "let it be" in latin
- **Fiduciary**: Legally and ethically obligated to put you into investments that are in your best interest
- **Financial Literacy**: The ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing
- **F.I.R.E.**: Financial Independence Retire Early, at a non-traditional age between 50 and 60
  ↳ Live frugally, reduce expenses, save more than you spend, invest
- **Financial Capital**: Earning income by supplying capital to the financial markets. The more return you earn, the less you depend on your labor income
- **Financial Independence**: The point at which your passive income is enough to cover your expenses

- **Front-End Load (Sales Charge)**: A portion of the fund's expense gets payed to the advisor, has nothing to do with the management of the fund
- **FTSE**: Financial Times Stock Exchange
- **Growth**: Companies growing their profits quicker than average; high valuations relative to their profits
- **Hedge Fund**: Fund that generally has the ability to invest in a wide variety of asset classes, often use leverage in an attempt to increase returns
- **Human Capital**: Labor income generated by working
- **I Bonds**: Inflation-protected asset, fixed rate adjusting every 6 months based on CPI-U inflation, hedge against deflation
- **Idiosyncratic Risk**: Company specific (diversifiable) risk, comes with owning a single company
- **Leverage**: Use of debt to increase the amount of assets that can be acquired
- **Lottery Stocks**: A high probability of poor returns with a low probability of extremely positive returns
- **Market β**: Factor exposure to the overall market; risk of the market as a whole that you obtain with a market cap weighted index fund
- **Momentum**: Stocks that have been increasing in price tend to continue on that trajectory for some time
- **Narrow Framing**: The inability to take a broader view when making decisions
- **Opportunity Cost**: Implied cost due to the loss of market return; real economic cost
- **P/E Ratio**: Measure of value of a stock, stocks with high P/E ratios are considered G stocks; low P/E are considered V, the inverse is the best estimate of expected future returns
- **PFIC**: Passive Foreign Investment Company, ETF or mutual fund that trades on a non-US market, very costly in tax for expats
- **Portfolio Suicide**: Losing hope and selling when the market is down, absorbing the market loss and making it permanent; panic and fear taking over the decision-making process, recovery is virtually impossible
- **Positional Goods**: Possessions that signal wealth or enhance social status, appeal comes not only from their intrinsic value, typically luxury items
- **Priced Risk**: Risk with a positive expected return
- **REIT**: Real Estate Investment Trust
- **Risk Factors**: Market β, size, value, quality (healthy balance sheets and traits of consistent stable earnings), profitability (high returns on assets; high growth margins), investment, momentum, leverage, volatility, term, and credit
- **Sharpe Ratio**: A measure of the return earned above the rate of return on a risk-free asset (T-bill)
- **Shiller PE (CAPE 10) Ratio**: Metric used to evaluate whether a market is overvalued, undervalued, or fairly-valued; only explains about 40% of the returns over the next 10 years
- **Stock**: Ownership of a portion of a company's assets and expected future earnings, a claim on a company's future profits; minority shareholder
- **Systematic Risk**: risk that cannot be diversified away; market β, S, V, etc.
- **T-Bills**: Treasury bill, short-term U.S. government security that matures up to 1 year, risk-free asset
- **Tax-loss Harvesting**: Intentionally selling investments at a loss to offset gains and lower taxes
- **TIPS**: Treasury Inflation Protected Securities
- **Uncompensated Risk**: Specific to an individual company, sector or country; can be almost completely eliminated by proper diversification
- **Value**: Well-established and stable companies considered undervalued, with low prices relative to their fundamental financial measures (business profits), like book value; grow slower revenues
- **Volatility**: Measure of the variability in returns of an asset; driven by compensated and uncompensated risk