WHITE LOCH CAPITAL MANAGEMENT

Compounders

"The best thing a human being can do is to help another human being know more."

Charlie Munger

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OUTLINE

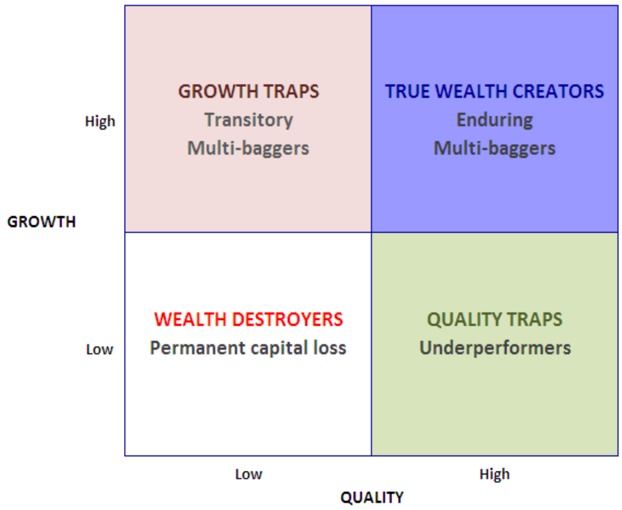
The purpose of this monograph is twofold. First we think it is important to fleshout out our framework around Compounders and be very explicit in what we are looking for. Secondly we hope to build a common language with our readers. Brett Kelly, author and CEO of Kelly Partners Group Holding, who we admire very much, likes to say “common ideas lead to a common language, you cant have a common culture without a common language”. In much the same spirit we want to create a common language so that when we talk about Moats, Hedgehog concepts and Outsider CEOs the reader can resonate and connect with us using this common language. None of the ideas that we use are new, they have all been developed by others and throughout this monograph we have supplemented our own writing with many quotes from those who can express the ideas far better than we can.

We will begin with an introduction on what a Compounder is. Next we will take a look at why we think Compounders will generate a good rate of return for WLCM. Then we will describe in detail what we think constitutes a Compounder and what characteristics we are looking for in a potential Compounder. Finally, we bring it back to the WLCM’s Compounder framework and we discuss the purpose and use case for this Framework. In this monograph we will introduce the concept of the WLCM Compounder scoresheet, which serves as a way to quantitatively compare Compounders and as an elevator pitch for our Compounders. The scoresheets for all of our current Compounders can be found at the end of this monograph attached as appendices.

AN INTRODUCTION TO COMPOUNDERS

Compounders are high quality businesses with enduring competitive advantages that allow them to earn high Returns On Capital Employed (ROCE) for long periods of time (*see Glossary for explanation of Return on Capital Employed*). This allows Compounders to compound their shareholders wealth at high rates for long periods of time often leading to market trouncing outcomes.

"The power of long-term investing, coupled with compounded returns, can make even the simplest of investors look brilliant through the rearview mirror of history."
Tom Gardner "The Motley Fool Investment Guide"



Source Motilal Oswal – 100x

If an investor finds a true Compounder and holds onto it long enough they will end up having a "Multi-Bagger" on their hands. The term 10-bagger was popularised by Legendary investor Peter Lynch to describe a stock that has gone up 10 times. Meaning the investor would have $10 for every $1 dollar initially invested. However, Multi-baggers come in many different forms including lottery ticket type companies that go from an idea stock to a real business such as junior mining companies that may or may not strike gold or medical devices that may or may not get FDA approval. We know that we have no ability to pick speculative stocks that may become multi-baggers. What we think we can do is to create a repeatable framework that can help identify, predictable, high-quality companies that can compound wealth at high rates for a long period of time. This is the Compounders framework. In the Motilal Oswal four quadrant matrix our Compounders would fit into the top right box "True Wealth Creators – Enduring Multi-baggers".

"Greedy, short-term-oriented investors may lose sight of a sound mathematical reason for avoiding loss: the effects of compounding even moderate returns over many years are compelling, if not downright mind boggling."
Seth Klarman "Margin of Safety"

Compounders are rare and a lot has to go right in order to have a true Compounder.That being said Compounders can be found across all countries and industries. Even notoriously bad ones like the airline industry has enduring Compounders such as South West Airlines. Over the years there have been many different studies done and papers written about Multi-baggers/Compounders/100-baggers. We have used these studies to put together our own WLCM Compounder framework that will help us identify Compounders which we believe will generate very satisfactory returns over long periods of time. There are many ways to win in the stock market but this is the game we want to play. We want to find good businesses with good people trading at a discount to intrinsic value.

"The ability to earn earnings upon earnings is essentially the definition of compounding. In the long run, we feel strongly that the rate at which the value of a business compounds will approximate its returns on reinvestment."

Chuck Akre, "What do we mean by reinvestment"

WHY WE BELIEVE COMPOUNDERS WILL DELIVER GOOD RETURNS

"Over the long term, it's hard for a stock to earn a much better return than the business which underlies it earns."

Charlie Munger

As long as an investor does not over pay for a business then that investor will pretty much get the same returns as the business generates over a long period of time. Although the stock market has these wild swings and there is constant signals and news calling investors to action, the value of the underlying businesses changes much slower. The stock market is really just a market where people go to buy or sell fractional ownerships of businesses. Just as the value of a house or a farm does not fluctuate much in any given year nor does a business. If you were to buy a house today for $100,000 and someone the next day came to your house and offered to buy it off you for $50,000 would you be tempted to sell because it seems like the value has suddenly dropped by half? No. Yet "rational" people do this when it comes to the stock market. The first fundamental rule is to treat the fractional ownership of a business (the shares) as just that – ownership of a business. Over the long run, the market will fluctuate between extreme greed and extreme fear, but eventually if an investor holds onto the ownership of the business they will earn their share of the business' earnings. Therefore, taking this long-term view means that we want to find the businesses that will earn the highest returns and just make sure we don't over pay for those future earning.

"It's far better to buy a wonderful company at a fair price than a fair company at a wonderful price."

Warren Buffett "Berkshire Hathaway Letters to Shareholders, 1989"

Chris Mayer conducted a study of 100-baggers, stocks whose value went up a 100 times (for every $1 initially invested the investor would have $100). Mayer excluded all of the lottery ticket type stocks in his study and focused on businesses that we would categorise as Compounders. His findings of what makes a 100-bagger can be summarised by his "Twin-engine of Growth" model. The Twin-engines are growth in earnings and growth in the multiple of earnings that the market is willing to pay for those earnings. These findings are congruent with other studies on multi-baggers such as the fantastic case study by Alta Fox "Makings of a Multibagger". This shows that to achieve outstanding returns in Compounders an investor must identify a true Compounder that can compound wealth at high rates for a long time before the market has fully priced it in. That last part is key. It is easy to identify the great Compounders of the past, Amazon, Costco, Apple, Wal-Mart, Coca-Cola. However, they are all priced to perfection. The market knows they are Compounders. The game of finding undervalued future Compounders is one that is far harder, more likely to deliver high returns and one that fascinates us.

"as investors we own the only permanent capital in a company's capital structure, everything else in the company: management, assets, board, employees, can change but, absent bankruptcy, our equity will still be there! Institutional investors have never really reconciled their ability to trade daily with the permanence of equity."

Nick Sleep, "Nomad Investment Partners Annual Letter 2005"

Investing in Compounders is a tried and true method followed by many of the greats in investing, although they might use different terminologies and define Compounders slightly differently. Originally Warren Buffett had followed the cigar butt method of investing that had been taught to him by his teacher Benjamin Graham. The cigar butt method can be described as finding extremely beaten down stocks that are trading below a conservative estimate of their intrinsic value and more often than not their liquidation value (*see Glossary for explanation of Liquidation Value*). However, with the help of his partner Charlie Munger, Buffett came to realised that this type of investing that he had done so well in was not scaleable with large sums of money and what was once a deserted area of the market quickly became more crowded and there were fewer cigar butt type investment opportunities. Buffett turned to investing in great businesses that could earn high rates on the invested capital over long periods of time. Buffett coined the phrase "Moat" to describe the competitive advantages a business had that allowed it to earn high rates of return for long periods of time. Buffett and Munger have been early pioneers in Compounders and teaching others about what constitutes a Compounder.

"Investing is most intelligent when it is most businesslike."
Benjamin Graham

COMPOUNDING IS RARELY LINEAR

"Think not of what you see, but what it took to produce what you see."
Benoit Mandelbrot

When looking at the stock charts of the great Compounders it looks linear and up and to the right. However, these chats hide the violent stochastic gyrations caused by the cascading effects of the herd oscillating between manic depression and euphoric optimism. It is hard for investors in the moment to hold onto their businesses and not join the crowd in these instants of extreme emotions. Even the best businesses have huge fluctuations in price despite little change to the underlying business.

"Investing is a business where you can look very silly for a long period of time before you are proven right"
Bill Ackman

Take the 20 years between Amazon going public in 1997 and 2017. If an investor had bought shares at the IPO and held on for the next 20 years they would be have been sitting on a gain of 38,155%, beating the market by 100 times. So why were so few owners, not named Bezos, able to hang onto the stock during this time? For an investor to have held onto Amazon during this 20 year period, they would have had to held through, 107 different 15% or greater three day drawdowns, 199 single day drawdowns of 6% or greater and a drawdown of 95% between December 1999 and October 2001. 95%… For almost everyone, if they had focused on the price of the stock it would have been too much to take. However, if an investor had focused on the business and stuck to reading Jeff Bezos' fantastic letters to shareholders they would have only seen a business that was growing and starting to compound wealth. This phenomenon is not unique to Amazon this is true for all of the great Compounders.

"Understand the role of time. Dealing with probabilities requires persistence and staying power. In the short term, results may be very unsatisfactory. Long term, an appropriate process delivers good results. You cannot judge performance in a probabilistic field over the short term—there is much too much noise."
Michael Mauboussin, "Decision-Making for Investors ", 2004

Wesley Gray of Alpha Architect, published a fascinating research paper in 2016 titled "Even God would get fired as an Active Investor". The basis of the research was that with 20/20 hindsight they would create a hypothetical portfolio of the stocks that would preform the best over 5-year rolling periods. The first portfolio was formed at the start of 1927 and held till the end of 1931 with the stocks that would go on to preform the best over those 5 years. Then they would change the stocks for the next 5 year period. The study ran through 5-year rolling periods ending at the end of 2016. The "God portfolio" clearly trounces the market compounding at nearly 29% a year. However, even with only the top preforming stocks in the portfolio the portfolio experienced devastating drawdowns. It experienced 10 different 20% or greater drawdowns including a 76% drawdown between August 1929 to May 1932. Even with 20/20 hindsight picking the absolute best possible stocks led to extreme fluctuations. It is clear that to reap the rewards of a Compounder an investor has to be focused on the business not the stock price.

"Appreciation of the underlying economics of the business gives you the best, indeed the only, chance of holding these outstanding stocks."
Sir John Kay, Forward to "Diamonds in the Dust"

For investors to reap the benefits of Compounders not only must they suffer through ferocious volatility caused by Mr Market's mood swings, but investors must also wait for long periods of time to truly realise the gains from a Compounder. In Chris Mayer's seminal book studying the great Compounders whose share price had gone up 100 times or more, it found that only 20 out of the 365 100-baggers did it inside of 10 years. The average time to get a 100-bagger was 26 years. In the book Mayer gives the example "If you buy a stock that returns about 20 percent annually for 25 years you'll get your 100-bagger. But if you sell in year 20, you'll get "only" 40 to 1 – before taxes". For an investor's wealth to benefit from the full impact of owning a high-quality Compound they must be willing to do nothing for a long, long, time.

"You need patience, discipline, and an ability to take losses and adversity without going crazy."
Charlie Munger, "KIPLINGER, 2005"

This brings us to a very important conclusion. If we, as investors, must hold stocks for very long periods of time, through daunting periods of volatility and unsatisfactory returns, then we must have unwavering conviction in the businesses we own. This is why at WLCM we spend a long time diving deep into the business and getting to know a business intimately before we are willing to own that business. We believe that owning a Compounder is analogous to marriage. Before you get married you need to make sure you are choosing the right partner. This means getting to know your partner before you make any commitment. Once you are convinced you have found the right partner then you want to commit to them with the full intent of doing so for life. However, that doesn't mean that if you start seeing things that you don't like that you can't change your mind. The important thing is the initial intent is "for life" and you allow your partner leeway before making any decisions to reverse the marriage.

"Over a long season the luck evens out, and skill shines through."
Michael Lewis, "Moneyball"

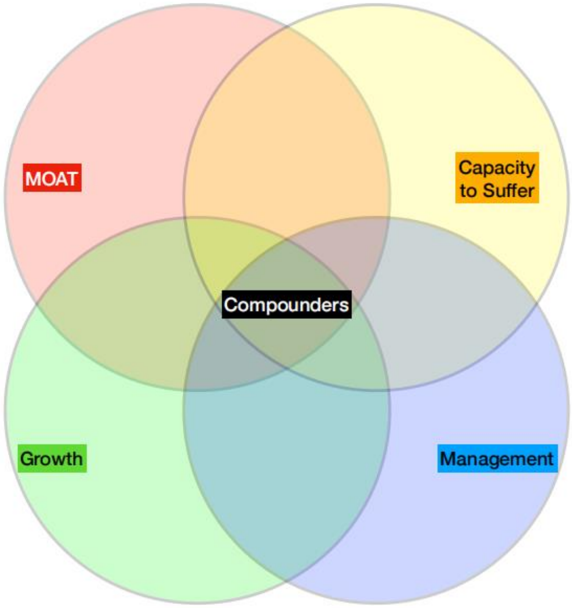
It is all well and good for an investor to have the intent of owning a business for a long period of time but they also need to make sure that the structure around them is conducive to this goal. For individual investors this means that the money invested should be money that they don't need to spend in the foreseeable future. An investor should have another stream of income or savings that they can use to live their lives. The portion of their wealth allocated to Compounders should be allowed to compound for a long period of time. For professional investors, it is important that they have an investment vehicle with "patient capital". This can be having investment partners with an aligned philosophy and time horizon to the fund or structuring the investment vehicle to have permanent or at least long-duration capital. Like Buffett did at Berkshire. Many managers have been forced to exit the markets at precisely the wrong time because their clients demanded their capital be returned to them. No matter what the situation the investor is in, if one chooses to fish in the

Compounder pond they must have their life structured in such away that allows them to hold of for a very long time.

"the first rule of compounding is to never interrupt it unnecessarily"
Charlie Munger

CHARACTERISTICS OF A COMPOUNDER

"Choosing individual stocks without any idea of what you're looking for is like running through a dynamite factory with a burning match. You may live, but you're still an idiot."
Joel Greenblatt "The little book that still beats the market"



We think a great place to start in defining a enduring Compounder with a long runway of growth ahead is the acronym used in Motilal Oswal's study of Indian 100-baggers, SQGLP.

- Size is small
- Quality is high for both business and management
- Growth in earnings is high
- Longevity for Q&G
- Price is favourable

"huge sums forge their own anchor"
Warren Buffett, "Berkshire Hathaway Letters to Shareholders 2009"

Size is a huge limiting factor for growth. For a business to compound at high rates for a long time it is usually a requirement that they are relatively small. Apple is a fantastically run company that has very strong competitive advantages. However, currently its market capitalisation sits about $2.5 trillion. This means that it is currently valued at just over 10% of the whole US GDP, about $23 trillion. It is fair to say that it is unlikely Apple will be a 10-bagger from here. Moreover, smaller companies tend to have a longer pipeline of high return investments that they can make in their business. Even small changes can make a big difference in a small company. In a behemoth like Apple any one project or personnel change is unlikely to have a big impact on the over all company. A large company has certain advantages over smaller ones, such as a better ability to draw in talent, or economies of scale, but large companies are usually scrutinised by the vast majority of market participants and it is likely that the market already recognises these advantages. A smaller company that has much less interest from market participants, that is on the path to building its own future competitive advantages, is much more likely to have been mis-priced by the market. This is where outsized returns can be generated. This is one of the things makes investing so interesting, it is predicting the future outcomes that differ from the market consensus that matters. Any obvious competitive advantage that a large, well-followed, business has will be priced into the price of a business.

"The only true test of whether a stock is "cheap" or "high" is not its current price in relation to some former price, no matter how accustomed we may have become to that former price, but whether the company's fundamentals are significantly more or less favourable than the current financial-community appraisal of that stock."
Philip Fisher, "Common Stocks and Uncommon Profits and Other Writings"

We define a high-quality business as one that has defendable competitive advantages that translate into higher consumer captivity or consumers willing to pay a high price for the product or service compared to competing offerings. The summation of a business' competitive advantages is referred to as a company's Moat.

"Well done is better than well said."
Benjamin Franklin, "Poor Richard's Almanac"

At the end of the day when an investor decides to own a business it is the management of that business that has power in allocating that capital. It is essential to partner with the right people as they will have the final say on how the business is run and how that capital is allocated.

"I've gone back and done historical research on the best-performing stocks over the past twenty-five years, and my conclusion is that the number one factor was awesome rates of sales growth."
Tom Gardner, "The Motley Fool Investment Guide"

For a business to be able to compound its owners' wealth over long periods of time it is important that it has a long runway of high return, value creating growth ahead of it. Although money can be made in companies that aren't growing or even shrinking, the value that can be created in these types of business are generally limited and tend not to lead to the long-term wealth creation that is offered by Compounders. However, the key metric is growth in per-share value, that doesn't necessarily have to come from revenue growth, nor does revenue growth necessarily translate into per-share value growth.

"Success means being very patient but aggressive when it's time."
Charlie Munger, "BERKSHIRE ANNUAL MEETING, 2004"

We define longevity of a business as its Capacity to suffer. We want businesses that, like us, can weather the storms thrown at them by the unpredictable nature of the world. We want to invest for the long-term in businesses we know that will be around for the long-term.

"Thus, it's not what you buy; it's what you pay for it."
Howard Marks, "The Most Important Thing Illuminated"

The market usually recognises that Compounders are great and are rarely offered at a satisfactory margin of safety. It is important that we either buy into a Compounder when there is maximum pessimism or even better, before the market knows it's a Compounder.

"Whenever you find yourself on the side of the majority, it is time to pause and reflect."
Mark Twain

The four characteristics we look for in a Compounder - defensible Moat, high-quality management, long runway of value creating growth and capacity to suffer – are symbiotic and cannot be completely separated.

There are vast amounts of overlap between the categories yet none of the categories fully encapsulates the others. It is important not to lose sight that a business is really just an organisation full of people. We are trying to use this framework to describe different aspects of that organisation. Throughout we do not think that a business can fit neatly into any category nor can a business be completely described by a single perspective. No business is just a brand, or just a great CEO. Throughout this framework the emphasis is on looking forward, this is what makes this game so fascinating. We aren't so interested in what a business has done in the past, we are interested the future of the business, that is what will determine the value of a business.

"The greatest asset of a company is its people."
Jorge Paulo Lemann

Michael Porter likes to say there is no best company, and that every company's value proposition is different. This makes investing very interesting. Although we are trying to identify the common characteristics of a Compounder it is extremely complicated and nuanced. We lay out this framework for finding Compounders but we don't expect to find any company that fits nicely into it. The framework serves as a guide to be used and manipulated to try give us the best chance of find an enduring company that can compound wealth over long periods of time.

"It is better to be roughly right than precisely wrong."
John Maynard Keynes

Now we will go on to expand on our four Compounder characteristics. Then we will dig into our valuation process and how we determine if there is a satisfactory margin of safety. Then we will put it all together as part of the WLCM Compounder framework.

Source Daniel Stuart: Constellation Software

MOAT

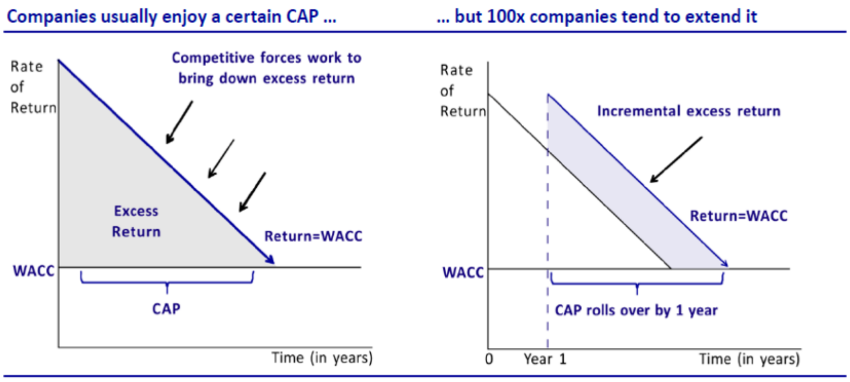
When we talk about Moats we are talking about the competitive advantages that a company has that allow it to earn an economic profit (*see Glossary for explanation of economic profit*). Business is brutal and the competitive forces that drives destructive innovation, that has given humanity so much, dictate that if a company is making economic profits that others will seek to enter that market and take those profits. A business can protect its economic profits by having competitive advantages that stop the competitive forces of capitalism from taking those profits. The same way that a moat would protect a castle, and all the gold inside, from incoming marauders looking to take that gold.

"With a universe of companies seeking profitable opportunities for investment, the returns in an unprotected industry will be driven down to levels where there is no "economic profit," "
Bruce C. Greenwald. "Competition Demystified".

Given a long enough time horizon all Moats are ephemeral. It is the eternal task of the business to expand its Moat. A Moat cannot simply be "maintained" it is either widening or narrowing, the competitive forces of the industry make it so. However, some Moats are more enduring than others which is why companies like Coca-Cola have been able to earn economic profits since 1886. Enduring Moats are often found in industries where change is slow and the industry it operates in has high barriers to entry. We think given that enduring Moats are found in industries where there has historically been little change we think that enduring Moats will continue to be found in these same slow changing industries. The Lindy Effect often applies to Moats (*see Glossary for explanation of Lindy Effect*). When valuing a business, Bruce Greenwald has suggested that investors can apply a "fade-rate" to factor in the diminution of a business' Moat. This would factor in the life of the business and subtract it from the growth assumptions. If an investor believes the business can earn economic profits for the next 50 years then a fade-rate of 2% is appropriate, 20year Moat translates into a 5% fade-rate.

"For an elephant operating within the barriers, life is sweet and returns are high. But competitive advantages still have to be managed. Complacency can be fatal, as can ignoring or misunderstanding the sources of one's strength. An elephant's first priority is to sustain what it has, which requires that it recognize the sources and the limits of its competitive advantages:"
Bruce C. Greenwald. "Competition Demystified"

Given that Moats are temporary, we as investors, need to try asses the durability of the Moat and how long a business will be able to continue earning economic profits. The period of time a business is able to earn an economic profit is called its Competitive Advantage Period (CAP). What studies like Motilal Oswal's study on 100-baggers found is that the companies that were able to create massive amounts of wealth over long periods of time, the Compounders, were able to systematically extend their CAP. Compounders don't rest on their laurels, they are constantly widening the Moat. As investors that means that we not only need to be able to identify current Moats but we also need to predict with some reliability how those Moats will develop. Or perhaps a business' Moat is not yet evident but we as investors can see that there is a reasonable chance that the business can create an enduring Moat.



Source Motilal Oswal – 100x

"Sustainable value creation has two dimensions: the magnitude of the spread between a company's return on invested capital and the cost of capital and how long it can maintain a positive spread."
Michael Mauboussin, "Measuring the Moat"

Although Moats are generally internal competitive advantages that a company might have – being more efficient, processing proprietary technology – it is crucial to assess a company's Moat in the context of the industry environment it operates in. When we look at how an industry's dynamics will affect a company's Moat we should be chiefly concerned with the current and potential players in the industry; how they have acted and are likely to act in the future and above all barriers to entry. Barriers to entry are factors inherent to an industry that dissuade new entrants from joining the industry and can limit competition among existing players. There are multitude of different barriers to entry all with varying degrees of effectiveness. An industry with high barriers to entry can give existing competitors extremely high structural Moats. We will elaborate further on barriers to entry, which are structural competitive advantages, later in this monograph.

"No other feature of the competitive landscape has as much influence on a company's success as where it stands in regard to these barriers"
Bruce C. Greenwald. "Competition Demystified"

Before we dive into the competitive advantages a company might have, we want to highlight the important concept of Local Champions developed by Bruce Greenwald which is that "competitive advantages are almost always grounded in what are essentially "local" circumstances.". Local Champions suggests that for most companies their competitive advantages are concentrated in a local geographic area or product space. We think that the "Think Global, Act Local" strategy pioneered by McDonalds embodies this. McDonalds' competitive advantage is that it is able to dominate local markets by franchising to local business owners who understand the local market and can adapt appropriately. Despite having a global brand, McDonalds' key competitive advantage is a series of local ones. Another example of a Local Champion is Mastercard. Despite being a global company its "local" advantage is in payment systems. It has acquired a high level of expertise in a certain product space and within that space it can reap the rewards of its competitive advantages. What we find though is that local competitive advantages are difficult to replicate outside of their local domain. Die-hard Pepsi fans aren't loyal to Frito-lays crisps despite them being the same company. Wal-mart has had a difficult time expanding internationally, and even within the US it took Wal-mart a long time to expand nationwide. Wal-mart's competitive advantage in the US is largely a series of local competitive advantages accompanied by a well thought of brand. The concept of Local Champions fits in nicely with Jim Collins' Hedgehog concept that we will explore in the "Growth" segment of this monograph.

"A truly great business must have an enduring "moat" that protects excellent returns on invested capital. The dynamics of capitalism guarantee that competitors will repeatedly assault any business "castle" that is earning high returns. Therefore a formidable barrier such as a company's being the low cost producer (GEICO, Costco) or possessing a powerful world-wide brand (Coca-Cola, Gillette, American Express) is essential for sustained success. Business history is filled with "Roman Candles," companies whose moats proved illusory and were soon crossed."
Warren Buffet, 2007, Berkshire Hathaway Annual Letter

The evidence is clear that for a company to go on to be an enduring Compounder it needs to have a Moat that is being widened over time. In Alta Fox's "Makings of a Multibagger" they identified that "80% of the multi-baggers studied had moderate-to-high barriers to entry and 91% had moderate-to-high competitive advantages. Moreover, in Christopher Mayer's study of 100-baggers he also identifies competitive advantages as key to becoming a 100-bagger. It takes a long time to become a 100-bagger and the one thing stopping a business reverting back to the mean is the Moat.

