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Circle of Competence
To build an investing circle of competence, I should leverage the knowledge base I have already. Which means it has to be something related to electrical engineering and manufacturing. Therefore, in no particular order, the industries I should understand are:

- Utilities - Regulated Electric
- Consumer Electronics
- Engineering & Construction
- Software - Application & Communication Services

Mortgage in Canada
Mortgage in Canada is typically done in 25 year periods. For which there are three types:
1. High-Ratio, where the home buyer also pays for the insurance, which lowers the rate.
2. Low-Ratio, where the bank assumes the insurance, thus, has a typical rate that matches the market.
3. Uninsured, where the loan does not meet the government guidelines, thus, done privately. These typically have high rates.

There are also open and closed mortgages. Open allows the buyer to pay off the load at any point in time, where the other doesn't allow this.

To get a mortgage, you need to be qualified and be approved. Qualification process is nothing but a check on self-submitted information to see if the mortgage is even an option. Approval process validates the information. The lender also goes through a stress-test analysis to see if the borrower can withstand the rate increase. However, not all mortgages have a variable rate. Some are fixed, for which the borrower pays a premium on the fact that rate won't change in the future.

How Does The Stock Market Work
Stock is a share of a company and its market allows the transaction of those shares. The public market allows all participants to engage in the transactions, while the private only allows the agreed upon parties to do the same.

The fundamental price movement is done via supply and demand. Given that the number of shares is constant, when something becomes more favorable, the price moves up, and vice-versa.

Exchanges exist to facilitate these market transactions. The more efficient the exchange, the less spread between bid and ask prices. Companies can choose which exchange they wish to enlist on, however, the exchanges also have their qualifications. For example, NYSE needs the shares to have at least 100k volume and 2.2k shareholders in total. The selection of exchange can be important as it determines the geographic region for which the shares are traded as well as the type of transaction the shares go through.

For example, securities on the NYSE and NASDAQ are bought and sold via very different techniques. The NASDAQ is a dealer's market. Buyers and sellers are not negotiating with one another directly but through a dealer who is a "market maker." This is a broker-dealer firm that accepts the risk of holding a certain number of shares of a particular stock in order to facilitate trading. Market makers compete for customer orders by displaying buy and sell quotations for a guaranteed number of shares. Once an order is received, the market maker immediately sells from its own inventory. There are more than 500 member firms that act as NASDAQ market makers.

In contrast, the NYSE is an auction market where the buyers enter competitive bids and sellers enter competitive offers at the same time. The price at which a stock is traded represents the highest price that a buyer is willing to pay and the lowest price that a seller is willing to sell at. Matching bids and offers are then paired together and the orders are executed. The NYSE has specialists who match buyers and sellers, facilitating the trade.

For a company to be publicly traded, they must go through the IPO process. This include:

1. An underwriter, typically an investment bank, buys the shares before they are offered.
    - Once an IPO goes through, the banks can sell the shares and make a profit if the stock appreciates.
2. Underwriter and the company determines:
    - The type of security
    - Offering price
    - No. of shares and % ownership to give up
    - Timing of the IPO
    - Government registration

Understanding 2008
Mortgage-backed securities (MBS) are financial products that bundle mortgages into an asset class with varying risk-return profiles. Rating agencies like Moody's and Standard & Poor's evaluate these profiles to indicate the associated risk for investors.

For instance, a mortgage bundle with AAA, AA, and A ratings would have a lower return due to lower default risk compared to bundles with A, B-, and C ratings, which have higher risk and thus a higher return. However, many mortgages rated AAA were not genuinely that secure. Rating agencies, fearing the loss of major clients like banks, issued favorable ratings to retain their business, resulting in misleading assessments of risk.

This failure cascaded through the financial system. Banks, confident in the ratings, approved loans more quickly and in higher volumes, often engaging in predatory lending practices. They also used financial instruments like swaptions to hedge perceived risks. Insurers, relying on the same ratings, took on substantial default risks, further amplifying the problem.

Mortgage investors, primarily pension funds, viewed housing as a safe investment and continued to invest heavily. Homebuyers, encouraged by easy loan approvals and rising home prices, took on loans with the expectation of future profits.

