Personal Finance Principals

Numbers Game We first need to compute a number called your savings rate - this is the a number that describes how much you save relative to how much you bring home. The US average is 3-5% to get perspective on how large this number usually is.

Compute the Savings Rate

1. Let Salary = _____
2. Let Tax_Rate = _____(35% is a good default)
3. Let InvestPW = _____(Weekly Investment)
4. Let InvestPW += 225 if you max your 401k ($18,000 p/y)
5. Let InvestPW += 105 if you max your Roth ($5,500 p/y)
6. Let InvestPw *= 52
7. Let

$$\text{Savings Rate} = \frac{\text{InvestPW}}{\text{Salary} \times (1 - \text{Tax\_Rate})}$$

Computing the Cost of a Free Day

Worst Day Imagine the worst day you have ever had at work. How much would you pay to make this day go away? Your boss wouldn't know. The problem would solve itself and you could come in the next day and everything would just work out. Would you spend $10?. How about $1MM?. Put a number down. _____

Normal Day Same mission as the computation for the Worst Day, but imagine now you are just thinking about a normal day. How much would you pay? Write a number down. _____

Day with your Kids How much would you pay to have an extra day with your kids. Write a number down. _____

Day on Vacation Imagine you could have another day of vacation. How much would you pay to extend vacation for a day? Write a number down. _____

Computing Mystery Number One

Look up your savings rate in the following table and then add your age to the number on the right. For instance, if my savings rate is 3% and I am 25 years old then 76 + 25 = 101. This is your first mystery number. Save this number _____

Savings Rate	M#1
1.00%	99
2.00%	85
3.00%	76
4.00%	70
5.00%	66
7.50%	57
10.00%	51
15.00%	43
20.00%	37
25.00%	32
30.00%	28
40.00%	22
50.00%	17
60.00%	12
70.00%	9
80.00%	6
90.00%	3
100.00%	0

Computing Mystery Number Two

Look up your savings rate along the y-axis. Take your salary and divide it by $100,000. Multiply the number that you lookup by this multiplier. Save this number. For example, if my savings rate was 5% and my salary is $150,000, then I would take $150,000 / $100,000 = 1.5 and multiply this by 5.21 = 7.82 to get my second mystery number.

Savings Rate	M#2
1.00%	1.74
2.00%	3.48
3.00%	5.21
4.00%	6.95
5.00%	8.69
7.50%	13.03
10.00%	17.38
15.00%	26.07
20.00%	34.76
25.00%	43.45
30.00%	52.14
40.00%	69.51
50.00%	86.89
60.00%	104.27
70.00%	121.65
80.00%	139.03
90.00%	156.41
95.00%	165.1

General Principals

Principal G0 : The Principal of Financial Talk Negativity: A financial talk has to be somewhat discouraging and scary. If it is not, the speaker is trying to sell you something

Principal G1 : The Principal of Two Selves: Future you and Current You are actually two separate people with different dreams, ambitions, wants, goals, and feelings

Current You wants nice things. Future You wants different nice things. Freedom is the only thing that ensures that Future You isn't screwed over by Current You, and managing your money correctly is a good way to accomplish freedom

Principal G2 : The Principal of Uncertainty: In finance, often it is not about having the best mouse-trap detector; sometimes it is about having the best helmet

Even if you predict when and how the next downturn will come about, it is next to impossible to predict the magnitude. Your focus in personal finance should be on making money while protecting your downside. You make a good investing career not through hitting home runs but through not striking out.

Tax Principals

Principal T0 : The Principal of Tax Magnitude: Taxes are the single largest expense you will incur over the course of your life

At over 30% of your pay every paycheck for the rest of your life, there isn't even a close second

Principal T1 : The Principal of Marginal Tax Rates: The American System of taxation uses a progressive marginal tax rate

Consult the IRS and state taxes to see how this differs for different marital statuses, states, etc

Principal T2 : The Principal of Multiple Taxes: The American tax system taxes income generally at the federal, state, and local levels and includes regular income tax and FICA taxes

Principal T3 : The Principal of Withholding: The amount of taxes that are taken out of each paycheck are an approximation and your refund at the end of the year is the amount in taxes you overpaid the previous year

Principal T4 : The Principal of Annualized Withholding: The amount of taxes withheld from each paycheck is a function of the annualized value of that paycheck and not on your history of tax payments

Imagine you are paid semi-weekly (every two weeks) and you earn $10,000 that paycheck and $1000 per paycheck after. On your first paycheck, you will be taxed as if you made $10,000 \times 26 = 260,000$ a year, whereas the next paycheck you would be taxed as if you made $1,000 \times 26 = 26,000$ a year

Principal T5 : The Principal of Bonus Taxation: Bonuses are taxed at a rate called the supplemental rate which is different than your income rate

Principal T6 : The Principal of Investment Taxation: Investments are taxed differently than income - use this to your advantage