"Unless a company has an economic moat protecting its business, competition will soon arrive on its doorstep and eat away at its profits. Wall street is littered with the dead husks of companies that went from hero to zero in a heartbeat."
Pat Dorsey, The Little Book That Builds Wealth

We think that in "Competition Demystified" Bruce Greenwald does a fantastic job of giving investors a clear framework for thinking about competitive advantages. Greenwald argues that a business can only have three types of competitive advantages Supply, Demand and/or Economies of scale. Within those three categories he gives some examples of advantages a company can have falling under those three categories. In our discussion of Moats, we will use Bruce Greenwald's frame work of Supply, Demand and Economies of scale while supplementing in work done by Michael Porter in "Competitive Strategy" and Michael Mauboussin "Measuring the Moat", as well as adding in our own thoughts and what we consider competitive advantages. Despite the well-thought-out framework laid out by the true giants of business previously mentioned it is important to keep in mind that in real life Moats are more abstract and rarely fit neatly into a box.

. *"If your competitors know your secret and yet still cant copy it, that's a structural advantage. That's a moat"*
Mark Sellers, "So You Want To Be The Next Warren Buffett? How is Your Writing?"

SUPPLY

We define a supply side competitive advantages as advantages that derive from having the inherent privileged access to recourses and/or a superior production technology or technique that: allows a business to add a unique value to a product or service; or allows that product or service to be delivered to the customer at a lower price than competitors.

GEOGRAPHICAL

Geographical competitive advantages are gained from the physical location of where the company is based. One example of this is access to materials that are unique to that location. Companies like Saudi Aramco, which has access to some of the cheapest oil in the world or airports in single airport cities benefit massively from geographical advantages that cannot be replicated. Sometimes a business can be the only player in town, which we call a natural monopoly. Natural monopolies include railways or utility companies where it is detrimental or impossible to have a second player. Natural monopolies are often heavily regulated and usually find it hard to earn an economic profit. Another advantage arising from geographical position is the access a business has to labour, be it cheap labour or highly skilled workers. Businesses in low wage countries such as India and China benefit from being able to pay their staff less and are therefore able to deliver the good or service at a price below that which a company located in a high wage nation like Denmark or Germany could. On the other hand, a company looking for highly specialised engineers might only be able to find that type of labour in a certain country whereas a company located in a developing nation might not be able to source specialised highly skilled labour. This is why so many technology firms have arisen out of Silicon Valley. A final example of a geographical advantage is that of shorter supply chains and tariffs. Due to tariffs placed on China by the US and the increase in transportation costs many manufacturers of cheap products that have end consumers in the US have found manufacturing in China uncompetitive whereas manufactures of the same product in countries like Mexico have suddenly got a competitive advantage.

TECHNOLOGICAL

A company can have a technological advantage if they have a proprietary and/or patented technology that allows them to deliver a good or service to the customer at a lower price than competitors or produce a differentiated product that the competition can't produce. For example, Taiwan Semiconductor has technological capabilities beyond that of any other player in the industry allowing it to produce products that are technically superior to competitors. This has allowed Taiwan Semiconductor to consistently hold about a 50% marketshare in the whole semiconductor foundry industry and has allowed it to make large economic profits. Similarly, long duration patent protected products are often found in the pharmaceutical industry where drug companies are often granted 20 year patents on proprietary drugs and thus can enjoy a long Competitive Advantage Period (CAP) over its competitors.

REGULATORY

Companies operating in industries with high regulatory standards or long approval times frequently enjoy long a CAP as new entrants find it hard to enter the market and not getting regulatory approval is a big risk to any invested capital. Often found in industries such as medical devices or pharmaceuticals where people's health is at risk. For example, in the medical device industry it is often the case once a device has been granted approval by the regulatory body it cannot alter that device at all. That means that suppliers of components to that device have a strong competitive Moat and pricing power. Moreover, it can often be hard to get regulatory approval or the necessary health & safety certification in low-cost manufacturing countries. This means that if a company can get one of the few approved manufacturing plants in a low-cost manufacturing country it is a huge advantage and is likely to be able to deliver the product to the customer at a lower price than any other player. An example of this is Volex, who has the only MedAccred certified medical harness manufacturing plant in Mexico. This allows it to provide the same quality products as its manufacturing peers in the US but at a much lower cost.

BARRIERS TO EXIT

A less intuitive barrier to entry is the barrier to exit. Michael Porter does a great job of laying out barriers to exit that end up being barriers to entry. If an industry requires large initial capital investments into highly specialised assets, new entrants face the risk of costly stranded assets should their endeavour into the industry fail. This barrier to entry is particularly prevalent in specialised mining operations such as lithium mining. It might take years for the operation to get up and running and there is no guarantee that there will be demand by the time the operation is finally functioning. Another example is if an industry has to build strong relationships with trust being a key factor. An example of this would be that a consumer products company like Apple, with its great engineering expertise could in theory enter a market like the medical devices business. However, entering such a market puts their brand in jeopardy. If one of their new medical devices were to fail in a serious way that threatened lives, both the reputation of the consumer products business and the new medical device business would be irreparably damaged.

CULTURAL

"Culture, more than rule books, determines how an organization behaves."
Warren Buffett, "Memo to Berkshire Hathaway managers" 2010

We think cultural advantages don't get enough attention in the literature. Cultural advantages are some of the most enduring and powerful. Cultural Moats probably don't get enough attention because they are hard to define and as an investor it can be hard to truly understand a culture from the outside. Nonetheless, if an investor can identify a cultural advantage before the market has priced it in we believe it can lead to tremendous results. Cultural advantages can come in infinite varieties and are often hard to describe. We believe cultural advantages are extremely powerful and endure long after management. Rather than try to take on the impossible task of defining cultural advantages we will give three brief examples of cultural advantages that have led to extraordinary outcomes in the business and of course the stock price.

"Group culture is one of the most powerful forces on the planet. We sense its presence inside successful businesses, championship teams, and thriving families, and we sense when it's absent or toxic. We can measure its impact on the bottom line. (A strong culture increases net income 756 percent over eleven years, according to a Harvard study of more than two hundred companies.)"
Daniel Coyle. "The Culture Code"

In the book "Good to Great" Jim Collins talks about the culture of hard work at Nucor. Nucor set about developing a culture of hard work and teamwork. Nucor targeted hardworking individuals from traditional farming towns where hard work was ingrained in the local culture. The Nucor culture resonated with employees who would happily come in 30 minutes early to prepare their tools. No one asked them to. Moreover, Nucor had a strong owner-mind-set culture where the employees won as the company won and lost as the company lost. This culture was a huge advantage to Nucor and one that simply could not be replicated. It took Nucor from producing no steel in 1965, to being the 4th largest steelmaker in the world by 1995 and by 1999 the most profitable American steel company. Despite operating in a commodity space the culture at Nucor was a huge Moat that allowed it to earn substantial economic profits which led the Nucor shares handily beating the market by many multiples over decades. The culture went way beyond the CEO Ken Iverson and has endured long after his departure – the culture is the DNA of the company.

"Nucor rejected the old adage that people are your most important asset. In a good-to-great transformation, people are not your most important asset. The right people are."
Jim Collins. "Good to Great"

Mohnish Pabrai has coined the term "Spawner DNA" to refer to a company that has a culture of being able to successfully "Spawn" new business lines. Pabrai often gives the example of Amazon. Amazon started as an online bookstore, then it branched out into online retails and now Amazon has "Spawned" many businesses including physical stores, music, TV – streaming services, electronic devices and its most profitable business Amazon Web Services. The ability to consistently create new successful businesses is a very rare one, and it all derives from the culture of these magnificent companies. Amazon's "Spawner DNA" may have been fostered by Jeff Bezos but now it is way beyond him and will continue long after his departure. This is a huge competitive advantage as these businesses consistently have new growth engines, the new businesses often are unprofitable creating a tax shield, it creates revenue diversification and often the different business lines can cross sell. "Spawner DNA" is almost impossible to replicate and endures for a long time. Spawner culture is an incredible Moat and companies with it often lead to magnificent market beating returns – Amazon's "Spawner DNA" has led it to become around than a 2000 bagger since IPO.

"When you combine a culture of discipline with an ethic of entrepreneurship, you get the magical alchemy of great performance."
Jim Collins. "Good to Great"

It is hard to come up with a business that has focused more on culture than Berkshire Hathaway. Warren Buffett often talks about "the Berkshire culture" and how they are constantly looking to build an enduring culture that will last for many decades. Berkshire's culture is hard to summarise but it would be described as one with unmatched integrity, discipline and an owner-mind-set that permeates throughout the organisation. It could be argued that Berkshire's culture has been and will continue to be their biggest asset. No one can replicate it, nor can anyone attack it from the outside. The culture will endure as long as the Berkshire allows it to. Culture is arguably the most enduring Moat. Few understand it better than Buffett.

"Our compensation programs, our annual meeting and even our annual reports are all designed with an eye to reinforcing the Berkshire culture, and making it one that will repel and expel managers of a different bent. This culture grows stronger every year, and it will remain intact long after Charlie and I have left the scene."

"Cultures self-propagate. Winston Churchill once said, "You shape your houses and then they shape you." That wisdom applies to businesses as well."

"Our final advantage is the hard-to-duplicate culture that permeates Berkshire. And in businesses, culture counts."
Warren Buffett "Annual Letter, 2010"

DEMAND

Demand side competitive advantages come from a business having access to customers that competitors are unable to obtain. Demand side completive advantages largely come from customer captivity.

SWITCHING COSTS

Customers are captive to incumbents when there is a large cost or perceived cost in switching to a different product or service. One way this manifests itself in high brand trust. In industries where brand trust is rated highly the consumer is unlikely to switch to a different brand. Examples of this are the pharmaceutical or infant formula industries. The consumer needs to trust the brand that is proving nutrition for its child. The consumer is unlikely to stoop for the low bid and risk putting bad infant formula or bad medicine into their child. Brands such as Colgate toothpaste have been big beneficiaries of the perceived downside of switching brands, as consumers trust the brand to protect their teeth. This has allowed Colgate to earn high economic profits over a long period of time. Another switching cost is time, if switching supplier takes a long time without a substantial benefit the consumer is unlikely to switch. A well-known example is banks. Most people don't switch bank accounts due to the lengthy time needed to do so and the low perceived benefits. Enterprise software has enjoyed extremely captive customers as switching to a different enterprise software is extremely costly for the business and usually entails the complete retraining of its staff and increasing the potential for error. Systems such as Microsoft Office and Windows have become ubiquitous amongst businesses and often businesses require employees to be familiar with these systems. This is an incredible Moat one which has afforded Microsoft a multi-decade CAP.

CONVENIENCE

Consumers want to get the product or service as conveniently as possible. This can manifest into a competitive advantages for businesses in a number of ways. First if a business has a prime real estate location where it enjoys privileged access to consumers. An example of this is malls in town centres where there is unlikely to be new building permission granted for the construction of a second. Businesses will pay a premium for a space in that mall as opposed to one that is out of town. Moreover, there are many industries where it is not easy to find an alternative supplier. An example of this is the UK compliance assurance industry. In a world that is increasingly governed by convoluted regulations and red tape it is getting harder and harder for businesses to stay compliant so often they outsource this duty. However, the UK compliance assurance business is characterised by small local player who often don't advertise and have had the same clients for many years. If you are unsatisfied with your current compliance services it might be difficult to find an alternative. A final example of the convenience advantage is that which lawyers, accountants and doctors enjoy, which is the customer has to have a very intimate relationship with these businesses and in order to switch supplier it will take a long time for the new supplier and customer to build a close relationship that perhaps entails disclosing confidential information a second time.

NETWORK EFFECTS

Network effects is the phenomenon where as users join a network it creates additional value for all the users on the network. Think about the first customer of the telephone. It wasn't very useful until other people started to use it. Two-sided marketplaces have extremely strong network effects. Two-sided market places like eBay and Ticketmaster have reaped the rewards of network effects, as more sellers enter the market place it draws in more buyers, as more buyers join the market place it draws in more sellers and so on (this is a Flywheel, more on this later). Once networks have gotten to a certain scale it is incredibly hard to displace that network as customers have very little reason to leave there is enormous customer captivity. Also the nature of networks is that it often becomes a winner-take-all market where the biggest network of all gains the vast majority of the marketshare. A non-business example of this is languages. The number of languages spoken has been steadily decreasing as people choose to learn widely spoken languages such as English, Chinese and Spanish. It is estimated that 90% of all current languages will be extinct in the next 100 years. The use case for Gaelic has severely dwindled over the years.

BRANDS

"A brand is the set of expectations, memories, stories and relationships that, taken together, account for a consumer's decision to choose one product or service over another.
If the consumer (whether it's a business, a buyer, a voter or a donor) doesn't pay a premium, make a selection or spread the word, then no brand value exists for that consumer."
Seth Goldin, "Define: Brand"

Two of the leading scholars in this field, who we greatly admire, Bruce Greenwald and Michael Mauboussin have suggest that brand isn't by itself a competitive advantage with Greenwald going as far as saying "Well-regarded brands are no better protected than commodities." We know that disagreeing with two greats like these two make us extremely likely to be wrong, but we struggle to see eye to eye with them on this point. We believe that brands offer magnificent Moats. Moreover, the point about brands not offering a competitive advantage by itself seems to us redundant since a business cannot be summed up by only one dimension. Every business has a brand, technology, culture, efficiency, switching costs. It is that businesses have these to varying degrees which gives a business a Moat or lack-of-Moat.

"Then there was the name. I had a strong intuitive sense that the name McDonald's was exactly right."
Ray Kroc, "Grinding It Out: The Making of McDonald's"

For as long as civilisation has been about we have had celebrities which is a basic form of brand. People have bought into the brand of actors, musicians, gladiators and much more, in-spite of their lack of ability – a few names spring to mind. Movie goers going to see their favourite actors often do so without much regard for the movie itself, as long as it stars their hero. In recent years we have seen actors exploit there brand into products such as alcoholic beverages, and the loyal fans followed. Perhaps Dwayne "The Rock" Johnson is the most obvious example he has built a brand across wrestling, film, sports apparel, tequila and more, and the consumers followed.

"A brand for a company is like a reputation for a person. You earn reputation by trying to do hard things well."
Jeff Bezos

We don't think of competitive advantages as nice neat categories but rather as rough definitions to describe aspects of a business' competitive advantage. For example it is hard to separate brand from switching cost where trust is involved. Mothers will often stick to the same brand of diapers or infant formula because they trust the brand to provide for the needs of their child. Another example is that of generic drugs like Aspirin owned by Bayer. There are a sleuth of unbranded painkillers that are exactly the same as Aspirin that sell for a much lower price. However, customers are willing to pay for the brand because the trust it, they are familiar with the brand Aspirin. This is a switching cost for the consumer but that cannot be separated from the power of the brand.

"If people believe they share values with a company, they will stay loyal to the brand."
Howard Schultz

We think that brands offer tremendous Moats in the luxury goods space where consumers are wanting to express their wealth. Brands such as Rolex have enjoyed huge margins and a strong enduring Moat for over 100 years. Consumers buy into the brand because it signifies something to the consumer and they resonate with the brand. Patagonia have been successful at appealing to customers that buy into the virtue of the brand. Many consumers purchase of such brands as a virtue signal to others. Tiffany & Co offer a great example of a commodity brand that consumers have bought into and are willing to pay extraordinary premiums for. Consumers know that Tiffany's diamonds are the same as anyone else's but in the mind of the consumers a Tiffany diamond holds a special place, above the rest.

"Your brand is the single most important investment you can make in your business."
Steve Forbes

The evidence of brands offering incredible Moats is all around us. As we write the 2nd richest person in the word is Bernard Arnault, who has made his fortune in luxury brands such as Louis Vuitton and Hennessy. The largest beverage company in the world and China's largest non-technology company is Kweichow Maotai a high-end baijiu brand. To summarise we think brands can offer incredible Moats once they are entrenched into the minds of consumers.

ECONOMIES OF SCALE

Economies of scale describe the benefits accrued to a company as it grows larger and are able to spread its fixed costs over a larger revenue stream(*see Glossary for explanation of Fixed costs vs Variable costs*). This is particularly prescient in businesses where there is a high initial fixed cost such as manufacturing. Businesses with economies of scale are usually able to use these cost benefits to lower the price of their product and make it harder for competitors to compete. Another benefit of economies of scale is purchasing power. Most people are familiar with the concept of wholesale prices, the more you buyer the lower the per-cost item. For at-scale businesses this is a huge advantage not only can they buy products cheaper because they are able to buy more, but often big businesses can use their weight to get exclusivity. Meaning that they will guarantee the supplier business but the supplier must only exclusively supply to them. Small businesses do not have this type of sway.

SMALL LOCAL MARKETS

The benefits of economies of scale are particularly potent in small local markets that aren't growing very fast and where there is only space for one at scale player. A great example of this is Wal-Mart. In the early days of Wal-Mart Sam Walton went to small towns that could only support one at-scale discount store. He would enter these towns where there would usually be a few small family owned businesses and could use Wal-Mart's purchasing power to offer goods well below the prices of the small family owned businesses. Moreover these markets were small enough that they didn't even show up on the radar of the big discount retailers. Once Wal-Mart dominated a particular town it had such an entrenched position that no one dared to attempt displacing them.

MINIMUM VIABLE SCALE

A strong barrier to entry into an industry is if it has a high minimum viable scale. This means what percentage marketshare would a new entrant need to capture before it would be able to earn an economic profit. Furthermore, a new entrant would need to look at how much marketshare changes hands every year. In some industries it might take a very long time before the needed marketshare can be captured. Bruce Greenwald has come up with a framework of calculating the duration of a Moat based on minimum viable marketshare and the average marketshare turnover. There are some industries like the automobile industry that is so vast that a new entrant could probably be profitable with a 2% marketshare. Moreover, every year about 1% of the marketshare changes hands. Greenwald would argue this gives auto-manufacturers a two-year moat. On the other hand in the soft drinks industry a business needs 25% local marketshare to be viable. Moreover, due to consumer habit, about 0.2% marketshare changes hands every year, that gives businesses a 125 year moat. While we agree that this is a good way to look at a businesses Moat, we also think it has some flaws. Using this method to calculate a Moat would give Coca-Cola and RC Cola the same Moat. Yet it is clear that RC Cola doesn't have the same Moat as Coca-Cola. Additionally, past fluctuations in marketshare do not necessarily predict future changes in marketshare which is what we are really interested in. Markets can change slowly and then very suddenly. Look at the marketshare Monster Energy has been able to gain in a short period of time. Monster Beverage went from a new product in 2002, and the company (Hansen Natural) had historically had negative to flat growth. Monster Beverage went on to become a 100-bagger in under 10 years and a 700-bagger by 2014, capturing 39% of energy drink market by 2020. If one had looked back at the history of the energy drink market one would have seen a market dominated by Red Bull with very little marketshare turnover. Using Greenwald's framework and looking at historical data an investor would never have believed Monster Energy would have been able to capture so much marketshare. While we think that looking at historical industry data is important but what we are really focused on is the future. If there is no historical data to suggest large changes in marketshare that doesn't mean it wont happen in the future. An absence of evidence is not the same as evidence of absence.

NETWORK ECONOMIES OF SCALE

Networks often reap the benefits of scale more than most. Once a network has the infrastructure in place each incremental user comes at almost no extra cost to the network. The difference between network economies of scale and network effects is in network effects the incremental user benefits the whole network, in network economies of scale the incremental user only benefits the company. Examples of this are data centres where they already have the infrastructure to hold billions and billions of bytes of data, the incremental user of the data centre doesn't cost the data centre much at all. Another example is the cable industry once the cables are laid in the ground it is easy for the business to add incremental users to that cable network, commonly at no extra cost. Network economies of scale can be extremely powerful and once an at-scale player dominates a local market they will be able to command significant marketshare for a long time. American Tower is such a company. American Tower builds and rents out infrastructure for wireless communications. Imagine a big tower where companies rent space on the tower for their broadcast communications equipment. Each of their more than 43,000 towers can hold many different customer's broadcast equipment, each incremental installation costing very little for American Tower. This has led American Tower to become more than a 100-bagger since it was spun out of American Radio in 1998.

SCALED-ECONOMICS SHARED

This is a type of competitive advantage that few companies have employed but those for those that have it has led to magnificent results. Popularised by legendary Value Investor Nick Sleep Scaled-economics shared is when a company reaps the benefits of economies of scale but instead of letting the profits accrue they spend those benefits on lowering the cost of their product or widening their Moat. A well known example of this is Costco. Costco has explicitly said that they wont mark-up their products more than 15%. This means as Costco got bigger and it could use its weight to lower the prices paid to their supplier, rather keeping the price of their goods the same and letting their profit margins grow, Costco pass all their savings back to the customers. The customer knows that they cannot find products cheaper than the ones at Costco. No company can compete with Costco on price because it has refused to let margins widen and as Costco grows the benefits to the consumer grows as well. It's a classic win-win situation and a very enduring Moat for Costco. Scaled-economics shared doesn't just apply to lowering cost, it can apply to any business that is using the benefits they receive from scale to widen their Moat. Cola-Cola is a fantastic example of this not only have Coca-Cola consistently been the lowest priced soft drink they have constantly reinvested their profits into brand building. The larger Coca-Cola got the more money they could spend on building the brand. The stronger the brand the bigger they got (there's that flywheel again, more to come). We think this is possibly the most potent of all Moats because it is so hard to destroy. Once the virtuous cycle has begun it is so hard to stop.

"The simple deep reality for many of our firms is the virtuous spiral established when companies keep costs down, margins low and in doing so share their growing scale with their customers. In the long run this will be more important in determining the destination for our firms than the distractions of the day. Jeff Bezos, founder of Amazon, made the following point in a recent interview in Wired magazine:

"There are two ways to build a successful company. One is to work very, very hard to convince customers to pay high margins [the Colgate, Nike, Coca-Cola model alluded to above]. The other is to work very, very hard to be able to offer customers low margins [the Wal-Mart, Costco, AirAsia, Amazon, Asos model]. They both work. We're firmly in the second camp. It's difficult – you have to eliminate defects and be very efficient. But it's also a point of view. We'd rather have a very large customer base and low margins than a small customer base and higher margins."

Although Mr Bezos does not mention it, one reason he prefers Amazon to be a large company with small margins is that if he shares the efficiency benefits that come with growth with his customers, he turns size, frequently an anchor on business performance, into an asset. In other words, the moat surrounding the firm deepens as the firm grows."

Nick Sleep, "Nomad Investment Partners Annual Letter 2011"

"As our shareholders know, we have made a decision to continuously and significantly lower prices for customers year after year as our efficiency and scale make it possible. This is an example of a very important decision that cannot be made in a math-based way. In fact, when we lower prices, we go against the math that we can do, which always says that the smart move is to raise prices. We have significant data related to price elasticity. With fair accuracy, we can predict that a price reduction of a certain percentage will result in an increase in units sold of a certain percentage. With rare exceptions, the volume increase in the short term is never enough to pay for the price decrease. However, our quantitative understanding of elasticity is short-term. We can estimate what a price reduction will do this week and this quarter. But we cannot numerically estimate the effect that consistently lowering prices will have on our business over five years or ten years or more. Our judgment is that relentlessly returning efficiency improvements and scale economies to customers in the form of lower prices"

Jeff Bezos, "Amazon shareholder letter, 1998"

"Although we are all interested in margin, it must never be done at the expense of our philosophy. Margin must be obtained by better buying, emphasis on selling the kind of goods we want to sell, operating efficiencies, lower markdowns, greater turnover, etc. Increasing the retail prices and justifying it on the basis that we are still "competitive" could lead to a rude awakening as it has with so many. Let us concentrate on how cheap we can bring things to the people, rather than how much the traffic will bear, and when the race is over Fed-Mart will be there".

Sol Price, found in "Nick Sleep's 2010 Letter"

HIGH-QUALITY MANAGEMENT

Management is an extremely important part of any business as they are the ones who will ultimately determine how the owners' capital will be allocated. CEOs have two jobs, chief strategist and chief capital allocator, and these are mutually reinforcing. As chief capital allocator management has a limited number of powerful tools. They have three ways to raise capital – debt, equity and using cash flow from operations. They have five tools for deploying capital – internal investment, acquisitions (external investment), pay a dividend, buy back their own stock and pay down debt. Despite this limited tool kit, the right management can use these tools to create massive shareholder wealth. When neglected by management the business can suffer greatly.

"A leader is best when people barely know he exists, when his work is done, his aim fulfilled, they will say: we did it ourselves."
Lao Tzu

The importance of management falls on a spectrum inversely correlated to the quality of the business – the lower quality the business the more important management is, the higher the business quality the less important management is. This also goes for small to large companies. Management usually plays a much larger role in smaller organisations than big ones. Although, management is important, even the best jockey can't win a race on a three-legged mule. In the end what we are looking for is for trust-worthy, shareholder orientated, capital allocators at the helm of great businesses.

"Our conclusion is that, with few exceptions, when a management with a reputation for brilliance tackles a business with a reputation for poor fundamental economics, it is the reputation of the business that remains intact."
Warren Buffett, "Berkshire Hathaway Letters to Shareholders, 1980"

The role of management should not be minimised. At the end of the day a business is a group of people and those people must be working, in a highly motivated manner, towards a common mission. The mission, culture and strategy is all set by management. Moreover, as stated previously Moats of a business are never stable they are either widening or narrowing, it is up to a competent leader to consistently widen the Moat over time.

