



Financial Planning

Mr. Amory KC Wong

Carson Graham Secondary (IB) School

Overview

- When/Why?
- Employment
- Retirement and Lifestyle
- What to invest in?
 - Real Estate
 - Bank Accounts
 - Investment Accounts
- Economy
- Taxes
- Insurance
- Other Assets



When to start Investing

- Start as early as possible
- Emergency funds
- 70% of your pre-retirement income is a typical number
- Lifestyle
- Use the power of compounding
- Rule of 72
- [Compound Savings.xlsx](#)



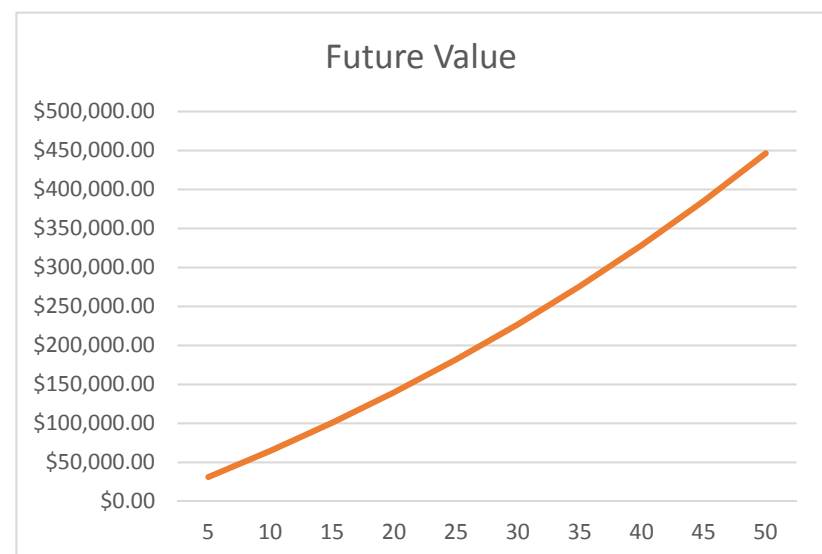
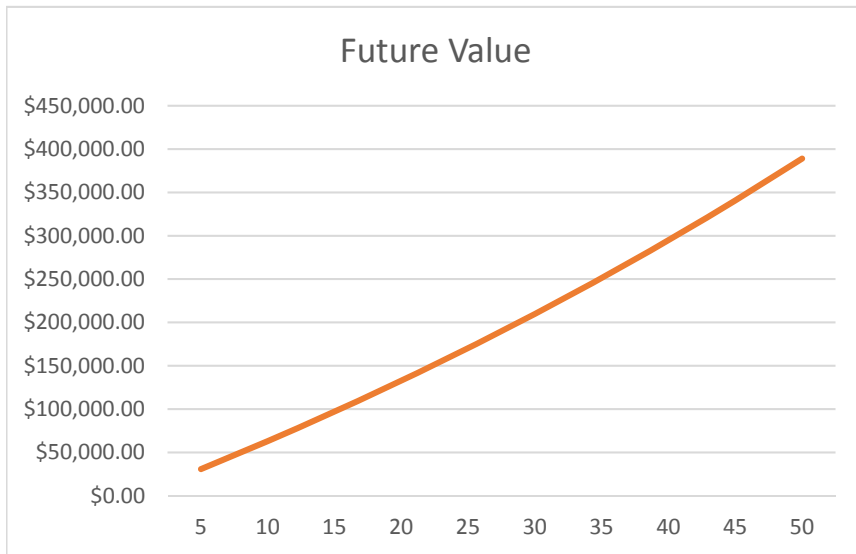
- These days, many jobs are not life-long careers. In case you get laid-off, EI may not be enough to cover your lifestyle. Or you might want to re-train for another career
- Retirement income depends on your debt, lifestyle, and lifespan. It could rise if you need to look after elderly parents.
 - Don't succumb to peer pressure to appear rich; it won't do your future any good (Many NBA and NFL players have gone bankrupt by maintaining their entourage)
 - Rich people often live longer than poor people barring risk factors (Wikipedia – life expectancy)
 - Many people become rich by maintaining a modest lifestyle.
 - Buying things is not true happiness, it's temporary, it's consumerism. You will just keep buying more.
 - Happiness comes from being true to yourself, having friends and family, helping others.
 - I like to think about money as security in case something goes wrong; also to be able to do the things I want, like teaching.
- Compounding relies on time to make investments grow
- In math, compounding is an exponential function
- Rule of 72 estimates the amount of years for an investment to double from

dividing 72 by the annual rate of return

- Notice the exponential effect as the rate rises. An aggressive portfolio might make 6% to 8% return. Any higher you are taking a large risk.

