Quality Investing

MJK Finvestment
Simplicity Trumps Complexity

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What is quality investing?

Quality investing is a way to pinpoint the specific traits, aptitudes and patterns that increase the probability of a particular company prospering over time – as well as those that decrease such chances.

Three characteristics indicate quality. These are strong, **predictable cash generation; sustainably high returns on capital; and attractive growth opportunities**.

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. Warren Buffett summarized the point best: "Leaving the question of price aside, the best business to own is one that over an extended period can employ large amounts of incremental capital at very high rates of return." The best investments, in other words, combine strong growth with high returns on capital.

The structure of a **company's industry** is critical to its potential as a quality investment: even the best-run company in an over-supplied, price-deflationary industry is unlikely to warrant consideration. On top of this, there are **company-specific factors** that must be understood. In combination with attractive industry structures, these form the building blocks which can enable a company to deliver sustained operational outperformance and attractive long-term earnings growth.

The key difference facing equity investors is that they must find companies in the stock market, where theory suggests that the superior attributes of quality companies would be <u>fairly</u> reflected in price, offering no investing advantage. But while premiums are paid for shares of such businesses, they are frequently insufficient. **Valuation premiums of quality companies often reflect some degree of expected operational outperformance, but actual performance tends to exceed expectations over time.** Stock prices thus tend to undervalue quality companies. Quality investing requires an understanding of how a company achieves its attractive economic characteristics to ensure that they are sustainable.

Capital Allocation

A company can choose to allocate capital in one of four main ways: capital expenditures for growth; advertising and promotion or R&D; mergers and acquisitions; or distributions to shareholders through dividends or share buybacks.

GROWTH CAPEX - Companies typically refer to all internal investments as capital expenditures, but there is an important distinction between capital expenditures required for maintenance and those incurred for growth or expansion. Unlike growth capital expenditures, maintenance capital expenditures are required just to maintain the status quo. Growth capex, as the term suggests, is the deployment of capital for the purposes of generating organic growth.

INVESTMENT IN R&D AND ADVERTISING AND PROMOTION (A&P) - In many industries, spending on advertising is an important launch pad for a company's competitive advantage and future growth. While some advertising efforts drive current sales, such as in-store exhibits, the real value accrues from sustained campaigns aimed at brand building. Unlike constructing factories or buying equipment, brand spending creates no tangible asset that can be appraised and depreciated. From a financial viewpoint, it is money out the door just as much as rent and rates. Unlike many other cost items, however, it can create lasting value. **While financial statements classify advertising costs as expenses, they are often better conceived of as investments.**

R&D costs are similar to advertising. While contemporary accounting rules allow companies to treat some R&D disbursements more like long-term assets, we focus explicitly on their dual nature: some are properly seen as expenses necessary to maintain a business, while others, the vastly larger proportion, are best viewed as investments in future growth. Measuring returns on R&D and advertising outlay can be challenging. For R&D, in particular, there are many industries where a return will not be recovered for many years. Appropriately capitalizing these expenses is a start, **but a company's long-term track record of generating returns on its R&D outlay is often the best indicator of R&D efficiency.**

MERGERS AND ACQUISITIONS - Acquisitions are a common source of value destruction, so it is usually better for capital to be deployed on organic growth as opposed to M&A. That said, there are a few contexts in which acquisitions can create value for shareholders. Consolidation of fragmented industries is often an appealing rationale for growth through acquisitions.

While we are generally skeptical of mergers rationalized on the basis of over-optimistic and loosely defined synergies, certain sub-sectors do offer opportunities for mutual benefits from bringing two good businesses under one roof. Leveraging network benefits – such as a larger or more comprehensive distribution network – is another common characteristic of successful acquisitions. One excellent example of a company that does this effectively is Diageo, the consumer goods company with a portfolio of world-famous beverages.

Managers do not always provide investors with sufficient information to evaluate proposed acquisitions completely or objectively. They invariably provide projections that look compelling and business rationales that seem logical. But the possibility of an acquisition tends to excite managers and ignite optimism, so we interpret these presentations cautiously. Red flags such as **diversification, scale, and rapidity** often accompany ill-fated acquisitions. **We worry especially about acquisitions whereby companies are expanding into new areas: management's relative lack of expertise and a clumsy business fit usually prove costly.**

DIVIDENDS AND BUYBACKS - Too often, companies repurchase excessively during periods of economic expansion, when stock prices are high, and insufficiently during economic downturns, when prices are low. Both propensities reduce rather than build value, the first by giving away more than is received and the latter by depriving shareholders of cash when it is particularly valuable to them.

