

INVESTING NOTES

“THRIFT IS A WONDERFUL VIRTUE,” MARK TWAIN ONCE REMARKED, “ESPECIALLY IN AN ANCESTOR.”

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"Live below your means; invest the rest." —Anon

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"Investing is simple [buy and hold forever low cost capitalization weighted passive index funds], but it's not easy [inability to 'stay the course']." —Warren Buffett

"Successful investing involves doing just a few things right, and avoiding serious mistakes." —John Bogle

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The best defense against financial risk is to over-save: "Keep working and saving until you have over twice what you need to retire." —Paul Merriman

"The closer you come to holding the entire market portfolio, the higher the expected return for the risk you take." —Nobel Laureate William Sharpe

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"The beauty of owning the market is that you eliminate individual stock risk, you eliminate market sector risk, and you eliminate manager risk. — In my view, owning the market and holding it forever is the ultimate strategy for winners." — Jack Bogle

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"The purpose of investing is not to simply optimize returns and make yourself rich. The purpose is not to die poor." — William Bernstein

"Ninety-nine percent of personal finance can be summarized in nine words: Work a lot, spend a little, invest the difference." —Morgan Housel

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"‘Set It and Forget It.’ Automation is the key to a successful savings and investing plan." —Rick Ferri

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"Approximately 99% of the time, the single most important thing investors should do is absolutely nothing." —Jason Zweig

"Far more money has been lost by investors in preparing for corrections, or anticipating corrections, than has been lost in the corrections themselves." —Peter Lynch

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"I don't view it as saving. I think of it as 'buying' freedom and independence. Honestly, I can't think of many things I want to buy more." —Trebor

What is Your Time Worth?: "Wall Street makes money on complexity. Everyone else makes money on simplicity. If it isn't simple and cheap, don't buy it." —Scott Burns

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"The best investing advice is to live below your means." —J.Brennen

"Never buy something you cannot sell tomorrow for more money." —Anon

"Saving part of every paycheck is your most important habit. ... For young investors, savings rate is more important than all the other investing advice ... " —Rick Van Ness

"The rich aren't like you and me. They have many more ways to lose money." — Bill Bernstein

"If you can't pay for it in cash you don't need it." —Anon

" 'It's different this time' are the most expensive words in the English language." — Sir John Templeton

"You make most of your money in a bear market, you just don't realize it at the time." —Anon

"You shouldn't buy an index fund because you think it's a hot performer. Buy it because you're going to hold it forever. " —John Bogle

"Act as if every broker, insurance salesman, mutual fund salesman and financial advisor you encounter is a hardened criminal." —William J Bernstein

Make memories! – Stop and smell the roses!

"The ultimate beauty of index funds is that they get you utterly out of the business of guessing what will happen next. They enable you to say seven magic words: 'I don't know, and I don't care.'... With an index fund, you're on permanent auto-pilot: you will always get what the market is willing to give, no more and no less." —Jason Zweig

Investing Basics

What:

- Your (1) savings rate (amount/percentage of income that goes to savings); and, (2) the allocation between stocks and bonds, are the two most important investment decisions. (If you keep investing expenses very low, reinvest dividends, and avoid scams, all other investing decisions will likely have only minor effect on ultimate wealth.)

"Savings rate explains about 74% of total net worth." – "Set it on auto pilot. Make it automatic."

- Building wealth: Income, Savings Rate, Investing behavior, Asset allocation, Investing strategy, Minimizing Costs, Minimizing Taxes [Whitecoatinvestor claims this is in order of decreasing importance.]

- Financial independence consists of having a nest egg exceeding 25 times your annual living expenses (assuming approximately a 4% real after tax rate of return on investment); 50x, i.e., a 2% withdrawal rate, will more likely allow you to compensate even for prolonged, severely adverse conditions.

- Withdrawal rate to assure continued financial independence: Bill Bernstein has said that a 2% portfolio withdrawal is "bulletproof" (it is roughly equivalent to dividend yield). So if you spend less each year than your portfolio earns after inflation that year in dividends and interest, you never invade principal and can continue spending earnings forever and won't run out of money.

- Once you achieve financial independence, never put yourself in the position of taking on excessive risk that could cause you to lose financial independence; instead be sufficiently diversified to mitigate risk. ("Don't put your eggs in one basket.")

"If you've won the game, stop playing." William Bernstein advises retirees and near-retirees to avoid investing in risky assets such as stocks, at least with money needed to provide an adequate income stream. In other words, once the game has been won by accumulating enough safe assets to retire on, it makes little sense to keep playing it, at

least with the “number”: the pile of safe assets sufficient to directly provide or indirectly purchase an adequate lifetime income stream. [But remember that ‘safe’ assets will not be safe if inflation destroys their value; constant nominal value is not safe, only constant real value is safe. Hence the need to stay sufficiently diversified among asset classes.]

• **BUY & HOLD!** "Stocks tend to fluctuate" —*J.P. Morgan*; "Stay the course: the secret of investing is that there is no secret." —*John Bogle*

Just keep buying ... *You have to have the patience to be able wait a quarter century for the higher long term returns of stock investments to show up. For example, the high in 1966 for the S&P 500 was 743.42 and did not get back to that level until 1992. This is also why you need to oversave to have at least twice what you expect to spend in retirement, and include lots of shorter term fixed income investments to be able to live through retirement lasting decades without being forced to sell stocks or longer term bonds while their prices are down, which would make you run out of money and go broke.*

Selling to be temporarily out of the market (“market timing”) is very risky. For example, missing the 5 best days of the 2020 stock market gyrations would have resulted in a 30% loss, versus a break even with staying the course.

In the 90-year period from 1926 through 2015, the S&P 500 Index lost at least 10% 152 times, and at least 20% 39 times ... why investors demand a large premium for taking the risks of investing in stocks. ... Of the 360 quarters since the year 1926, 31 of them (8.6%) saw the S&P 500 Index lose at least 10%. And in the 180 half-years since then, 19 of them (10.6%) saw the S&P lose at least 10%. ... After a loss of 10% in the S&P 500 Index, the average annualized returns in the following 5-years was +10.1%, and after a loss of 20% was +9.6%. —*Larry Swedroe*

During the 2000-2003 bear market, the NASDAQ index lost over 70% and the S&P 500 index over 45%. During the '73-'74 bear market, the S&P 500 index lost nearly 50%. [This outline was written before the Dow Jones Industrial Average hit an all-time high on October 9, 2007, closing at 14,164.43 and less than 18 months later, had fallen more than 50% to 6,594.44 on March 5, 2009, but this is just more of the same, so as of 2023, no revisions are needed. The United States' wild spending spree financed by the Treasury selling bonds to the Federal Reserve is likely to eventually destroy the dollar but hopefully ownership in all the world's investable businesses will continue to be worth something in the aftermath.]

The average investor lost 45 basis points to timing [almost an annualized half percent loss compounded due to ill timed switching between mutual funds] over five 10-year periods ended December 2018.

Looking at data going back to 1930, Bank of America found that if an investor missed the S&P 500's 10 best days each decade, the total return would stand at 28%. If, on the other hand, the investor held steady through the ups and downs, the return would have been 17,715%.

("Stay the course" is not exactly the same as "Buy and hold" because corrections and bear markets can often be an opportunity to rebalance, sell an unwanted fund, tax-loss harvest and move to another.)

• Dollar cost average through good times and bad: "Have a diversified asset-allocation plan. **Save regularly.** Automate your savings. Keep things simple. Keep costs low. Minimize taxes. Reinvest. Stay the course."

• Save — Automate your savings — Diversify — Costs (and Taxes) Matter — A good plan put into action is better than a perfect plan never implemented. ["Do or do not – there is no try." — *Yoda*.]

• A Mutual fund allows you to buy or sell at the daily closing market price of the securities it holds (with the mutual fund professionally managing purchases and sales of underlying securities), and typically allows you to automate periodic purchases, such as for dollar cost averaging. [Preferred.] In contrast, Exchange Traded Funds (“ETF”; similar to freestanding unit doses of mutual funds, but with ETF shares continuously traded like stocks) are bought and sold (with a bid-ask spread) with the retail investor responsible for managing ETF purchases and sales at whatever price a willing buyer and seller accepts (not exactly at the value of the underlying holdings [but often close (except possibly during market turmoil), because institutional investors (who can have ETF units created or destroyed from the shares of their underlying securities that the ETF holds) can make money by exploiting any difference in pricing between an ETF and the securities that it holds], and depending upon the liquidity of the ETF, especially if the total ETF size is small), and importantly with ETF automated dollar cost averaging NOT available. (Also, the institutional investor that creates an ETF unit is not involved in subsequent retail investor stock market brokerage purchases and sales of portions of ETF units created, while a mutual fund is involved in each subsequent retail investor purchase and sale, so an ETF can be slightly less expensive for its creator than a mutual fund would be, which can make the ETF expense ratio slightly lower than a corresponding mutual fund.)

• "Stay-The-Course" – The S&P 500 rose +1,100-fold over the last 70 years (starting 1946), including dividends (110,000% increase) ... meanwhile ...

May 1946 to May 1947. Stocks plunge 28.4%.

June 1948 to June 1949. Stocks decline 20.6%.
 June 1950 to July 1950. Stocks fall 14%.
 July 1957 to October 1957. Stocks fall 20.7%.
 January 1962 to June 1962. Stocks plunge 26.4%.
 February 1966 to October 1966. Stocks fall 22.2%.
 February 1966 to October 1966. Stocks fall 22.2%.
 November 1968 to May 1970. Stocks plunge 36.1%.
 April 1973 to October 1974. Stocks plunge 48%.
 September 1976 to March 1978. Stocks fall 19.4%.
 February 1980 to March 1980. Stocks fall 17.1%.
 November 1980 to August 1982. Stocks fall 27.1%.
 August 1987 to December 1987. Stocks fall 33.5%.
 July 1990 to October 1990. Stocks fall 19.9%.
 July 1998 to August 1998. Stocks fall 19.3%.
 March 2000 to October 2002. Stocks plummet 49.1%.
 November 2002 to March 2003. Stocks fall 14.7%.
 October 2007 to March 2009. Stocks plummet 56.8%.
 April 2011 to October 2011. Stocks fall 19.4%.
 June 2015 to August 2015. Stocks fall 11.9%.
<http://www.fool.com/investing/general/2015/09/09/keep-in-mind-stocks-rose-1100-fold-during-this-per.aspx>

• **LeBoeuf's Law: "Invest your time actively and your assets passively."**

In case you think that making lots of smart decisions and working really hard at investing boosts performance, "Fidelity released a study discussing a performance breakdown for their accounts. The clients that did the best were the ones who were dead. The second best performing set of clients forgot they had Fidelity accounts." {apocryphal}

• **Picking Individual Stocks Is A Loser's Game: Over 35 years, 40% of stocks suffer a 70%+ "catastrophic decline" in value from which the stock price DID NOT recover because, for example, the company just goes out of business. So, don't take uncompensated risk by picking individual stocks.** <http://whitecoatinvestor.com/picking-individual-stocks-is-a-losers-game/>

"Only 12.2% of the Fortune 500 companies in 1955 were still on the list 59 years later in 2014."