Years	Future Value	Payments	Deposit	-500
5	\$30,749.52	\$30,000.00	Rate (%)	1
10	\$63,074.94	\$60,000.00	Rate 2	1.5
15	\$97,057.00	\$90,000.00		
20	\$132,780.62	\$120,000.00		
25	\$170,335.05	\$150,000.00		
30	\$209,814.11	\$180,000.00		
35	\$251,316.44	\$210,000.00		
40	\$294,945.73	\$240,000.00		
45	\$340,810.99	\$270,000.00		
50	\$389,026.81	\$300,000.00		

Years	Future Value	Payments
5	\$31,133.47	\$30,000.00
10	\$64,690.17	\$60,000.00
15	\$100,858.71	\$90,000.00
20	\$139,842.38	\$120,000.00
25	\$181,860.29	\$150,000.00
30	\$227,148.61	\$180,000.00
35	\$275,961.89	\$210,000.00
40	\$328,574.48	\$240,000.00
45	\$385,282.11	\$270,000.00
50	\$446,403.49	\$300,000.00



Employment

- Extended health and dental
- MSP coverage
- Pensions (CPP, private, union, employer contributions)
- Bonuses
- Cashable vacation pay
- Banked overtime
- For publicly traded companies
 - Stock options
 - Stock purchase plans
- Other benefits could be life insurance, disability insurance, paid cell phone, travel points, paid O/T meals, subsidized meals, etc.



- This is your main opportunity to build your retirement/emergency funds.
- Employers (depending on how competitive the market is) will offer benefits to attract top talent.
- These benefits can be a substantial amount relative to the salary.
- The message is don't look at salary alone, give the benefits proper consideration.
- And as before, find good leadership to make your job enjoyable. Work should give you a sense of pride and accomplishment.

Housing

- Buy or Rent
- Detached or Condo
- Detached generally has good returns
- Condo requires less maintenance
- Additional costs
- Rental income
- House poor
- Tax-free capital gains
- Forced savings
- [Mortgage Calc.xlsx](#)

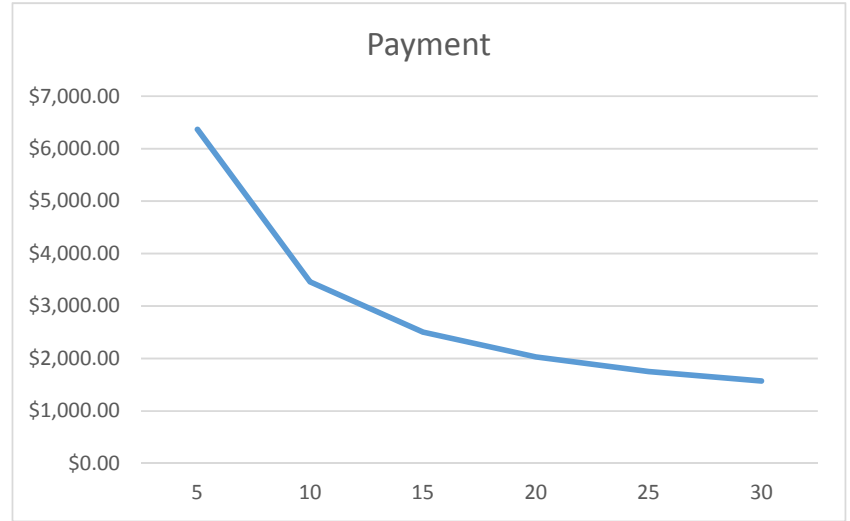
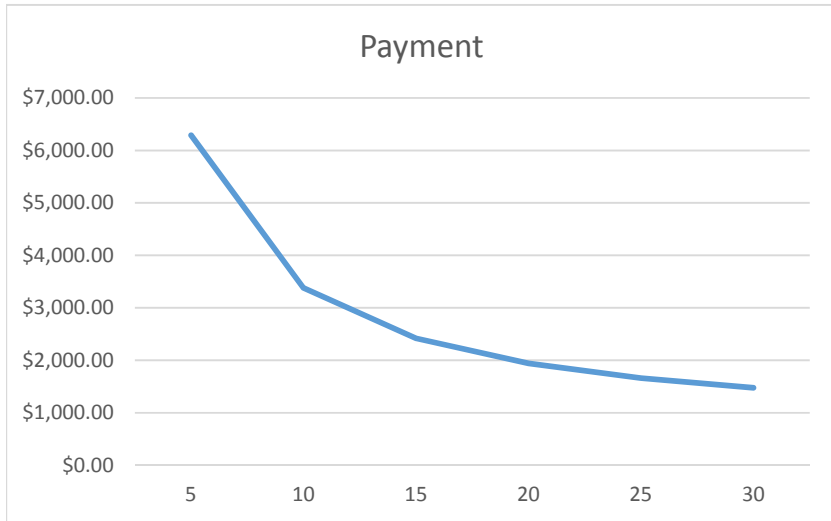