THE COSTS OF WORKING CAPITAL - Working capital refers to resources deployed short term to generate revenue: short-term assets such as inventory, less short-term liabilities such as accounts payable. A company's overall working capital burden often reflects its bargaining power with other stakeholders: those positioned to dictate terms typically enjoy more attractive working capital profiles. The incremental working capital required for growth is critical as it reduces cash flow growth, and hence the company's value creation. **Companies that tie up very little extra working capital with incremental sales tend to be more attractive.** Most companies must bear the costs of carrying at least some working capital. Those best-positioned to mitigate the money drain are those able to produce at low costs (less cash tied up as inventory) or to operate with rapid inventory and receivables turnover: they speed up the time it takes to produce and compress the time it takes to collect. **In some rare and attractive cases, working capital is negative: capital is held rather than deployed, making for a benefit rather than a cost.** The most common examples are industries that require prepayments, such as software and insurance.

Return On Capital

Return-on-capital metrics measure the effectiveness of a company's capital allocation decisions and are also arguably the **best shorthand expression of its industrial positioning and competitive advantages.**

An industry or a company generating economic profit normally draws competition, and competitive pressure gradually erodes profitability to erase economic profit. Thus, in perfectly competitive markets, companies earn no economic profit. **To achieve sustained high returns on capital requires possessing features that protect returns from competition; namely, competitive advantages.** Identifying what these competitive advantages are and understanding their sustainability is an essential part of the quality investment process. Quality investing focuses on a company's ability to invest capital at high rates of return: post-tax levels of high-teens (and higher) are possible. Three elements drive corporate cash return on investment: asset turns, profit margins and cash conversion. Asset turns measure how efficiently a company generates sales from additional assets, which can vary greatly depending on the asset intensity of the industry itself; margins reflect the benefits of those incremental sales; and cash conversion reflects a company's working capital intensity and the conservatism of its accounting policies.

RETURNS - The simplest and most commonly used tool for measuring returns is return on equity: net income as a percentage of shareholders' equity. While useful as a general proxy, the figure is crude for two reasons. Most obviously, the return part of the equation uses accounting measures, whose application leaves managers with considerable discretion over the treatment of important measures such as depreciation and provisioning. The calculation can also be distorted by factors that affect the value of shareholders' equity, such as write-downs and debt levels. The latter is particularly problematic, since **the leverage effect of debt boosts return on equity but does not reflect the associated risks:** many of the failed financial institutions in the 2008 crisis boasted seductive returns on equity in preceding years.

While tempting to look at short-term incremental return as a proxy, this can be misleading. Often capital spent today will only deliver meaningful returns years later. Similarly, the returns a company achieves today may be the result of capital spent years ago, or a current cyclical boom. While history can never replace thorough analysis, we typically **focus on companies where return on capital has been high and stable over time.** Although studies suggest that abnormal returns tend to fade over time in aggregate, there are regular exceptions to this rule – outliers able to buck the statistical trend of mean reversion and sustain superior returns over the long term.

Asset turns - Asset turns are, in effect, a measure of a company's asset intensity. Or, put another way, how much capital needs to remain in the business in order to generate sales. Asset-light industries are attractive since they require less capital to be deployed in order to generate sales growth. High capital intensity companies can also be attractive, especially where the capital requirement confers stability and deters entrants.

Profit Margins - Gross profit margin demonstrates competitive advantage: it is the purest expression of customer valuation of a product, clearly implying the premium buyers assign to a seller for having fashioned raw materials into a finished item and branding it. **Although gross margin is a partial function of a company's industry and high gross margins can reflect low asset intensity, sustained high gross profit margins relative to industry peers tends to indicate durable competitive advantage.** High gross margins also confer other advantages: they can expand the scope for operating leverage, provide a buffer against rising raw material prices and provide the flexibility to drive growth through R&D or advertising and promotion. The more incremental top-line revenue that ends up as bottom-line profit, the better. Suppose two rivals each grow revenue by a dollar. If it costs one of them ten cents to do so and the other 80 cents, the growth is clearly more valuable for the former. Businesses with high operating margins are typically stronger than those with lower ones. Sustained margin expansion also signals strength. **Big swings in operating margins can indicate that major cost components are outside of management's control, suggesting that caution be applied.** A company that consistently achieves both high gross and high operating margins indicates a strong competitive advantage sustainable at tolerable cost.

Sources of Growth

It may seem an obvious statement, but the best businesses to own are those in which end markets are growing rather than shrinking. Absent market growth, competitors feel compelled to grab or increase market share through any means, including industry-destructive tactics like price discounts and promotions. Opportunities for growth maximize the benefits derived from high returns on capital. Such opportunities can arise from market growth, either cyclical or structural, or through a firm grabbing share from rivals in existing markets or expanding geographically. The very best companies enjoy a diversified set of growth drivers through ingenuity in the design of products, pricing, and product mix.