"The odds of outpacing the averages are slim indeed. Consider a new study by Hendrik Bessembinder, a finance professor at Arizona State University. He looked at U.S. stock performance over the 90 years through December 2016. His startling discovery: The market's entire 90-year gain, over and above Treasury bills, could be attributed to just 1,092 companies, equal to 4% of all stocks. The other 96% collectively matched T-bills. Indeed, half the wealth created over this 90-year stretch can be explained by just 90 stocks, including ExxonMobil, Apple, Microsoft, GE and IBM. That's a mere 0.36% of the stocks that traded during this period. Most of the other 25,000 listed companies weren't nearly so impressive: Stocks typically stuck around for just 7½ years—and a majority lost money during their usually brief life. In other words, if you had picked just one or two stocks, the odds suggest you would have got your head handed to you." <http://creativeplanning.com/news-article/easy-money/>

• **Instead of trying to guess the future or pick winners and losers, it's now easy and inexpensive to buy a representative small percentage of the entire future global economy.**

"The math of investing is brutal. Before costs, we collectively earn the market's return. After costs, investors—as a group—must inevitably lag behind. ... Put your money in broadly diversified index funds with rock-bottom annual expenses." —*Jonathan Clements*

Same for bond funds: "Long-term government ... *active* funds underperformed the *index* by a shocking 3.3 percentage points." <http://www.ett.com/sections/index-investor-corner/swedroe-active-falls-short-bonds-too?nopaging=1>

"Half of what we know about investing is wrong -- unfortunately, we don't know which half." —*Anonymous*

"The stock market is a device for transferring wealth from the impatient to the patient." —*Warren Buffett*

"Not many economists become stock market billionaires. [so] ... their predictions should be ignored as much as anybody else's." —*minimalistmarc*

• **Defensive strategies: Diversification among as many asset classes as possible having a record of success; Keep expenses low; Find the right balance between fixed income and equity; Variable distribution in retirement while limiting expenditures when markets are depressed.**

• **A foundation of any investment plan is to ignore forecasts.**

"There are two kinds of forecasters: Those who don't know, and those who don't know they don't know." —*John Kenneth Galbraith*

• **Don't just look at individual assets in isolation while ignoring interactions – what is important in understanding long-term investing is the effect on the whole portfolio resulting from long-term correlations between asset classes.**

• **Broad global diversification across many asset classes in a manner that makes you sufficiently comfortable that you will stay the course when markets crash. Selling in a panic destroys wealth. From 2007 to 2010, the median net worth of American families decreased by 40%, from \$135,700 to \$82,300 with most people panicking and stupidly locking in a loss with the rapidly plunging house prices and a stock market crash contributing to the typical loss.**

"Extraordinary market declines are anything but. Every decade or so, we get a big stock market swoon. All feel catastrophic at the time, and yet—in retrospect—they seem almost routine. Think back over the past half-century and what's happened to the S&P 500. We had 1973-74's

grueling 48% drop triggered by the OPEC oil embargo and escalating inflation, 1980-82's 27% bear market wrought by a double-dip recession, 1987's stunning 34% crash, 1990's 20% decline following the Iraqi invasion of Kuwait, 2000-02's 49% meltdown caused by the dot-com bust and 9/11 terrorist attacks, 2007-09's global financial crisis with its 57% bloodbath, and 2020's 34% coronavirus crash." — *Jonathan Clements*
Professor Hyman Minsky's theory is that *stability is destabilizing* so market crashes are inevitable (the "financial instability hypothesis"). *When an economy is stable, people get optimistic. > When people get optimistic, they go into ever increasing amounts of debt. > When they pile on debt, the economy becomes unstable.* The irony is that when people think that markets will not crash – they are far more likely to crash. The mere idea of stability causes a smart and rational movement toward bidding asset prices up high enough to cause instability.

• **Recovery after a market crash may not be rapid–**

Example periods of time when the SP500 required more than a decade to 'permanently' exceed a previous high water mark (dividends reinvested and returns inflation adjusted):

20 yrs. May 1901-Aug 1921;

20 yrs. Aug 1929–May 1949;

15 yrs. Nov 1968-Mar 1983;

13 yrs. Mar 2000- Jan 2013. (Source: Shiller online data)

How:

• "Masterplan: Save a lot more than average, and then get average [investing] results."

But ... "We are not accepting average. We are accepting market returns minus minimal expenses. Since most people pay too much in expenses, we therefore accept above average in exchange for allowing that there will be a very few others who will outperform us." — *Ken Schmidt*

• *Stay the course:* "If you can grit your teeth ... and just disregard short-term declines in the market or even long-term declines in the market, you will come out well. ... don't look at your portfolio – you'll do far better than if you try to trade it." — *Alan Greenspan*

• Be a tightwad – frugal both when spending and when investing; Buy quality goods that will last for many many years of your use; "Beware of little expenses. A small leak will sink a great ship." — *Benjamin Franklin*

Using extremely **low cost capitalization weighted passive index funds** that also minimize trading expenses and taxes due to low turnover is critical because, for example, wasting even **one-half of one percent annually** on "investment advice", on higher expense ratio, or active funds, and/or on trading, advice, or management costs over an investment lifetime **will lose half of your money!**

Vanguard is by far the world's biggest fund manager

(Nearly all of the academic data supports the use of low cost passive index funds, i.e., the lower the costs/fees the higher the returns. "On multivariate analysis, the only variable to remain statistically significant with respect to higher long term returns was cost.")

"Even index fund investors need to consider the implications of portfolio turnover. Sensibly constructed indices, such as the S&P 500 and the Wilshire 5000, exhibit low implementation costs and high tax efficiency. Poorly structured indices, such as the Russell 1000 and the Russell 2000, demonstrate high costs and low tax efficiency."

In 2/3 of the Fidelity funds, portfolio turnover is about 2x that of the "comparable" Vanguard fund.

<https://www.bogleheads.org/forum/viewtopic.php?p=6976930#p6976930>

Understand that active investing where "experts" try to "beat the market," is a zero sum game in which the winners take from the losers, but there is no net gain to be had (compared with just owning the entire market), and the excessive expenses result in an overall loss. Also, **stock returns are dominated by very few stocks**, so active managers by holding only a selection of stocks instead of all stocks tend to exclude the few huge winners that can't be successfully predicted but are needed to achieve the higher returns that equities can offer.

• **Stocks:** No load, ultra low cost, total market, capitalization weighted stock index mutual funds – passive investing in taxable accounts.

Use index funds because the chance of a portfolio of 5-10 actively managed mutual funds held for twenty years beating a portfolio of index funds is less than one percent according to Rick Ferri's book "The Power of Passive Investing"!

<http://paulmerriman.com/30-reasons-fall-in-love-index-funds/>

• **Bonds:** Treasury bills and notes, & short term bonds (stable value retirement funds, nominal treasury bond ladder against deflation, and TIPS held to maturity or I-Bonds against inflation) – tax deferred. Avoid bonds with guaranteed loss negative yields.

"When investing in bonds, stick to quality." — *John Bogle*

"Bond returns are secondary. We buy bonds for safety when stocks fall. Bonds with the highest returns are usually the worst when stocks fall." — *Taylor Larimore*

You are not adequately compensated for the additional risk in longer term corporate bonds which have credit risk (equity risk belongs in your stocks, not bonds which should be safe; bonds are used to dilute the equity risk of your stocks down to your risk tolerance level) and corporate bonds can be called (a forced redemption prior to maturity when it advantages the company), nor for the prepayment risk of mortgage backed bonds, nor the currency risk of foreign bonds, nor the credit risk of high yield ("junk") bonds.

Don't buy or sell bonds on the secondary market (instead buy at issue and hold to maturity) to avoid large fees brokers hide in the prices of already issued bonds.

Paradoxically, Treasury Inflation Protected Securities (TIPS) can suffer significant losses when there is inflation because of loss of principal as interest rates rise that can be much larger than the inflation adjustment gains (especially when TIPS have long term maturities and/or are purchased with low or negative real interest rates).

Bonds are very complex. You will never know everything about bonds and bond funds, as the article "Understanding Bond Documents" by Sunita Lough and Debra Kawecki (used by the IRS) makes clear.
<http://www.irs.gov/pub/irs-tege/part2e02.pdf>

"In the very long term, long bonds are more risky than stocks due to their exposure to future inflation."
—William Bernstein

"There are fixed income investments where one does get decent returns but doesn't accept the interest rate risk of total bond funds with a rolling 6-7 year duration. They would be Series I Savings Bonds, 1, 2, 3 year U.S. government bonds, the federal employees' Thrift Savings Plan's G fund, stable value funds, Certificates of Deposits (CD's), Multi-Year Guaranteed Annuities (MYGA's), or Money Market Funds." —*Parkinglotracer*

A bond ladder is a portfolio of individual bonds with staggered maturity dates each bond held to maturity. As each bond matures, you can keep the ladder going by reinvesting the proceeds in a new bond with the longest maturity in your ladder. A good all-weather strategy because if rates are rising, you lock in higher yields as bonds mature; if rates are falling, you benefit from the longer-term bonds purchased when rates were higher. While bonds with longer maturities tend to offer higher yields, shortening your bond maturities generally reduces income and interest-rate risk. (Bond funds [because they never mature] don't offer as much control over your cash flow or interest-rate exposure, nor is your principal investment guaranteed as it is with individual bonds, assuming you hold such bonds to maturity and barring default.) —*Schwab*

• Real Estate: Primary residences, (U.S.) TIAA Real Estate Fund, Vanguard Global ex-U.S. Real Estate Index Fund, REITs included in index funds

Real estate funds generate lots of taxable income, so should be held in tax deferred accounts. But REITs are already included in index funds and small value funds, so don't accidentally overweight, but understand that much of real estate is in private hands, so the REIT percentage in the total stock market does not reflect the full value of real estate. Also understand that REITs are companies in the real estate industry, which is not the same as owning real estate; and they are leveraged so can go broke leaving zero value that can never recover even when real estate recovers. The TIAA Real Estate Fund is not a REIT and does represent owning real estate.

REITs are even more volatile than the total stock market (Vanguard's REIT fund plunged -68.3% during the 2008-2009 bear market), so to get the diversification benefit it is especially important to rebalance into REIT's when they crash. The Vanguard Global ex-U.S. Real Estate Index Fund could provide international diversification of the domestic TIAA Real Estate Fund.

• Money market fund: cash for current needs, and emergency fund; (also in combination with tax deferred short term bonds to dilute risk to a level that makes you comfortable enough to stick to the plan, no matter what); or combine with a 3 or 6 month T-bill ladder coming due weekly.

Treasury "only" money market mutual funds that invest only in U.S. Treasury Bills might be slightly safer than Treasury money market funds that include repurchase agreements, which are safer than Government money market funds that include government agency paper (which do not come with a U.S. 'full faith and credit' guarantee) which are safer than "Prime" etc. money market funds that invest in commercial paper issued by corporations (of various credit quality, and can drop in net asset value (below \$1) during a financial panic, or Municipal Money Market Funds that can invest in tax exempt city, state, and hospital, etc., securities. [Money market funds can change their rules as shown in the current prospectus, and government regulations can change.]

SEE: <https://www.bogleheads.org/forum/viewtopic.php?f=10&t=387886&newpost=6912316>

"While there are certainly a few times when cash lost money to inflation [like 2022] it actually provided a small return above inflation the vast majority of the time. ... it works this way in every country and currency and even holds up in times of very high inflation. ... even as inflation in the US spiked to over 15% in the late 70's and early 80's, T-bills lagged inflation by more than 1% only once in that period! Completely counter to common belief, properly invested cash is perhaps the single most consistent inflation hedge available."