"In the ultimate analysis, it is the management alone which is the 100x alchemist"
Raamdeo Agrawal, "Motilal Oswal – 100x: The power of growth in Wealth Creation"

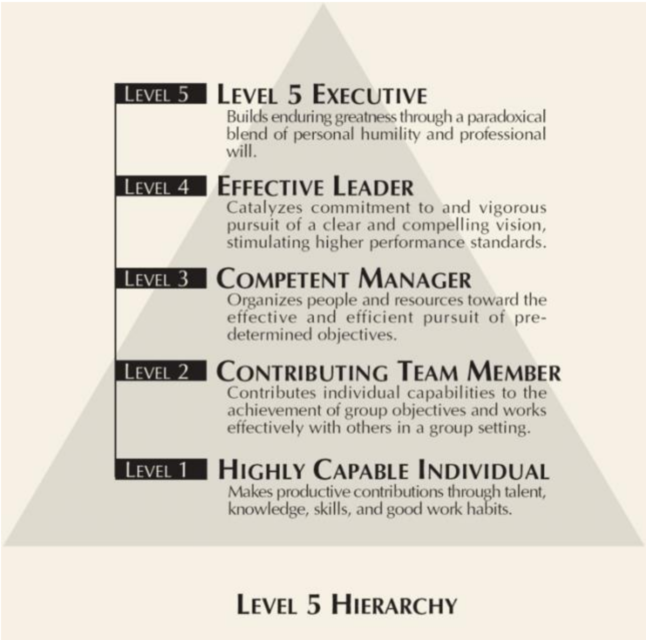
Many of the world's greatest companies have had iconoclastic leaders – Walmart – Sam Walton, Amazon – Jeff Bezos, Microsoft – Bill Gates and so on. It is clear that, part of what makes many companies great is having a great CEO leading the charge. As investors, we want to identify great CEOs before the market does. However, there is no easy way to identify great management and many CEOs occupy the position because they are good at selling themselves and are natural orators. It can be hard not to fall for the charm of these gifted marketers. Just because a CEO has been able to work his/her way up to the top role doesn't mean that they have any ability to be a great or even good CEO. The position of CEO has the very unique and important role of capital allocator. There are not many roles within a business where this skill is tested. This might be why many CEOs don't even list capital allocation as a top priority, despite it being the most important role. As we will see later many of the all-time best CEOs were first-time CEOs that came at the job from first principals. All of the best CEOs considered capital allocation as the chief responsibility of the CEO. The best CEOs have come from all walks of life and are all unique in their own way. This makes it very difficult for an investor to identify a top CEO. However, luckily for us frameworks and case studies have been developed to help identify what it takes to be a great CEO and what are the common characteristics that the great CEOs shared. The base of the framework we use has been developed by esteemed Author and professor Jim Collins.

"It's almost impossible to overpay the truly extraordinary CEO… but the species is rare"
Warren Buffett

LEVEL 5 LEADERSHIP

Jim Collins and a group of researchers embarked on a 5 year research project looking at what made some companies go from "Good to Great" – the title of the book. For companies to qualify for the study they had to have gone from good results to great results and sustain those great results for at least 15 years. Moreover, direct "twin-company" comparisons were used to see what the good-to-great companies did that the "twin-company" didn't. The good-to-great companies not only had results far better than their peers they also outperformed the market by an average of 6.9 times during the 15 year period. The whole research was completely data driven and they set out to only look at the data. This seminal book has created the basic framework for looking at many different aspects of businesses including leadership.

"if you invested $1 in a mutual fund of the good-to-great companies in 1965, holding each company at the general market rate until the date of transition, and simultaneously invested $1 in a general market stock fund, your $1 in the good-to-great fund taken out on January 1, 2000, would have multiplied 471 times, compared to a 56 fold increase in the market."
Jim Collins, "Good to Great"



Source Jim Collins Good to Great

Originally, the study set out to exclude leadership and Jim Collins was against including leadership as a factor stating that many companies that failed also had "great" leaders. However, Collins' research team approached him with irrefutable evidence that a key component, common among all of the good-to-great companies was an iconoclastic leader, with characteristics seen across all the good-to-great company CEOs but absent in the "twin-company". Collins' put this evidence together in a brilliant framework dubbed level 5 leaders. A kin to Maslow's hierarchy of needs, the framework sets out a hierarchy of leadership, with the level 5 leaders being at the top. This is also a visualisation of the development of great leaders, with most individuals starting at the bottom and eventually working their way up, but few ever make it to be a level 5 leader. This gives investors a clear framework on which to judge management.

"True leadership only exists when people follow when they would otherwise have the freedom to not follow."
Jim Collins

LOOKING IN THE MIRROR OR OUT THE WINDOW

Collins' and his research team found distinct characteristics common among the level 5 leaders absent in other capable yet not "great" leaders. One of which was humility. Collins uses the imagery of a mirror and the window. When things go bad for a company level 5 leaders look in the mirror, and take ownership for the mistakes made, using phrases such as "I could have done better", "it was me that over saw….", using I and me when talking about mistakes. On the other hand non-level 5 leaders often look out the window when things haven't gone well in the company, using phrases like "the environment was unfavourable", "we didn't see it coming", "the economy is..". Level 5 leaders confront their problems and take ownership over it, putting the weight of the company's problems on their shoulders. Conversely when things are going well at the company level 5 leaders look out the window, "the team was outstanding", "the local factory workers did a superb job", "we were lucky to have…". Level 5 leaders consistently attributed luck and others for the success at their company. Non-level 5 leaders look in the mirror when the company is doing well, "that project that I implemented is paying off", "I will oversee the continued expansion". This evidence was gathered over many conference calls and reports, counting how often management used collective or individual pronouns when talking about success or failures. As with everything in the good to great study, it was data driven.

"Level 5 leaders channel their ego needs away from themselves and into the larger goal of building a great company. It's not that Level 5 leaders have no ego or self-interest. Indeed, they are incredibly ambitious—but their ambition is first and foremost for the institution, not themselves."
Jim Collins , "Good to Great"

BUILDING AN ENDURING COMPANY

Level 5 leaders are interested in building an enduring company that will continue to be great long after they are gone. Level 5 leaders take succession planning and culture very seriously. These highly ambitious individuals channel their energy into making the company great not into elevating themselves to a god-like status in a hollow company. Level 5 leaders are not geniuses with a thousand helpers. Many companies have been hollowed out by a self promoting leader who has neglected or even actively hindered succession planning. A prescient example of this is General Electric after their magisterial CEO Jack Welsh left the company. It would be hard to argue that Welsh wasn't a great manager with GE outperforming the market by 2.8 times during 1985 – 2000. However, after Welsh's departure it became clear that GE was a bloated and overstretched company with a hollow executive team. It can be argued that Welsh was a genius with a thousand helpers. Without the "genius" the company fell apart. In the twenty years after his departure GE's market capitalisation more than halved, falling from around $450mm to $200mm and the shares languished providing GE's owners with far-from-satisfactory results. When analysing leadership investors mush not be drawn in by a leader's brilliance but must look at how that leader is building up the company to endure long after his/her departure.

"As one Level 5 leader said, "I want to look out from my porch at one of the great companies in the world someday and be able to say, 'I used to work there.'" "
Jim Collins, "Good to Great"

PLOW HORSE OR SHOW HORSE

Level 5 leaders have the paradoxical blend of personal humility and professional will. Level 5 leaders don't have the gargantuan personalities associated with some of the "great" CEOs that often endow the cover of magazines. Rather they have humble personas, shunning the limelight, with a tenacious, fanatical, mindset for hard work and achieving ambitious goals. They focus on what Warren Buffett refers to as the "inner scorecard". They aren't focused on what the world thinks of them, rather they are focused on results with an extreme fanaticism. One way to measure this is if management have been willing to do the right thing when it is the harder thing to do, including tackling problems head-on. Level 5 management take the long-term view, often forgoing short-term gains for longer term benefits.

"Those who worked with or wrote about the good-to-great leaders continually used words like quiet, humble, modest, reserved, shy, gracious, mild-mannered, self-effacing, understated, did not believe his own clippings; and so forth."
Jim Collins, "Good to Great"

The study found that many of the level 5 leaders had come from within the company as opposed to the company hiring a "big-name" talent from outside the business. Many of the findings from Good to Great have been replicated in other studies and have been built upon by the likes of "Intelligent Fanatics Project" by Ian Cassel and Sean Iddings, "The Outsiders" by William Thorndike.

"The problem is not, in my estimation, a dearth of potential Level 5 leaders. They exist all around us, if we just know what to look for."
Jim Collins , "Good to Great"

THE OUTSIDERS

William Thorndike, a student of Jim Collins, alongside a team of Harvard Business School students spent over 8 years studying 8 of the greatest CEOs measured by total share holder return. For a CEO to be included in the study their company's stock price had to have a bigger outperform relative to the S&P 500 than Jack Welsh did at General Electric and they had to meaningfully outperform their peer group. Over the 25 years studied on average this group of "Outsider" CEOs outperformed the market by over 20 times and their peer group by 7 times.

This group of 8 iconoclastic CEOs were an odd bunch compared to the bombastic CEOs that are often seen on TV opining on every topic imaginable. All of the Outsiders were first time CEOs, only two had MBAs and included an astronaut and a widow with no prior business experience. Furthermore, during the research process the adjectives used to describe these wealth creators were: humble, frugal, rational, analytical, independent and understated – not exactly characteristics often associated with a CEO. Despite finding that there were many different paths that lead to massive wealth creation Thorndike and his team found clear common characteristics across all of the CEOs studied – much of which is congruent with the work done by Jim Collins.

CAPITAL ALLOCATION

"Capital allocation is a CEO's most important job."
William Thorndike, "The Outsiders"

All of the CEO's studied ranked capital allocation as their main job. The Outsiders understood the importance of capital allocation and thought that it should not be delegated out. They were intensely focused on returns on investment and how they could allocate their capital to achieve the highest possible return. This didn't mean that they created complicated models. The opposite in fact. The study showed that the Outsiders focused on key assumptions and conservatism, many had single-page analytic templates. Many of the Outsiders had minimum return hurdle rates, at which they would not allocate money to investments that would not conservatively meet the expected return.

"The first law of capital allocation — whether the money is slated for acquisitions or share repurchases — is that what is smart at one price is dumb at another."
Warren Buffett, "Berkshire Hathaway Letters to Shareholders, 2011"

The Outsiders all had an unwavering focus on maximising value per share. This meant that they were not mindlessly growing the company or empire building to satisfy their ego or lust to be on the cover of magazines. Rather they were focused on prudent high-return growth in relation to the overall share count. This often came in the form of opportunistic repurchases of their own shares or acquisitions at incredibly cheap prices.

"With an outstanding reinvestor at the helm, even an ordinary business can become a remarkable compounding machine."
Chuck Akre, "What do we mean by reinvestment"

Share repurchases are often used by businesses to prop up the price of their stock or to offset option grants. However, share repurchases are wildly misunderstood and misused. Share repurchases are only value creating for the remaining shareholders if the shares repurchased were done so below the intrinsic value of the business. The opportunity to repurchase stock often comes when the market perceives the business or the broader operating environment to be in some sort of trouble. However, the data clearly shows that businesses broadly repurchase stocks when everything is going well and stock prices are above intrinsic value, and refuse to repurchase stocks when there is great uncertainty in the environment and stocks are well below intrinsic value. The Outsiders all repurchased their own stock aggressively during periods of extreme fear, when other businesses were conserving cash and halting stock repurchases. 7 out of the 8 CEOs purchased 30% or more of their own stock during the 25 year period, only doing so in powerful bursts when there was heart-wrenching fear in the market and their stocks were trading well below intrinsic value. The Outsiders being natural contrarians also sold their stock or used their stock to acquire other businesses when their own stocks were overvalued and there was extreme greed in the markets. These contrarian actions helped contribute to the massive outperformance in the stocks of the Outsider businesses.

"The companies in which we have our largest investments have all engaged in significant stock repurchases at times when wide discrepancies existed between price and value."
Warren Buffett, "Berkshire Hathaway Letters to Shareholders, 1984"

It is well known that many, if not most, acquisitions are value destroying as the acquiring companies overpay to acquire control of a business, usually doing so when the operating environment is stable and valuations are high. Conversely the Outsiders all made incredibly value creating acquisitions, often during times of sheer pessimism in the market and often very large acquisitions that completely transformed the business. All 8 of the Outsiders made an acquisition that was at least 25% of the market cap of the company. When acquiring businesses the Outsiders did so only when the acquisitions could conservatively deliver high returns. This meant that when it came to acquisitions the CEOs had to have immeasurable patience alongside a ferocious confidence for occasional bold action. This is an unusual combination. In one case Dick Smith at General Cinema waited an entire decade before the right opportunity emerged.

"Capital allocation decisions are amongst the most important decisions which management of companies make on behalf of shareholders."
Terry Smith, "Investing for Growth"

The Outsiders understood that it was not the earnings printed on financial statements that created value, it was the cash that flowed from the business that generated value. Earnings can be misleading and are easily manipulated. Just as the Outsiders did, investors must be focused on the cash flowing from the business in relation to the capital that is invested in the business. All the Outsiders had their own idiosyncratic metric of measuring and tracking value creation. It is important that a CEO recognising what metric is crucial in generating value that is also specific to the business.

"Investors, therefore, must be alert to the capital allocation process. Returns should be the first order of consideration, and earnings growth should come second because earnings growth can be good, bad, or indifferent based on the economic returns."
Michael Mauboussin, " Expectations Investing"

The Outsiders had an unusually intense focus on tax. Many of the metrics adopted by Wallstreet avoid measuring tax as a cost – EBIT, EBITDA – but the Outsiders understood that tax is a very real cost to the business and one that can be legally reduced. Reducing tax liabilities often means reducing accounting profits, which is often the opposite of what most CEOs are trying to do. Many CEOs will "juice" earnings to please shareholders and win the attention of the media. Conversely, the Outsiders did not mind reducing accounting earnings, via such actions as aggressive deprecation charges, and continual investment in the business, saving the business substantial amounts that could be used to create more value.

"Alongside a strong business model and exceptional people, abundant reinvestment opportunities are the key to high rates of compounding returns."
Chuck Akre, "What do we mean by reinvestment"

One way we can measure a CEO's ability at capital allocation is The Buffett Test. Buffett proposes a simple test – has the CEO created at least a dollar of value for every dollar of retained earnings over the course of of his/her tenure. This simple but tough test is a great way to quantify whether a CEO with a long enough track record has good capital allocation skills. However, as with everything in investing we are more concerned about the future and how the CEO will allocate capital in the future. Given a long enough time horizon the past value created by a CEO can be a good judge of the future value creation that can be expect in the future.

"The lack of skill that many CEOs have at capital allocation is no small matter: After ten years on the job, a CEO whose company annually retains earnings equal to 10% of net worth will have been responsible for the deployment of more than 60% of all the capital at work in the business."
Warren Buffett, "Berkshire Hathaway Letters to Shareholders, 1987"

INDEPENDENT THINKERS

"It is impossible to produce superior performance unless you do something different from the majority,"
Sir John Templeton

All of the iconoclastic Outsiders were independent thinkers that eschewed conforming with Wallstreet's expectations. None of the Outsiders gave earnings guidance and all but completely avoided media interaction. Although guidance can give investors reassurance and clarity into where the business is going, it also boxes in CEOs as they don't want to come across as inconsistent. Rather than give guidance many of the Outsiders treated their shareholders as partners and helped them understand the business without giving guidance, making sure that the accounting and the long term vision was very clear.

Avoiding calls with analysts and creating an insulated bubble from the hyperactive world of Wallstreet allowed the Outsiders to take a very long-term and patient view while everyone else around them was fudging numbers to hit quarterly guidance and making decision based on short-term outcomes. A CEO who has the ability to take a long-term perspective and that can invest today for the far off future has a huge advantage over his/her peers.

DECENTRALISED ORGANISATIONS

The Outsiders ran highly decentralised organisations, pushing down operating decisions to the local levels while keeping capital allocation centralised in headquarters. During the Outsiders interviews Charlie Munger said that these companies were "an odd blend of decentralised operations and highly centralised capital allocation". The more local a company's strategies are, the better the execution tends to be. Localism facilitates decentralisation—and since the days of Alfred Sloan, decentralised management has consistently served as a superior structure for concentrating top management's attention on capital allocation while local management focus on exploiting local advantages. Moreover, decentralised structures foster entrepreneurial spirit amongst local managers and give employees throughout the organisation an owner-mindset that can lead to increased innovation and efficiency.

Charlie and I mainly attend to capital allocation and the care and feeding of our key managers. Most of these managers are happiest when they are left alone to run their businesses, and that is customarily just how we leave them.

Warren Buffett "The essays of Warren Buffett"

CEO FANATICISM

"When some idea is shaking you so hard, you're willing to go into poverty to make it a reality, that's when you become an entrepreneur."

Reed Hastings, founder of Netflix, Taken from Ian Cassel & Sean Iddings, "Intelligent Fanatics Project"

Business is brutal and most businesses will not survive. It takes a lot of hard work and dedication to build a Compounder. Therefore, we want our CEOs to be what Charlie Munger would call "Intelligent Fanatics". Intelligent Fanatics are exceeding dedicated to building a company and most importantly an iconoclastic culture. Culture matters. It is one of the most enduring competitive advantages. In Cassel & Iddings book about Intelligent Fanatics they reference to the findings of a study conducted in 1992 by John Kotter looking at what makes a great company great - "Interviews with industry experts, insiders, and financial analysts indicated that the only thing that separated the outstanding companies from their peers was the quality and adaptability of their corporate cultures.". A corporate culture starts with leadership that is obsessed with building a durable company and setting the foundations for a persistent culture. We want leaders that lead by example, spear heading the charge to building an exceptional culture.

Intelligent Fanatics with an unwavering dedication to the company and culture have a magnetic pull, other great people can't help but join their mission. The best CEOs tend to build a team of equally dedicated fanatics around them. By demonstrating a strong commitment to their values and integrity Intelligent

Fanatics earn the trust of their employees and manage to retain the best. Having the right people on the bus is a huge advantage.

"Intelligent fanatic = (Long-term vision + Intelligence + Energy + Perseverance + Execution) x Integrity"

Ian Cassel & Sean Iddings, "Intelligent Fanatics Project"

OWNER OPERATORS

"Bureaucracy is a construction by which a person is conveniently separated from the consequences of his or her actions."

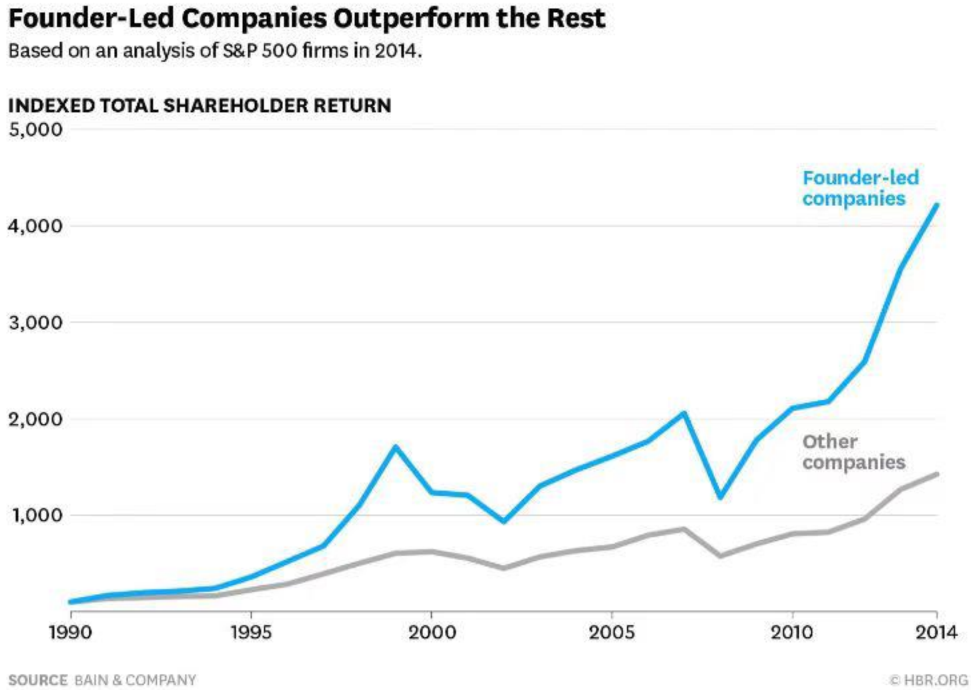
Nassim Nicholas Taleb, "Skin in the Game"

In public companies there is frequently agency problems. CEOs are not necessarily aligned with the shareholders and the structure that CEOs operate in can often incentivise them to take actions that does not create value for the shareholder. A classic example of this would be a CEO that owns little or no stock and has a bonus that incentives revenue growth without regard to per share value. That CEO is likely to use stock as currency for unfocused revenue growth. These types of incentive structures, time and time again, lead to empire building and acquisitions that leave the company in a bloated and chaotic state.

My experience as a money manager suggests that entrepreneurial instinct equates with sizeable equity ownership…. If management and the board have no meaningful stake in the company – at least 10 to 20% of the stock – throw away the proxy and look elsewhere"

Martin Sosnoff, "Silent Investor Silent Loser"

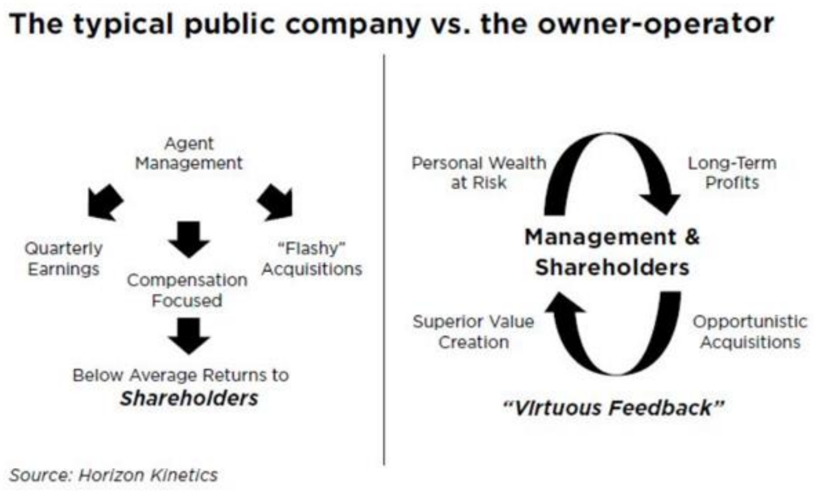
One way that as investors we can try to put the odds in our favour is to partner with CEOs that have a large part of their own net worth invested in the business. Money talks. If the CEO has money on the table it is more likely that the CEO will be focused on value creation vs growth at any cost. When we look for Compounders we are looking for CEOs with an "owner-mindset". This means that we don't necessarily prefer a founder CEO but we want the CEO to act and feel as if the business is his/hers and that they are actually risking something. They have "skin in the game". As a caveat to this the CEO must see shareholders partners and treat them as owners – which they are. At the end of the day the shareholders own the only permanent aspect of the business, the equity. We actively avoid CEOs who treat the company as their own personal play fund, or that treat shareholders as something other than the owners of the business. Although we want management to have an "Owner-mindset", in combination with a disregard for shareholders an "Owner-mindset" can lead to pretty devastating outcomes for shareholders and it is likely that shareholders will never obtain any value created rather the business will turn into a dynastic play fund.



"As usual in human affairs, what determines the behaviour are incentives for the decision maker, and "getting the incentives right" is a very important lesson"
Charlie Munger, "Poor Charlie's Almanac"

Not only do we like to see management with "skin in the game" but we want to see the "owner-mindset" permeated throughout the business. This is usually found in companies that run a decentralised structure where local management are given a lot of autonomy and have their own "skin in the game". This can also arise from serial acquirers that acquire less than a 100% of companies requiring that management of the acquired firm retains a stake in the business. In whatever form it takes we are looking for management with aligned incentivises, preferably with "skin in the game" and a decentralised structure that unleashes the power of entrepreneurship. Other than making intuitive sense, there are studies that have shown evidence that management with "skin in the game" outperform the broader market.

"What are the odds that people will make smart decisions about money if they don't need to make smart decisions--if they can get rich making dumb decisions? The incentives on Wall Street were all wrong; they're still all wrong."
Michael Lewis, "The Big Short"



"Don't tell me what you think, tell me what you have in your portfolio."
Nassim Nicholas Taleb, "Skin in the Game"

Ruedieger Fahlenbrach 2007, looked at the stock price performance of founder led business compared to the overall market from 1993 – 2002. Despite the relatively short timeframe studied his findings are congruent with those found by other researchers, companies with owner operators, whether it is founder-CEOs, family-CEOs, CEO's with "skin in the game" outperform the general stock market. Fahlenbrach found in his research that founder CEOs invested far more in R&D, long term projects and value creating acquisitions.

"Founder- CEO led firms not only have a higher firm valuation than non-founder-CEO firms, but also a higher stock market performance. Furthermore, they undertake more acquisitions in their core business, and invest more in R&D and capital expenditures.

Villalonga and Amit (2006) have recently demonstrated that the previously identified higher valuation of family firms (e.g., Anderson and Reeb (2003)) appears to be mostly driven by family firms with founder involvement. Merely a large ownership stake by descendants of a founding family does not appear to influence valuation. Adams et al.'s (2006) and my results confirm this finding and establish that causality appears to run from founder-CEOs to higher valuation. In addition, my results contribute to our understanding of what makes firms with founder-CEOs special. The investment behavior of founder-CEOs is consistent with the characteristics ascribed to founder-CEOs in the literature and suggests that founder-CEOs have a large impact on the decisions taken by their organizations."
Ruedieger Fahlenbrach "Founder-CEOs, Investment Decisions, and Stock Market Performance, 2007"

VALUE CREATING GROWTH

"We have concluded that the only real way to measure the success of an investment is by identifying the real growth in economic value per unit of ownership."
Chuck Akre

As investors, over the long term, we can only expect to earn roughly our share of the underlying business' profits. Therefore, it is intuitive that as the claimants of a business' profits we want those profits to grow. It is clear from the data that growth is a key component to enduring Compounders. In Oswal's study of Indian 100-baggers he wrote the most important factor is "GROWTH in all dimensions – sales, margin and valuation". Moreover, the famed Motley Fool founders Tom and David Gardner found that sales growth was a key attribute of the best preforming Compounders. Their research has shown that the best preforming stocks grew their sales at rates much higher than GDP.

"The ideal business is one that earns very high returns on capital and could keep using lots of capital at those high returns. I mean that becomes a compounding machine."
Warren Buffett

However, less intuitively so we want profits to grow only when that growth is value creating. To the uninitiated this might seem like investment jargon or expect some complicated formula. In reality it is a key determinant in creating long-term shareholder wealth and quite simple. An investor lays out money today to get back more in the future, how much more money one requires to be returned to them in the future based on their perceived odds of getting that money, is the risk adjusted cost of capital (one would probably require a higher expected return to give a $100 to some disreputable business after watching a Matt Damon commercial than they would require to give $100 to their trusted bank). It is the same for a business, they have an opportunity set of investments that they can make, and the only way that those investments create value is if the future cash that will be generated from capitalising on a particular opportunity is greater than the cost of capital (the return demanded by investors).

"Indeed, growth can destroy value if it requires cash inputs in the early years of a project or enterprise that exceed the discounted value of the cash that those assets will generate in later years. Market commentators and investment managers who glibly refer to "growth" and "value" styles as contrasting approaches to investment are displaying their ignorance, not their sophistication. Growth is simply a component — usually a plus, sometimes a minus — in the value equation."
Warren Buffett. 2000 Annual Letter

As investors we are not focused on the accounting earnings. We can't pay rent with EBITDA. What we are focused on is the cash that will be generated from growth. Companies can manipulate accounting earnings or try to distract investors with non-GAAP adjusted metrics that hide what is really going on in the business (*see Glossary for explanation of non-GAAP*). Some 10Ks are an alphabet soup of metrics designed to fool investors into thinking the company is generating a much high cash return than it is in reality (*see Glossary for explanation of 10Ks*). We want to follow the cash. We also want management that are similarly focused and that give investors a clear picture of the cash that is being generated from the capital that is employed in the business.