When the bubble burst, confidence in the financial market eroded. People began withdrawing their money, leading to bank failures, business closures, and increased unemployment. The resulting economic distress saw a rise in unemployment-related suicides, with each 1% increase in unemployment linked to a 1% to 1.6% rise in suicide rates.

In response, the U.S. government intervened with the Troubled Asset Relief Program (TARP) to stabilize the banks and passed the Dodd-Frank Act to curb predatory lending and regulate over-the-counter derivatives.

Warren Buffett and The Interpretation of Financial Statements by David Clark and Mary Buffett
Buffett had a key insight while working with Ben Graham. Graham bought hundreds of statistically cheap stocks and sold them if they didn't recover their initial financial offset within two years. Buffett noticed that some of these sold stocks would later surge in value. He realized that if he could identify stocks Graham would have bought, ones that were statistically cheap, but also had strong long-term economic prospects, it would be a perfect investment.

To simplify this, Buffett treated equities like bonds. For instance, if a business earned $10,000 annually and was expected to grow at 12% for 20 years, discounted by a risk-free rate, its value would be at least $100,000. Combining this quantitative approach with qualitative insights on the business guided his investment decisions.

The Folly of Certainty by Howard Marks
Argumentation on the risks of certainty in political, economic, and market forecasts, underscoring the unpredictability stemming from their inherent complexity and randomness. It advocates for intellectual humility and caution in forecasting; indeed, absolute certainty often reflects the absence of virtue.

Mr. Market Miscalculates by Howard Marks
Reminder that the market is inefficient. Loved his coverage of what happened in the market the last few years. Market truly is a representation of human psychology with regards to their greed. Staying rational is hard, not a character that intelligence brings. It requires wisdom. As an investor, it is a must to take note of such characteristics of the market and figure out how to act in response as those characteristics are what allows the investment opportunities.

Notable quote from Rudiger Dornbusch, "Things take longer to happen than you think they will, and then they happen faster than you thought they could."

2023 Investment Manager's Report by Bill Ackman
An investment hedge is an instrument to reduce the risk of losing permanent capital. It is not to maximize one's investment gains. Therefore, there are prolonged times where a hedge is held.

I should understand the hedging mentioned in this report. They are:
- Interest-rate swaptions
- Interest-rate payer swaptions
- Energy-related
- Credit default swap

Pershing Square has permanent capital meaning that their firm doesn't have to return any capital on some predetermined schedule. This allows the company to recruit and retain talents. But why is it true?

Google and Canadian Pacific Kansas City pitch should be noted.

The Current Carry Trade: Is It Still Viable? By Barry M. Gillman
Study on carry trade returns for eight major currencies (Australia, Canada, France, Germany, Japan, Switzerland, the United Kingdom and the United States).

Current carry trade is defined by investing in a high-yielding currency, funded from a lower-yield currency. This carry trade is profitable as long as the additional interest on the high-yield currency is not offset by that currency depreciating by more than that amount. In theory, if currency markets are efficient, that higher yield should be offset by a similar depreciation in the currency, and the carry trade should produce a net zero profit over time.

Carry Trade Efficacy Timeline			
Carry Trade Broadly Neutral	Carry Trade Tended to Work	Neutral	*Reverse* Carry Trade Worked
1973 to 1986	1987 to 2007	2008 to 2011	2012 to 2016*

Financial Theory I by MIT
There is an inverse relationship between bonds and risk-free interest rates. Let's say a bond is priced at \$950 with a face value of \$1000. Which would mean that the bond yields (\$1000-\$950)/\$950 = 5.26%. If the risk-free rate is now higher than that, let's say 10%, the bond price has to come down to at-least match the 10% yield. Meaning that the price should be (\$1000-\$909.1)/\$909.1 = 10%, which is a 4.3% decrease. And now, since the original bond is not risk-free, the price has to further decrease to incorporate the default premium on the yield. This pushes the bond price further down.

Forward contracts allow one the obligation in buying or selling an asset at a price that is agreed upon today on a future date/maturity date. However, this is illiquid and has counterparty risk. To mitigate this, futures contracts are introduced. They are traded on an exchange and are quoted daily until the maturity date.