<https://portfoliocharts.com/2017/05/12/understanding-cash-will-make-you-a-better-and-happier-investor/>

• It is best to pick an appropriate asset allocation and stay the course, assume that the world won't end, and that any market crash will be temporary.

[But since 1900, of 23 national stock markets, 3 of them actually did fail and literally go to zero, all due to communism:

Hungary: Two months after the 1948 nationalization of the majority of private Hungarian firms, the government officially dissolved the Budapest Stock and Commodity Exchange, and the exchange's assets became state property.
https://en.wikipedia.org/wiki/Budapest_Stock_Exchange

China: In 1941, the Japanese military took control of Shanghai and the stock market ceased operation. It reestablished itself shortly after the war, but was closed in 1949 during the Communist Revolution ... A socialist market economy was established during the 1980s. This ultimately led to the Shanghai Stock Exchange to be reopened in 1990.

<https://bizfluent.com/about-5070399-history-chinas-stock-market.html>

Russia: The St. Petersburg Stock Exchange shut down in August 1914 when World War I began, briefly reopened in 1917, then shut down for the next 75 years when the Russian Revolution began.

https://www.investmentoffice.com/Observations/Markets_in_History/The_Russian_Stock_Market_Before_the_Revolution.html

• Keep investing periodically: Low expected returns today may turn into higher returns in future decades, so money invested now may turn out to grow exponentially higher down the line, i.e., today's dollars invested with low returns may eventually turn out to be the largest earners, though at the time of investment they went nowhere.

Bad times are usually followed by good times. The people who continued to save during 1966-1982 (where the market went nowhere), saw all that money they saved go up 10x over the next 18 years.

• **Happiness/Contentment results from "autonomy, meaningful contact with others, and the development and exercise of competence."**

"We act as though comfort and luxury were the chief requirements of life, when all that we need to make us really happy is something to be enthusiastic about." —*Charles Kingsley*

Do get the rare but great toys and luxuries that you will use constantly and will marvel over every day.

Make memories (and take pictures) with great vacations whenever you get a chance!

• Fund spending to avoid going broke during retirement: Retirement needs to be funded using investments that don't fluctuate much in value. Do not attempt to spend more than an inflation adjusted 3% of your savings per year in retirement. Stocks are for long term investing only – price volatility makes stocks unsuitable for funding retirement living expenses. Do not attempt periodic withdrawal from a stock portfolio to cover living expenses in retirement because stock prices are too volatile — you can't spend from a stock portfolio when the market is down because you would be forcing yourself to sell low resulting in rapidly running out of money because the stocks are sold and gone before the market rebounds (which may require waiting for 20-30 years). Stay partially invested in stocks during retirement but ***live off of the short duration fixed income portion of your investments*** while spending no more than 3% of net worth per year, or live off a stream of annuitized lifetime payments (or even better, some combination of the two) to avoid going broke during retirement.

"I advise you to go on living solely to enrage those who are paying your annuities." —*Voltaire*

From:

• Vanguard usually is the low cost and best index fund provider (services provided at cost because it is indirectly owned by its mutual funds shareholders; ETF's as share class reduces capital gains distributions)

• Fidelity (very good, usually more expensive, but recently sometimes the low cost provider as what used to be called "Spartan" funds until Fidelity dropped the name; terrific account analysis and tracking features, computer systems were often years ahead of the competition)

• TIAA-CREF retirement accounts, if available through employer (not their mutual funds which are good, but not nearly as inexpensive as Vanguard or Fidelity); unfortunately getting more expensive since they lost their non-profit status

• Charles Schwab has become very competitive recently, now lower cost than Vanguard or Fidelity, but will they raise expense ratio's after a few years when you are locked in with capital gains so you don't want to shift to the then lowest cost provider? But extremely low interest rates on cash.

• iShares (exchange traded funds = total market mutual funds that are sold as a stock)

• Thrift Savings Plan (terrific, but federal employees only; government should use to replace insolvent Social Security)

How to make a *small* fortune:

• Invest a great fortune, and then sell when markets crash.

"Discipline matters more than allocation." —*William Bernstein*

• Invest a great fortune, and trade a lot.

• Invest with the "help" of a sales person (stock broker, investment advisor, insurance/annuity agent, etc.); brokers are taught salesmanship, not investing (you'll know more about investing if you have read even one of the books listed below). Such people do what is most lucrative for them at your expense, and chase investment fads, so using an advisor or broker will cause you to lose more than half your investment income! There are no financial advisors (even supposed "fiduciaries" or "fee-only" advisors) who actually must act only in your interest! [A few even run Ponzi schemes, for example, crook Bernie Madoff [the highly respected former head of the National Association

of Securities Dealers] who marketed his scam investing approach as "too complicated for outsiders to understand."] *Never give a broker or advisor "discretion" to buy or sell without asking you first.*

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=616981

"After factoring in inflation and taxes, clients of financial advisors lost money and lost purchasing power."

<http://advisor.morningstar.com/articles/doc.asp?s=1&docId=4482&pgNo=2>

"Approximately 7 percent of active advisers have been disciplined for misconduct or fraud. Of the advisers who have engaged in misconduct, 38 percent are repeat offenders."

<http://chicagobooth.edu/capideas/blog/2016/february/does-your-financial-adviser-specialize-in-misconduct>

Impossible:

- Investing success if you behave irrationally or emotionally when markets gyrate.
- Picking the best stocks or actively managed mutual funds.
- Picking the best money manager or investor.

Note that even if active managers are skilled, it does not matter, as they will attract more capital until their return drops to the market average with all of the excess return going to the manager and expenses, so none of the higher return will be received by investors!

- Timing the market (which fails if you make an error about either when to sell or when to buy back in), a.k.a. "tactical asset allocation."

"Far more money has been lost by investors preparing for corrections than has been lost in corrections themselves."
—Peter Lynch

- Success in attempting to do better than average. [Except perhaps by pure luck.]
- ***It is very expensive, wasteful, and ultimately unproductive to try to do the impossible.***

Financial risks vary over time:

- Stock prices are volatile: the S&P 500 rises or falls more than 1% on a quarter of trading days. (Stocks must have greater long term investment returns to compensate for the greater price volatility or people wouldn't buy them.)

- Not only does the recent past not predict the future, but longer term, the cause and effect interrelationships keep changing about what asset prices go up and down together, opposite, or randomly over time.

Reference: "The Volatility of Correlation: Important Implications for the Asset Allocation Decision," by William J. Coaker

http://www.fpanet.org/journal/articles/2006_Issues/jfp0206-art7.cfm

- The diversification benefit of particular asset class combinations may disappear in down markets, making it all the more important to ***stay the course*** and not bail out at the bottom.
- The value of stocks is the discounted present value of their future dividends (the alternative is the greater fool theory), so when stocks have done well for years and the dividend yield consequently has been reduced to 1.5%, instead of the historical 5%, their anticipated long term future return approximates 3.5% less than the historical return, if stocks don't instead crash in price in the short term, with in either case the stock dividend yield reverting to the historical mean.

- Understand the difference between the inability to actively manage or time investments successfully versus the ability to judge that the risk of a particular asset category is probably very low or very high because earnings are likely to be sufficient to justify the price (or not). For example, while you have no clue what the price of stocks will be next week or next year, since the average price/earnings ratio is about 15, if you buy stocks when the average price earning ratio is below 10 (10% nominal earnings) you are much more likely to have a better return over decades, than if you buy when the PE ratio is 33 (3% nominal earnings). Similarly TIPS (Treasury Inflation Protected Securities) are a great deal when they have a guaranteed after inflation real return of 4%, and mediocre below 2%. (Larry Swedroe advocates, "you might want to own say 50% TIPS when the yield is above 2.5% and drop that to 25% when yield below 2.5 and to 0 if below 2%, and raise that to 75% if yield above 3 and 100% if yield above 3.5. ... But for rebalancing wait until goes to 1.75 to sell and wait until 2.75 to buy." Historic real bond interest averages 2.2%.) ***Only use TIPS as individual bonds with favorable interest rates, held to maturity, as the varying price of TIPS does not capture inflation protection (in 2022 TIPS dropped in price when rising inflation happened), so TIPS mutual funds don't behave as predictable inflation protection.*** Similarly with real estate prices

compared to rents. The usefulness of this is not to keep changing your investments, but rather to help judge if you are taking unreasonable risks that make no economic sense (creating a need to dilute risk by holding more cash plus short term bonds while increasing savings to offset the lower expected future returns), or conversely being given a once in a lifetime chance to buy incredibly attractive high future long term earnings that are extraordinarily cheap because almost everyone is too terrified to buy.

- Alternatively, libertarian, Harry Browne, advocates "Fail-Safe Investing" by having a "permanent portfolio" intended to passively match market returns with four 25% investments in each of (1) stock index mutual funds, (2) long term U.S. Treasury bonds (entirely 20-30 years remaining maturity, non-callable), (3) cash (in treasury bills or money market funds), and (4) non-numismatic gold coins (like American Eagles) or gold bullion, rebalanced annually, arguing that the economy will always be in one of the following states of prosperity, inflation, deflation, or depression, and that this combination of equal amounts of these four particular investments will almost always (except during brief recessions) have at least one investment doing well that will dominate performance, *even if depression, monetary collapse, or hyperinflation occurs*. Do not substitute other similar investments: He comments that silver is now mostly an industrial metal, gold stocks do not correlate adequately with gold, and inflation indexed bonds remain constant but don't rise dramatically in hyperinflation as does gold, so these are not adequate substitutes for gold coins or bullion; and that inflation indexed bonds do not rise dramatically in value in a deflationary depression so are not adequate substitutes for long term U.S. Treasury bonds. Since gold prices are extremely volatile (in January 1980, gold peaked at \$850 and then bottoming out in 2002, after gold's value in real terms fell about 85 percent) and gold provides no income, zero long term growth, and a stable average very long term real price, i.e., no real return over 2,000 years (modern military salaries expressed in gold are the same as those of the Roman empire), so **rebalancing into and out of gold (to keep gold as 25% of assets) as its price varies is essential** for its function in the permanent portfolio.

<http://www.bogleheads.org/blog/harry-browne-permanent-portfolio/>

Anonymous:

- "Some people spend more time planning a two-week vacation than they do their retirement."

Why:

- In the long run, approximately, on average, asset classes must revert to sell at replacement value, profit margins will be at normal levels, and the cost of capital will equal the return on capital.

- Index funds are the incredibly inexpensive way to buy the best diversification; they attempt to passively match the average performance of a market or group of securities (a feat that active management can't reliably achieve, much less beat)

"... After expenses, taxes, and inflation, the average actively managed mutual fund delivered only 34% of the profit of an S&P 500 Index fund from 1983 to 2003." —Ben Stein (attributed to John Bogle)

- "Index funds offer much more than superior returns. They also provide maximum diversification, no overlap, no style drift, no manager changes, lower turnover, lower expenses, lower taxes, greater simplicity and peace of mind."

Diversification among stocks provided by index funds is essential because "Fifty eight percent of common stocks have ... returns less than those on one-month Treasuries over their full lifetimes ... **the entire gain in the U.S. stock market since 1926 is attributable to the best-performing four percent of listed stocks**. ... non-diversified stock portfolios are subject to the risk that they will fail to include the relatively few stocks that ... generate large cumulative returns."