"The profound point is that the critical link between growth and value creation is the return on incremental capital. Since share prices tend to follow earnings over the long term, the more capital that can be deployed at high rates of return to drive greater earnings growth, the more valuable a company becomes. "
Lawrence A Cunningham, "Quality Investing: Owning the Best Companies for the Long Term"

This leads us to the metric that we use to determine how much value is being created by the capital that is employed in the business – Return on Capital Employed (ROCE), calculated as Earnings Before Interest and Tax (EBIT) divided by assets minus current liabilities (Capital Employed). This is a great metric for comparing how efficient businesses are at using the assets employed at the firm. Firstly unlike metrics such as profit margin it takes into account how much capital is needed to generate the profit. For example when comparing two companies both with $500,000 in revenues. Company A has an EBIT margin of 15% and company B has an EBIT of 10%. However, company A is a ship builder that needs big factories and lots of equipment to build its ships, therefore has capital employed of $1,000,000. On the other hand, company B is a software business that has very little physical assets and only has $100,000. Company A is generating $75,000 of EBIT off $1,000,000 of capital meaning a ROCE of 7.5% . Company B is generating $50,000 of EBIT off $100,000 of capital meaning a ROCE of 50%. For every $100 invested in company A the investor is only getting $7.5 a year. For every $100 invested in company B the investor is getting back $50 a year. We can clearly see from this extreme example that although profit margins are important they are only important in the context of the capital needed to generate that profit.

"Hence, to sustain healthy growth in cash flows and earnings over the long term, a firm needs to first establish sustainable competitive advantages and high pricing power, which help generate high RoCEs. Thereafter, it needs to reinvest future cash flows in areas that deliver high RoCEs too."
Saurabh Mukherjea "Diamonds in the Dust"

Secondly, ROCE ignores the effect of different tax rates and interest rates that companies might be subjected to, and purely focuses on how efficient are the businesses at using the capital in the business. This makes it a good metric for comparing companies in the same industry that operate under different tax jurisdictions.

"Return on capital employed is one of the most important measures of corporate performance – it is the profit return which the management earns on the capital shareholders provide."
Terry Smith, "Investing for Growth"

Finally ROCE accounts for the leverage in the business. Other metrics such as the Return On Equity (ROE) do not account for leverage (*see Glossary for explanation of Return on Equity*). Highly leveraged companies will have only a small amount of shareholder equity as part of their capital structure. Because the denominator is very small, highly leveraged companies will have very high returns on equity even if they are using their assets very inefficiently.

"value increases only when the company earns a rate of return on new investments that exceeds the cost of capital." Michael J. Mauboussin "Expectations Investing"

A company will generate economic profits on its capital employed only when its ROCE is greater than the cost of capital. As always we are interested in the future returns on the incremental capital that will be deployed by the business. This can be described as a business' future Earnings power: Earnings power reflects the future ability of the business to earn above average rates of return on capital.

ROIC isn't one of those metrics that is necessarily subject to 'reversion to the mean'. Some businesses seem to be able to widen their moats at reasonable cost."
Mark Leonard, "Constellation Software Inc, President's Letter 2013"

There are many businesses that have fantastically high ROCEs but do not have any further high-return opportunities to deploy more capital. For businesses without high-return opportunities to deploy capital the best thing those businesses can do is to return the excess cash generated from operations to shareholders so that they can then redeploy that cash elsewhere. Although these low-growth high cash flow businesses can generate a satisfactory return for shareholder they are unlikely to generate the long-term outstanding returns a growing Compounder will. Moreover, steady state cash cows are rarely mis-priced by the market as future cash flows are very easily calculated – this type of stock turns into a "Bond-proxy" (*see Glossary for explanation of Bond-Proxy)*. To help identify businesses with a long runway of opportunities to deploy new capital at returns well above the cost of capital, we look at what has worked in the past and use a range of concepts developed by others.

"The power of quality growth companies stems not just from their high rates of return, but the ability to continue reinvesting their earnings at the same high rates of return."
Peter Seilern, "Only The Best Will Do"

RELATIVE SIZE

"A business ought to be able to self-fund its own growth, and if the opportunity set is large, then the return on capital needs to be suitably high. Second, barriers to entry should increase with size; that way a company's moat is widened as the firm grows."
Nick Sleep, "Nomad Investment Partners Annual Letter 2007"

It is clear that for a business to grow the size of the industry it serves must be bigger than it is. If a company has 100% marketshare of an addressable market then it can only grow as fast as the overall market. The markets in which the company can add value to the customer and at the same time have a good chance of earning an economic profit is a business' Total Addressable Market (TAM). Often overly-promoting companies will cite huge TAMs that are unrealistic in the sense that every person on earth could buy a home printer, but it is unlikely that they will, therefore the real TAM for a printer company is only the small amount of the population that has a need for a home printer and for whom the company can fill that need while earning an economic profit. Therefore, it is the job of the investor to ignore the sales pitches of gregarious CEOs and to calculate for themselves a conservative estimate of the size of the market in which the company can add value at an economic profit.

Once we have come up with a conservative estimate of the true TAM of a business, then we must analyse the competitive forces within the industry to come up with another conservative estimate of the marketshare that the business could reasonably capture while maintaining returns above the cost of capital. This will inevitably lead an investor to analysing the competitive landscape. If the industry is characterised by a few strong players it might be unreasonable to assume that the business can easily capture marketshare. Conversely if the industry is characterised by many small firms it might be prudent to assume that an enterprising founder with access to cheap capital could capture a large part of the market. Markets with Network Effects are much more likely to lead to winner-take-all markets than those without. TAM analysis can only be done by understanding the industry and the company's competitive advantages.

When we have a conservative guess of TAM and the likely marketshare a company can capture then we can compare that opportunity set to the current size of the business to get a rough estimate of how long the business can grow for. Although we want businesses with long runways of growth we also don't want them to operate in industries with competent competition that will inevitably compress returns.

ECONOMIC TAILWIND

"A star business has two attributes: ★ it is the leader in its market niche; and ★ the market niche is growing fast, at least 10 per cent a year."
Richard Koch, "The Star Principle"

One way in which we can find companies that with a dominant market position and a long runway for growth is if a company dominates a particular industry and that industry has long economic tailwinds – its likely to grow for a long time. Amazon is a great example of this, it cemented itself early on as a dominate player in online retail while it was still a tiny market. Then as the market grew so did Amazon – of course this is only one aspect of this amazing wealth creation story.

We like to find businesses with clear competitive advantages in an industry that is growing. As the industry grows so will the business, as the business grows so will its competitive advantages. One aspect of this model is that the industry must be growing but it also cannot be the "sexy" industry that everyone wants to get into. These popular industries that are featured on hype-programs and whose CEOs adorn the cover of magazines are ordinarily characterised by high rates of change and the stability of any dominate marketshare cannot be relied upon. Look at how many "kids" disrupted the personal computer space from their parents' garage.

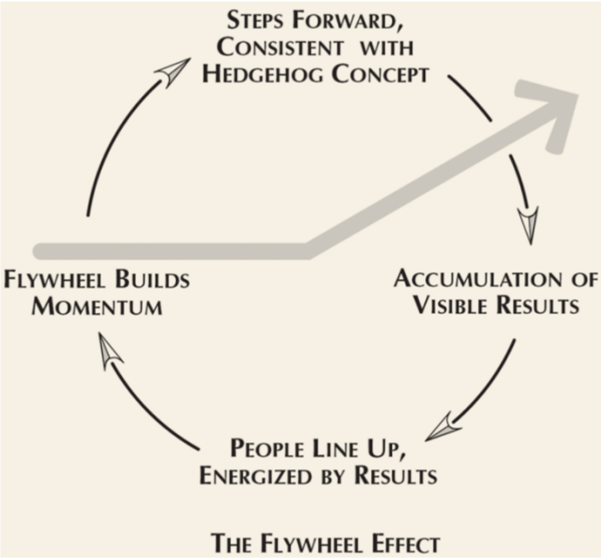
When looking at dominate companies in industries with a long runway for high growth rates it is important that the investor understands how the industry dynamics will change as the industry grows. Here it is very clear that value creating growth and Moats are inseparable.

FLYWHEEL

"it feels like turning a giant, heavy flywheel. Pushing with great effort, you get the flywheel to inch forward. You keep pushing, and with persistent effort, you get the flywheel to complete one entire turn. You don't stop. You keep pushing. The flywheel moves a bit faster. Two turns . . . then four . . . then eight . . . the flywheel builds momentum . . . sixteen . . . thirty-two . . . moving faster . . . a thousand . . . ten thousand . . . a hundred thousand. Then at some point—breakthrough! The flywheel flies forward with almost unstoppable momentum."

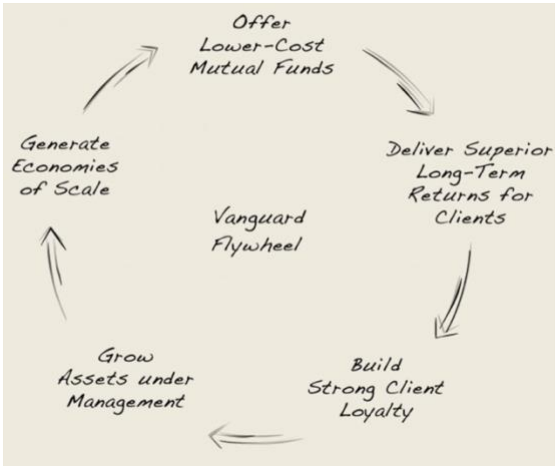
Jim Collins, "Turning the Flywheel"

During the research process from "Good to Great" Jim Collins and his team kept asking about what was the moment or the thing that turned the company from good to great. From the outside it clearly looked as if there was a sudden turning point in the company's history where everything fell into place and the business (and share price) just took off. However, what they unanimously found was that there was never one moment. It was always a series of small consistent steps in the right direction over a long period of time that led to this great big compounding effect that soon became unmissable. Jim Collins named this the Flywheel.



Source Jim Collins, "Good to Great"

The Flywheel can be described as a set of steps that as each one is successfully completed then the next step is almost inevitable. This is the key to the Flywheel. It is not just a bunch of unrelated goals written in a circle. It is a series of interwoven steps that compound on each other, as each step is completed it makes the next step almost self-fulfilling. As more and more steps are successfully completed the Flywheel gets stronger, momentum starts to build and a compounding effect takes place, with power law outcomes. As always with compounding the effect is back-ended and so it is not patently obvious to outsiders until the Flywheel is in full swing and has almost unstoppable momentum. This is where the opportunity lies for enterprising investors willing to take the time to understand the strategies employed by businesses. It is possible to see a Flywheel before it builds full speed and is recognised by the market, but it takes a deep understanding of the strategy and faith in the management to execute.



Source Jim Collins, "Turning the Flywheel"

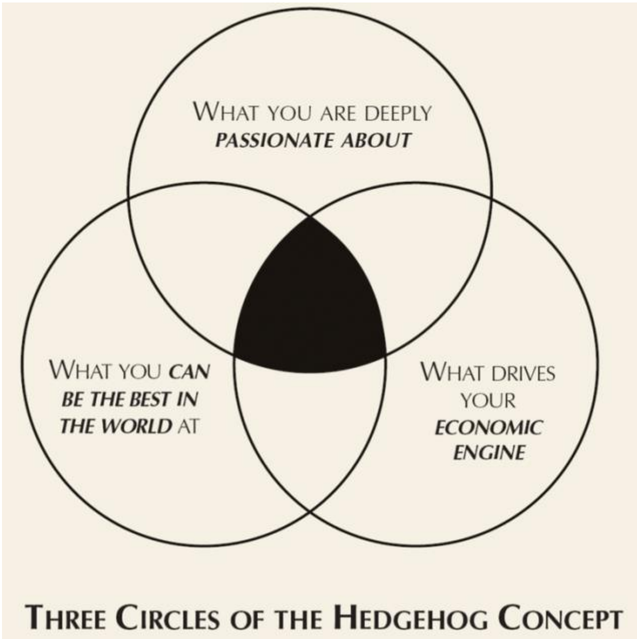
Amazon adopted the Flywheel concept at the heart of its strategy, learning it directly from Jim Collins and then developing the framework further. In hindsight the Amazon Flywheel seems obvious, how could it not succeed. However, until a Flywheel starts to gather momentum any hiccup along the way at any of the steps can suddenly stop the Flywheel in its track. Faith in management's ability to execute is paramount when betting on a Flywheel that is not yet at Critical Mass.

Source Jim Collins, "Turning the Flywheel"

If built around an area in which the business has clear competitive advantages then the Flywheel will be a machine of magnificent value creation that once past a certain velocity will almost be impossible to stop. Moreover, the fact that the effects of compounding are back-ended means that it is possible to spot a Flywheel before it is obvious to the market. Another implication is that it is unnecessary to invest in a business during the first few turns of the Flywheel. Investing in an already established Flywheel can lead to marvellous outcomes as the real compounding effects happen after the Flywheel has been gaining momentum for sometime. It is important that the Flywheel is situated in area where the business has real competitive advantages and where they could potentially be the best in the world at something. This is what Jim Collins terms a company's Hedgehog.

HEDGEHOG CONCEPT

"The essence of strategy is choosing what not to do."
Michael Porter, "What Is Strategy?"



Source Jim Collins, "Good to Great"

Jim Collins and his team came up with this idea of the Hedgehog Concept – similar to the Japanese concept of Ikigai - to illustrated where a company had particular strengths and where growth is likely to be value creating. A key finding from the Good to Great research was that the good to great companies grew within their Hedgehog, whereas the comparison companies expanded outside of their Hedgehog. This is what leads to the value incinerating practice of empire building.

The term, Hedgehog Concept, comes from an essay done by Isaiah Berlin based on the Ancient Greek parable: "The fox knows many things but the hedgehog knows one big thing". The story goes that the fox has all these cunning ways to attack the hedgehog but in the end fails every time because the hedgehog has one well-practiced manoeuvre. To make himself into a spiked covered ball. It is the same for businesses, we want a business that does one thing very well, where it has one well-practiced enduring area of expertise in which it can grow.

There are three key aspects of the Hedgehog Concept which if not all simultaneously present cannot be a company's Hedgehog. First is that the area in which the company is trying to grow must be an area where the company is or has the potential to be the best in the world. Secondly, the company must only compete in areas that can drive the economic engine, the ability to earn an economic profit. Lastly the company should only compete in areas where it is deeply passionate. This comes back to a company being a group of people. If those people aren't passionate and motivated about what they are doing, as soon as they come up against an organisation full of highly motivated people they won't stand a chance.

The Hedgehog Concept is not a strategy. It is a deep understanding that permeates throughout a business. The Hedgehog Concept gives us a framework to differentiate between value creating growth and empire building. Is management using shareholders' precious capital to grow within their Hedgehog or are they choosing to grow outside of their Hedgehog and therefore likely to destroy value. The history of Wallstreet is a graveyard of once great companies that tried to expand outside their Hedgehog and suffered irreversible impairment as punishment.What we see when companies try to expand outside of their Hedgehog is that they become unfocused, inconsistent and value destroying. The apparent synergies from the different business lines rarely seem to materialise.

Interestingly, from the Outsiders research it was suggested that at the business level you want a company that is a Hedgehog, only growing in the areas where it has the ability to be the best in the world. On the other hand, you want the CEO to be a fox, who knows many of the world's big ideas and that is able to adapt to the ever changing world. As Charlie Munger likes to say "To a man with a hammer, every problem looks like a nail.", we want a CEO to have a wide range of tools in his/her toolkit.

"Companies that grow for the sake of growth or that expand into areas outside their core business strategy often stumble. On the other hand, companies that build scale for the benefit of their customers and shareholders more often succeed over time."

Jamie Dimon

SERIAL ACQUIRERS

Serial Acquirers can generally be described as businesses where management is using the acquisition lever to drive growth. Other than that it is very difficult to generalise Serial Acquirers. Some acquire many hundreds of small businesses, some acquire a few large ones. Some acquire businesses only in a certain industry others will acquire any business at the right price. Scott's Management has developed a good framework for sub-categorising Serial Acquirers.

Buckets of Serial Acquirers

Type	Roll-up	Platform	Accumulator	Hold Co
Degree of Integration	High			Low
Attributes	Commodity-like product Scale-driven synergy targets	Product differentiation, clustering of subsidiaries Shared operational excellence programs	Product differentiation, little to no integration Shared operational excellence programs	Portfolio of unrelated businesses Influence only-via board representaiton
Examples	Waste Mgmt, Berry Global, Johnson Service	Danaher, Roper, Interpump, Lifco, Assa Abloy	Constellation Software, Addtech, Judges Scientific, Vitec Software	IAC, Leucadia, Bollore, HAL Holding, Investor AB

Source Scott's Management, "Serial Acquirers 2020"

Serial Acquirers grow by acquiring other businesses and can deliver massive wealth creation to their owners if done correctly. One feature of Serial Acquirers is that they have a tendency to expand their "TAMs", meaning that they are constantly opening up their business to new opportunities. Furthermore, it often extends the runway for high-return investment opportunities. As with all growth we are most likely to find value creating growth within a company's Hedgehog. Regardless, there is an impressive list of Serial Acquirers that have used the "Hold Co" model where the chief capital allocator has their own Hedgehog – to create value from buying under valued businesses no matter the industry. At the same time, at the operating level the Hedgehog concept is also pushed down to the operating businesses so that each business within the Hold Co runs with their own Hedgehog.

"In some verticals, we are not the #1 or #2 player… If we are a small market share player and are unable to grow share via acquisition, we target a defensible niche within the overall market where we can differentiate our offering to compete effectively."
Mark Leonard, "Constellation Software Inc, President's Letter 2015"

Serial Acquirers are often disregarded by the market because of damming reports about how acquisitions destroy value for shareholders. Such as the research done by McKinsey that concluded that only about one-third of deals create value, while two-thirds are value neutral or value destructive. While it may be true that many acquisitions have led to value destruction for shareholders, it would be wrong to dismiss Serial Acquires many of which have generated incredible returns for shareholders – Berkshire Hathaway, Danaher and Constellation Software are just some of the Serial Acquirers that are magnificent wealth creators. There are a few common characteristics amongst the most successful Serial acquirers that we can look for.

"We are the anti-economies of scale company. We believe in small teams outperforming large teams, and so given the choice of taking a 200-person business and buffing it up into two smaller ones, we would much prefer to do that and believe that the benefits are there as opposed to ramming businesses together, firing a bunch of people and moving a bunch of work offshore."
Mark Leonard

DECENTRALISED

One characteristic among many of the successful Serial Acquirers is that they structure the business in a decentralised structure allowing entrepreneurship to flourish at the operating level. This often goes hand in hand with Serial Acquirers acquiring founder led companies and having that founder stay on. Serial Acquirers including Kelly and Partners will acquire a controlling share of companies but the founders of the business must still maintain a large ownership stake. This aligns the incentives of management from the acquired firm with that of the acquiring firm. Then giving those founders the freedom to run the business as if it was still their own. This can really unleash the power of passion and innovation.

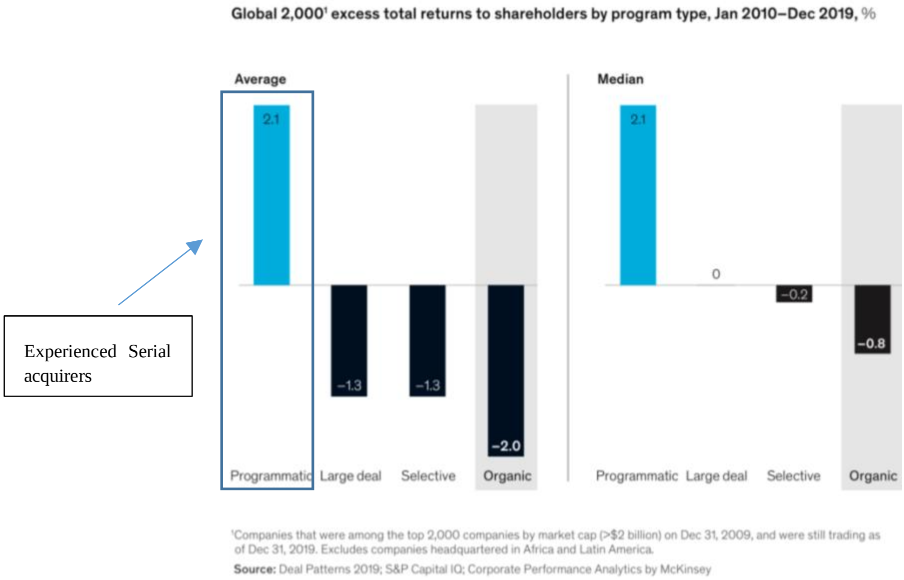
"Our favorite and most frequent acquisitions are the businesses that we buy from founders. When a founder invests the better part of a lifetime building a business, a long-term orientation tends to permeate all aspects of the enterprise: employee selection and development, establishing and building symbiotic customer relationships, and evolving sophisticated product suites. Founder businesses tend to be a very good cultural fit with Constellation, and most of the ones that we buy, operate as standalone business units managed by their existing managers under the Constellation umbrella."
Mark Leonard, "Constellation Software Inc, President's Letter 2013"

A decentralised structure must be accompanied by a delegation framework free of bureaucracy and red-tape. The CEO must guide the business through a strong culture of integrity, trust and the right incentives. If a Serial Acquirer has a decentralised structure but operates with a myriad of ridged requirements, convoluted corporate rules and bureaucratic peacocking then any shred if entrepreneurial spirit will surely be crushed. Culture is important in any business but none more so than decentralised Serial Acquirers where often the whole system functions on a great deal of trust between the head office and the operating businesses.

DISCIPLINED ACQUISITION APPROACH

It can be very easy for Serial Acquirers to start losing their discipline when acquiring companies. They start pursuing lower quality businesses or start to justify paying higher earnings multiples because of "synergies" or "cross-selling". While synergies and cross-selling can be genuine benefits to Serial Acquirers, in reality they rarely turnout to deliver as much cost savings or opportunity as one expects. Because a Serial Acquirer chooses to grow through acquisitions we must apply our value creating growth models to acquisitions. Are acquisitions conservatively offering an adequate risk-adjust return? If a Serial Acquirer has a long enough history, investors should look diligently at if past investments created value. If so have the standards that once created so much value slipped and management has started employing non-GAAP-non-cash metrics to try justify paying more. We prefer Serial Acquirers that have an explicitly stated minimum Internal Rate of Return (IRR). That way as investors we can hold management accountable if their acquisitions have not met that minimum IRR over a long period of time.

EXPERIENCED ACQUIRERS



Many of the greatest Serial Acquirers get better as they gain more experience at integrating companies into their culture. This in itself is a Moat. A type of intellectual property. This is why many of the best Serial Acquirers have gone down the route of acquiring a vast number of small companies like Constellation Software and Marlowe Plc have done. Both of these companies and others similar to them acquire hundreds of small companies, that gives head office a lot of opportunity to make mistakes and refine their modus operandi. This is analogous to Jim Collins' Bullets and Cannonballs framework. Companies should fire many bullets and calibrate their line of fire, rather than just firing all their gunpowder into an all or nothing cannonball. The evidence supports the case that companies that systematically acquire many smaller businesses and create a successful integration approach create the most value out of those companies that complete acquisitions. A McKinsey study of 2000 businesses from 2009 – 2019 (*Referenced in the graph above*) found that on average all categories of acquires underperformed the market, apart from programmatic acquirers, which are our experience Serial Acquirers that have developed an acquisition culture and a systematic integration approach. A decentralised entrepreneurial culture and proprietary knowledge gained from integrating many acquisitions leads to an incredibly hard to replicate Moat that has been shown to endure for a long time.

SPAWNERS

Spawners is a term coined by investment luminary Mohnish Pabrai to describe businesses that due to their culture (or in Pabrai's words, their "DNA"), have the ability to consistently expand their Hedgehogs and growth runway via internally funded R&D or acquisitions. Spawners are able to incubate new businesses that have the potential be the next big growth engine for the company.

Pabrai gives us a framework of five different sub-categories of Spawners. Adjacent Spawners – companies that are able to Spawn new businesses in adjacent markets to their original Hedgehog, for example Apple, Macintosh computer, iPod, iPhone, iPad, AirPods and so on. Embryonic Spawners – companies that are able to acquire small new businesses and grow them into large dominate businesses, for example Alphabet (parent company of Google), acquired DoubleClick, YouTube, Android and Maps when they were all relatively small businesses and grew them into huge growth engines. Cloned Spawners – companies that take the ideas of others and build successful copies, for example Microsoft with Explorer, Azure, MS-DO and most of Microsoft's other products. Non-Adjacent Spawners – Companies that create new Hedgehogs that are unrelated to the original – Johnson & Johnson has an army of more than 250 strong competitive brands in industries spanning pharmaceutical manufacturing, skin & beauty products, surgical implants, medical devices, household essentials like mouthwash and tampons, infant milk formula and much more. Finally there are the Apex Spawners these are the crème de la crème of Spawners, their DNA is so strong that they can't help but continually keep expanding their Hedgehogs. For example Amazon and Berkshire Hathaway they have been consistently able to create or acquire new growth engines for decades and expect them to keep doing so. Spawner DNA goes well beyond Bezos or Buffett. The Apex Spawners have growth ingrained in the DNA. This ability to consistently extend the value-creating growth runway leads to incredible results for the owners.

"It's the increase in a company's per share value, however, not growth in sales or earnings or employees that offers the ultimate barometer of a CEO's greatness"
William Thorndike, "Outsiders"

CAPACITY TO SUFFER

"Managements must be allowed to incur near-term burdens on reported profits when investing to seek long-term growth in intrinsic value on a per share basis"
Tom Russo

A term established by renowned investor Tom Russo, Capacity to Suffer is the ability afforded to a few strong companies to endure negative short-term performance in order to boost long-term value. Businesses must have a confluence of factors present for them to be able to experience pain today for gain tomorrow. The great Compounders must have very strong management, a wide Moat and a long value creating growth runway, but it is not enough. They need to be able to endure for the long-term to allow the true wonder of compounding to take place.