Option contracts allow one the right to buy or sell an asset at a price that is agreed upon today before the future date/maturity date. The option can be exercised at any point in time before the maturity date, unlike futures.

The business utility for futures and options are huge when it comes to dealing with transcoding raw materials, or just in general, managing a cost-controlled supply chain. The pricing of these contracts, therefore, are sensitive to the risk associated with the underlying asset. However, academia seems to use mathematically derived ways (Black-Scholes, Merton) of pricing these contracts, which likely will overlook the economic nature.

Dev Kantesaria by Value Investor Insight
Virtuous management shows sound capital management. Companies that have predictable earnings can do 3 things: expand, buy-back shares or pay a dividend. For a company like Costco or Moody's, where the system of operation is hard to replicate due to its culture, or the product requires minimal re-investments every year - earnings become predictable and the cash-flow goes back to the shareholders.

While companies at the forefront, like Google, require high capex to ensure they are not disrupted. R&D spending is inevitably high, which means the economics of the business is less predictable. In the same sense, a high-quality business means a system of money generation that is utmost efficient with its future economics largely dependent on human needs rather than wants.

The Process Is The Reward by Kingswell
Adam Wright is the CEO of Pilot, a subsidiary of Berkshire. He has the soul of an athlete with a passion for business. One of the examples about manuals resonated with me as I also was put responsible for going over the design manual as a co-op. But I didn't take as much initiative as he did. Lessons learned. Also the notion that huge failure in life comes day by day, like success, is eye opening. We often think that both come overnight, especially failure, but thinking about it, it's the day by day that destroys one's life.

Insights On Success From Greg Alexander A CEO Who Has Disrupted Three Industries by Forbes
Greg Alexander is a great operator. A systematic way of thinking is required to move things fast. The way he made operations lean should be noted.

> 1- We "productized" our service offering. Our engagements with clients were no unique snowflakes but rather were standardized solutions. This increased revenue per head by allowing employees to complete work faster by moving rapidly along the learning curve. 2- We automated many manual tasks with technology solutions. This reduced task completion time from hours to microseconds. This increased revenue per head by replacing people with machines. 3- We leveraged the gig economy by tapping into talent marketplaces. This increased revenue per head by leveraging fractional headcount on demand when needing to flex up or flex down capacity.

Ajit Jain Q&A by NDTV India
He has a very clear thinking in risk and its management. Admirable rationality - which is why I think Mr.Buffett favors him so much.

> Firstly, when you think about investment [and] when you think about insurance, it is about risk. And, in a sense, risk is synonymous with gambling. Gambling, unfortunately, has bad connotations. I like to refer to it as prudent risk-taking.

The fundamental aspect of risk-taking is you've got to be able to assess what are the odds of something bad happening to you — however subjective that process might be. And if something bad were to happen to you, how bad is that and being able to define how bad that is.

That's a fairly simple, straightforward equation — you don't need more than high school algebra to be able to handle that. And, then, to make sure that you get paid so that you have a margin of safety over and above what you think are the odds and the expected value of a loss — without getting hyper-technical. People can complicate the process — and we do tend to complicate the process.

We are in the risk-taking business. There are a lot of factors that come into play in terms of taking the risk. Clearly, one is the pricing of the risk. But, then, the business — the way it's conducted — there's a lot of pressure to do deals. You don't want to lose market share. You don't want to have your distribution force mad at you for not writing business. So a number of factors come into play. Besides the fact that people just like to take risks. I mean, that's something they like to do.

So I think the discipline is in terms of being able to say no — and having the ability and the willingness to say no if you feel you're not getting the right price for taking the risk.

Now, having said that, we at Berkshire have an advantage in as much as there's nothing forcing us to write risk if we don't feel it's adequately priced. So we can have a fairly rational approach to taking risks without regard to trying to meet some grand target or trying to conquer the world and get market share. We have a single-minded focus on making sure we can assess the risk — and, if we can't assess the risk, we just say pass to it. And if we can assess the risk, we [still need to] get a price that adequately compensates us for risking our capital.