<http://csinvesting.org/wp-content/uploads/2017/05/Bessembinder-Do-Stocks-Outperform-Treasury-Bills.pdf>

- "The ultimate beauty of index funds is that they get you utterly out of the business of guessing what will happen next. They enable you to say seven magic words: 'I don't know, and I don't care.'"

- Treasury bonds (guaranteed as to the timely payment of principal and interest) don't default, don't drop in price due to a change in credit risk, can be bought with *zero expenses* at Treasury Auction (at TreasuryDirect, Fidelity, or Vanguard), and don't have gotcha call provisions.

[Warning: Low interest rates themselves increase the risk of fixed-income allocations because lower rates mean greater duration. Duration represents the length of time it would take for the total value, with interest/dividends reinvested, to be worth exactly what it would have been worth had interest rates not risen.]

• Asset Allocation based on Modern Portfolio Theory (optimize risk and reward by combining poorly correlated asset classes); don't focus on the performance of each security, rather on how the combination performs to offset combined risk while being well rewarded for holding risky assets.

[When calculating asset allocation, you may wish to discount tax deferred accounts by the unpaid tax, i.e., if in the 25% tax bracket, you own only 75% of your retirement account [exception: Roth accounts]. You may also wish (as Jack Bogle recommends) to account for any annuity that you receive such as Social Security or a pension, as if it was a bond, i.e., as the asset allocation equivalent of a bond of value equal to the reciprocal of current interest rates times years of life expectancy times the annual amount the annuity pays.]

• Diversifying with non-correlated assets is the only free lunch (a higher return with less risk)

• Efficient market theory holds that stock and bond prices are so competitive, and information so readily available, that current prices reflect true value (or so close that expenses prevent exploiting inefficiencies; this does *not* mean that securities aren't over or underpriced, just that you can't make money from the over or underpricing because the price already reflects what can be known).

"The market encapsulates that aggregate information from all of us that none of us have. [We get that information in the price.] ... it's not the average belief of an investor. It's a weighted average. It's weighted towards those who control more assets because they're just bigger, towards those who believe they have more accurate information, and therefore, the action they take is bigger. It's a weighted average of what we all seem to believe about whatever the individual securities are that we're trading in. It's a tough thing to beat ... " —Robert Merton

• Indexing is not based on efficient markets – the reason the average index fund outperforms the average managed fund is *cost*. <http://www.stanford.edu/~wfsarpe/art/active/active.htm>

Basics:

• Think of "investing – as a process of accumulating an ever-increasing share of the assets in the world, rather than as taking out a series of bets on price movements in the markets for those assets."

• Investors face three enemies: inflation, taxes, and investment costs.

• Live below your means.

• Einstein believed compound interest to be man's greatest invention.

[i.e., How to "make a million": Invest ten million and wait a year or two.]

• Consistent saving starting the younger the better, low costs, minimizing taxes, and picking the fixed percentage of diversified stocks vs. bonds is almost all (>90%) that matters in investing – the rest has insignificant positive effect on your ultimate wealth, but bad choices can greatly reduce wealth.

• For every five years you wait to start saving for retirement, you'll have to double your annual savings.

• The two key investment risks: Volatility and Inflation.

• Stocks earn a lot more than bonds, but their short term price varies more [you are getting paid extra for accepting this greater short term risk, despite the much lower long term risk].

• Stock prices sometimes crash dramatically (40-90% drop); being able to live off the interest from fixed assets during such times is essential to avoid decimating your savings by selling stocks when prices are low.

"Stocks could lose 50% or more of their value in any year. ... stocks can lose in one day what bonds might lose in a year." —Rick Van Ness

• Bullishness (hoping for high returns with low risk) is not rational; what is reasonable is hoping for high returns over the very long term because you are accepting risk by holding economically productive assets which are reasonably priced by historic standards.

[Valuation matters, but is very tricky to measure, and even harder to act upon, as prediction based on valuation has not proven successful. For example, at the best times to buy, such as 1932 and 2002, P/E ratio's paradoxically were extremely high because although prices were very low, earnings were temporarily at an even more extreme low. Prices and earnings can each be averaged over various time intervals, current, estimated future, or peak, giving very different, often contradictory P/E results. Also the return advantage of stocks compared to bonds may overshadow valuation — Jeremy Siegel's data shows that stocks beat bonds by 4/2/1+:1 for holding periods of 30/20/10 years when the purchase was made during market *highs* of the 20th century. Historically being completely out of stocks when stock valuations became "too high" has been a losing strategy because the alternatives have worse returns and market timing doesn't work, so there does not appear to be any successful or reliable strategy available to the avoid low expected future returns implied by overvaluation. Put options should protect you in a crash, but are too expensive unless you know in advance when the crash will occur. [During a gold rush the profits mostly go to the companies that supply shovels, not to the miners, but when the gold rush ends so does the immediate demand for

shovels (duh!).] Also a dramatic crash can be a foreshock presaging a complete recovery followed by an even bigger crash (see stock prices from 1929-1933).]

- Owning individual stocks increases risk without increasing rewards (compared to owning all stocks).

With an individual stock, you have about a 93% chance that it will **not** be a big winner, and a 40% chance that it will loose 70%+ of its value permanently.

https://www.chase.com/content/dam/privatebanking/en/mobile/documents/eotm/eotm_2014_09_02_agonyescstasy.pdf

- The amazing Capitalization weighted index mutual funds [recommended] exactly copy their market by their design, so as prices change, the capitalization weighted index fund continues to reflect the market, without needing to do anything! (An S&P 500 index fund, a total U.S. market index fund, or a total international market index fund are examples.) In contrast, a non-capitalization weighted index fund [to be avoided], such as an S&P 500 equal weighted fund (equal dollar amounts of 500 stocks) requires constant buying and selling to maintain equal weighting as stock prices change, which necessitates continual expensive stock transactions (while losing the bid-ask price spread with each purchase and sale), which also triggers capital gain taxes. (Note that a slice and dice portfolio suffers from the same problem, as, over time, stocks shift among asset classes.)

Capitalization weighting is optimal only if the market is efficient, i.e., if prices reflect all the known information, but if not, good luck using some other fundamental index that calculates the “actual” value of securities from a model using accounting data. We only have one example of history, and only a limited number of years of data. How many alternative histories and how many years are needed to create a statistically reliable model of the “true value” of securities? And, if you could do that, you still are left with the problem that the “better” fundamental index requires constant buying and selling as prices vary which increases the loss of avoidable expenses. Hopefully, the simplicity of Capitalization weighting is close enough, most of the time, possibly excepting the times of financial bubbles.

- It is imprudent to ever own less than about 20% stock, or less than about 20% fixed income overall, because these mixed portfolio's are less risky and provide higher return, respectively, than 0% stock, or 0% bonds, due to the ability of a combination of decorrelated risky assets to partially cancel out risk. (This is the basic lesson of Modern Portfolio Theory.)

- Irrational investors decide that when stocks go on sale they want to get rid of theirs at very low prices, so that they can buy them back later after the sale ends and they especially want to buy once they see that prices have risen rapidly and dramatically.

- **Dividend reinvestment is imperative.** Reinvesting stock dividends will eventually dominate over growth of equity prices over long time periods, silently and unseen, creating the exponential growth of dividends paid on stock purchased by reinvesting prior years' dividends (yield on investment) that will eventually account for most of the future income and wealth. Nearly 3/4 of the returns from the S&P 500 from 1980 to 2019 came from dividends. So keep reinvesting those dividends!!! Never suspend dividend reinvestment after a crash. Also understand that un-reinvested dividends permanently reduce the value of unsold shares because the cash is transferred off the company's accounts to the shareholders. Pay more attention to the compounding dividends over decades than to the fluctuating stock price, realizing even though higher stock prices may make you feel better, that you are actually better off when you keep automatically investing at *lower prices*.

[Because dividends result in income taxes, many companies instead use cash to buy back their own stock, accomplishing essentially the same thing for shareholders as dividend reinvestment, but without the tax. Of course, taking into account share price changes when a dividend is declared, the payment of dividends does not increase the total wealth of the shareholder (the dividend just shifts money from one investor pocket to another), but the important point is first that not reinvesting the dividend hugely decreases the compounding of wealth, and second that the historical stock price graph does not show the full potential of compounding wealth because it neglects the reinvestment of dividends. “It's the difference between looking at price charts and total return charts.”]

- If you keep investing, reinvesting, and rebalancing through a crash you become richer when prices eventually recover than if the crash hadn't happened, because you bought/reinvested while assets were on sale. Just with dividend reinvestment, you'll be better off due to the crash after 30-50 years; dramatically faster if you are adding new savings. The best thing that can happen to a dollar cost averaging investor is for there to be a market crash early in their investing lifetime.

[Limiting rebalancing to using distributions and new money (not selling) limits the “problem of rebalancing ‘safe’ fixed-income money into equities. If we get a 1929 or Japan situation, you could end up rebalancing over and over into poverty. Effectively ‘flushing’ your safe money into risk that keeps showing up. My solution was ... Never sell fixed income to buy equities. ... never sell (non tax-sheltered) appreciated equities to rebalance into fixed income. My thinking was that if appreciated stocks become ‘less appreciated’, hopefully it's temporary. But money paid in capital gains taxes is dead forever. ... let capital gains compound over a lifetime ... avoiding tax drag.”

<https://www.bogleheads.org/forum/viewtopic.php?f=10&t=373060&newpost=6575657>]

• Understand that regular savings and dollar cost averaging (continuing periodic investment) automatically reduces risk by decreasing the duration of the securities.

[The idea behind "duration" is that this is equivalent to how long it takes to get your money recycled into the current market, i.e., reinvested at the then current price or yield, taking into account that (except for zero coupon bonds) you will receive interest payments before a bond matures. A duration of d years implies that if interest rates go up 1%, the market value of the bond will decrease by d%.]

"For high-quality bond holdings, you could expect them to lose the amount of their durations, less their yields, in a one-year period in which interest rates trended up by one percentage point."

<https://www.morningstar.com/articles/869838/retiree-dos-and-donts-in-a-risingrate-environment.html>

• Bonds earn less but are essential to diversity and stabilize the portfolio (to reduce both income and principal variability).

[Once you have financial independence, your goal likely is to retain principal and income (after taxes and inflation) sufficient to not to lose this independence, and is not to maximize returns, so it becomes prudent to take less risk.]

• "For any two portfolios with a roughly equivalent average return, the one with lower variance will generate the higher terminal wealth."

• Rising interest rates and high inflation will devastate long term bonds (but gradually rising interest rates let you make more as you reinvest over time at higher interest rates, and benefit you if your return exceeds inflation).

• Real estate prices can crash too [in 1920's Florida, and 1980's Japan, for example; the land of the Imperial Palace in Tokyo had a higher price than all the land in whole state of California; U.S. 2008 housing bubble].

• Cash (including very short term bonds) has the lowest short term principal risk and the highest short term income risk (short term interest rates can drop >98% – as they did at the beginning of the 21st century), but (because the rewards for holding cash are the least) the highest very long term risk (failure to keep up with inflation after taxes).

• To beat the market, you not only have to be correct, but you *also* have to have knowledge that others don't and act on it before they do. [You won't beat the pro's at their game; the secret is the pro's can't win their game either, they get rich by having you pay them to try and fail – they win, you lose – so own the whole market and don't pay the pro's or play their game.]