"If everything you do needs to work on a three-year time horizon, then you're competing against a lot of people. But if you're willing to invest on a seven-year time horizon, you're now competing against a fraction of those people, because very few companies are willing to do that. Just by lengthening the time horizon, you can engage in endeavors that you could never otherwise pursue."
Jeff Bezos, taken from "The Joys of Compounding by Gautam Baid"

Companies with the Capacity to Suffer are willing to spend more on projects with long-term pay offs, sacrificing quarterly earnings. Enduring Compounders must keep investing for the future to widen their Moat over time. However, companies can only build for the long-term if focused on the long-term. An illustrative example of this was Buffett's investment in GEICO. The way GEICO's business worked was that whenever the business acquired new customers they had to book an accounting loss in the first year and only in the following years would the company be able to show a profit from newly acquired customers. Because management wanted to project healthy profits GEICO had anaemic new acquisitions. Management were focused on short-term profits over long-term value. When Buffett acquired GEICO he had the Capacity to Suffer and rather than showing profits from the newly acquired insurer, he ramped up customer acquisition which caused profits to diminish. Buffett was not focused on short-term earnings, he knew he was creating long-term value by acquiring more customers. He had the Capacity to Suffer.

"Because of the first-year costs, companies that are concerned about quarterly or annual earnings would shy from similar investments, no matter how intelligent these might be in terms of building long-term value. Our calculus is different: We simply measure whether we are creating more than a dollar of value per dollar spent — and if that calculation is favorable, the more dollars we spend the happier I am"
Warren Buffett "Berkshire Hathaway Letters to Shareholders, 1998"

The stochastic nature of the world we live in guarantees that businesses that we own will receive unforeseen shocks that could potentially land with devastating effect. We want to invest in businesses that are able to withstand or even benefit from shocks. We also don't want to invest in binary outcomes where we might lose all of our money. Companies with the Capacity to Suffer rarely suffer complete annihilation because they have prepared for the bad times and are able to take a long-term view.

"The time to repair the roof is when the sun is shining"
John F. Kennedy

It is clear that Compounders deliver the best returns to those who hold them for a very long time. One thing that is necessary for a company to endure for the long-term is a healthy capital structure. There is ample evidence that the best performers have had healthy balance sheets, and if a business is a truly great one it does not need to add leverage. In Alta Fox's case study on multi-baggers they identified that 88% of outperformers came from a position of financial health. As investors what gives us the ability to take the long-term view is investing in companies we think have a high probability of being around for the long-term. Investing in companies dependent on short-term factors leads to short-term thinking. Investing in companies with the Capacity to Suffer leads to long-term thinking.

"in a survey of 400 chief financial officers, two Duke University professors found that fully 80 percent of the CFOs said they would reduce discretionary spending on potentially value-creating activities such as marketing and R&D in order to meet their short-term earnings targets."
Gautam Baid, "The Joys of Compounding"

Mistakes will happen. High-impact, low-probability events will happen. No one can predict when they will happen but they will happen. Mistakes and shocks should be seen as learning opportunities and the opportunity to get ahead of the competition. But it is only possible to learn from the mistakes you survive. To have an enduring Compounder it is essential that it can survive and learn from mistakes. Akin to when muscles are damaged the body builds them back stronger. The same with a company, the more stressors it has experienced the more it has been able to learn and adapt. But only if it has survived.

"Endurance is not just the ability to bear a hard thing, but to turn it into glory."
William Barclay

To assess a company's Capacity to Suffer we use and build upon frameworks developed by Nassim Nicholas Taleb, Michael Porter and again we turn to Jim Collins and his team who have done excellent data driven research on companies that endure in his "Built to Last" and "Great by Choice" studies.

"You want to focus on risk before you focus on returns. A lot of it is focusing on multiple scenarios, what can go wrong? How much can you lose?"
Seth Klarman

AVOIDING TURKEYS

"The real trouble with this world of ours is not that it is an unreasonable world, nor even that it is a reasonable one. The commonest kind of trouble is that it is nearly reasonable but not quite. Life is not an illogicality; yet it is a trap for logicians. It looks just a little more mathematical and regular than it is: its exactitude is obvious, but its inexactitude is hidden; its wildness lies in wait."
Gilbert Keith Chesterton

We eschew companies that can be described as "picking up pennies in front of a steamroller". These are companies that while the sun is shining they are making a profit, things look good. But there is quite clearly a looming disaster hanging over their head. These companies are fragile with no redundancy. These companies only earn economic profits in "Goldilocks conditions". Some examples of businesses that we would broadly categorise as "picking up pennies in front of a steamroller": businesses dependent on macro factors - subprime lenders, heavily-leveraged companies, many financial businesses; businesses that could potentially to face crippling litigation –Tobacco, producers of harmful chemicals, oil; Country risk – companies located in countries where there is not a sound rule of law and governments can suddenly take everything. We don't want to expose ourselves to a negatively-skewed-asymmetric outcome distribution where heads – we win a little, tails – we lose everything. This is the opposite of what we are looking for. Furthermore, it is no good analysing the past in these situations. There is survivorship bias. If we are analysing a business it is unlikely that it has completely blown up in the past, but it doesn't mean it wont in the future. We must assess a business' Capacity to Suffer from first principals and cannot rely on past data to give us an idea of whether the company is facing down a steamroller. The absence of evidence is not the same as evidence of absence!

"In the midst of every crisis, lies great opportunity"
Albert Einstein

We think Nassim Nicholas Taleb describes these businesses perfectly using his turkey analogy. Many businesses are like a turkey born 40 days before Thanksgiving. When the turkey is born it meets this lovely person in a straw hat and dungarees, the person feeds it, gives it a nice place to sleep and keeps it safe. As time goes on things are looking well for the turkey. It's getting very plump and it doesn't have to stress about much as long as the farmer is looking after it. By day 39 it is on top of the world. It is feeling strong at a whopping 30kg and its undying love for the farmer has never been stronger. The next day is Thanksgiving, its fair to say the turkey isn't doing so well on day 40 and its feelings towards the farmer have gone from love to loth. Before day 40 there was no evidence that the turkey was going to end up on a dinner plate, but an astute outside observer, looking at the situation from first principals would quite clearly have spotted that the turkey was in a perilous situation.

"Some things benefit from shocks; they thrive and grow when exposed to volatility, randomness, disorder, and stressors and love adventure, risk, and uncertainty."
Nassim Nicholas Taleb, "Antifragile"

We want businesses that can take advantage of a crisis not ones that will get killed by it. What Nassim Nicholas Taleb terms as an "Antifragile" business. Taleb categorises objects, businesses, into three buckets, Fragile, Robust and Antifragile. Fragile businesses are those that are vulnerable to shocks – the turkeys. Robust businesses are those that are resilient to shocks, those that are not harmed to any great extent by unforeseen events. Antifragile business are those that gain from the shocks (like the hydra, cut off one head two appear). Think about businesses that emerge from a crisis stronger while its competitors lie in the ashes, burned like Icarus – Amazon after Covid, JPMorgan after the Great Financial Crisis. These businesses are rare and before a crisis it can be hard to differentiate between an Antifragile business and a merely robust one. The goal should be to expose oneself to the potential of owning an Antifragile business. Businesses with the Capacity to Suffer fall into the robust or the Antifragile category. By requiring a business to have the Capacity to Suffer, investors can significantly reduce the probability of very bad outcomes (investing in a turkey) and puts the investor in a good position to be exposed to great long-term outcomes (investing in an Anti-Fragile business). Capacity to Suffer can be seen as cutting off, or at least reducing, the left tail of the outcome distribution.

"You never want a serious crisis to go to waste."
Rahm Emanuel

ROBUST CAPITAL STRUCTURE

"Therefore, if investment is limited to outstanding situations, what really matters is whether the company's cash plus further borrowing ability is sufficient to take care of the capital needed to exploit the prospects of the next several years."
Philip A. Fisher, "Common Stocks and Uncommon Profits and Other Writings"

There are more than 5000 companies around the world that have been continuously operating for over 200 years. These enduring companies tend to be small companies in industries sheltered from sudden change. The five oldest companies consist of a construction company specialising in Buddhist temples, three hotels and one ceremonial paper goods company – all five are located in Japan. Kongo Gumi, the oldest of them all, established in 578AD is a family run construction company that is the symbol of endurance. It survived tsunamis, earthquakes, world wars but it could not survive the burden of debt. In 2006 more than 1400 years after its founding the company was finally brought to its knees and was made a subsidiary of the Takamatsu

Construction Group. Kongo Gumi, operated in the perfect conditions for endurance, a long history of family ownership, dominated an unchanging industry with steady revenue streams and pricing power. Yet this was still not enough to overcome the fragility inflicted by debt. This teaches the valuable lesson of the fragility that comes from an over leveraged capital structure. For Kongo Gumi debt was far more destructive that any earthquake and world war.

"Once you get into debt, it's hell to get out."
Charlie Munger, "Poor Charlie's Almanac"

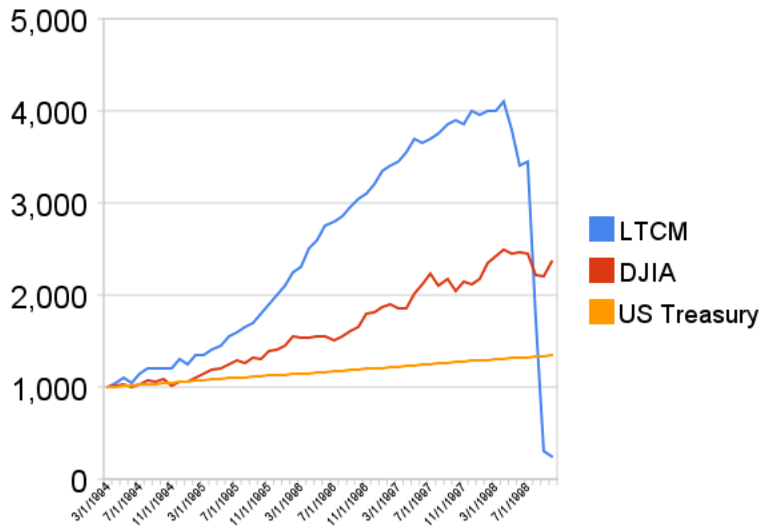
The allure of getting rich quickly and MBAs talking about "financial optimisation" make it all too easy for management to add leverage to their capital structure. Leverage will "juice" profits and returns on equity can become parabolic as the relative size of equity rapidly shrinks. In the short run everything looks great. Managements are likely to gain support and fame, no doubt they will begin to flaunt their "optimisation strategy" as a master stroke. Debt is addictive. Managements, drunk on profits and praise, are unlikely to stop adding leverage anywhere near a level that doesn't jeopardise the company in the long-run. "Optimisation" creates massive amounts of fragility and makes the company vulnerable to shocks. Instead of adding short-term gains at the expensive of longevity, investors should be happy to forgo financial-steroids for greater endurance and a longer compounding runway. We want to be long-term greedy.

"as we all learned in third grade — and some relearned in 2008 — any series of positive numbers, however impressive the numbers may be, evaporates when multiplied by a single zero. History tells us that leverage all too often produces zeroes, even when it is employed by very smart people."
Warren Buffett "Berkshire Hathaway Letters to Shareholders, 2010"

Long-term Capital Management (LTCM) is an ominous warning to all those who use "optimisation" and financial models. There is unlikely to have been a better qualified team of experts assembled in financial history. Headed by John Meriwether who came with much Wallstreet acclaim, the initial team at LTCM consisted of some of the most venerable Wallstreet superstars, a large group of PHDs and respected professors, including two who would go on to win Nobel prizes. In Lowenstein's book about LTCM, "When Genius Failed", he said of LTCM's people, " All of them were very smart. And they knew they were very smart.". The team of "geniuses" had no problem raising capital, by the time LTCM had began trading they had been able to raise over $1 billion in capital. It's fair to say companies, high-net worth individuals, university endowments and even central bankers were desperate to give LTCM money. How could this group of insanely bright and immensely well-qualified individuals not succeed? The fund started out very strongly and quickly became the envy of Wallstreet. For the first four years LTCM compounded at more than 40% a year with very little volatility. It seemed to everyone that the "super-geniuses" had solved the market. With great results and free access to capital the "super-geniuses" started to lever up the fund more aggressively. According to the army of PHDs and distinguished professors it was the "optimal" strategy for LTCM to be employing massive amounts of leverage. The intellectual supermen had levered up to around $100 billion in assets but worst of all they had used derivatives to increase their exposure to over $1 trillion… this was Leverage*Leverage*Hubris (*see Glossary for explanation of Derivatives*). What could go wrong? The cracks in the armour had been beginning to show, then against all the "financial models" and neat formulas, Russia defaulted on it's debt. LTCM's exposure to the Russian Ruble brought about the complete obliteration of the firm and almost brought down the whole financial system. To save the financial system the Federal Reserve Bank had to quickly swoop in and organise a bailout of $3.6 billion. The whole debacle shows that even the smartest people cannot survive the fragility brought on by debt. The world is too unpredictable and random for acute financial optimisation and "juicing" returns. We want businesses that might not get all the attention for the "optimal" strategy, but can compound at high rates despite redundancy in its system that gives it the ability to endure.

"Finance is often poetically just; it punishes the reckless with special fervour."
Roger Lowenstein, "When Genius Failed"

If one was to look at the graph below, which shows how LTCM faired vs the Dow Jones Industrial Average and the US Treasury they would see a graph that looks like a graph of a turkey's health over time: day 0-39 everything is going amazingly. Day 40 it ends up on the dinner plate. This is a clear illustration of why as investors we cannot rely purely on past data and just assume trends continue. We must firstly approach investments from first principals then we must also expect some reversion to the mean.



"The professors overlooked the fact that people, traders included, are not always reasonable. This is the true lesson of Long-Term's demise. No matter what the models say, traders are not machines guided by silicon chips; they are impressionable and imitative; they run in flocks and retreat in hordes."
Roger Lowenstein, "When Genius Failed"

A real danger that faces investors in a leveraged business is that it may be forced to raise capital via a value destructive equity raise. An equity raise is when the company sells additional share to raise more capital. This dilutes all the existing owners. Equity raises are rarely value creating, they are almost always value destroying. If the additional shares are sold below the intrinsic value of the company then the cash that the business receives from the new share owners is not enough to compensate existing shareholders for their ownership dilution. It is rarely the case that a business can sell additional shares above the intrinsic value of the business, this would be the only situation where an equity raise might create value. It is often the case that equity raises are a last resort for companies that are unable to fund their own operations internally and don't have access to external debt financing. Because equity raises are usually done by companies that cannot access cheaper capital (internal funding or debt), then it is likely that the business is in trouble and its shares are likely very depressed. We want businesses that control their own future and are not forced into value destroying equity raises.

"The more devastating cost is the effect of being perceived as being in financial trouble: Customers may stop buying your products, suppliers may demand cash for goods, and employees may abandon ship, creating a downward spiral for the firm that can destroy it."
Aswath Damodaran, "The Little Book of Valuation"

There are some investors who specialise in highly leveraged companies and have made vast amounts of money doing so. However, it is not our game. The game of buying leveraged companies is often one of judging liquidity risk instead of solvency risk (*see Glossary for explanation of Liquidity vs Solvency Risk*). Highly leveraged companies are in the hands of financiers who have complete control over their future. It can be the case that company's might be completely solvent but they lose the faith of their financiers who in the end pull the plug on their life support. For leveraged companies their fate is not in their control, even if the business is going well an inability to refinance debt will kill it. Companies who are reliant on the goodwill of others very rarely have any Capacity to Suffer and are usually at the beck and call of their puppet-masters.

"Those who spend too much will eventually be owned by those who are thrifty."
Sir John Templeton

WIN-WIN RELATIONSHIPS

"Our Code of Ethics
1. Obey the law.2. Take care of our members. 3. Take care of our employees. 4. Respect our suppliers.
If we do these four things throughout our organization, then we will achieve our ultimate goal, which is to:
5. Reward our shareholders."
Costco's Code of Ethics

We think a key component to an enduring Compounder is that it must have Win-Win relationships. If a business enters into transactions where a stakeholder is not satisfied we think eventually alternatives will present themselves and the business will eventually be replaced by something that benefits all stakeholders. We believe that over a long time horizon if the natural forces of competition doesn't eliminate Win-Lose relationships, regulation will.

"In a free enterprise, the community is not just another stakeholder in business, but is in fact, the very purpose of its existence."
Jamsetji Tata

Win-Win relationships give companies the Capacity to Suffer because the stakeholders recognise that the company is providing value and will not want to see it fail. When a business is engaged in Win-Win relationships for long periods of time it builds up Social Capital. Although it is not a balance sheet item Social Capital very real. People and companies alike want to deal with trust worthy companies that they know they can have a relationship with for a long time. This Social Capital that is accrued by sustaining Win-Win relationships over a long period of time can be redeemed during hard times. For example, loyal relationships with suppliers might be redeemed for extended credit lines which would reduce working capital. It could also translate into priority shipments if there are supply chain disruptions – think about the dichotomy between the have's and have-not's during the supply chain disruption post Covid lockdowns. Social Capital built up with the consumer can be redeemed as higher pricing or customer loyalty. Tom Russo likes to say that for a company to have the Capacity to Suffer it must provide a product or service that is perceived by the customer as unique in its ability to fill the need, while also delivering a perceived value well above the cost paid by the consumer. This can be thought as the consumer surplus, the perceived value minus the cost. Win-Win relationships with society also builds up social capital but more importantly avoids the risk of society rejecting it.

"We've done price elasticity studies, and the answer is always that we should raise prices. We don't do that, because we believe—and we have to take this as an article of faith—that by keeping our prices very, very low, we earn trust with customers over time, and that that actually does maximize free cash flow over the long term"
Jeff Bezos, taken from "The Joys of Compounding by Gautam Baid"

We believe that over a long timeframe society rejects that which is not good for it. This can take the form of regulation where governments can tax or regulate industries deemed not good for society, to the point of complete diminution of economic profits. Society can also reject things that are not good for it by innovating and eventually making the harmful industry obsolete. Between the present and complete obsolescence there might be scope for these companies to make an economic profit, but we know that these companies will not endure. Therefore, in our opinion, cannot be considered Compounders. We think that this is currently happening to coal and oil companies. Society is putting pressure on these companies, forcing them not to reinvest their profits, and governments around the world are subjecting them to excruciating taxes in an effort to quash any and all economic profits. Moreover, the world's best and brightest minds are endeavouring to make them obsolete. While we hold no opinion over when this transition away from fossil fuels will happen, nor do we have any opinion on whether economic profits can still be made during this transition, we wouldn't consider these companies to have the Capacity to Suffer and have all but lost their Social Capital with society.

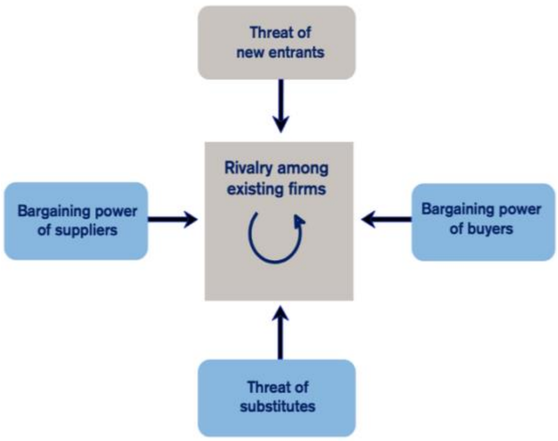
"Invest in operators that care about their legacy i.e. how they are viewed long after they are gone. They speak in an almost generational tone that is driven by win-win relationships with employees, partners, family, and community. These are the businesses that endure."

Ian Cassel

PORTER'S FIVE FORCES

"The best way to predict your future, is to create it"

Peter Drucker



Source: Michael E. Porter, Competitive Strategy (New York: The Free Press, 1980), 4.

The diagram above is the well known Porter's five forces model which represent the competitive forces present in an industry. We see the two grey squares as competitive forces that a company must defend itself via its Moat. On the other hand the three forces in the blue squares we see as threatening a company's ability to determine its own future and therefore its Capacity to Suffer. Although this is a reminder of how the lines drawn between the characteristics of a Compounder are fuzzy and serve as a malleable model to guide us, not as arbitrary academic definitions.

THREAT OF SUBSTITUTES

Like Tom Russo says, a business with the Capacity to Suffer delivers a product or a service that is perceived to be one of a kind by the customer. Brands are a powerful differentiator that give customers the perception of being one of a kind, cheap supermarket own-brand cola is certainly not the same as Coca-Cola in the eyes of Coca-Cola drinkers.

A company's products may be threatened by future substitutes caused by a change in consumer preference or technological change. There are certain industries that are inherently fragile to change. In those cases it is necessary for an enduring company to be diversified across many products or services so that it is unlikely that the business will be permanently impaired by change. A great example of this is the pharmaceutical industry where there is constantly new drugs and innovation taking place as we find better and more efficient ways to treat conditions and illnesses. It is an industry that has an ever evolving regulatory landscape making it innately unpredictable. The big enduring Compounders in this industry such as J&J, Bayer, Pfizer have all had diversified product portfolios and have made themselves robust against any one product becoming obsolete or any one litigation. On the other hand, single drug or single medical device companies are incredibly fragile and in our eyes can only be seen as lottery ticket bets without having some expert knowledge. Enduring Compounders are most often found in industries that are stable but can also be found in rapidly changing environments, although only if the company has diversified itself and has made itself impervious to any single product or service becoming obsolete. Enduring Compounders are independent and drive their own outcomes, therefore, they cannot be reliant on the whims of regulators.

POWER OF BUYERS

Businesses that are heavily reliant on just are few large customers are very fragile and are likely to have very little power when negotiating with large customers. The Capacity to Suffer is the ability to endure short-term pain for long-term gain, but it is also about the ability to be fiercely independent and for the company to have a large degree of control over their own future. However, a business where the consumers have a vast amount of power, is unlikely to have much control over its own future, much like the over-leveraged businesses are at the behest their lenders. We want businesses where they have a diversified range of Win-Win relationships. If any single customer relationship that was expected to have a negative long-term value for the business, then that business could take the short-term pain of dissolving the relationship for the benefit of the business in the long-term.

POWER OF SUPPLIERS

Similar to the power of the buyers, a business that is beholden to one or a small number of suppliers is inherently fragile. In the case of businesses with few suppliers, not only will the suppliers hold all the pricing power, if the supplier was to suddenly disappear for whatever reason – supply chain disruption, bankruptcy, natural disaster – then the business would be in a very perilous situation and it has no control over its own future. A business cannot be independent if it is being controlled by a supplier.

"Loss avoidance must be the cornerstone of your investment philosophy."
Seth Klarman, "Margin of Safety"

THE ABILITY TO GO ON THE 20 MILE MARCH

"Objectives are not fate; they are direction. They are not commands; they are commitments. They do not determine the future; they are means to mobilize the resources and energies of the business for the making of the future."
Peter Drucker, "Peter F. Drucker on Economic Threats"

It is clear from the data that the extraordinary returns generated from Compounders are delivered over the long-term. It is also evident from the research done by Jim Collin's in "Great by Choice" that enduring Compounders have long-term visions and long-term goals. If the company is focusing on short-term goals such as quarterly earnings then they won't focus on building long-term wealth creation and will inevitably lose their competitive advantages. On the other hand, companies that are focused on long-term goals will endure short-term pain to build long-term sustainable advantages.

If you are going to do large-scale invention, you have to be willing to do three things: You must be willing to fail; you have to be willing to think long term; and you have to be willing to be misunderstood for long periods of time.
Jeff Bezos

Taking the long-term view cannot just be some claim or slogan, it has to be a clearly stated mission with explicit metrics for measuring the progress towards achieving the long-term goal. This links back to Thorndike's Outsiders research that showed all of the Outsiders had a metric that they focused on to measure long-term value creation. A long-term vision needs, a clear mission and explicit measuring stick. This also helps us, as investors, keep management accountable over long periods of time, as we can look back and quantitatively say whether or not management have executed on this long-term mission. A clear mission that employees can rally around creates a focused and motivated culture built on long-term values.

"The area without specific objectives will be neglected. Unless we determine what shall be measured and what the yard-stick of measurement in an area will be, the area itself will not be seen."
Peter Drucker, "Peter F. Drucker on Economic Threats"

BHAG

"We are stubborn on vision. We are flexible on details…."
Jeff Bezos

In Jim Collin's study on enduring Compounders "Built to Last", he and research team found that these great business all had huge long-term aspirations, Big Hairy Audacious Goals (BHAG, pronounced *bee-hags*). What the research showed was that although all companies studied had goals, it was only the really huge and daunting ones that stimulated progress. Throughout the companies with BHAGs they found motivated teams working towards monstrous goals. This again is a reminder that a company is just an organisation of people and the truly successful ones are those that can turn a group of people into a well-oiled, motivated machine working towards a singular long-term goal. Contrast this with businesses focused on quarterly earnings, teams will not be motivated by short-term goals, and there is no inspiring long-term mission propelling them forward. Rather than having a focused machine, they have disjointed teams bending the rules and sacrificing long-term endurance for short-term performance.

"Like the moon mission, a true BHAG is clear and compelling and serves as a unifying focal point of effort—often creating immense team spirit. "
Jim Collins, "Built to Last"

For a BHAG to be really effective it must be clear and measurable. A team of people want to know what mission they are on and how they are progressing towards achieving that mission. There is no grey area in a BHAG. Not only does it need to be clear, but it needs to be a monstrous goal that invigorates the people to build something lasting.

"If you are working on something exciting that you really care about, you don't have to be pushed. The vision pulls you."
Steve Jobs

With such a big goal ahead of it the company must be fanatically focused on achieving that goal. If the company starts to get distracted by earnings calls, or short-term obstacles it will ultimately not achieve its BHAG. When the mission is so big, everyone must be focused on achieving it and the operations of the business must be geared towards achieving the BHAG. This translates into enduring short-term pain to achieve long-term gain.

"Capital isn't scarce; vision is."
Sam Walton

We think that it is also essential a company's BHAG is firmly within its Hedgehog, meaning that it has a real shot of doing something no other company is capable of, and doing it in a value creating manner. We would be wary of any BHAG that seems to be outside of a company's Hedgehog. Finally it is important that the company has "the next BHAG" prepared for when it achieves the original BHAG. We want Compounders with a dogged endurance for the persistent pursuit of big goals.