- Don't buy if you don't feel your job is secure or if your job makes you move (real estate takes years to have good returns)
- Rent if you think you can get a better return with investments
- Detached is not an option in very urban areas
- Condos have maintenance fees (higher if more amenities) and can have bad strata councils
- Don't buy a house with a big yard if you don't like gardening, fixing things, cleaning. Hiring people to do that costs a lot!
- You can make a suite in a detached house and rent it out, AKA mortgage helper, but higher insurance cost
- Additional costs on top of mortgage payments are: water and garbage tax; property tax; and insurance (homeowner grant saves \$750/yr)
- Additional costs for buying or renting are: cable, Internet, phone, electricity, and/or gas.
- If you're okay with bag lunches and KD for a few years, then it's okay to be house poor (but be careful about interest rate rising).
- Tax-free capital gains applies only to one principal residence.
- You need to live somewhere, so this is a forced savings program – good especially if you are not a disciplined saver.

- Rental is subject to rent increases, whereas mortgage payments can remain fixed.
- Most mortgages allow you to increase payments to shorten the amortization period.
- Interest can be negotiated if you have good credit history.

Amortization	Payment	Interest Paid	Mortgage	-350000
5	\$6,289.04	\$27,342.50	Rate (%)	3
10	\$3,379.63	\$55,555.13	Rate 2	3.5
15	\$2,417.04	\$85,066.43		
20	\$1,941.09	\$115,861.98		
25	\$1,659.74	\$147,921.88		
30	\$1,475.61	\$181,221.08		

Amortization	Payment	Interest Paid
5	\$6,367.11	\$32,026.64
10	\$3,461.01	\$65,320.64
15	\$2,502.09	\$100,376.00
20	\$2,029.86	\$137,166.16
25	\$1,752.18	\$175,654.75
30	\$1,571.66	\$215,796.31





- Bank/credit union accounts are protected up to \$100,000 by CDIC
- If you are paranoid, you can go to a new bank when get go over \$100,000
- Savings accounts get returns that are at or below Bank of Canada's lending rate.
- Term deposits can get returns that are about 1%-2% higher than savings account. (Higher deposits – higher rates)
- Credit cards
 - Are good as long as you pay the balance (interest rates are extremely high)
 - Can get cash rebates, points, etc.
- Line of Credit
 - A secured line of credit can be set up once you have sufficient equity in your home
 - Lower interest rates (significantly lower than credit cards)
 - Again, don't use if you have trouble controlling spending
 - Good in case of emergencies
- Mutual funds are a good start to investing.
 - Good for lower amounts
 - Get a mix of industries
 - Professional management
 - Can set up monthly contributions (dollar cost averaging)

- Easy to liquidate
- Downsides
 - Management fees (1% to 3% of assets/yr)
 - Front-end/Back-end loading (paid to broker)
 - Purchase/redemption fees (paid to fund)
 - Some fees/load waived if you hold fund long enough
 - Lower fees aren't always a better fund, it depends on the returns that it's getting
- As you build a relationship with a bank, you can start negotiating fees and rates.