• Ultra low cost can mean 0.03%-0.09% annual expense ratio (inexpensive is no more than 0.10% for US, 0.20% foreign, and 0.30% emerging markets; an average mutual fund might be 1.3% (actually much more, due to the hidden costs of trading fees and stock price spreads between bid and asked, that are not reported in mutual fund prospectuses and annual reports, but which capitalization weighted index funds avoid by just doing nothing); a typical expensive fund might charge 2.35%, thirty-three times as much!; A shark can even easily get a naive investor to overpay by 100x which will eat up all of the lifetime earnings and much of the principal – this happens routinely if someone walks into a full service brokerage or advisory service and says "please invest this for me" and is also commonly self inflicted by day trading or speculation in options or futures.)

• Great innovative companies tend to be overpriced (rapidly growing "growth stocks"), so, unfortunately, terrible and/or out-of-favor companies ("value stocks") which are cheap (otherwise why would anyone invest in them) are typically better investments. [It would be much better if innovators were properly compensated for improving the world, but the world does not currently work this way, and typically the pioneers who take the largest risks, even when successful, often don't do as well as the people that later follow, suppliers, marketers, copycats, thieves, etc.] Small growth companies are the most intuitive and glamorous to own (and enormously exciting & fun to work at!) and hence on average tend to be the worst investments (notwithstanding the ~1% chance of a huge jackpot). There is historical evidence that value stocks and small stocks may have better long term returns than growth stocks and large stocks, although whether this greater return will persist in the future is unclear and controversial, with the likelihood that this may be due to greater riskiness and not a free lunch due to better diversification or investor psychology (human brains are wired so that losses hurt more than gains are pleasurable). ***Since (capitalization weighted) total stock market funds indexes overweight growth and large stocks (which historically have a lower return than value and small cap stocks), it may be reasonable to add Small, Value, and Small Value index funds (or exchange traded funds) to total market index funds to offset this and possibly increase diversification,*** although difficult to accomplish with tax efficiency, low turnover, and low expenses.

[The research of Eugene F. Fama and Kenneth R. French identifies three fundamental factors that explain most of the variation of average stock returns (based on the relation of risk and return): *Equity Market Risk*—Stocks have higher long-term average returns than fixed income bonds. *Company Size* (measured by the market capitalization of equity)—Small company stocks have higher long-term average returns than large company stocks. *Value-Growth* (measured by the ratio of book value of equity to market value of equity)—Value (or high book-to-market) stocks have higher long-term average returns than growth (or low book-to-market) stocks.]

<http://whitecoatinvestor.com/dfa-vs-vanguard/>

- Exchange traded funds are a bit more tax efficient (less in capital gains distributions) than regular mutual funds, but have some disadvantages (brokerage costs to buy and sell; often not practical for dollar cost averaging; bid/ask price spread, premium/discount to net asset value).

Vanguard uniquely combines ETF's and regular mutual funds into the same fund to get tax advantages (reduced capital gains tax for both types of fund shares); Vanguard has a patent on this, so this could become more widely available after the patent expires.

- Extreme tax efficiency and retirement plan investing can mean no tax ever for stocks held for an entire lifetime, or perhaps <5% decades later, deliberately paid when you otherwise would have low income, instead of 15-40% or more soon (or as much as 70-90% in the past, prior to President Ronald Reagan's 1980's tax cuts).

- Estate/Inheritance/GST taxes are a huge gotcha (~50%, repeated for each generation) – let's hope that they eventually away.

(GST = generation skipping transfer tax, an extra estate tax on beneficiaries who are grandchildren, etc., instead of children.)

- Never have a year when you pay nothing in income taxes. Take advantage of a low tax bracket by converting part of a traditional IRA, 401(k), 403(b), or other tax deferred plan to a Roth.

<http://www.marketwatch.com/story/31-rules-for-the-financial-road-ahead-2015-01-03>

- How do free brokerage accounts get paid for: Interest on settlement funds; Payments for order flow; Fees for advisory services; From mutual funds' expense ratios; Lending securities; Margin loans; and, Commissions on more advanced financial products like options.

- By way of perspective, a half century ago, there were no index funds, Vanguard Investments didn't exist, individuals couldn't buy treasury bills (\$1 million minimum then), and there were no money market funds! You needed a newspaper or ticker tape to find out stock prices, there were no discount brokers, no IRA's, no 401(k)'s or 403(b)'s, and most of the investing theory summarized here hadn't been thought of yet. As late as 1986, Vanguard had only one index fund, and it was the only one in the world!

Do's:

- **LIVE BELOW YOUR MEANS and PAY YOURSELF FIRST**

- **AUTOMATICALLY SAVE 20%–50%** of income each month (depending on how rapidly you want to reach financial independence); do this painlessly by not changing your lifestyle and expenses for several years near the start of your career as your income rises; adopting a very high savings rate early in your career while your earnings are high will compensate for a shortened career (this is routine for actresses, and sports professionals, but can occur unexpectedly due to illness, disability, career setbacks, child rearing, or disruptive changes in the nature of your employment.)

- **REINVEST DIVIDENDS**

- **DOLLAR COST AVERAGE** (make asset changes gradually)

- **DIVERSIFY** by allocating assets among U.S. stocks and foreign stocks (Europe, Asia, and emerging markets), bonds (either short term, held to maturity, or stable value retirement funds), and some real estate.

- The fixed **ASSET ALLOCATION** percentages that you choose should reflect a trade off between price volatility and likely rate of return.

- At least six months to a year in cash (money market funds or treasury bills) for emergencies.

- Stocks earn the most, but are for the very long term; money needed in less than five years must have guaranteed value (cash or bonds maturing when it will be needed).

- **ULTRA LOW EXPENSE PASSIVE INVESTING** (expenses for stocks ~0.10%/year to own the whole market using index funds; Treasury bonds available at no expense to buy and hold).

- Contribute maximum amount allowed to **TAX DEFERRED ACCOUNTS** (IRA's, 401k, 403b, Health Savings Account, 529 College Savings Plan; prefer pre-tax or deductible contributions in years when you are in a high tax bracket) which hold **BONDS**, shifting funds to Roth IRA's (and

paying the deferred tax) in years when you are in a very low tax bracket to get future tax free income. [Also maximize “after tax” retirement plan investing, if available, which can be an obscure option that is ignored by almost all employees, and very difficult to find out about without persistent inquiry with senior human resources personnel.]

5 • **BUY AND HOLD *STOCK* INDEX FUNDS in *TAXABLE* ACCOUNTS.**

10 • Periodically attempt to rebalance toward the fixed asset allocation percentages (in order to buy low and sell high while keeping risk constant) by directing new savings and earnings [interest, dividends, capital gain distributions] to assets with percentages below their asset allocation targets – but avoid causing unnecessary extra taxes. Put another way, you should redirect your automatic investing (with your new savings and any unavoidable dividend and capital gain distributions from existing taxable investments) to buy more of whatever in your target allocation did the worst (by not voluntarily selling anything with unrealized capital gains, this rebalances over time while avoiding unnecessarily paying capital gains taxes).

15 [The combination of rebalancing, reinvesting, and dollar cost averaging over time (either after a lump sum is received, or due to ongoing periodic savings or spending) can best be accomplished by a method called “value averaging” (see the book by that title).]

20 • When they have attractive interest rates, take advantage of guaranteed (“stable value”) investments (such as TIAA traditional, Savings Bonds (EE or I), or the Thrift Savings Plan’s G Fund for Federal Government employees) where a credit worthy institution eliminates your exposure to principal risk (losing money when interest rates rise) that otherwise would be present with a similar bond or bond fund.

25 • INSURE – health, individually purchased “own occupation” specific specialty DISABILITY insurance that is “non-cancellable” to age 65 (locks in premium costs) with cost-of-living rider, “guaranteed renewable and convertible annual renewable term life insurance” only to replace income needed by dependents [~25x annual living expenses needed for survivor], auto, all risk HO-5 replacement cost coverage homeowners insurance with earthquake, sink hole, and flood coverage, umbrella liability, and maybe some precious metals as insurance against the possibility that people will eventually take notice that the U.S. dollar literally is no longer a promise of anything.

30 • For liability protection your businesses should be corporations or LLC’s, with each business function, location, etc. a separate legal entity, you should never be a general partner, **never guarantee a business loan** with personal assets (if you are pressured for a personal guarantee, this is an alarm bell telling you to completely avoid a dangerous bad deal.

35 • Retirement plans shield assets from liability (varies by State), which is another reason beside saving taxes to contribute to the maximum allowed by law.

• When markets are down and you have a paper loss, realize capital losses – replace with a similar but legally non-identical investment to reduce same year or future year capital gains taxes.

40 • “Act as if every broker, insurance salesman, mutual fund salesman and financial advisor you encounter is a hardened criminal.” – William J. Bernstein

Don't:

45 • *Don't:* Have an expensive lifestyle that requires two incomes with no interruptions to prevent bankruptcy.

• *Don't:* Waste a lot of time on investing (except as a hobby that you enjoy).

• *Don't:* Buy and sell investments (you need to hold them essentially forever, while doing nothing).

If you let your emotions cause you to buy and sell like almost all investors do, you will buy high and sell low.

50 “In the decade ended 2015, [average mutual fund] investors managed to underperform the average [mutual] fund’s return by an average of 2.5 percentage points annually!” Also see, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=544142

• *Don't:* Forget to enjoy life, or think that it is a trial run.

• *Don't:* Have dozens of redundant investments, or a large number of accounts.

• *Don't:* Buy illiquid investments that you can’t easily sell whenever you want for full value.

55 • *Don't:* Buy any private investment, i.e., that is not publicly traded. *Being asked to sign documents that you are a qualified investor, have sufficient net worth, or that you have read the*

prospectus are tip offs that the investment is not publicly traded and should be avoided like the plague.

- *Don't*: Pay any sales commissions. [Commissions are only needed for terrible products that are hard to sell.]

- *Don't*: Pay someone to hold your hand and pick your pocket.

- *Don't*: Fail to reinvest and rebalance. [But use fund distributions reinvested into another fund, plus choosing where to invest new money to accomplish tax efficient rebalancing. Some, like John Bogle himself, say you don't really need to rebalance.] (Caution: You don't get the huge compounding effect if you take dividends in cash instead of reinvesting them in more shares.)

- *Don't*: Panic and sell just because the price or total value of a stock or mutual fund seems wrong – there was likely a recent dividend (“ex-dividend date”) that isn't yet fully processed by the brokerage accounting system, or there has been a stock split.

- *Don't*: Invest in funds of funds that automatically rebalance (such as “target date” funds or “retirement” date funds) except in a tax deferred account, or you will be hit periodically with surprise huge capital gains taxes.

- *Don't*: Invest in Fidelity ZERO funds in taxable accounts because the “ZERO” funds, unlike regular Fidelity Index Funds, can't be transferred to any other brokerage, and selling would trigger capital gains taxes.

- *Don't*: Underestimate how powerful fear and greed are and allow yourself to make big changes in investments quickly.

- *Don't*: Make the critical investor errors of thinking of the unlikely as impossible, the likely as certain, or that things that have never happened before cannot happen.

- *Don't*: Attempt to fund the early part of retirement by selling stocks during a bear market, as you'll rapidly go broke. [*This is called “sequence of return risk.”*]

- *Don't*: Buy stocks if you would care if the stock markets were closed for ten years.

- *Don't*: Buy during a bubble or otherwise follow the crowd and do the popular fad.

- *Don't*: Abandon your asset allocation plan and sell your stocks when you are chronically stressed especially after a market crash without first measuring your serum cortisol levels, because elevated steroid levels cause a large physiologic increase in risk aversion that impairs financial judgment.