"The vision is really about empowering workers giving them all the information about what's going on so they can do a lot more than they've done in the past."
Bill Gates

THE 20 MILE MARCH

"if you want to achieve consistent performance, you need both parts of a 20 Mile March: a lower bound and an upper bound, a hurdle that you jump over and a ceiling that you will not rise above, the ambition to achieve and the self-control to hold back."
Jim Collins, "Great by Choice"

Jim Collins and his team found that companies that go on to achieve greatness do so by going on a 20 mile march. The analogy in the book is, if your goal was to go on a 3000 mile journey how should you aim to complete this mission. Is the best solution to try walk 50 miles on good days and 10 miles on tough days? No, that's a great way to stay unrested. Is the solution to try to finish as fast as possible, putting in maximum mileage everyday? No, you will be burnt out quickly. The study found that the solution is to set an ambitious yet attainable goal, 20 miles, that is continually met until you complete the ultimate mission. 20 miles every day. On the good days it's easy, but you conserve your energy prepare for the tough times. On the tough days the 20 miles is difficult but you have conserved energy during the good times and can face challenges from a position of strength. The grind continues.

"The man who moves a mountain begins by carrying away small stones."
Confucius

For companies the first step is to create simple and explicit goals that if met will lead to achieving the BHAG. This is the company's "North Star", they must focus on it and ignore everything else. As long-term investors we should be similarly focused on a company's North Star or the Key Performance Indicators (KPIs) that are going to determine long-term value and shut out the noise.

"Strength and growth come only through continuous effort and struggle."
Napoleon Hill

In the "Great by Choice" study, Jim Collin's identified Stryker, a 350-bagger in 23 years, as a company with a long-term focused vision with an explicit, measurable, yard-stick – 20% income growth every year. Everyone knew what the target was and if any team didn't meet their goal, everyone would know about it. Stryker was also cognisant that growing too fast would make it fragile, and the growth had to be consistent not just for two or three quarters but for many years. This meant building the foundations today for growth tomorrow. Often Stryker was faced with pressure to ramp up growth and many onlookers thought that Stryker might not be living up to its full potential. But becoming a 350-bagger doesn't happen over night. It needed to be able to endure and grow for decades, to do this it required to prepare for the bad times during the good times. Suffer short-term to create long-term endurance.

"Many companies get trapped by the paradox of hitting numbers 'now' versus improving sales for future quarters or years ahead"
Tiffani Bova

Too many ambitious start-ups rush to grow as fast as possible without putting the right structures in place, and eventually crumble like a floating castle with no structure keeping it grounded. Much like over-leveraged companies that "optimise" capital structure, growing too fast can make a company fragile. The fragility comes from growing faster than its ability to implement the correct systems and most importantly put the right people in the right place. This also links with Jim Collin's Bullets and Cannonballs analogy. Companies hell bent on growing as fast as they can are putting all their gun powder into one uncalibrated cannonball. What happens if it misses, or if the industry landscape suddenly changes. On the other hand, 20 mile marchers have the ability to change course and are adaptable. They are also consistently calibrating with smaller bullets and able to hit their targets. Moreover, as the 20 mile marchers hit their targets momentum builds, the staff get motivated and they feel that the ultimate goal is achievable. Conversely, the fast growers that are aiming for world domination, never get such momentum, after a while the staff are deject and despondent from never being able to attain their goals and feel like progress is not getting made. Yet again an illustration of why the goals need to be measurable, the people in the organisation need to be able to see how they are progressing to feel motivated.

"Genius is one percent inspiration and ninety-nine percent perspiration."
Thomas Edison

If a company's goal, like Stryker's, is to do something every year, without fail, then the company naturally prepares for the rainy days when the sun is shining. When the goal is to be met in perpetuity the only way to achieve this is to be preparing for the long-term, making the investments today that will allow the company to meet those goes in the future. We like to see management investing in long-term projects that don't have immediate pay-offs but that we think have a good chance of widening the company's Moat over the long-term. Revisiting the Fahlenbrach 2007 study on why founder-led firms outperform, a major finding was that founder-led firms spent more on R&D and long-term investments. A host of studies have shown that long-term outperformance comes from investing for the long-term (applicable to both company and investor alike). Although Fahlenbrach studied founder-led companies it doesn't need to be a founder at the helm to invest for the long-term but management do need to have an Owner-mindset and have the correct incentives in place to do so. Founders may often be at an advantage because of high insider ownership, they have the ability to weather a period of underperformance without being subjected to proxy battles and board scrutiny.

"WHY 20 MILE MARCHERS WIN
20 Mile Marching helps turn the odds in your favor for three reasons:
1. It builds confidence in your ability to perform well in adverse circumstances.
2. It reduces the likelihood of catastrophe when you're hit by turbulent disruption.
3. It helps you exert self-control in an out-of-control environment."
Jim Collins, "Great by Choice"

THE STRUCTURAL CAPACITY TO ENDURE A 20 MILE MARCH

For a company to go on a 20 mile march it must have a multi-decade vision and the structures in place to allow it to go on this multi-decade journey. We know that over the span of decades the outlook will not always be rosy and the company will fall upon temporary hard times. The company must have in place the structure to allow it to stay on course even when things look bad.

We think it is critical to any 20 mile march, but especially ones in the early innings, to have a CEO with staying power driving the 20 mile march forward. When things aren't looking bright, the easy solution for most companies is to change a management team and change direction, but a company cannot build something great by constantly changing direction. Management teams understand that if they try something different they are putting their reputations on the line and at first signs of failure they will be axed. Therefore, they are much more likely to stick to the status quo. As Keynes said "it is better for reputation to fail conventionally than to succeed unconventionally". Public companies are getting more and more focused on the short-term and giving managers less and less time to preform. An article in the Harvard Business Review, 2019, by Adi Ignatius, "The Truth About CEO Tenure" found the average CEO tenure of an S&P 500 CEO to be about 7 years but the average tenure of the world's best-preforming CEOs to be more than 15 years. The best CEOs stay to see out their 20 mile march and to see that it endures beyond them. So what makes a CEO have staying power?

We think a huge factor in staying power is large insider ownership. Shareholders want to know that their CEO is fully aligned with them and that if shareholders suffer the CEO suffers too. We think that shareholders are more willing to forgive small mistakes and give more leeway to CEOs who are truly owners like the shareholders. Additionally it is hard for activist shareholders to launch a proxy fight against a CEO who controls a large share of the voting power, this give the CEO the ability to endure and proceed with his/her plan even after bad short-term results.

Likewise we want to see boards who, like the CEO, have substantial insider ownership, who are aligned with the CEOs long-term vision. If the board is unclear or not fully supportive of a CEO, they will jump at the first chance to turn against him/her and force a change. A great example of a visionary founder that was not fully backed by his board was Steve Jobs the first time at Apple. Jobs was unconventional to say the least and he had a vision that was not shared by the board. After a series of mistakes and missed expectations the board ultimately fired Jobs. This again demonstrates the need for a company's 20 mile march to be clear and measurable, with a vision that permeates motivation through the whole organisation. A 20 mile march is no good if only the CEO knows where he/she is going and the rest are blindly following. This is what Jim Collins calls a "Genius with a thousand helpers".

The most enduring companies have enduring management. For management to endure it must select the right shareholder base that shares their vision. As the owners of the company shareholders must be onboard. Just as a brand cannot appeal to everyone nor should a company. If you try to appeal to everyone you will end up appealing to no one. Hence a company needs to decide what type of owners it needs in order to achieve its ultimate goal. If the company is pursuing a 20 mile march it does not want owners who are short-term oriented. Companies taking on the 20 mile march must communicate that they are in it for the long run and shareholders should not expect any short-term gains. 20 Mile Marchers should only try to appeal to shareholders who are willing to endure alongside the company. Arguably, no CEO has tried to attract only aligned shareholders as well as Warren Buffett. Even down to the refusal to implement a stock split. Splitting your stock into smaller fractions makes them easier to trade and will likely increase the liquidity of shares available. Nevertheless, Buffett didn't want his owners constantly trading places with new owners who would need to be re-educated in the Berkshire way. Instead he cultivated an ownership base of long-term patient shareholders, indoctrinated in the ways of Buffett.

"Phil Fisher, a respected investor and author, once likened the policies of the corporation in attracting shareholders to those of a restaurant attracting potential customers. A restaurant could seek a given clientele—patrons of fast foods, elegant dining, Oriental food, etc.—and eventually obtain an appropriate group of devotees. If the job were expertly done, that clientele, pleased with the service, menu, and price level offered, would return consistently. But the restaurant could not change its character constantly and end up with a happy and stable clientele. If the business vacillated between French cuisine and take-out chicken, the result would be a revolving door of confused and dissatisfied customers."

Warren Buffett "Berkshire Hathaway Letters to Shareholders, 1991"

DOOMLOOP

The Doomloop is a concept developed by Jim Collins and his research team as the antithesis of the Flywheel. We think it works equally well as the opposite of the 20 mile march. The Doomloop gives an explanation as to why bad companies often stay bad. Companies where management have no staying power and no incentive to act in a fiercely independent, contrarian, manner are destined to fail. As soon as the CEO makes his/her first mistake the board and shareholders are all too ready to throw them under the bus. A new CEO is hired. After learning about the plethora of previously failed managements they are surely not going to stray off the conventual path. They too will be destined for failure and at best mediocracy. So the revolving door continues with no plan ever getting executed, slowly the company disintegrates. Employees are disheartened and dismayed. No momentum is ever built.

"Success is like a snowball, it takes momentum to build and the more you roll in the right direction the bigger it gets."

Steve Ferrante

Until a CEO can come in with staying power, a company in a Doomloop is destined to swing side to side, like a pendulum, never going anywhere. Fated to eventually be brought to a stop by focused, fanatical, competition. Management must be able to make mistakes and learn from them. Management can only learn from those mistakes they survive. The more mistakes they are allowed to make and survive the better they can become – granted that they actually learn from those mistakes. However, the managements that are never allowed to learn from their mistakes are doomed to keep repeating them.

"The relevant question is not simply what shall we do tomorrow, but rather what shall we do today in order to get ready for tomorrow."

Peter Drucker

MARGIN OF SAFETY

"Remember the three most important words in investing: "margin of safety."
Gautam Baid, "The Joys of Compounding"

Now that we have a framework for identifying Compounders we still must buy them well. No matter how good a company is, if everyone else knows it is an excellent company and is priced as one then there is little chance that buying an ownership share in that business will provide an adequate return. We must have a considerably different view to the prevailing market expectations to have any chance of getting an acceptable return. We want to buy Compounders below their intrinsic value.

"The entire pursuit of value investing requires you to see where the crowd is wrong so that you can profit from their misperceptions."
Guy Spier, "The Education of a Value Investor"

Every cash generating asset has an intrinsic value. The value of any productive asset is the cash that can be returned to the owners from now until judgement day discounted back to the present value of money and adjusted for the uncertainty of receiving those cashflows (*see Glossary for explanation of Present Value of Money*). There are non-cash generating assets such as fine art or collectible cars that some deem to have value. However these assets can only be priced. This is where an "expert" puts a price on an item based on estimating how much an intelligent buyer would pay for such item. Non-cash generating assets have a price but no intrinsic value. This means that for a business to have an intrinsic value we must reasonably expect it to generate cash that can be returned to shareholders at some point in the future. Without fulfilling this requirement, all one can do is buy the business and hope someone even more gullible will buy it off them for more. This is the Greater Fool Game. We do not play this game!

"A great company is not a great investment if you pay too much for the stock."
Benjamin Graham, "The Intelligent Investor"

In order to make a reasonable estimate of future cashflows we must know the business intimately and understand the distribution of likely future outcomes for the business. This means we cannot calculate the intrinsic value for most businesses because we do not have a great enough understanding about the business or industry to be able to reasonably forecast what will happen to the business over the next 5 years. This is what is commonly known as an investor's "Circle of Competence". There is a simple rule to determine whether something is or isn't within your Circle of Competence – to ask the question is to answer it. If there is any doubt or hesitancy about whether something is within your Circle of Competence, then it is not in your Circle of Competence. One should be able to confidently, yet with a great deal of humility, say that this is firmly in my Circle of Competence and now I can proceed to making a reasonable estimate of future cash flows.

"Success in investing comes not from being right but from being wrong less often than everyone else."
Aswath Damodaran, "The Little Book of Valuation"

Once we have estimated future cashflows with some reasonable certainty, then we want to buy those future cashflows at a discount to their present value, this is the margin of safety. The act of estimating cashflows is one that by nature will be imprecise. Even the best, most informed, investors cannot estimate cashflows faultlessly. Rather we are looking to arrive at an estimate that is in the ballpark of what the real cashflows will be. Because we know that we will be wrong, we want to buy those cashflows at enough of a discount to present value that we will still make an adequate return even if we are wrong.

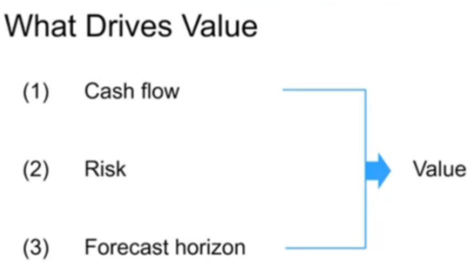
"To make money in stocks, you need to have vision to see them, courage tot buy them and patience to hold them. Patience is the rarest of the three."
Thomas Phelps

DISCOUNTED CASHFLOW MODEL

"the formula for valuing all assets that are purchased for financial gain has been unchanged since it was first laid out by a very smart man in about 600 B.C. (though he wasn't smart enough to know it was 600 B.C.).

The oracle was Aesop and his enduring, though somewhat incomplete, investment insight was "a bird in the hand is worth two in the bush." To flesh out this principle, you must answer only three questions. How certain are you that there are indeed birds in the bush? When will they emerge and how many will there be? What is the risk-free interest rate (which we consider to be the yield on long-term U.S. bonds)? If you can answer these three questions, you will know the maximum value of the bush — and the maximum number of the birds you now possess that should be offered for it. And, of course, don't literally think birds. Think dollars."
Warren Buffett "Berkshire Hathaway Letters to Shareholders, 2000"

Valuation is always the last thing we do when trying to make a decision on whether to buy an ownership share in a business. We can't have any hope of predicting remotely accurately cashflows without knowing a business and industry intimately. In addition we don't want to be put off researching potential Compounders because a stock is optically expensive. Usually meaning a high P/E multiple. At best multiples can give investors a rough idea about how much the market is willing to pay for each dollar of a company's current earnings. However, more often than not multiples tell very little and are misleading. Therefore, we leave all valuation till after all of our research is finished.



Source Michael Mauboussin – Expectations investing

"At the end of the day, the intrinsic value, determined by the present value of future cash flows, attracts the price like a magnetic force."
Michael Mauboussin, "Everything is a DCF model"

To value a business we must first estimate the future cashflows that can be return to the owners, discount it back to the present value at the risk-adjusted cost of capital. We do this through a Discounted CashFlow model (DCF). We explicitly state our estimations of the cashflows that can be returned to owners, we unambiguously state our cost of capital that we are using to discount future cashflows to the present value. At the end of a DCF we must also predict the Terminal Value, the value of the business at the end of our model.

"Perceptions may be all that matter when the asset is a painting or a sculpture, but you buy financial assets for the cash flows that you expect to receive"
Aswath Damodaran, "The Little Book of Valuation"

Earnings and cashflow multiples are implicit DCFs. Shorthand and obscure DCFs. That is all they are. To those who are well informed on a business, multiples can be used as a heuristic for valuation because they understand the assumptions in the DCF and therefore the multiple. For a multiple to be useful all the work that needs to be done in an explicit DCF also needs to be done for a multiple. All valuation is a DCF. It is up to the investor how explicit he/she wants to make their assumptions. An explicit DCF should not be seen as a precise measuring tool but rather as a broad, yet dim, flashlight that aims at illuminating what factors will drive value creation in the business; what assumptions are baked into the current market price and what are our own assumptions on the cash that can be return to the owners.

"The stock market is filled with individuals who know the price of everything, but the value of nothing."
Philip Fisher

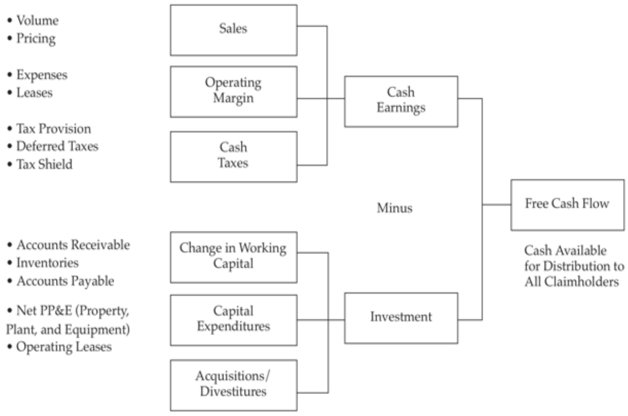
We try to avoid relative evaluations, which is to say, "this company is a little like this other one, and so deserves to be priced similarly", or "this beverage company is cheaper than this other one, so lets buy the cheap one and hope price converges". Relative valuations tell us nothing about intrinsic valuation. If investors compares an over-priced stock to an extortionately expensive stock then of course the over-priced stock will look cheap. Furthermore, Compounders should have a Moat with some degree of uniqueness and therefore, trying to judge the valuation of a business with a unique Moat by comparing it to other companies without that Moat is futile. Businesses, just like any other organism, are all unique with commonalities. The uniqueness can easily be masked by broad groupings of businesses. It is analogous to grouping humans together based on age or country of origin or some other variable, as a group they will share characteristics, yet on an individual level they will all be vastly dissimilar.

"The secret to investing is to figure out the value of something - and then pay a lot less."
Joel Greenblatt,. "The Big Secret for the Small Investor"

DCFs are one of the few ways in which an investor can get feedback to learn from. Sadly, investing is a game in which there is a limited amount of useful feedback and a lot of noise. Whether a stock goes up or down in the short-term has little to no bearing on whether an investor's judgement on the underlying business was correct. It will take many years before price action can give an investor roughly accurate feedback on his/her assumptions. On the other hand, when an investor creates a DCF he/she knows that they will be wrong. But they have made all the assumptions explicit. Therefore, as information on key data points becomes available an investor can look back at his/her model to assess where they went wrong and what biases they might be making when they are creating a DCF. For example if an investor is constantly underestimating that amount of capital expenditure a company needs to make to maintain its business, then the investor knows that maybe he/she should study capital expenditures in more detail and perhaps needs to update their thinking. An investor using multiples would never be able to learn from this data point because they haven't made their assumptions explicit. DCFs provide investors with a much shorter feedback loop than just simply relying on price to provide feedback. This is why we are such big advocates of an explicit DCF model. Not because we get comfort from false precision. Quite the opposite. We know that when we make all our assumptions explicit we will be proven wrong time and time again. Then using this data we can update our models and thinking. Investors with this shorter-term feedback loops have huge advantage to learning and updating their vision of a company than those who simply use implicit models and rely on price to give feedback which will take many years and will be accompanied by vast amounts of more noise.

"When the facts change, I change my mind – what do you do, sir?"
John Maynard Keynes

FREE CASHFLOWS



Source Michael Mauboussin – Expectations investing

"Investing is forgoing consumption now in order to have the ability to consume more at a later date."
Warren Buffett

The future cashflows that can be returned to shareholders is known as the free cashflow. Free cashflow can be thought of as the amount of cash that will be produced by the business after tax, minus the amount of capital investment needed to generate those cashflows. This is the same for all cash generating assets. For continuing businesses the majority of the cash will be generated from continuing operations. For liquidation situations, instead of the cash being generated from operations the cash will be generated from selling its assets. Once we have made our assumptions about future cashflows based on our knowledge of the business' competitive strategy and industry dynamics, we must discount those cashflows back to the present value of money. Finally we must subtract any debt and add any cash to the value of the business, as debtors have the senior claim to the cashflows. The owners of the business get what is left over once everyone else is paid.

TERMINAL VALUE

Although we are long-term investors we must stop estimating cashflows at some point and instead use a proxy for the future cashflows into perpetuity. This is called the terminal value. There are a number of ways that an investor can deal with this problem. We have decided that we will focus on consistency in all of our DCFs and not change methods of coming up with a terminal value. Our preference is to estimate cashflows for the next 5 years, explicitly stating all of our assumptions, then at the end of year 5 assume the business can be sold back to the market at a reasonable cashflow multiple at which the business and those like it have historically traded at. As always we want to be extremely conservative, be even more than usual when we assign a multiple of cashflows to the terminal value. The terminal value often drives a large part of the value of a business, in particular to those business whose cashflows beyond year 5 are substantial – always the case for Compounders. Then at regular intervals we will update the models continuing to discount in the same fashion changing our assumptions as new data comes out.

DISCOUNTING

The way we look at the discount rate is that we use a flat 10% cost of capital to discount cashflows back to present value. Our discount rate has no bearing on where interest rates are (unless they started to creep up to the 10% range, in which case we would review). The 10% is the annual return that we require to lay out our capital today. Then once we have valued the future cashflows, discounted back at our 10% cost of capital we are looking to buy those cashflows at a significant discount. This is where we adjust for risk, in the margin of safety not the cost of capital.

"When most people come to believe the same thing, large gaps open up between price and value."
Michael J. Mauboussin, "The Success Equation"

The discount that we pay to our estimation of the present value of future cashflows is our safety net to compensate for the high probability that we are wrong about our future estimates. We like to use Nick Sleep's methodology of discounting the next 5 years of cashflows plus terminal value, back at 10% then looking to buy those cashflows at a 50% discount. If all our assumptions were correct about the business and cashflows, the 10% discount rate plus the 50% discount rate, which we would expect to correct itself over 5 years, would lead to an annual rate of return just shy of 25%. This is more than satisfactory. It leaves ample room for error and still making a healthy return. If a business was deemed slightly riskier than our usual companies we would demand a larger margin of safety, or if the business had many "options" embedded in it that wasn't reflected in the DCF (projects that may pay off but cannot be reasonably included in a DCF, therefore the value assigned in a DCF to such projects is zero), we might be willing to accept a slightly lower margin of safety on the cashflows. However, we generally agree with Buffett's approach to risk, its either a go or a no-go.

"When we look at the future of businesses, we look at riskiness as being sort of a go/no-go valve. In other words, if we think that we simply don't know what's going to happen in the future, that doesn't mean it's risky for everyone. It means we don't know—that it's risky for us. It may not be risky for someone else who understands the business. However, in that case, we just give up. We don't try to predict those things. We don't say, "Well, we don't know what's going to happen. Therefore, we'll discount some cash flows that we don't even know at 9 percent instead of 7 percent." That is not our way to approach it."
Warren Buffett

BIASES

"The dominant social force that drives our thinking and our actions is the unconscious search and need for social proof."
Dragos Bratasanu, "The Pursuit of Dreams"

All valuations are inherently fraught with our own biases. All we can do is to continually examine what biases we might have when valuing a particular business. As a basic checklist we think Munger's Revised List of biases that lead to human misjudgement found in "Poor Charlie's Almanac" is a good place to start. Again with a DCF all assumptions are explicit and so biases can be identified by systematically comparing your assumptions to what happened in reality. If an investor is constantly finding that he/she is leaning in a certain direction or making the same mistakes across different companies it is more likely than not that biases are at play that should be identified and weeded out.

"The psychologist use the term "social proof". We are all influenced – subconsciously and, to some extent, consciously – by what we see others do and approve. Therefore, if everybody's buying something, we think it's better. We don't like to be the one guy who's out of step."
Charlie Munger, "Poor Charlie's Almanac"

We initially want to approach a business with as little bias as possible but this can be very difficult especially if other investors who we like or admire are the source of the idea. Our method in combatting this is that whenever we come across an idea from a source that will innately influence how we see the company, then we put it in a watchlist for a month or so and then revisit it, hopefully forgetting how we sourced the idea.

Additionally we eschew stocks that are commonly talked about on social media. This will cause us to miss many good ideas. Nonetheless it is more important for us to eliminate as much bias and noise as possible in our decision making process. We don't feel like we can effectively analyse a company if we are constantly hearing about it on social media and the CEO is debating "bears" on Twitter spaces. This leaves a stock too tainted with bias for us. We are happy passing up on these opportunities and it leads us to less crowded areas of the market.

"What the human being is best at doing is interpreting all new information so that their prior conclusions remain intact."
Warren Buffett

Whenever we are making assumptions we must look at the historic precedent for those assumptions. For example, if we are expecting a company with $50 billion in revenue to grow at 20% for the next 5 years, how many companies have done that in the past? Probably not many, so why should we assume this company should be part of the tiny cohort that has. Humans are naturally biased towards considering only the information that fits with their conclusion. To combat our biases we must look at the company we are analysing and the assumptions we are making in the context of history and averages. This is called taking the "Outside View". We check the statistics of similar cases from the past, based on this data decide whether our assumptions are reasonable. World firsts happen, but not very often. We would much rather take the well trodden path.

"People who have information about an individual case rarely feel the need to know the statistics of the class to which the case belongs."
Daniel Kahneman

MULTIPLE MODELS

When valuing a business we will create three DCFs that are used to illustrate our most optimistic assumptions (the bull case), our assumptions based on conservative estimates (the base case) and finally our assumptions based on a very negative view of the world (the bear case). This acknowledges that the world is stochastic in nature and there are a range of outcomes that could occur. When analysing how big a margin of safety exists in a business we use the base case assumptions. When we are analysing the downside of a business we will look at the bear case. On the days that we are feeling down or the stock of a business seems to have dropped for non-fundamental reasons we can use our bull case to revive our confidence in the business and make sure that we hold for the long term. The models should consistently be reviewed against new information pertaining to key data points (not to all data, most data is just noise. We focus on the "North Star".

When considering our bear case scenario we will also conduct a Pre-mortem. Before we buy a stock we will imagine that in a year's time the stock has tanked, against a strong market. We think about what went wrong over that year. Once we have written a narrative about how we lost money on the investment we have ourselves a host of reasons not to invest in a company. If we still decide to invest in the company now we have a list of potential negative developments that we can be on the look out for. For example if in our Pre-mortem we identified that a potential risk is that profit margins are at a cyclical peak, and then profit margins start moving in the wrong direction. The next step is that we should look for more evidence that our the risks laid out in our Pre-mortem are being realised. During the Pre-mortem stage of our research process this is where we try to find any short-reports or any negative commentary about the company online (*see Glossary for explanation of Short-Reports*). We want to gather as much disconfirming evidence as possible. Conducting a Pre-mortem is a useful practice for cooling optimism and focusing on the downside of an investment.