Discount Brokers/Financial Advisors

- Stocks
- Bonds
- Mutual Funds
- Treasury Bills
- Options Trading (call/put)
- Short selling (don't do this)
- Insider trading



- Discount brokers don't give any advice (used by day-traders)
- Full service brokers cost more but give advice (used by many investors)
- Financial advisors more pro-active in managing funds (generally need \$100,000 to start an account)
- Stocks and bonds
 - Buying/selling costs (generally no maintenance cost if your account is large enough)
 - Must trade in lots of 100 in order to set a price, otherwise it's market price
 - No guarantees, you can lose your whole investment, but no more
 - Risk can be low to high
- T-Bills are easily traded (used to hold funds between trades) and really safe
- Options trading
 - A call option allows the holder to buy the stock at the specified price (used when the price goes up significantly)
 - A put option allows the holder to sell the stock at the specified price (used when the price goes down significantly)
 - Is risky because it is highly leveraged and options expire if it is not executed
 - It can be used to protect your investment
 - You write a call if you believe the stock won't go up

- You buy a call if you believe the stock might go down
- Short selling is really gambling (you are betting the stock price will go down)
 - The amount of money you can lose is unlimited
 - It's basically selling stock that you don't have, then at some future date you have to buy the stock to cover the short sell.
 - If you invest \$100 with regular stock, you can only lose \$100. With short selling, if the stock price jumps to \$500, you will lose \$400.
- Insider trading is illegal if not done properly
 - It is trading with information that has not be disclosed to the public
 - This happens when people get tips from the executives of the company
 - Executives have to go through a disclosure process and an arms-length procedure to trade
 - So employees are at risk of doing inside trading
- I don't recommend day-trading, this is really another form of gambling – it is when you buy and sell the stock on the same day. This relies on rumors and news releases – very risky since it doesn't look at the fundamentals of a company.
- Learn math well so you don't get taken advantage of by unscrupulous advisors. Be wary of promises of unusually high returns.

Simple Leverage Example

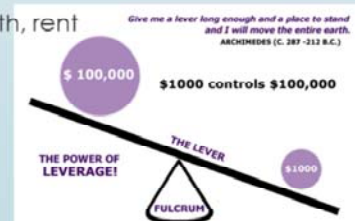
- Buy some stock for \$1000.
- Scenario 1: It goes up to \$1500 at the end of the year.
 - Profit is \$500, so Return on Investment (ROI) is $\frac{500}{1000}(100\%) = 50\%$
- Scenario 2: You pay \$500 and borrow \$500 on margin at 4%.
 - Interest cost is \$20, so profit is \$480, so ROI is $\frac{480}{500}(100\%) = 96\%$

Give me a lever long enough and a place to stand
and I will move the entire earth.
ARCHEMEDES (C. 287 - 212 B.C.)

Note that the maximum margin for stock brokerage accounts is 50% of assets.

Leverage Example

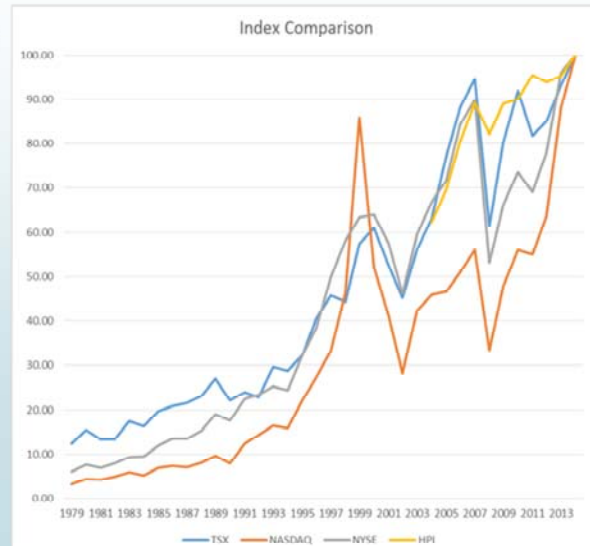
- Buy a 1 bedroom condo for \$250,000 and sell in 5 years for \$310,000 (4.4% APR), property taxes of \$1500/yr.
- Scenario 1 (pay in cash, can't rent it out):
 - Profit \$52,500, Return is 21% (3.9% APR)
- Scenario 2 (pay in cash, rent \$1000/month):
 - Profit \$112,500, Return is 45% (7.7% APR)
- Scenario 3 (20% down, borrow at 4%, 25 years, \$1052/month, can't rent it out):
 - Loss \$10,620, Return is -21% (-4.7% APR)
- Scenario 4 (20% down, borrow at 4%, 25 years, \$1052/month, rent \$1000/month):
 - Profit \$49,380, Return is 99% (14.7% APR)