Income from our occupation is often taxed much higher than investment income

Principal T7 : The Principal of Long Term Capital Gains: If an investment is held for longer than a year, you typically only pay long-term capital gains tax which is very low

Long term capital gains tax in the United States is typically 15%

Principal T8 : The Principal of Tax-advantaged vehicles: Depending on which accounts you invest your assets in, your tax status can greatly change

We will talk about this a lot more in the Retirement Account Principals

Retirement Account Principals

Principal R0 : The Principal of Tax Deferred Accounts: Accounts like your 401k are taxed when you withdraw money and not when you contribute

The assumption is that your tax rate in retirement will be lower than it is currently

Principal R1 : The Principal of Tax-Exempt Accounts: Accounts like your Roth IRA are exempt from taxes when you withdraw the money but are contributed to post-tax

The assumption is that your tax rate in retirement will be higher than it is now

Principal R2 : The Principal of Tax-Advantaged Investing: Tax advantaged accounts grow investment income tax-free for the duration of the vehicle

This means that any interest you receive while you are not retired grows tax free

Principal R3 : The Principal of Penalties: Depending on the account, you may incur a penalty if you withdraw your money early from a tax-advantaged account

Generally, your 401k is subject to a 10% penalty on your principal and interest. You can withdraw your principal penalty free anytime from a Roth IRA but suffer from a penalty if you withdraw the interest early. Exceptions apply for both cases

Emergency Funds

Principal E0 : The Principal of Emergency Funds: Emergency funds are your single largest priority until you get one - they are insurance on yourself

Emergency funds are your best choice of purchasing insurance against bad things. Cash on hand is cheap to hold, quick to deploy, and allows you to both weather bad times and take advantage of opportunities

Principal E1 : The Principal of Non-Emergency Credit: Emergency funds should never be "credit lines" including Home Equity lines, credit cards, etc.

Having seen friends who worked in high-finance get their credit line get cut off at the worst of times, you don't want to be in this situation. Always keep your emergency fund in cash

Principal E2 : The Principal of Emergency Fund Liquidity: Your emergency fund should be able to be at least 70% convertible to cash in a day and 100% by three days

I have seen friends need up to $8000 in a single day to cover death in the family costs, travel costs, and similar. Often when you need the money the most, you have very little time to react, and so the closer that you can get it to cash the better. In order of ease of access from easiest to hardest to access:

1. Cash - Someone will always take cash - I promise you that
2. Checking Account
3. Savings Account
4. Money Market Account

I would not put my own emergency fund into anything less liquid than a money market account

Principal E3 : The Principal of Emergency Fund Interest: You don't care about interest on your emergency fund, you care about how quickly you can convert it to cash

It is best to keep your emergency fund in a savings account that yields an acceptable interest rate and has a paired checking account. You should be able to click two or three buttons and have it as cash in hand

Principal E4 : The Principal of Emergency Fund Sizing: You should size your emergency fund to the maximum of $15,000 and 6 months expenses - whichever is greater

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Investing Principals

Principal I0 : The Principal of Investing What you only can Lose: If you can't go 40+ years without seeing the money again, you probably shouldn't be investing

You should only be investing when you can afford to never see the money again. If you will need the money within the next 10 years, you should think before you actually invest it

Principal I1 : The Principal of Emotion: If the Market drops 50%, you should be BUYING *and* NOT SELLING

If all of your favorite items went on sale for half-off, you should be purchasing them and not selling them. Buy low. Sell high. Don't EVER do the reverse

Principal I2 : The Principal of Emergency Funds First: You should fund your emergency fund before you invest a single dollar of money in anything else

It's not the sexiest investment, but one of the worst things that can happen to your finances is having to sell when you absolutely shouldn't - when do you need your money the most? Usually in an economic downturn or emergency. When is the stock market the lowest? Usually during an economic downturn or emergency. Don't sell at the worst times because you didn't have cash set aside when you needed it in an emergency fund

Principal I3 : The Principal of Debt Payment: If you have outstanding loans, I would pay those off first before you invest a single dollar

If you pay off a loan with 6% interest, you are effectively investing in an asset with a guaranteed 6% return. A guaranteed return is almost always better than a risky return - especially in finance and especially given where interest rates on loans are right now

Principal I4 : The Principal of Bonds: A bond is a promise to repay some money at a later date

A bond can be very safe (like a bond issued from the United States Government) or very risky (like the bonds issued by a small corporation that has a lot of debt). High-risk-high-reward applies in bond markets a lot, and bonds can get super complicated due to the large amount of math that can surround them

Principal I5 : The Principal of Stocks: A stock is ownership in a company - you are promised some of their profits eventually

There are many types of stocks, including preferred stock, common stock, voting and non-voting shares, subordinated shares, coco's ... This can get really complicated so don't feel like you are alone if the idea of a stock seems foreign and even a little ... stupid ... at first

Principal I6 : The Principal of Volatility: Stocks tend to be more volatile than bonds in the short run, but return bonds in the long run

Principal I7 : The Principal of Diversification: A portfolio with all bonds is more risky than a portfolio with the appropriate mixture of stocks and bonds - more than one asset class is always good

The way I think about investing diversification is imagine you own a factory with a big glass window. Imagine it is a single piece of glass spanning 40 ft wide. Imagine a neighbor hood kid throws a rock at it.