Exhibit 2: Characteristics of Good Forecasters Taken from, Michael Mauboussin, "FeedBack"

Philosophical Approach and Outlook	
Cautious	Understand few things are certain
Humble	Appreciate their limits
Nondeterministic	Don't assume that what happens is meant to be
Abilities and Thinking Styles	
Open-Minded	See beliefs as hypotheses to be tested
Inquiring	Are intellectually curious and enjoy mental challenges
Reflective	Are introspective and self-critical
Numerate	Are comfortable with numbers
Methods of Forecasting	
Pragmatic	Not wedded to any one idea or agenda
Analytical	Consider other views
Synthesizing	Blend diverse views into their own
Probability-Focused	Judge the probability of events not as certain or uncertain but as more or less likely
Thoughtful Updaters	Change their minds when new facts warrant it
Intuitive Shrinks	Are aware of their cognitive and emotional biases
Work Ethic	
Improvement-Minded	Strive to get better
Tenacious	Stick with a problem for as long as needed

Source: Paul J.H. Schoemaker and Philip E. Tetlock, "Superforecasting: How to Upgrade Your Company's Judgment," Harvard Business Review, *Vol. 94, No. 5, May 2016, 72-78.*

EXAMPLE

This example should demonstrate our process of making assumptions, extrapolating out cashflows for the next five years, assigning a terminal value and discounting that back at our 10% cost of capital. Please read our full thesis on Volex, that can be found here, to understand the assumptions behind this model. A DCF cannot be understood without the story behind it.

"Value investing is at its core the marriage of a contrarian streak and a calculator."
Seth Klarman

VOLEX (VLX), SHARE PRICE: £2.65, MARKET CAP £437MM, 15/07/22

Bear Case

$mm

	2023	2024	2025	2026	2027
EV Revenue	125	150	180	216	259
Industrial Technology Revenue	132	144	157	171	186
Medical Revenue	140	147	154	162	170
Consumer Electronics Revenue	275	281	286	292	298
Total Revenue	**672**	**721**	**777**	**840**	**913**
Operating Profit margin	9.00%	9.00%	9.00%	9.00%	9.00%
Operating Profit	60	65	70	76	82
Net financing cost	5	5	5	6	6
tax rate	19.00%	19.00%	19.00%	19.00%	19.00%
Profit after tax	**45**	**48**	**52**	**57**	**61**
Depreciation & Amertization (+)	24	25	27	29	32
Additional working Capital (-)	1	1	1	1	1
Capital Expenditure (-)	34	36	39	42	46
Free Cash Flow	**34**	**37**	**39**	**42**	**47**
Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%
Present value	**31**	**30**	**30**	**29**	**29**

Net After-tax profits

Investments = Cap ex + AWC – D&A

After-tax profit – Investments

Our cost of Capital

Terminal Value multiple P/FCF	12
Present Value at Terminal (+)	348
Present Value of Cash Flows (+)	149
Net Debt (-)	95.3
Market Cap	401
Shares outstanding	167,554,389
Share Price Target	**$2.39**
Share Price Target, GBP	**£2.01**
Current Price	£2.65
Upside	-24.09%

Terminal value: assumed multiple (in this case 12x) that the market will pay for each dollar of cashflow in year 5 discounted back to present value.

The present value of cashflows Cashflow/(1+discount rate)^No. of years

We must adjust for net debt. – Owners are always paid last!

We must divide market capitalisation by the amount of outstanding shares to find "Per share value"

Base Case

$mm

	2023	2024	2025	2026	2027
EV Revenue	135	176	220	264	316
Industrial Technology Revenue	156	175	196	215	237
Medical Revenue	150	158	165	174	182
Consumer Electronics Revenue	280	291	303	315	328
Total Revenue	**721**	**799**	**884**	**968**	**1,063**
Operating Profit margin	9.00%	9.00%	10.00%	10.00%	10.00%
Operating Profit	65	72	88	97	106
Net financing cost	5	6	6	7	7
tax rate	19.00%	19.00%	19.00%	19.00%	19.00%
Profit after tax	**48**	**54**	**67**	**73**	**80**
Depreciation & Amertization (+)	25	28	31	34	37
Additional working Capital (-)	2	2	2	2	2
Capital Expenditure (-)	32	36	39	43	47
Free Cash Flow	**40**	**44**	**57**	**62**	**69**
Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%
Present value	**36**	**36**	**43**	**43**	**43**

A DCF is basically a journal entry of all the assumptions an investor makes when they make an investment. These assumptions should be reviewed as data points are made available. Always keep the original thesis and DCF to evaluate your process and to learn from your mistakes.

DCFs give investors data points to look at, other than price, to gauge how an investment thesis is progressing. Often when an investor makes an investment based on implicit assumptions they must focus on price or multiples to gauge how the investment is progressing. Over short-periods of time (even years) price is a horrible measure of a company's performance. We would much rather give ourselves data points, other than price, to focus on. We think this will lead to better decision making.

Terminal Value multiple P/FCF	15
Present Value at Terminal (+)	638
Present Value of Cash Flows (+)	200
Net Debt (-)	95.3
Market Cap	743
Shares outstanding	167,554,389
Share Price Target	**$4.44**
Share Price Target, GBP	**£3.73**
Current Price	£2.65
Upside	40.59%

Margin Of Safety

Bull Case

$mm

	2023	2024	2025	2026	2027
EV Revenue	156	203	264	343	446
Industrial Technology Revenue	168	188	211	232	255
Medical Revenue	165	178	192	202	212
Consumer Electronics Revenue	288	305	324	343	364
Total Revenue	**777**	**874**	**990**	**1,120**	**1,276**
Operating Profit margin	10.00%	10.00%	10.00%	10.00%	10.00%
Operating Profit	78	87	99	112	128
Net financing cost	5	6	7	8	9
tax rate	19.00%	19.00%	19.00%	19.00%	19.00%
Profit after tax	**59**	**66**	**75**	**84**	**96**
Depreciation & Amertization (+)	27	31	35	39	45
Additional working Capital (-)	2	2	3	3	3
Capital Expenditure (-)	39	44	49	55	59
Free Cash Flow	**45**	**50**	**58**	**66**	**79**
Discount Rate	10.00%	10.00%	10.00%	10.00%	10.00%
Present value	**41**	**42**	**44**	**45**	**49**

Terminal Value multiple P/FCF	16
Present Value at Terminal (+)	786
Present Value of Cash Flows (+)	220
Net Debt (-)	95.3
Market Cap	911
Shares outstanding	167,554,389
Share Price Target	**$5.44**
Share Price Target, GBP	**£4.57**
Current Price	£2.65
Upside	72.29%

All of the variables that we know we will not have estimated correctly and where we are already anticipating to be humbled by the market on. However, these are all data points that we can learn off as time goes on. DCFs are not about being precise, its about making assumptions explicit and creating noise-reduced feedback to learn from

PORTFOLIO WEIGHTING

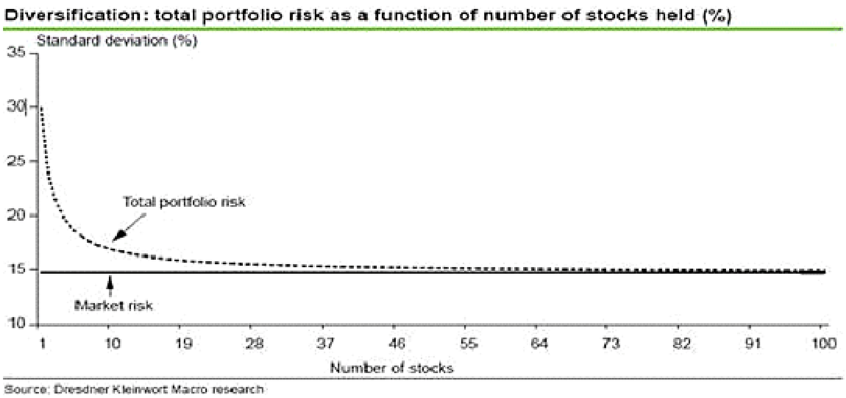
"Owning stocks is like having children, don't get involved with more than you can handle."
Peter Lynch

Stocks represent a partial ownership in a business. Think about if you were to meet a local business owner, she told you that she owns the McDonalds restaurant in the centre of town, she owns the most popular convenience store and a highly sought after hairdressers in the local area. Would your first reaction be "Only three businesses? Wow you are concentrated!". Probably not. Like the business owner we want to own the best businesses and are not interested in diluting our ownership in the best businesses with mediocre ones because pseudo-experts mangle and transform the idea of business ownership to fit neat formulas and theories.

"As Keyes noted, one bet soundly considered is preferable to many poorly understood."
Roger Lowenstein, "When Genius Failed"

We think that in general, the stock market and academia have become inebriated on diversification. As with most bad things, it starts off with a good idea that is taken too far. The idea that simply by owning more businesses an investor can reduce risk is intoxicating. Throw in fancy phrases like "idiosyncratic risk" alongside a few Greek symbols and investors cannot help but fall prey to the Succubus, Diversification. However studies have shown that most of the benefit, about 90%, that can be derived from diversification can be achieved with around 12 stocks in a portfolio. We have seen studies that suggest portfolios with as low as just 6 stocks obtain the vast majority of the benefits from diversification. This compares with the 50-70 stocks that most hedge funds and mutual fund have in their portfolios, with some portfolios owning well in excess of 100 stocks. **FOR US** this is madness.

"Remember, it's the quality of your ideas not the quantity that will result in the big money."
Joel Greenblatt "You can be a stock market genius"



"When you find a great idea, buy enough of it to make a meaningful difference to your life."
Gautam Baid, "The Joys of Compounding"

Diversification is rather dangerous as it lures investors into lazy thinking, that risk has been taken off the table. In truth diversification cannot cure an ultimately bad underlying investment. Many bankers learned that in 2008. "Securitisation" became a seductive term in the build up to the Great Financial Crisis. What it really meant was, "we have no clue what we are selling you, but don't worry its diversified". Inevitability the whole system blew up, affecting millions, on and off Wall street. We take the opposite approach – put all your eggs in one basket and watch that basket very closely. We want to intimately know our businesses and the environment they operate in. As if they were our wholly owned businesses. This takes a lot of effort and time, and cannot be done diligently for many companies. Investing is done best when it is ultimately conducted in a business-like manner. Most of the problems in investing arise when investors deviate from business-like conduct.

"The successful investor is usually an individual who is inherently interested in business problems."
Philip Fisher

We have a simpler test with how diversified an investor should be – what level of concentration allows you to sleep well at night. Simple but effective. This goes for individual businesses as well, if an investor is up all night worried about an investment then either it is not the right investment for them or the position sizing is too big and they should reduce the holding size. The sleep test is the ultimate test. For us at WLCM we view owning stocks exactly the same way we do as owning businesses, in theory we would be happy owning just one. However, we are also aware the role that luck has to play in this game, and we must always remain humble in the daunting face of randomness. In reality we aim to own, 6 – 12 stocks, with the number purely depending on the opportunity set. We will not needlessly diversify above 6 stocks, we would rather concentrate in our best ideas. At the same time, we could also be very comfortable with 12 stocks that we believed offered similar risk-adjusted returns.

"The goal of each investor should be to create a portfolio (in effect, a "company") that will deliver him or her the highest possible look-through earnings a decade or so from now."
Warren Buffett "Berkshire Hathaway Letters to Shareholders, 1991"

In business the most you can lose in 100% but the most you can win, in theory, is infinite. There is no limit to how much one can win. This asymmetric outcome distribution means that even if we as investors are only right about half the time, our winners will more than make up for our losers. As we discover that we are wrong we will sell the business. As a company prospers rather than lock in the gain, we want to let it ride or even average up. As Peter Lynch would put it, we want to avoid cutting the flowers and watering the weeds. When we decide to water the flowers and cut the weeds we are naturally going to concentrate ourselves in the best companies, this will likely lead to a satisfactory outcome. We are interested in owning high-quality, enduring, Compounders for long periods of time. We know that with a success rate of roughly 50% we will do very well if we are right on enduring Compounders. Moreover, we will do especially well if when we are wrong we don't lose much. With our Capacity to Suffer requirement the chance of getting a zero is very small, rather if we are wrong we are more likely to lose opportunity cost than the permanent impairment of capital.

"All you need for a lifetime of successful investing is a few big winners, and the pluses from those will overwhelm the minuses from the stocks that don't work out."
Peter Lynch "One Up on Wall Street"

We like to think of our little portfolio as a company and we are the Chief Allocator. Our job is to allocate capital across our companies, then it is the job of the portfolio company's management to generate a return on the capital allocated to them This allows us to think about our portfolio companies as if they were our wholly owned businesses. One implication is that if our companies have a lot of cash on their balance sheet then we don't feel the need to hold cash at head office (at the portfolio level). If valuations in the market were to drop we believe our well capitalised businesses with the Capacity to Suffer would be able to allocate the capital at a higher rate of return than we could. By contrast, if we felt that our companies didn't have ample liquidity to take advantage of a draw down then maybe we would consider holding more cash to take advantage of the draw down at a portfolio level.

"The more confidence I have in each one of my stock picks, the fewer companies I need to own in my portfolio to feel comfortable."
Joel Greenblatt, "The Little Book that Still Beats the Market"

ROLE OF LUCK

"Every day, I create numerous opportunities for serendipity to find me."
Gautam Baid, "The Joys of Compounding"

Investing is probabilistic game. As investors we must focus on the process rather than the outcome. We must accept that in investing we can get the analysis completely correct but then an unforeseen, highly improbable, event comes along and the whole thesis can change. Not only should the probabilistic nature of the world be reflected in the types of companies we own – Compounders with the Capacity to Suffer – we must also remain humble at the portfolio level. This is why we say that although in theory we could own only one business, in practice we feel at least six is prudent.

"We simply do not know what the future holds."
Peter Bernstein

A focus on process is critical in investing. This is one of the reasons why at WLCM we endeavour to publicly write in detail about our investment process. Not only will this employ inconsistency bias making it less likely that we will deviate from our previously talked about process, it also allows us to gain clarity on our process. We implore all investors to write out their philosophy on investing as the lucidity of thought derived from the process is of immense value. Although we like to employ inconsistency bias by publicly talking about our investment process we do so with a completely open mind. We have strong beliefs, weakly held.

"There's a big difference between probability and outcome. Probable things fail to happen—and improbable things happen—all the time." That's one of the most important things you can know about investment risk."
Howard Marks, "The Most Important Thing Illuminated"

One way that investors can evaluate their process and learn from mistakes is to do a post-mortem on businesses that are sold. A post-mortem should outline the reasons for selling, and how the outcomes differed from the original thesis. Sometimes when we do a post-mortem we find that the things that ultimately affected the business were unforeseeable at the time of making the investment. In that case the process worked but the outcome was affected by luck. Alternatively, if there was an obvious flaw in the original thesis then an investor might want to update their investment process or start a check-list of questions to try avoid the same mistake in the future. When reflecting on the investment process we have to try and transport ourselves back to the time of making that decision to evaluate whether based on the information known to us then was it a good decision or not. This is why writing down your original thesis at the time of making the decision is the only way to analysis the decision at the time without added bias and with greater transparency.

"As long as the odds are in our favor and we're not risking the whole company on one throw of the dice or anything close to it, we don't mind volatility in results. What we want are the favorable odds."
Charlie Munger

There are four types of information – Knowable and Important, Unknowable and Important, Knowable and Unimportant, Unknowable and Unimportant. Our focus should always be in the first category Knowable and Important. When reviewing our investment process we should be asking ourselves whether we truly focused only on the knowable and important or if we let unknowables (to us any way) such as interest rates or GDP growth affect our thinking. If we find that our investment process is consistently getting influenced by information outside of the Important and Knowable category then we must find ways to lessen the influence of these distracting categories of information. It might be avoiding social media, reading the news less or a conscious effort to ignore the noise. This goes back to the idea of the "North Star". For any business there should be a handful of KPIs that should be the sole focus of the long-term investor. All else is noise.

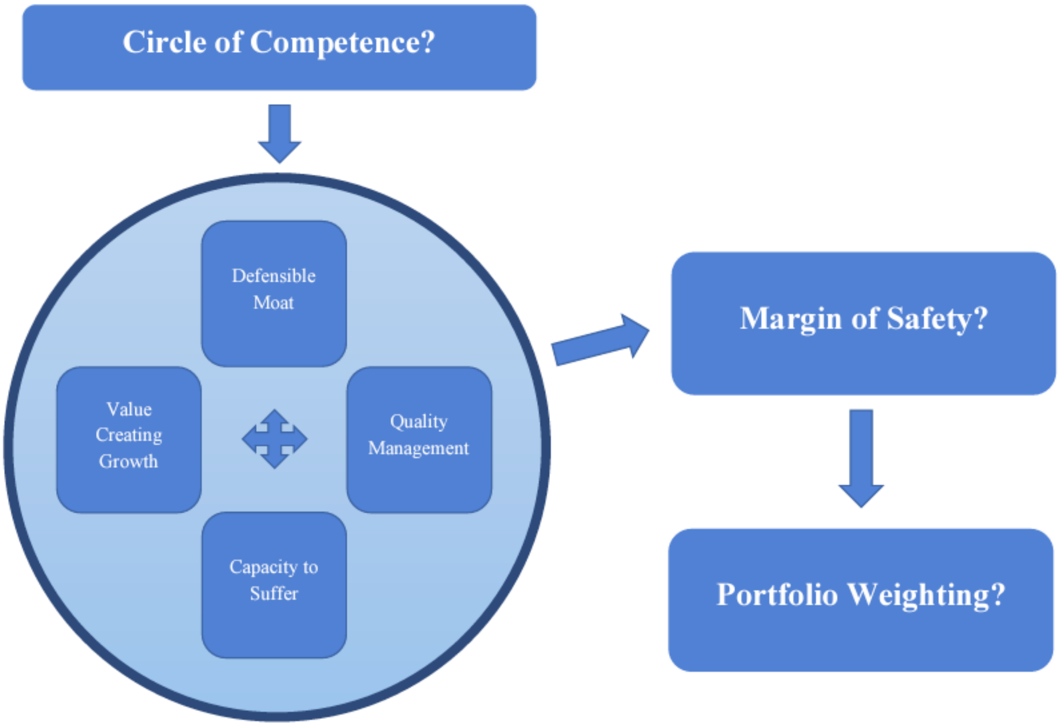
"No company grows for a long period of years just because it is lucky. It must have and continue to keep a high order of business skill, otherwise it will not be able to capitalize on its good fortune and to defend its competitive position from the inroads of others."
Philip Fisher , "Common Stocks and Uncommon Profits and Other Writings"

Although outcomes in the short-term have vast amounts to do with luck, in the long-term luck evens itself out and the fundamentals of the business will shine through. Jim Collins and his research team found that unequivocally luck CANNOT make a great company but it can kill a company. With luck being defined as an event that was not caused by the company and came as a surprise in the form of timing or that it happened at all. The effects of luck are asymmetric in that good luck will have relatively small benefits but bad luck can kill you. This is why it is so important to own companies with the Capacity to Suffer. To be able to capitalise on the benefits of good luck a company needs to survive the bad luck. From Good to Great research they found that the "Good to Great" companies were able to take advantage of good fortune from a position of strength and create a Flywheel. When the "Good to Great" companies where bestowed with luck they did not rest on their laurels and rather than treat good luck as a windfall profit, they used it as a catalyst to build something amazing. One example of this is Microsoft. In the early days of the computer industry, two companies got the exact same luck event, IBM was looking for a new operating system. IBM approached both Digital Research and Microsoft. Only Digital Research actually had a product and was a clear favourite to be the new IBM operating system. However, Bill Gates seized this luck event with fervour. He didn't let luck pass him. Microsoft quickly developed the Windows operating system. Gates, however, did not stop once he eventually won the IBM contract, instead he started to build a Flywheel. He used the IBM win to start momentum within Microsoft. The rest is history. The key difference in luck between the "Good to Great" companies and the comparison companies was the return on luck. The ability of management to turn a stroke of luck into a compounding machine. Once again management's ability to capture good luck rests on its ability to survive bad luck.

"What makes a decision great is not that it has a great outcome. A great decision is the result of a good process, and that process must include an attempt to accurately represent our own state of knowledge. That state of knowledge, in turn, is some variation of "I'm not sure."
Annie Duke, "Thinking in Bets"

THE WLCM COMPOUNDER FRAMEWORK

"High quality always beats a bargain over time."
Gautam Baid, "The Joys of Compounding"



This monograph has served to explain and expand upon our Compounder investment framework in its current iteration. We take a long-term view with this framework in that we want to observe it's usefulness over time and to see how we can improve upon it. We will consider whether there is correlation between what we are measuring and good outcomes over long periods of time. We fully expect some of the items we measure will change over time and this framework will improve. This is very much in the "BETA" stage and expect it to remain there in perpetuity. We believe that we can use this framework to help us identify Compounders, and to improve our decision making.

"If you aren't willing to own a stock for ten years, don't even think about owning it for ten minutes."
Warren Buffett "Berkshire Hathaway Letters to Shareholders, 1996"

We are constantly trying to get as much information about a company, through the lens of Moat, Management, Growth and Capacity to Suffer. The deeper our understanding of the business the better our decisions are like to be. There is this idea in Complexity Theory called Lyapunov Time, that measures the amount of time that we are able to predict the state of a dynamical system before it turns chaotic. The theory shows there are two basic options for extending the time one is able to predict a complex system: increase the amount of error one is able to tolerate and improve the information on the initial starting conditions. Lyapunov also showed that the amount data needed to extend the predictable time, increases exponentially. At some point more information has almost no effect.

"The farther back you can look, the farther forward you are likely to see."
Winston Churchill

Lyapunov Time is directly applicable to investing since we are making assumptions about the future of businesses that operate in a hard to predict chaotic world. The first implication is that to have the best chance of being able to predict future outcomes of a business we need a lot of information and a deep understanding of the initial conditions –the business and its operating environment. Secondly, we need a lot of information but at some point incremental information has little value. We have to be willing to invest with a mosaic-like view of the business rather than an ultra fine 4K HD picture. Thirdly if we want to minimise our errors, we need to reduce the amount of time that we try to predict. This is why we use 5-year assumptions in our DCF. Beyond that is hubris. We would rather update our rolling 5-year assumptions as more data points come out than to initially predict 10 years out. Finally, we cannot eliminate errors, no matter how good our data is or how short a time period we try to use, the world is just too complex. Therefore, we must demand a margin of safety in the price we pay. We will make errors.

"Part of what you must learn is how to handle mistakes and new facts that change the odds. Life, in part, is like a poker game, wherein, you have to learn to quit sometimes when holding a much-loved hand."
Charlie Munger, "Poor Charlie's Almanac"

THE WLCM COMPOUNDER SCORESHEET

"Time is the friend of the wonderful business, the enemy of the mediocre."
Warren Buffett "Berkshire Hathaway Letters to Shareholders, 2010"

We go from gathering a lot of data and building up extensive knowledge to then simplifying. We think many people use Einstein's old adage "Make everything as simple as possible, but not simpler.", as an excuse for lazy thinking. Simple doesn't mean that one doesn't need to have extensive knowledge and put in the hard work. "$E=MC^2$" symbolises the beauty of simplification. But Einstein still had to do all the hard work, learn all the things he had to learn, to get to $E=MC^2$. Simplicity comes from deep knowledge. Many of the great teachers like Warren Buffett and Richard Feynman, had a legendary ability to simplify complex ideas, because they knew those ideas better than anyone. You cannot simplify without a deep understanding of that you wish to simplify. Earn the right to simplify.

"There are no facts about the future, just opinions,"
Howard Marks, "Expert Opinion"

We use our WLCM Compounder Scoresheet to simplify. The most important factors that we learn about a business should be reflected on the scoresheet. This is the data we want to focus on. When new data comes out we look to our scoresheets and our DCF models and ask ourselves if the long-term value proposition of the business has changed. Often there is no change. Focusing on these factors helps us filter out the noise and ride the gyrations of the market.

"Everybody gets so much information all day long that they lose their common sense."
Gertrude Stein

Moat

Criteria	/10
1. Endurance of Moat	
2. Shrinking (1) or Widening(10) Moat	
3. Competitive landscape	
4. Economies of scale	
5. Demand Side Competitive Advantages	
6. Uniqueness of moat	
7. Supply side Competitive Advantages	
8. Lindy effect	
9. Industry marketshare turnover	
10. Local Champion	

Management

Criteria	/10
1. Insider ownership	
2. Looking in Window or Mirror	
3. Building for the long-term	
4. Historical performance	
5. Plow horse or show horse	
6. Outsider characteristics	
7. Decentralisation	
8. CEO fanaticism	
9. Culture	
10. Vision	

Capacity to Suffer

Criteria	/10
1. Capital Structure	
2. Turkey (1) vs Anti-Fragile (10)	
3. Owner-mind-set CEO	
4. BHAG	
5. Win-Win Relationships	
6. Porter's 5 forces	
7. Management experience of crisis	
8. Cannonballs (1) vs Bullets (10) strategy	
9. The 20 mile march	
10. Company ability to go on a 20 mile march	

Growth

Criteria	/10
1. Relative size to market	
2. History of growth	
3. Clear growth strategy	
4. ROCE	
5. Acquisition opportunity	
6. Spawer DNA	
7. Economic Tailwind	
8. Flywheel	
9. Discipline to stick to their Hedgehog	
10. 10-year outlook	

In an effort to quantify and compare Compounders we have created the WLCM Compounder Scoresheet. This also serves to give us feedback on how consistently we are judging companies and to help us to choose the best investments within our opportunity set. Our hope and expectation is that as this framework evolves that it will be simplified down to less and less key points that drive value. However, for the first version of this framework we are happy with the key value drivers that we have identified and will take a long-term approach to see if these factors have a correlation to good outcomes.

"It is hard to look at your own writing and deny your previous thoughts."
Gautam Baid, "The Joys of Compounding"

Although these factors are all subjective and cannot be quantifiably right or wrong we believe that over time this will help us standardise our investment process and help to reduce biases. This also serves as a check list and is meant to be used in conjunction with our Due Diligence questions which can be found here.

"Investing is most intelligent when it is most businesslike."
Benjamin Graham

CONCLUSION

Firstly we hope that this monograph succeeded in creating the WLCM dictionary. That a common language has been created from the common ideas shared in this monograph.

When we analyse a business we must do it through the lens of a business owner. Mistakes tend to be made when investing is confused with speculating. We want to plant ourselves firmly on the investing side and not lull ourselves into speculating. We ask ourselves what would a business owner look for. They certainly won't care what the "Beta" is. Nor do we. As business owners we are looking to buy businesses that: we understand well; have clear competitive advantages; have the ability to survive the inevitable shocks tossed at them by the world; have high-integrity management whom we trust to allocate our capital well and that possesses a long runway of value creating growth.