- Notice that the leverage scenarios require more cash flow because of the mortgage payments.
- Vacancy rates in the Lower Mainland is about 1.0%. However, your unit would depend on rent, improvements, location, and amenities.
- I don't want to make it sound that this is easy money, it's not.
 - Problem renters
 - Repairs and depreciation
 - Restoration and advertising between renters
 - Non-payment
 - Hidden costs
- There are lots of shows and books on how to flip or rent properties. It takes time, money, knowledge, and skills to do this successfully. I will give a plug for "Income Property".

Economy

- Affects stock prices and interest rates
- Inflation
- Deflation
- Bank of Canada lending rate
- Globalization vs Protectionism
- What makes a good investment?



- Inflation means costs go up for consumers. However, this is good for investors, companies make more profit.
- Deflation is good for consumers. However, it is bad for companies, because profits go down or could potentially become losses.
- Governments can try to control inflation by changing the BoC lending rate.
 - Increasing the lending rate will slow down borrowing, then in turn slows the economy.
 - Conversely, decreasing the lending rate should make the economy grow.
 - Generally, governments want the economy to be close to a certain rate.
- Globalization is trading goods between countries.
 - Make goods cheaper for all countries.
 - Some trade is good because countries do not have all the necessary resources.
- Protectionism is preventing import of goods that are produced domestically.
 - Globalization is sometimes called the “Race to the Bottom” – protectionists claim it lowers global wages, employee rights and increases environmental destruction, and it increases energy use by increasing worldwide shipping.
 - Protectionism protects local jobs. Buying everything cheap means your neighbour might be out of a job.

- Globalization is caused by corporations moving jobs to the cheapest labour and lowest tax rates. Lowering tax rates make it difficult for countries to build proper infrastructure and ignores the environment.
- These are important issues that should cause people to make the government more accountable.
- This is a huge topic on its own, in fact it's a discipline.
- Since you are a consumer, it's good to start with what the businesses that you regularly deal with.
- If you can't pick a particular stock, you can always buy a mutual fund in that sector.
- If you're not sure about a sector, you can just pick a mutual fund for all the sectors.
- If you are so inclined, you can buy ethical mutual funds.
- Use a stock broker or financial advisor to pick between mutual funds (there are thousands).

Taxes

- Tax Rates
- TFSA
- RRSP
- RESP

2015 Taxable Income	2015 Marginal Tax Rates			
	Other Income	Capital Gains	Canadian Dividends	
			Eligible	Non-Eligible
first \$44,701	15%	7.5%	-0.03%	4.70%
over \$44,701 up to \$89,401	22%	11.0%	9.63%	12.96%
over \$89,401 up to \$138,586	26%	13.0%	15.15%	17.68%
over \$138,586	29%	14.5%	19.29%	21.22%

- Governments have different tax rates to encourage people to invest in different areas.
- Because interest income is low risk, they are taxed at the regular rate.
- Since your money is not guaranteed with stocks and real estate, capital gains and dividends get lower tax rates.
- Governments have recognized that this is not enough incentive and that saving for retirement is needed because CPP is not sustainable due to the aging population.
- TFSA – tax-free savings account
 - Deposits are not tax-deductible.
 - Gains or dividends are tax-free.
 - Withdrawals are tax-free and contribution room is restored.
 - Max contribution about \$5500/yr.
 - Most investments qualify.
 - Good for younger investors that don't pay much tax.
 - No forced closure.
- RRSP – tax-free retirement account.
 - Deposits are tax-deductible.
 - Withdrawals are taxed.
 - Withdrawals do not restore contribution room.