How many rocks does it take to destroy the window? The answer is one. Now turn that window into 100 little windows that cover the same area. Now that same rock only damages a small section of the window and you can replace it for much less than the cost of the single piece of glass. That is diversification

Principal I8 : The Principal of Rebalancing: As time goes on, your portfolio will become "unbalanced". You should keep an eye out for this and correct it if it drifts too far

Imagine you are targeting a 75% stock 25% bond portfolio. Over time, stocks do well and so it becomes 80% stock and 20% bond portfolio. You should sell some stocks and invest in bonds to rebalance it

Principal I9 : The Principal of Index Funds: Index funds (especially ETFs) can provide a great mix of assets for reasonable costs

An index fund is a basket of stocks that you purchase all at once that looks-and-feels like a single stock, but performs as if you bought a lot of different stocks instead. Often you will combine multiple ETFs or mutual funds to create a portfolio

Principal I10 : The Principal of Fees: Watch out for fees anytime that you purchase a mutual fund or index fund - they can eat alive your return

Generally, fees less than 0.10% are best, less than 0.20% are OK, and anything over 0.30% should set off alarms in your head unless it is a special asset class

Principal I11 : The Principal of Time: When investing for time periods of > 10 years, you can afford much riskier allocations than someone who is retiring sooner

A very crude rule of thumb is that your percentage of assets to be held in stocks is equal to 115 less your age. So if you're 25, then 90 percent stocks is a decent allocation percentage

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Personal Finance Principals

Principal P0 : The Principal of Savings Rate: Your Savings Rate is the most important number that you can control - nothing else comes even close

Your savings rate has the greatest sensitivity to the date that you are financially free. Especially when your current rate is low, a change of 5% could mean decades of your working life.

Principal P1 : The Principal of 4%: Most financial research indicates that you can can withdraw 4% of your portfolio almost indefinitely - this sets your threshold for retirement

This means that if you have a portfolio of $1,000,000 of assets (not including your primary residence) then you can reasonably expect to be able to withdraw $40,000 a year for life without worrying about it. In other-words, if you have $1,000,000 invested, and your expenses are less than $40,000 a year, you are financially independent!

Principal P2 : The Principal of Insurance: If you cannot afford to take a certain loss like a large medical bill or house fire, it is worth insuring against it

Principal P3 : The Principal of Less is More: The following are equivalent due to the math of retirement: Saving $300 more for retirement or removing $1 of cost per month from your spending

No, this is not a Typo.. If you have a portfolio of $300, then by the 4% rule you can reasonably withdraw $4\% \times \$300 = \$12$ a year which is $1 a month. This is not a mistake, this is just the math of the problem

Imagine you purchase a coffee in the morning on the way to work. It costs you $3 more a day to purchase this coffee than to make your own. You work, on average, usually 24 days a month. $3 \times 24 = \$72$ a month in coffee. Thus you are indifferent in the following from a life prospective:

1. Receiving $\frac{72 \times 12}{0.04} = \$21{,}600$ at the date of your retirement which is worth about $8100 today if you are going to retire in 25 years or
2. Not buying the coffee and making your own...

Principal P4 : The Principal of Compounding Interest: Money compounds exponentially due to compounding interest and this math is highly non-intuitive and non-linear. Always do the math before making a decision because intuition will lead you astray

Imagine you have $10,000 and invest this plus $2000 per year at 8% for 10 years. How much will you have? It should be about $50,500. Double the time. You will have $138,000. Double the interest rate. You will have $86,000. This is the power of interest

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Automation Principals

Principal A0 : The Principal of Expense Automation: You should automate next to as much of your expenses as you can

Humans are lazy. Humans make mistakes. The less you have to think about your finances, and the more the correct decisions are made for you, the better. Good candidates for automation: your rent check, paying off your credit card, payments to your student loan, etc

Principal A1 : The Principal of Investing Automation: All of your finances and investing should be automated

Even one click a month is too much. Almost all brokers give you options to max out your 401k, Roth IRA, HSA, and similar automatically. You should elect to enroll in these options by default if you can.

Principal A2 : The Principal of Cave Investing: If you can't go long periods without checking your portfolio, its probably not robust

You should be able to live in a cave without internet for a month and not worry about your portfolio. If you can't, either (1) you decided to be an active investor which is rarely appropriate for a non-professional investor or (2) your portfolio is not allocated correctly and has too high of a variance for your situation

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