- *Don't* rely on bond funds because there is no maturity date – so if interest rates rise you can't (as you can with an individual bond) just wait for the bond to mature to get your full principal back (to make yourself feel better about the price fluctuation).

(Of course, if you own the bond fund that fell in value, you can sell it right after the interest rates rose and still buy the portfolio of individual bonds some say you should have owned to begin with (which also fell in value!). Then, if you really want, you can still hold these individual bonds to maturity and get your irrelevant nominal dollars back. —Jonathan Clements quoting Cliff Asness)

- *Don't*: Buy TIPS in a taxable account (complicates taxes, including taxation on income you haven't yet received)

- *Don't*: Buy mutual funds intended for purchasers outside the United States, because this creates a tax reporting nightmare

- *Don't*: Create a tax reporting nightmare by using “direct indexing” (instead of using index mutual funds or ETF's) where, for example, buying the S&P 500 index by “direct indexing” means that you have 500 stocks to report on your tax return when you sell, and monthly brokerage statements showing each of the 500 stocks.

- *Don't*: Take any financial position that could “blow up” under very unusual circumstances (i.e., go bust and not allow recovery when highly abnormal conditions abate). This is critical because market pricing is not normally distributed, rather it has fat tails (for example, the 1987 crash was a 19 sigma event that could “never happen”), so the few best and worst days result in unexpectedly huge changes that dominate long term investment returns. Any position that can't survive such rare days will eventually wipe you out (especially if you have a Nobel prize in economics and actually start to believe in your mathematical models – a reference to the “Long Term Capital Management” company that spectacularly went broke). As an example, an index is much less likely to go to \$0 forever than an individual stock. Derivatives often don't behave as expected in

even mildly extreme circumstances causing the smartest people to make a multibillion dollar oops (or nations to make a multitrillion dollars oops)!

- *Don't*: Buy any “investment” that is presented as “secret” or that is not sufficiently transparent as to be easy to evaluate its worth and legitimacy.

- *Don't*: Rely on who is already investing (whether a trusted friend, family member, affinity via a church social group, or famous person) as a reason to trust the legitimacy of an investment or to believe that it is not a scam or Ponzi scheme.

- *Don't*: Believe that you have the knowledge or skill to beat the world's most talented investors who are your adversaries if you try to trade.

- *Don't*: Misuse trustee powers to override the wishes/preferences of a mentally incompetent trust grantor when you know that those wishes/preferences are consistent with what that grantor would have wanted/done while competent.

- *Don't*: Have credit card debt (must pay off credit cards in full every month automatically).

- *Don't*: Pay attention to the financial news, TV market coverage, "expert's" predictions, celebrity endorsements, or what your broker wants to sell you.

- *Don't*: Believe that you or anyone else knows the future.

- *Don't*: Buy anything complicated or that you don't completely understand.

[Repeat as needed - "I will not sign anything I don't understand."]

- *Don't*: Buy anything that you can't sell for the same price that it costs to buy.

- *Don't*: Pick individual stocks

(except perhaps rarely and in moderation as a hobby, but only when you are convinced that your judgment about that company's extremely favorable long term prospects both *disagrees* with the prevailing views (causing the stock to be severely underpriced) and is correct). Remember that just like point spreads in sports betting, you can win when betting on stock prices only when you are correct about the prospects and the experts that you are betting against are dead wrong; being correct when you agree with the experts is not enough.

Rekenthaler's Rule: "If the bozos know about it, it doesn't work any more."

- *Don't*: Ever let the same person or institution both hold your assets and have the power to invest or distribute them (for example, a mutual fund can't steal the investments because its third party custodian bank holds them). A self-custodian advisor or self clearing advisor can easily steal the money and give you fake account statements (like the infamous Charles Ponzi, Bernie Madoff, or Ken Starr). You need transparency with independently audited third party accounting and an independent custodian holding the assets.

- *Don't*: Ever make fraud easy by giving power of attorney or trading authorization to a financial advisor.

- *Don't*: Ever believe that the reputation of the advisor gives any protection against fraud.

- *Don't*: Ever make unregulated private investments. You must actually know where the money is and be able to see for yourself what they are doing with it.

- *Don't*: Use mathematical models to decide how to invest because market returns are *not normally distributed* (the October 1987 crash was supposed to be impossible) and *correlation coefficients vary greatly over time* and converge in crashes; so history is no guide and Efficient Frontier "mean-variance optimizer," etc., mathematical models should never be used to construct portfolios. (The math is only useful for conceptualizing how markets might operate.)

A couple of Nobel laureates in economics trusted their formulas and forgot that you have to be able to stay in the game for predictions to even have a chance and had a \$3.5 billion investment oops (probably the biggest such financial crisis in history at the time) using \$125 billion of borrowed money controlling \$1.25 trillion that almost brought down the worldwide financial system in 1998 with their "Long-Term Capital Management" hedge fund, before the Federal Reserve arranged a rescue in which investors lost 90%.

http://www.erisk.com/Learning/CaseStudies/ref_case_ltcmm.asp

More don'ts:

- *Don't* ever use a debit card to pay for anything. Legal fraud protections are much better for credit cards, with \$0 liability limit for a stolen credit card number, and a \$50 liability limit for a stolen actual card. Even safer, use a virtualized credit card number. If you fail to notify about a stolen debit card number, you have \$500 liability after two days, and after 60 days, you have **unlimited liability**.

- *Don't*: Buying things on credit. ***"If you can't pay for it cash, then you can't afford it."***

- *Don't*: Full Service Brokerage, or "private banking." (expensive and with lots of conflicts of interest)

- *Don't*: Load Funds, Contingent deferred sales charges, Class A, Class B, or Class C shares, or 12b(1) fees.
- *Don't*: Bonds that can be “called” prior to maturity, so as interest rates vary, you get to keep your bonds only if they are a bad deal (lower than current interest rates), and they go away if they become a good deal for you (you get your money back to reinvest as soon as your bonds are paying more than currently available interest rates).
- *Don't*: Short sales, investing on margin, futures, or options
(all of which can quickly lose more than 100% of the investment and involve events or deadlines that end the game, so that it no longer matters whether your reasoning was ultimately correct).
- *Don't*: Exchange traded notes (ETN's) where you are only a creditor of the issuing company – [which are unlike Exchange traded funds (ETF's) which are fine to invest in because they are just mutual funds bought and sold as stock where you own the underlying investment; Vanguard has a patent on mutual funds that are sold both as a mutual fund or as an ETF which combination has the advantage of reducing capital gain taxes].
- *Don't*: Equity index annuities
- *Don't*: “Structured products” such as “crashproof retirement” that are staggeringly overpriced complex illiquid investments (which can include index options repackaged by an insurance company), sold by commissioned sales people (often with high pressure or creating a sense of urgency), highly profitable to the issuer (although perhaps risky for the issuer if risks are not correctly hedged), subject to issuer default risk, that use complexity to hide costs and fool naïve investors about expected returns. They typically make claims based on best case, and mislead, for example, by promising “no loss of [nominal] principal” (which is false in real terms), and where the customer perhaps may get a smaller positive index based return over the locked-in period of time, while hiding that the issuer keeps all the income, often using an unsophisticated customer’s behavioral mistakes, such as their overestimating the risk of an imminent crash by an order of magnitude (often at a “free” dinner, vacation, or “seminar” to make the sucker feel obligated) to get them to pay a hidden 4%-8% load.
- *Don't*: Tax reporting nightmares such as Master Limited Partnerships (a tax and hugely expensive tax form nightmare even when in an IRA), or mutual funds not based in the U.S. and intended to be sold to investors in another country
- *Don't*: Standing "stop" orders.
- *Don't*: Buying or selling on days while the market is chaotic, especially using "market" orders.
- *Don't*: Active management.
- *Don't*: Fail to check reputation and credit worthiness.
- *Don't*: Never negotiate with a sales person because that leads to you buying something. Sales people are trained con artists who surprisingly can manipulate almost anyone into buying what they don’t want to buy. They really only care about making a sale. They don't actually like you or care about you. How not to be suckered: You should feel no obligation to please them. If you're not buying, just say "I'm not buying" and stop. Never give reasons, never make excuses, never try to justify your decision. That just gives them something to work with. Never allow a sales person to ask you a series of questions that force you to respond with a "yes." Do not make excuses or explain. When you say no, NEVER, ever give the reason why you are saying no. They are experts (and there are courses) in overcoming objections. If you don't tell them what the objections are, it's much harder. Always take the attitude, it's my money, I don't owe them a reason. Just say "I don't want it." Salespeople rely on expectations of politeness. You must be rude and cut off the conversation. Walk away or hang up. Use your feet! You don't have to say anything if you don't want to; just walk right out of the store, bank, etc. Never agree to listen or allow yourself to hear the sales pitch. Never accept “gifts” such as a meal or vacation to hear a sales pitch. Never make a buying decision in the presence of a sales person. Leave and think about it. Don’t get suckered by limited time “great deals.” Wait until you have had a chance to research prices online so you actually know what price is a “bargain” and what price is an overcharge. Wait a day before finalizing impulse purchases that you did not plan to make in advance. Do not sign any paperwork before you take it home and think about it.
<http://www.bogleheads.org/forum/viewtopic.php?f=11&t=132623&newpost=2083166>
- *Don't*: Loan sharks, casino, online, or other gambling, lotteries, illicit drugs (all highly addictive and self destructive; included on this list to emphasize that other items on the don'ts list

can similarly accomplish varying degrees of appallingly bad results with just a click to buy on a brokerage website, saying "OK" to a broker, or with a careless signature).

- *Don't*: Index funds or exchange traded funds (ETF's) based on high turnover indexes (like the Russell 2000, or an equal weighted or "fundamental" index).

The S&P 500 index also isn't that great because it omits small stocks, and its composition is selected by committee vote (so not really fully passive).

- *Don't*: Long term bonds (longer than you are prepared to wait for maturity) – unnecessary interest rate risk. [but guaranteed “stable value” funds only available in retirement plans (such as TIAA Traditional, and the Thrift Savings Plan “G” fund), as well as I-Bonds, redeemable bank CD's, very short-term brokerage CD's, and bank accounts don't have the interest rate risk of bond funds.]

But note the contrary view by Harry Browne that a 25% asset allocation to long term U.S. Treasury bonds (all >20 year to maturity) is essential as a diversifier, as bond prices will rise dramatically during a deflationary depression.

- *Don't*: Individual bonds as secondary issues purchased from a broker, dealer, or bank (large hidden spread + markup).

- *Don't*: Exchange traded notes (ETN's) because they are only unsecured obligations of the issuer, not a basket of securities.

- *Don't*: “Unallocated” precious metals because they are only unsecured obligations of the issuer (only a promise), and “Unallocated” means that you don't actually own any gold, or silver, etc.

- *Don't*: Pretend “Stocks” that are not direct ownership of the company.

For example the Chinese auction company Alibaba, the largest IPO in history and the largest emerging markets company in market value as of 2014, is a pretend “stock” (the actual company stock is illegal for a non-Chinese citizen to own under Chinese law), so the Alibaba “stock” is this complicated weird Caiman Islands fabrication that isn't actual ownership of the company, and something that the Chinese government could simply repudiate at their whim; for this reason it is not included in emerging markets index mutual funds.

- *Don't*: Forget to consider the effect of expenses, taxes, and inflation.