- Gains and dividends are tax-free.
- Deposits can be minimum of 18% of income up to \$25000/yr.
- Idea is to contribute when income is high and withdraw when income is low.
- Forced closure at age 71, roll into RRIF.
- RESP - Education savings
 - If you decide to have kids, it will help pay for their education.
 - Deposits are not tax-deductible.
 - Gains and dividends are tax-free.
 - Withdrawals are taxed to the children who enroll full-time to post-secondary.
 - Government will contribute 20% up to \$2500 with \$7200 lifetime.
 - Family RESP is better than individual.
- Taxation and tax breaks are important to high income earners which is why older people are more concerned about politics.
- Again, this stuff is complicated and is a discipline in itself: accounting.

Insurance

- Buy if you can't afford to replace item yourself
- Term life insurance
- Universal life insurance
- Disability insurance



- Most people can't afford to rebuild without insurance, so you should buy it.
- Unfortunately, there's generally more insurance that you need to buy.
- Life Insurance is used to pay for: funeral costs, probate fees, capital gains taxes, taxes for collapsing RRSPs and RRIFs.
- Capital gains can be significant if you own a lot of properties or have held certain stocks for a long time.
- Term life insurance
 - This is the lowest cost insurance, good for when you are young.
 - Generally you can't afford to buy it when you are older because it becomes very expensive
 - Usually bought in 20 year terms
 - Employers may buy term insurance for you as a benefit
- Universal life insurance
 - This is a policy if you expect to live a long life.
 - Guaranteed pay-out when you die.
 - There is a savings component that you can borrow from or use to pay premiums when you get older.
 - This is complicated product with many options.
 - Alternative is whole life insurance, but you have to pay premiums until you

die.

- Disability insurance is to cover you in case you are unable to work, the payout will match your salary.
- It is easy to overbuy insurance. Determine what is really necessary. Remember, companies sell insurance because they are able to make money.

Other Assets

- ▶ Paintings
- ▶ Antiques
- ▶ Trading Cards
- ▶ Memorabilia
- ▶ Extended Warranties



- Generally not easily to liquidate
- Don't try to use when applying for credit
- Extended warranties
 - Either buy or don't buy, don't do both because chances are the things that will break will be on the ones you refused warranties.
 - Most things (especially electronics) are designed with planned obsolescence, so you're going to buy new ones eventually.
 - Like insurance, companies are selling extended warranties because they are able to make money.



- Usually a person's second largest purchase
- New cars have long warranties, but cars have been getting more reliable each year
- Used cars don't have as much VOC's (volatile organic compounds) – debatable as to whether they are carcinogenic
- New cars depreciate quickly 15% to 20% per year. Even higher if you aren't a sales person. You buy at retail prices, and the dealer buys it back at wholesale.
- Buying a car is only the first cost.
 - Insurance
 - Gas, tires, oil, wiper blades
 - Many parts eventually wear out and need to be replaced – the more expensive the car, the more expensive the parts and labour.
- Very few cars will appreciate (needs to be rare which takes time), so this is not an asset.
- The reason to spend more on a car is for safety.
- Finally, remember not to use your cell phone while driving!
- The same thing that applies to other insurance and warranties, applies to cars; companies are making money selling them.
- Good thing about buying used cars is that you can think about skipping the collision and comprehensive (own fault damage, theft, windshield, etc) portion.

You might want to wait a few years to see what kind of a driver you are.

Final Thoughts

- ▶ Take financial planning courses (some are free)
- ▶ Watch the business and news channels
- ▶ Take micro-economics and macro-economics
- ▶ Use mock stock portfolios
- ▶ Diversify



- Even if you work for a good company, it is risky to get your income and buy only the company's stock. If the company goes down, you could lose your job and investment at the same time.
- Have a mix of real estate and stock portfolio.
- Don't be afraid to look for a better job because many companies won't reciprocate your loyalty.
- Remember that one way to save more money, is to not spend as much.
- Finally, take care of your health. There's no point in saving for retirement if you're not there to enjoy it.