We have explicitly defined what we are looking for in each of these characteristics and have built a framework for each characteristic that is part of a bigger overall Compounder framework. These frameworks allow us to systematically and consistently evaluate businesses. We are very much focused on our process rather than outcomes. We want to develop a framework that allows consistency in our process and we think the WLCM Compounder framework gives us this.

Not only do we want to identify Compounders but we also want to buy them when they are offering a satisfactory risk-adjusted return. We must stay disciplined to our margin of safety principle only buying Compounders when our expectations diverge significantly from the prevailing market expectations. We can roughly identify the market expectations with reverse DCF, and compare it to a DCF of our own assumptions. If there is a significant difference then there might be an opportunity. We think that DCFs, where assumptions are explicit, are the best way for investors to get feedback and to continually evaluate and update assumptions.

The chances of finding many Compounders where our expectations considerably diverge from the market's is slim. Rather we want to only take action when the opportunity seems very clear. Therefore, we are happy to hold a concentrated portfolio of strong businesses. We also understand that Compounders that are already identified as Compounders by the market are rarely mispriced. Therefore, we have also developed a shorter-term, Workouts framework which will be the subject of another monograph. Having the two frameworks in place allows us to identify more opportunities in the market, but they are still few and far between. Across the two frameworks we are lucky if we can find 6-12 businesses offering a satisfactory return. As time moves on our hope is that we can build a portfolio of only Compounders bought at a significant margin of safety. However, as we are still at the very start of our journey we think that both frameworks have their place.

We strive to continually evolve and learn. It can be hard to know what information to learn from and what is noise. We hope that the frameworks that we have developed give us a noise-reduced feedback loop. We hope that the framework allows us to stick to business-like investing and gives us a greater focus on the value drivers.

We are big believers in public learning and sharing our ideas. We have benefited greatly from others doing so. Although we are still at the learning stage of our journey, and hope we remain their indefinitely, our aspiration is that over time we can contribute to the shared pool of knowledge.

Thank you to all of you who made it this far.

If you enjoyed reading our monograph on Compounders, please share it with your friends and associates. If you haven't already please subscribe to our free newsletter **here**

White Loch Capital Management is a **fictitious** fund used for educational purposes only

Thanks for reading

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APPENDIX 1: FURTHER READING

Ten books on Compounders

1. 100 Baggers by Chris Mayer
2. Common Stocks and Uncommon Profits and Other Writings by Philip Fisher
3. Diamonds in the Dust by Saurabh Mukherjea
4. Good to Great By Jim Collins
5. How to Pick Quality Shares by Phil Oakley
6. Investing for Growth by Terry Smith
7. Only The Best Will Do by Peter Seilern
8. Quality Investing by Lawrence A Cunningham
9. The Little Book That Builds Wealth by Pat Dorsey
10. The Star Principle by Richard Kosh

Ten investors worthy of study to learn about Compounders

1. Akre Capital Management - Chuck Akre
2. Aquamarine Fund - Guy Spier
3. Berkshire Hathaway- Warren Buffett and Charlie Munger
4. Fundsmith - Terry Smith
5. Marcellus Investment Managers - Saurabh Mukherjea
6. Nomad investment Partnership - Nicholas Sleep and Qais Zakaria
7. Pabrai Investments - Mohnish Pabrai
8. Pershing Square- Bill Ackmam
9. RV Capital - Robert Vinall
10. Semper VIC Partners - Tom Russo

Top five most influential books on our thinking

1: Chaos by James Gleick

An entry into the world of chaos theory and complexity, giving the reader a broad over view about the big ideas in the field. A truly mind-opening experience that is sure to set off any reader down a rabbit hole into the fascinating world of Complexity. For investors Complexly is one of the most important ideas to grasp.

2: Behave by Robert Sapolsky

A thorough overview of the biology behind human behaviour. A must read for any investor who wants to better understand the madness of human behaviour that so often is driving the market.

3: Man's Search For Meaning by Victor Frankl

A classic on one man's journey of desperate survival in the worst possible conditions imaginable. So much to take from this book about life and the drive that comes from finding meaning in ones life.

4: Poor Charlie's Almanac by Peter Kaufman

Jam packed full of wisdom from the legendary investor and polymath Charlie Munger.

5: Incerto by Nassim Nicholas Taleb (the collection of his works)

A collection of brilliant mental models that should be part of any investors mental toolkit.

APPENDIX 2: GLOSSARY

10Ks: An annually filled report by publicly-traded companies that gives comprehensive insight into the company's finances, organisational structure, compensation and much more.

Bond-Proxy: Bonds are debt obligations to pay the holder of the bond back the initial payment plus interest. Bonds are considered very stable and often come with a reliable and recurring stream of income – the coupons. Bond-Proxies are companies whose stock, in theory, offers investors a similarly stable and recurring stream via dividends. Some well known bond-proxies are Coca-Cola, Hershey and utility companies

Derivatives: Derivatives are a type of financial contract whose value is, in theory, determined by an underlying asset. For example, a contract whose value is based on the price of copper. If copper price goes up party A pays party B and vice versa. Yet no copper is ever traded hands.

Economic Profit: An economic profit is the profit a business can earn above its cost of capital/Weight Average Cost of Capital(WACC)/opportunity cost (these three are quite interchange). Money is finite and if we decide to use money on a particular item or investment we forgo spending that money elsewhere, this is our opportunity cost. If a business knows that when it invests $1000 to buy a machine that machine will produce $100 of profit every year, 10% return. This can now be seen as the opportunity cost for this business. Any other investment that the business makes must be compared against the opportunity to buy another machine for a 10% return. However, businesses and investors don't necessarily have a well-defined opportunity cost and the paybacks aren't always certain, there is varying degrees of risk involved. The cost of capital can be summarised as the risk adjusted return required by an investor or business to defer consumption today, given the opportunity set. Therefore, an economic profit is the accounting profit (the profit recognized by accounting) minus the cost of capital.

Fixed Costs vs Variable costs: Think of a factory that produces widgets. To set up the factory the business might need to purchase land, machinery and the factory itself, these are the businesses fixed costs. Fixed costs are expenses that cannot be attributed to anyone product, also know as the "overhead". Fixed costs do not change depending on how many widgets the business produces, even if it produced zero widgets it will still need to pay rent. Now to start producing the widgets the company needs purchase the plastic pellets that make the widget, it will need a certain amount of labour to produce each widget etc. The business can workout how much it plastic and labour it needs per widget and that will be the variable costs. Variable costs change depending on how many widget it produces, the more widgets the more labour and plastic it will need.

Lindy Effect: The Lindy Effect states that the longer a non-perishable item or idea has been around, the longer it is likely to persist in the future.

Liquidation Value: The value of a company's assets if they were to be sold off, minus any outstanding liabilities. An extremely conservative approach is needed when calculating the value of assets in a liquidation case. Often there aren't many buyers for what it is the company is trying to sell.

Liquidity vs Solvency Risk: Liquidity relates to company's ability to pay short-term liabilities and its ability to raise cash. Solvency refers to a company's capacity to satisfy long-term debt obligations and to continue operations. The risk posed by liquidity is that a company might be healthy long-term yet the wider market looses confidence in a business and therefore is unable to refinance or raise short-term cash to pay its debt obligations. Liquidity problems kill a company very quickly and are frequently determined by human perceptions. Solvency risk is the risk that the business is not able to remain competitive in the long-term. Solvency risk tends to manifest itself slowly as the company decays.

Non-GAAP: Generally Accepted Accounting Principles (GAAP), is a set of accounting rules and standards set by the Financial Accounting Standards Board in the U.S. American public companies must comply with GAAP. Non-GAAP refers to alternative Financial measures not acceptable under GAAP. Sometimes Non-GAAP measurements can be used by management teams to illuminate a part of the business or as a measure of value creation. However, Non-GAAP measures are often used nefariously, to make the company seem in a lot better shape than it is in reality. We are very sectoral of Non-GAAP measurements and if GAAP rules are distorting value we prefer to dig into the numbers ourselves.

Present Value of Money: Present value of money is the current value of some future sum of money. $100 in 5 years time is not the same as $100 today. Therefore, we must discount future sums of money to make it comparable to the value you would place on that money today. The way we see it is, how much would you demand in return for giving up consumption today for more consumption later. If you required an annual return of 10% to give up your money today then this is the rate that we discount future money at. Therefore, $100 dollars now, is valued at. $100; $100 dollars in one year is valued at $90.9; $100 in two years is valued at $81.64 and so on.

Return on Capital Employed (ROCE): Return on Capital Employed is a measure of how efficiently a business uses the assets in the business. We define ROCE as the Earnings before Interest and Tax (EBIT) divided by Capital Employed – Total assets minus current liabilities.

Return on Equity (ROE): Return on Equity (ROE) is the measure of how much profit is being generated from each dollar of equity in the business. We define ROCE as net income divided by Shareholders equity (assets minus debt). While ROE can be a useful measure of profitability and how efficient a company is using its assets, ROE does not account for the debt in the business. If debt is a very large part of the capital structure then the denominator (Equity) will be very small and even a highly inefficient and low margin business can have a very high ROE.

Short-Reports: A Short-Report is a report written by an investor who is short selling the stock and therefore is betting the stock price will fall. Short selling is the practice of selling a stock today to buy it back later for less, therefore making a profit between the price sold and the price bought. Short selling is a brutal business where the outcome distribution is skewed unfavourably for the short seller. Therefore the successful short sellers are among some of the most diligent and smart investors in the market. They are playing a very tough game and to survive they need to be the best of the best. We will consider short-reports very seriously and it will make us check and double check all of our information and assumptions.

APPENDIX 3: SCORESHEET CONCEPT INDEX

If you have come across our WLCM Framework and scoresheet without being able understand the concepts, here is a guide to quickly finding those concepts that you might need an explication for.

Moat

Endurance of a Moat	PG.12
Shrinking or Widening Moat	PG.12
Lindy Effect	PG.12
Local Champions	PG.13
Supply Side Competitive Advantages	PG.14
Demand Side Competitive Advantages	PG.17
Economies of Scale	PG.19
Industry Marketshare Turnover	PG.20
Competitive Landscape	PG.20

High-quality management

Culture	PG.16
Looking in Window or Mirror	PG.25
Building an enduring company	PG.25
Plow horse or Show horse	PG.26
Outsider Characteristics	PG.26
CEO Fanaticism	PG.29
Decentralisation	PG.29
Insider Ownership	PG.30
Building for the Long-Term	PG.50
Vision	PG.51

Value creating growth

ROCE	PG.34
Relative size to market	PG.35
Economic Tailwind	PG.35
FlyWheel	PG.36
Discipline to stick to their Hedgehog	PG.38
Spawner DNA	PG.42

Capacity to Suffer

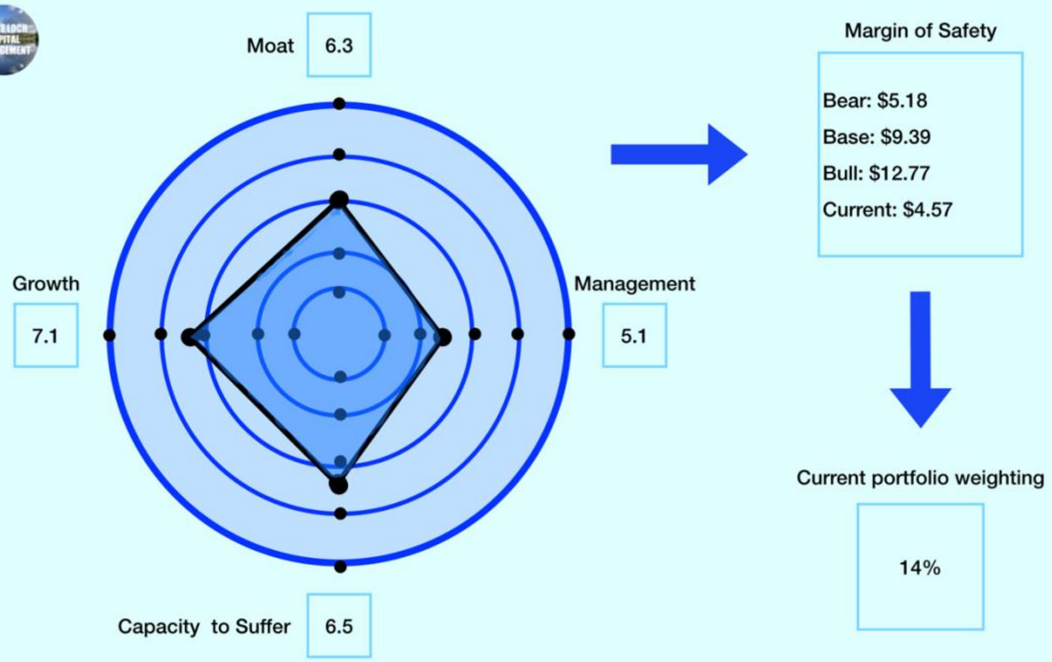
Owner-mindset CEO	PG.30
Cannonballs vs Bullets	PG.41
Turkey vs Anti-Fragile	PG.44
Capital Structure	PG.45
Win-Win relationships	PG.48
Porter’s 5 Forces	PG.49
BHAG	PG.51
The 20 Mile March	PG.52
The Ability to go on a 20 Mile March	PG.54

APPENDIX 4: SCORESHEETS, A2 MILK

All figures used are based on the thesis which can be found here

A2 Milk

- **Moat**
  - A highly trusted and loved brand; consumers are willing to pay high premiums for the brand; brand has translated in high margins and extremely high ROCE
- **Management**
  - Relatively new management that comes with a lot of experience and highly recommended; too early to make any real judgements on management
- **Capacity to Suffer**
  - Massive cash position on balance sheet; but reliant on the Chinese market which poses a risk
- **Growth**
  - Huge runway for growth; still a small player in a huge market; opportunity to expand to adjacent markets both geogpraically and product type. We see a2 Milk expanding into other health categories. It is very well positioned in niche markets that are expected to grow at very high rates for a long time.



Moat

Criteria	/10
1. Endurance of Moat	6
2. Shrinking (1) or Widening(10) Moat	7
3. Competitive landscape	5
4. Economies of scale	6
5. Demand Side Competitive Advantages	8
6. Uniqueness of moat	7
7. Supply side Competitive Advantages	6
8. Lindy effect	5
9. Industry marketshare turnover	5
10. Local Champion	8
	6.3

Management

Criteria	/10
1. Insider ownership	2
2. Looking in Window or Mirror	4
3. Building for the long-term	6
4. Historical performance	8
5. Plow horse or show horse	5
6. Outsider characteristics	5
7. Decentralisation	4
8. CEO fanaticism	5
9. Culture	5
10. Vision	7
	5.1

Capacity to Suffer

Criteria	/10
1. Capital Structure	9
2. Turkey (1) vs Anti-Fragile (10)	8
3. Owner-mind-set CEO	5
4. BHAG	7
5. Win-Win Relationships	7
6. Porter's 5 forces	7
7. Management experience of crisis	5
8. Cannonballs (1) vs Bullets (10) strategy	6
9. The 20 mile march	6
10. Company ability to go on a 20 mile march	5
	6.5

Growth

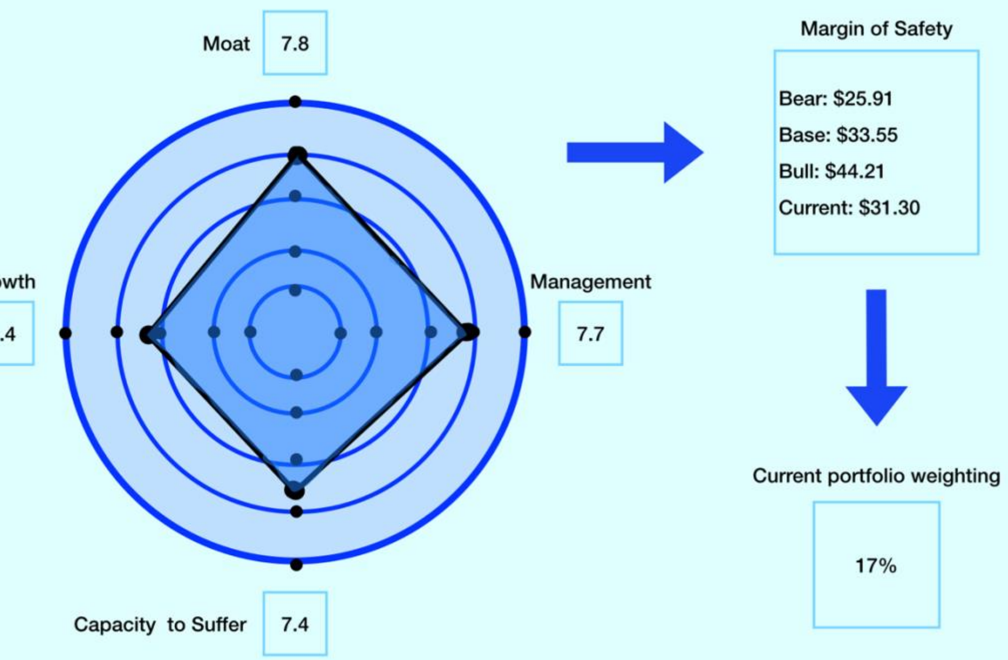
Criteria	/10
1. Relative size to market	9
2. History of growth	9
3. Clear growth strategy	7
4. ROCE	8
5. Acquisition opportunity	5
6. Spawer DNA	6
7. Economic Tailwind	7
8. Flywheel	7
9. Discipline to stick to their Hedgehog	7
10. 10-year outlook	6
	7.1

GENTEX

All figures used are based on the thesis which can be found [here]

Gentex

- **Moat**
  - Virtual monopoly on auto-dimming rear view mirrors; Patent protected and highly specialised products; Owner-mindset culture that has a history of innovation; Moat clearly translates into a high 20% return on Capital
- **Management**
  - Current management group are all young and have a long history at the company and all worked under the founder; despite lack of insider ownership we can see owner-mindset, especially since many of the top executives have dedicated their careers to Gentex.
- **Capacity to Suffer**
  - Net cash balance sheet; Owner-mindset CEO who is willing to suffer short-term to gain long-term endurance.
- **Growth**
  - Has a long history of innovation and spawning new businesses. We think that the growth engine for Gentex will be its Spawner DNA; main business likely to grow slightly above the growth rate of the global light vehicle market.



Moat

Criteria	/10
1. Endurance of Moat	8
2. Shrinking (1) or Widening(10) Moat	7
3. Competitive landscape	8
4. Economies of scale	8
5. Demand Side Competitive Advantages	8
6. Uniqueness of moat	7
7. Supply side Competitive Advantages	7
8. Lindy effect	8
9. Industry marketshare turnover	8
10. Local Champion	9
	7.8

Management

Criteria	/10
1. Insider ownership	4
2. Looking in Window or Mirror	7
3. Building for the long-term	8
4. Historical performance	8
5. Plow horse or show horse	6
6. Outsider characteristics	6
7. Decentralisation	5
8. CEO fanaticism	7
9. Culture	8
10. Vision	7
	7.7

Capacity to Suffer

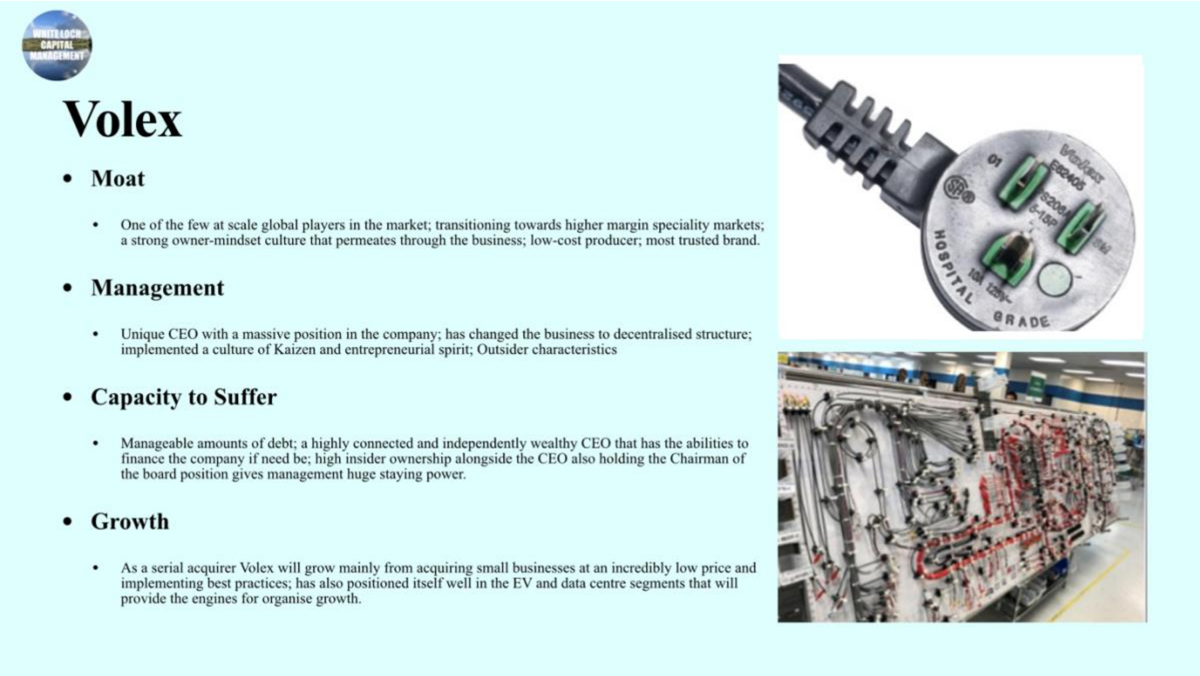
Criteria	/10
1. Capital Structure	9
2. Turkey (1) vs Anti-Fragile (10)	7
3. Owner-mind-set CEO	7
4. BHAG	7
5. Win-Win Relationships	7
6. Porter's 5 forces	8
7. Management experience of crisis	7
8. Cannonballs (1) vs Bullets (10) strategy	7
9. The 20 mile march	8
10. Company ability to go on a 20 mile march	7
	7.4

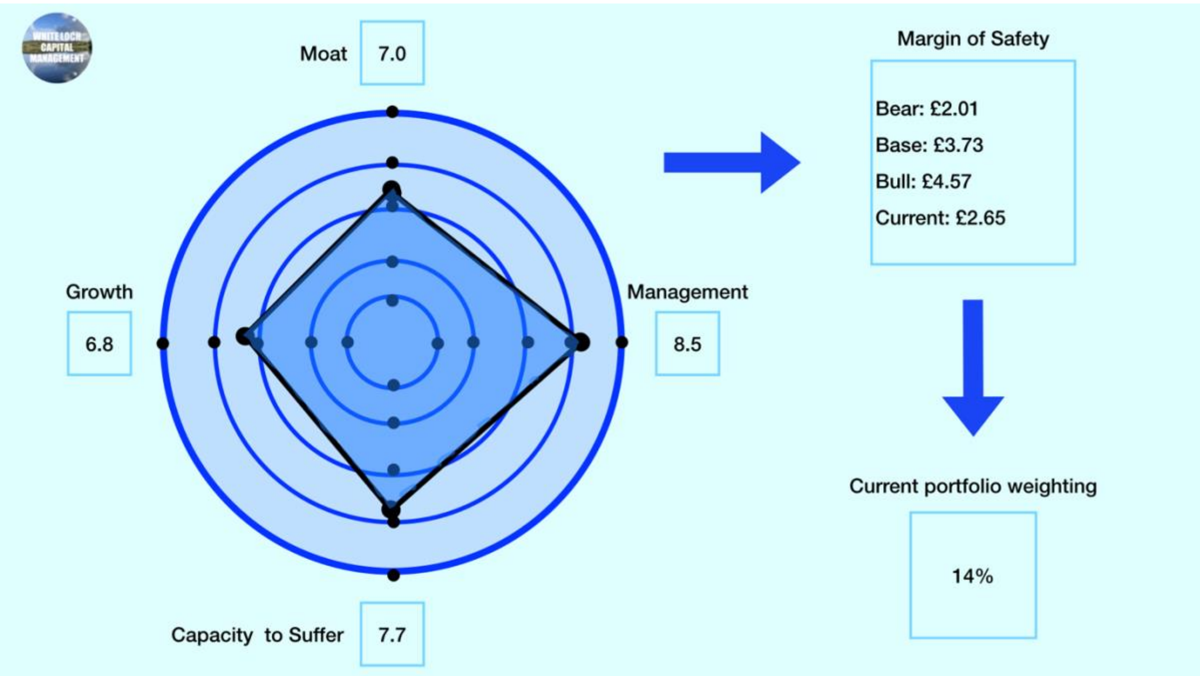
Growth

Criteria	/10
1. Relative size to market	4
2. History of growth	7
3. Clear growth strategy	7
4. ROCE	7
5. Acquisition opportunity	6
6. Spawer DNA	7
7. Economic Tailwind	6
8. Flywheel	7
9. Discipline to stick to their Hedgehog	7
10. 10-year outlook	6
	6.4

VOLEX

All figures used are based on the thesis which can be found [here]





Moat

Criteria	/10
1. Endurance of Moat	7
2. Shrinking (1) or Widening(10) Moat	8
3. Competitive landscape	8
4. Economies of scale	7
5. Demand Side Competitive Advantages	6
6. Uniqueness of moat	6
7. Supply side Competitive Advantages	9
8. Lindy effect	5
9. Industry marketshare turnover	7
10. Local Champion	7
	7.0

Management

Criteria	/10
1. Insider ownership	10
2. Looking in Window or Mirror	8
3. Building for the long-term	9
4. Historical performance	8
5. Plow horse or show horse	9
6. Outsider characteristics	9
7. Decentralisation	8
8. CEO fanaticism	8
9. Culture	8
10. Vision	8
	8.5

Capacity to Suffer

Criteria	/10
1. Capital Structure	6
2. Turkey (1) vs Anti-Fragile (10)	8
3. Owner-mind-set CEO	9
4. BHAG	8
5. Win-Win Relationships	7
6. Porter's 5 forces	7
7. Management experience of crisis	7
8. Cannonballs (1) vs Bullets (10) strategy	8
9. The 20 mile march	8
10. Company ability to go on a 20 mile march	9
	7.7

Growth

Criteria	/10
1. Relative size to market	8
2. History of growth	6
3. Clear growth strategy	8
4. ROCE	5
5. Acquisition opportunity	8
6. Spawer DNA	5
7. Economic Tailwind	6
8. Flywheel	8
9. Discipline to stick to their Hedgehog	8
10. 10-year outlook	6
	6.8