- *Don't*: Take on so much risk that you will panic and sell when markets crash, or give up if it takes years to win (stocks can drop 25% in one day, or go down 90% for many years – I have experienced both! DON'T PANIC! DO NOTHING! Be very patient for years and “stay the course”).

- *Don't*: High turnover (triggers taxes and loses money to trading costs, bid/ask spreads, and poor pricing).

- *Don't*: Trading/churning, which is just gambling (the average return is a loss; the house always wins its cut each time [a fixed or probabilistic percentage] and can keep going forever, while if you keep gambling long enough, you eventually always will be forced out of the game when you go broke).

- *Don't*: Wrap fee account, assets under management (“AUM”), ‘Wealth management,’ or Advisors.

- *Don't*: High yield/low grade/junk bonds, Corporate bonds, foreign bonds, emerging market bonds, asset backed securities (GNMA's, CMO's, CDO's etc., i.e. anything with "tranches"), hybrid securities (preferred stock, convertible bonds), municipal bonds, raw land – these have excessive risk for which you are not adequately compensated, unfavorable credit risk, call provisions, asymmetric risk, unwanted equity risk, etc.

- *Don't*: Buy what's hot (instead of letting rebalancing automatically sell).

- *Don't*: Sell when the price drops (instead of letting rebalancing automatically buy).

- *Don't*: ‘Direct indexing’ where you ignore the simplicity of available index mutual funds and instead create your own personal index with a large number of stocks, which will be a complicated accounting and tax reporting big waste of time and effort.

- *Don't*: Toxic Waste: Load funds, Actively managed mutual funds, 12b-1 fees, High expense ratio's, Wrap accounts, Advisor fees, Assets under management (AUM) percentage fees, Options, Futures, Bonds that can be called, Limited Partnerships as investments, Master Limited Partnerships, Private Placements, Private Equity, Non-traded REITs, Timeshare vacation condominiums, Separately Managed Accounts, Direct Indexing (that creates a tax nightmare), Cryptocurrencies, Non-fungible tokens (NFT), Tranches, Venture Capital, Tax shelters, Alternative Investments, Hedge funds, special opportunities only for high net worth clients, mutual funds intended for purchase outside the United States (tax reporting nightmare for U.S. taxpayer), foreign currencies, commodities, foreign trusts, investment limited partnerships,

IPO's, Special Purpose Acquisition Companies (SPACs), junk bonds, diamonds (which are almost impossible to sell, and jewelers won't buy, maybe worth only 10-20% of what you paid), second home, real estate timeshares, free gifts, free investment lunches or trips, "permanent" insurance (except in an irrevocable trust to pay estate tax), whole life, universal life, or variable life insurance, equity-indexed annuities or CD's, "crashproof investments," annuities with withdrawal penalties, complicated insurance or annuity contracts, loads, or high fees (especially egregious when sold inside already tax deferred IRA's or retirement accounts), or anything else sold by a broker, agent, principal, or "investment advisor." [Caution: These bad products are sold by crooks, but also offered by the likes of brokerages, banks, and insurance companies, etc., so don't fall for their sales pitches!]

Also avoid being fleeced by being sold investments "for high net worth individuals" including alternative investments, private market investments, luxury vehicle finance, commercial real estate, fine art (with the many forgeries), rare coins, and legal finance.

- *Don't*: Adjustable rate mortgage or interest only mortgage.

- *Don't*: Insurance as an investment.

- *Don't*: Leased or new car that loses much of its value the day you drive it off the auto dealer's lot (buy a significantly less expensive than new, 2-3 year old low mileage used car that hasn't been in an accident, and drive it until it falls apart).

- *Don't*: Co-sign a loan, or expect that a loan to a friend or family member will ever be repaid, or that the personal relationship won't be destroyed.

- *Don't*: Ever become a general partner, responsible for the debts and liability created by mishaps or by other partners.

- *Don't*: Think you are adequately covered by employer provided health, disability, or life insurance that is automatically cancelled when you get too sick to continue working.

- *Don't*: Put more than a third of your assets with any one financial firm, so a computer problem, security breach, terrorist act, WMD attack, cyber attack, electro-magnetic pulse (EMP), or brokerage collapse creates a personal crisis. [It also helps to use financial institutions that are "too big to fail" because there are too many investors affected for failure to be politically acceptable: Vanguard \$7.2 trillion Assets under management, founded 1975; Schwab \$8.1 trillion, since 1971; Fidelity \$4.5 trillion, founded in 1946; Bank of America (Merrill Lynch) \$3.1 trillion, since 1906 (1914); TIAA \$1.3 trillion, founded 1918 (assets as of 2022).]

- *Don't*: Exceed FDIC limits at a bank; NCUA limits at a Credit Union; or SIPC plus additional insurance coverage at a brokerage.

- *Don't*: Believe that SIPC has government backing or enough assets to bail out a too-big-to-fail brokerage.

- *Don't*: Forget that you need to select the low cost good deals because 99% of mutual funds and other financial products are designed to make Wall Street rich and are so horrendously expensive that you can easily lose 50-100%+ of your potential investment gains.

- *Don't*: Hide your investments, so that there is nobody you trust (whether a family member, accountant, or attorney) that could see your account statements and warn and protect you if you are falling prey to a scam, or in cognitive decline, or that your family could not find after a death.

- *Don't*: Conceal a theft or loss because of embarrassment.

Caution:

- Ignoring this advice is *extremely* costly — the average mutual fund investor actually earned only 24% of the return available from buy and hold stock market index fund investing!

[See: "The Relentless Rules of Humble Arithmetic" by John Bogle.] http://www.vanguard.com/bogle_site/sp20060101.htm

- Prices revert to the mean, so the "best" performing stocks, mutual funds, etc. this year (that consequently are the subject of advertising and magazine articles, and the five star Morningstar ratings), are likely to be the worst performing in the next few years. (Maybe)

- Conventional wisdom is that the longer the time horizon, the less the risk because the standard deviation of annual return decreases, so 70% stock/30% bonds is sensible when young, the reverse when old. But a careful worst case analysis shows that the conventional view uses a dangerously misleading measure of risk because compounding over time magnifies the

uncertainty of total return and so **the risk of a disastrous loss actually increases with time**. So there is a very real and growing risk of losing money in the stock market over decades of investing, i.e., "even over a very long 40 year time horizon, we still have about a 1 in 10 chance of ending up with less money than if we had put it in the bank!"

<http://danluu.com/norstad/risk-time/> [Note: If any of these links are broken, use Archive.org to see the now missing website.]

[The counter argument about time diversification is that it does work because: "Repeating the wager does, in fact, increase the potential loss, but at an arithmetic rate ($n+n+n\dots$), while the probability of a worst-case loss declines at a geometric rate ($n*n*n\dots$). Geometric rates overwhelm arithmetic rates very quickly."] <http://news.morningstar.com/articlenet/article.aspx?id=713664>

- During crises, booms, and depressions, asset correlations can increase, so be prepared for stocks, bonds, and real estate to all drop together for a time; that's another reason why you need some cash as an emergency reserve, i.e., so that you aren't forced to sell at the bottom. [Don't panic! – even if it takes 10-20 years for prices to recover. Investment gains may be sudden, and the biggest are often after the crash. If you are out of the markets for a critical few days out of a century, you will have lost all the extra long term reward for taking on the short term risk.]

- After tax variable annuities are not currently recommended *except* no load variable annuities for very long term fixed income or REIT investing (only for withdrawal after age 59 1/2) *after* you have maxed out all IRA and tax deferred retirement plans (*most* annuities are too expensive to be worthwhile being extremely overpriced, and lock you into a bad deal); but the few inexpensive no load variable annuities were useful for delaying income taxes which previously were 70% (marginal federal tax rate). (To decide, see the annuity vs. taxable account calculations in the book "Integrating Investments and the Tax Code" by William Reichenstein and William W. Jennings.)

- Because most investors don't stay the course, they instead buy high, and sell low. [Investors as a group – because of this bad timing, and because they waste money on unnecessary expense – do dramatically worse than the assets that they invest in!]

- Staying the course during a market crash is imperative but scarier than you can know [learning history isn't the same as experiencing – be prepared for the much stronger emotional aspect of the real thing; studying panics and crashes while the best preparation, is a lot like a pilot preparing for a plane crash with a flight simulator, or a virgin reading about intimacy.] Experiencing the unpleasantness of periodic rebalancing during market downturns is the best practice.

- As Warren Buffett's said: "If rates were 1%, and we knew they'd stay at 1%, stocks should be at fair value around a PE of 100. If you'd sold on a PE 50, because that was historic bubble territory, you might have sold the only chance to make a positive real return in that particular era. People took positions on persistent deflation, post Global Financial Crisis, etc. but it was never clear, and still isn't. This time might be completely different. Stocks underperformed bonds for over 70 years in the 19th century. The 20th century was pretty different." – Logan Roy

- "While each crisis the markets face is different in some way, those that follow the principles of prudent investing can minimize the risks of catastrophic losses. Those rules include: Avoiding taking more risk than one has the ability, willingness and need to take by ensuring that you have sufficient fixed-income assets. Limiting the fixed-income portion of the portfolio to the highest investment-grade securities [and that are traded frequently]. Ensuring that you maintain sufficient liquidity so that you are not forced to sell risky assets into an illiquid market. Avoiding confusing the familiar with the safe. Never mistake the unlikely for the impossible and the likely for the certain. Avoiding having too many eggs in one basket, especially if that basket includes your labor capital. The bottom line is that those investors that follow these rules, and build financial crisis into their plans by anticipating them, are far more likely to survive them in good shape." – Larry Swedroe

INCREDIBLY GOOD DEAL ALERT!!!:

RETIREMENT PLAN INVESTMENT EARNINGS ARE NOT TAXED, EVER!!!

- Please understand the following critical information that is almost universally misunderstood – it is why "qualified" retirement plans are the best income tax deal ever – and why it is ESSENTIAL to max out all qualified retirement plan contributions to every type of plan that you are allowed to use, every year (if possible, at the beginning of the year), and to keep the money in the plans for as long as is allowed. (Note that Roth plans don't have required minimum distributions so are better at letting you delay withdrawals to the next generation; Roth plans also allow higher effective plan contribution amounts because the contribution limits are

not tax adjusted, which possibly could be worth more than the possibility of later doing a Roth conversion at a lower marginal tax rate.) By comparison, after-tax annuities are non-qualified, so they only defer income taxes.

• Qualified retirements plans **DO NOT TAX** investment earnings, **EVER!** *Entirely tax free investing!!!* The only income tax is the delayed tax on the original salary that went into the retirement account untaxed -- NOT on the investment returns on that money. WHEN that original income tax is paid is the difference between the types of plans: With Roth plans and non-deductible traditional IRA's the income tax on the original salary is paid immediately; with a Roth conversion, the tax on the original salary is paid when you choose (i.e., when you decide that your taxes rates will never be lower); with a traditional plan (whether an IRA, 401k or 403b, etc.) the tax on the original salary is paid upon withdrawal. NEVER on the investment earnings! If your tax rate is constant over the years, when the tax is paid makes *no difference* – same exact end result to the penny. If your tax rate varies over the years, you should prefer to pay the tax (by a Roth conversion) when your tax rate is the lowest. (The confusion occurs because if you hold the government's tax money in the retirement account to pay it later, whatever earnings occur on the government's share go to the government. That's what makes people think incorrectly that they will be paying tax on the earnings on THEIR share of the money. Not true.) Even better: If you have an employer match or get taxed later in a lower bracket, your effective tax rate is actually negative (you get an additional bonus for agreeing to pay no taxes)!

Inconsistencies:

• You want a *capitalization weighted passive index*. Try to avoid “indexes” which instead of being maintained by a computer, have a committee sitting around deciding what companies to include and exclude from the “index” as this can tend toward becoming an actively managed “index” where the experts use their “knowledge” to undermine the advantage of passive investing and reduce return with their meddling. The most famous index, the S&P 500 has this problem of a committee picking what companies to include. The Russell index is regarded as poorly constructed. Humans are very risk averse, so excluding the “bad” (“value”) companies tends to exclude the stocks which will make the most money.

• Total market capitalization weighted indexing and rebalancing appear to be contradictory ideas, both of which are being advocated (actually, buy and hold at the small scale to minimize costs, but occasionally adjusting amounts of large groups of stocks as pricing varies, perhaps funded by using earnings and new investments to minimize trading costs and taxes). Total market index funds are capitalization weighted, so they don't rebalance internally, i.e., during a tech stock bubble the total index has increasing amounts of overpriced tech stocks. (A capitalization weighted index keeps representing the entire market that requires no buying and selling as stock prices change – mutual funds based on them are inexpensive precisely because they don't rebalance. [But companies keep changing – mergers, spinoffs, going private, going public, etc., so it takes considerable fund manager work to match the updated “passive” index, which causes portfolio turnover, about 10% yearly for a passive index fund,] There are differently constructed indexes that do rebalancing internally (such as in equal weighted index funds), but the constant buying and selling to do this as stock prices change is much too expensive and tax inefficient to tolerate in a mutual fund.) You can do some rebalancing if you buy the total index in more pieces, i.e., instead of owning the world in one or two pieces, i.e, total U.S. market and total foreign market, you can own the world in five pieces, U.S. large cap, U.S. small cap, Europe, Asia, and Emerging Markets which you hold in fixed percentages that you rebalance. But, slicing and dicing this way costs extra in taxes on realized capital gains, and in the fund trading expenses due, for example, to turnover as individual stocks become larger or smaller and must be sold from the U.S. large cap index fund and bought in the U.S. small cap index fund, or the reverse.

• The second inconsistency is that different asset classes are held in ratio's determined by the risk vs. reward tradeoff, not by market capitalization, so for example, when you split a total market index into components you often chose a 50%–50% ratio of the parts, rather than the capitalization weighting of the parts found in the total market index.

• A third inconsistency is allowing exponential growth with stocks vs. controlling risk with fixed income investments, i.e., that dividend reinvestment so that stocks can grow quickly and

exponentially is essential to maximizing wealth, but where do you get the extra money for matching (slower growing) fixed income investments to keep constant your chosen asset allocation ratio between fast growing stocks and slower growing fixed income investments?

• A fourth inconsistency is that financial bubbles are sometimes so obvious (silver at \$50/oz, Japanese stock index at 40,000, dot com stocks at the end of the 1990's, housing prices in many U.S. cities in 2005, tulip bulbs) that it's totally clear at the time you should definitely not be holding that obviously ridiculously overpriced asset, yet supposedly you can't add value by predicting the future. Nobel Prize winner, Merton Miller, is correct that investors should not "delude themselves into thinking they know something the market doesn't", except to act on the very rare instances (only several times during an investing lifetime) when you actually do confidently know that the consensus is seriously wrong.

• Not generally appreciated is the investor mistake of believing, based on the above wisdom, that successful investing in individual stocks is never feasible. Stock investing is like sports betting, in that you can't win by betting on the better team because the point spread compensates for the difference in teams, just as the stock price compensates for the differences between companies, incorporating all of the collective wisdom. The investor mistake, which, for example, permeates the Bogleheads' discussions, is failure to realize that very rarely, you actually might know that the general wisdom is obviously wrong. This only occurs occasionally, a very few rare times during a lifetime, but it can be an enormous missed opportunity to ignore. For example, in the early 2000's everyone knew that there was nothing special about Apple Computer, Inc. (Michael Dell had said that "I'd shut it [Apple] down and give the money back to the shareholders.") But it should have been obvious that Steve Jobs had developed the UNIX operating system underpinning at NEXT and brought this back to Apple to replace the old Mac operating system with a Mac user interface on top of UNIX and that this was exactly what would be needed for future development of all kinds of computer products (which turned out to be iPod, iPhone, iPad, Apple TV, etc.), and a huge advantage not found at Apple's competitors. Anyone could have bought Apple at approximately 40 cents/share (split adjusted) over about a 10 year span, with subsequent price appreciation over a period of two decades by about 500 times! Put another way, that's a gain of about 50,000% without dividend reinvestment, plus an annual dividend of 200% of the initial investment, so \$10,000 became about \$5,000,000, plus you would receive a dividend exceeding your \$10,000 initial investment every six months! Another example, where the general wisdom was ridiculous, was when there was dramatic selloff in the biotechnology stocks because everyone knew that biotechnology would never result in innovation of new drugs. So buying the leading biotech stocks would have resulted in gains of hundreds of times. Only a couple of times during an investing lifetime, can you be confident that prevailing wisdom is seriously wrong. But, wow, can you hit a home run by acting on those incredibly rare insights, by speculating with a suitably small fraction of your assets that you can afford to lose. YMMV.

• Tech stock boom and bust: Don't confuse the best companies with the best investments. There is a recurrent history of technological innovation, leading to overpriced technology stocks in which people consistently lose money by investing in the latest highly successful advance. It's possible that you might be able to take advantage of this by waiting to dollar cost average into the leading innovative technology companies, but starting only *after* a crash in their overpriced stocks. Don't know if this will be more successful with a small portion of investing than just owning the entire market. Then there is also the problem of how do you decide when to sell those technology stocks to diversify, with the associated capital gains tax cost.

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- "The Millionaire in You: Ten Things You Need to Do Now to Have Money and Time to Enjoy It" by Michael Leboeuf, Ph.D.
- "The Millionaire Next Door: The Surprising Secrets of America's Wealthy" by Thomas J. Stanley and William D. Danko
- "Beyond the Grave: The Right Way and the Wrong Way of Leaving Money To Your Children (and Others)" by Gerald M. Condon and Jeffrey L. Condon, very experienced estate attorneys
- "Asset Protection: Concepts and Strategies for Protecting Your Wealth" by Jay Adkisson and Chris Riser, very experienced litigation attorneys
- "Extraordinary Popular Delusions & the Madness of Crowds" by Charles Mackay, 1841
- The Paul Merriman Financial Education Foundation (<https://paulmerriman.com>)
- Portfolio Rebalancing in Theory and Practice. Vanguard Investment Counseling & Research, 2006.
<http://institutional4.vanguard.com/iip/pdf/ICRRebalancing.pdf>
- The John C. Bogle Center for Financial Literacy (<https://boglecenter.net>) and the Bogleheads (<https://bogleheads.org>).

"The winning strategy is to build a globally diversified portfolio of passively managed funds that reflects your ability, willingness and need to take risk, and then having the discipline to stay the course." —Larry Swedroe

"[Most investors would] be better off in an index fund." —Peter Lynch, famous stock picker, Barron's, p. 15, April 2, 1990

"... the best way to own common stocks is through an index fund ..." —Warren Buffet, Berkshire Hathaway Inc. 1996 Shareholder Letter, 1997

"Most of the mutual fund investments I have are index funds, approximately 75%." —Charles R. Schwab, author, Guide to Financial Independence, p. 90 2000, by the founder of the pioneering discount brokerage firm that bears his name

"An index fund ... is 'self-cleansing.' The failures fall away and the winners can grow endlessly." —*J.L. Collins*

5 "Put 10% of the cash in short-term government bonds and 90% in a very low-cost S&P 500 index fund. (I suggest Vanguard's.)." —*Investment instructions in Warren Buffett's will (written at age 83 years with a net worth of \$66 billion)*

10 "When you buy high and sell low, it is very hard to make money, even if you do it with great enthusiasm." —*David Swenson*

"Never confuse the likely with the certain or the unlikely with the impossible." —*Larry Swedroe*

15 "Always error on the side of safety." —*Harry Browne*

"If you want to lower the volatility of your investment portfolio, don't look at it so often." —*Rick Ferri*

20 "In investing, logic is turned on its head; bad companies are 'good' companies, buying low and selling high is not a workable strategy, selling when you double your money is a stupid move, economic growth isn't related to stock growth save tangentially, time does not diversify risk, diversification across stocks provides a greater than the sum of parts benefit, stocks are safer (less damaging vis-a-vi inflation) than savings after a while and so on, there's a million examples. There is hardly anything intuitive about this, it's the opposite of common sense." —*nisiprius*

"Living below your means is the ultimate financial strategy" —*Jack Brennan*

30 "Only invest what you can afford to lose – as in the investment goes to zero." —*Anonymous*

35 "[Investors need to understand about risk] the importance of being balanced across asset classes and diversified within them. ... 'you're not really diversified unless you own something you're uncomfortable with.' " —*Peter L. Bernstein*

"Success is a lousy teacher. It seduces smart people into thinking they can't lose." —*Bill Gates*

40 "What everyone knows is not worth knowing."

"Knowing and not doing is equivalent to not knowing at all."

45 "In financial markets things always take longer to happen than you would expect, but once they happen, events unfold faster than you expect." —*Rudi Dornbusch*

"I don't know anyone who can time the market, and I don't know anyone who knows anyone that can time the market." —*John Bogle*

50 "One way to deal with uncertainty is to accumulate more capital than the anticipated need might call for." —*Phineas J. Whoopee*

"[Stock prices have reached] what looks like a permanently high plateau." —*Professor Irving Fisher, October 17th, 1929*

"It's much more profitable to sell investing advice than to follow it." —*Malcolm Forbes*

5 "Sell down to your sleeping point" —*J.P. Morgan*

10 "The key [in retirement] is matching your spending to your income. You will be fine as long as your cash flow from interest, dividends, pensions, Social Security, and other income is higher than your spending. Then you have nothing to fear from [a] bear market." —*Rick Ferri*

15 Two fund portfolio: "Deep down, I remain absolutely confident that the vast majority of American families will be well served by owning their equity holding in an all-U.S. stock-market index portfolio and holding their bonds in an all-U.S. bond-market index portfolio." —*Jack Bogle*

20 Two fund portfolio: "My advice could not be more simple: Put 10% of the cash in short-term government bonds and 90% in a very low-cost S&P 500 index fund. (I suggest Vanguard's.) I believe the trust's long-term results from this policy will be superior to those attained by most investors – whether pension funds, institutions or individuals – who employ high-fee managers." —*Warren Buffet*

25 "The Boglehead Philosophy: 1. Develop a workable plan; 2. Invest early and often; 3. Never bear too much or too little risk; 4. Diversify; 5. Never try to time the market; 6. Use index funds when possible; 7. Keep costs low; 8. Minimize taxes; 9. Invest with simplicity; 10. Stay the course." —*Taylor Larimore*
[http://www.bogleheads.org/wiki/Bogleheads®_investment_philosophy](http://www.bogleheads.org/wiki/Bogleheads%20investment_philosophy)

30 Caution: For entertainment and informational purposes only. Not an expert opinion.
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35 Central Pacific Railroad Photographic History Museum
User Agreement: <http://CPRR.org/Museum/legal.html>
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