Gaining Market Share - Growth through gaining market share has two things in its favor. First, it is independent of the economic climate – share gains can occur in good times and bad. Second, it is something over which the company itself has a degree of control. Some companies are able to deliver consistent market share gains through strategies such as compelling advertising campaigns, successful store roll-outs or ongoing investment in distribution. **Companies with a proven track record of steady accretion of market share can be highly attractive investments.** When analyzing share gains, understanding the source is important. Market shares in some industries fluctuate dramatically depending on relative pricing strategies and product innovations of participants. Market share gains represent the best pathway for growth if they happen in a consistent way and, ideally, in a market where the investor can identify a reliable share donator.

Companies that rely on unique business structures for competitive advantage at home will face the greatest difficulty expanding geographically. Advantages that derive from a unique distribution system, localized scale advantages, or favorable regulatory treatment may not be replicable abroad.

Conversely, certain types of competitive advantages travel better to new places than others. Thanks to the globalization of travel and media, premium brands transition relatively easily into new markets. Louis Vuitton and Nike are well-known in all corners of the world, even where their merchandise is not yet available. **The uncertainty of geographic expansion leads us to prefer companies with proven track records of successfully exporting competitive advantages into new geographic areas.**

PRICING, MIX AND VOLUME - Viewed from a purely financial perspective, growth in revenue can be broken down into price, product mix, and volume. Setting inflation aside, companies able to increase prices without corresponding increases in cost (or reduction in unit volume) have substantial pricing power.

Pricing power exists when customers are insensitive to price increases. It may occur, for example, in brands whose high prices consumers take as ratification of quality or status (luxury items) and for products marketed on reputation when comparisons with alternatives are difficult ("farm fresh" or "organic" labeling). A more common source of growth comes through price/mix optimization. For example, a boxed chocolate maker might mix into its standard package line a premium package and increase its price by more than its additional cost.

As total revenues rise, the excess increases net income. Mix-driven growth is highly valuable, entailing limited capital expenditure and only modest increases in working capital. But it is inferior to pure price-driven growth because it usually requires some increase in production costs. In purely financial terms, volume-based growth is the least valuable, since it entails increasing quantity at existing average unit prices. Incremental revenue from volume increases tends to have a minor impact on gross margin. But total costs, including those associated with the increases in working capital and capex that higher volumes entail, will inevitably rise to some extent as volume grows. As a result, volume growth is particularly valuable for asset-light businesses boasting high margins and those with high operating leverage, such as pharmaceutical or software companies.

The persistence of Growth - It is possible to produce reasonably accurate forecasts for a subset of companies that tend to generate more consistent and predictable growth than the broader market.

The probability of this is greater for companies in the 10% to 15% earnings growth range than in the higher, hyper-growth ranges. A key part of the reason for this is the link with return on capital, which displays far greater persistence and is therefore a more reliable indicator of future growth.

Good Management

Disciplined Stewards - Good managers have the patience and discipline to invest in organic growth and the willpower to resist the temptation of a dash for growth through 'transformational' (and often value-destructive) acquisitions**. Excessively proud management teams indulging in undisciplined acquisition sprees rarely create value for investors**. Another sign of strong long-term thinking is a prudent balance sheet and counter-cyclical investment. Exceptional managers minimize borrowing and turn a recession into an advantage. For example, during the last downturn, H&M accelerated its store roll-out to take advantage of lower rents and better locations. Likewise, the Swedish bank, Svenska Handelsbanken, accelerated expansion of its UK branch network just after the financial crisis of 2008 when rivals were severely weakened.

Good managers are never satisfied, but are instead driven by an indefatigable and passionate quest for improvement. Energy is devoted to relentless identification and eradication of potential threats.

Out of the limelight - Shareholders should be wary of any company whose chief executive is portrayed in the media as a business celebrity.

"Award-winning CEOs subsequently under-perform both relative to their prior performance and relative to a sample of non-winning CEOs… They spend more time on public and private activities… The incidence of earnings management increases after winning awards." We therefore generally prefer executives who keep a low profile.

People Matter - Good management recognizes that a top priority is developing and deploying people who will then help achieve an organization's goals.

Candor - Good management extends beyond internal execution to outside constituents. From the investing perspective, that means effectively communicating to investors what is important and why. It also means being candid and speaking in a straightforward professional manner rather than indulging in the elliptical spin politicians favor. It also means speaking directly and honestly about events, not wrapping a message in prose developed by a public relations or corporate communications team.

Quoting words from a wise man on thought process, “Much of our thinking about company performance is shaped by the halo effect, which is the tendency to make specific evaluations based on a general impression. When a company is growing and profitable, we tend to infer that it has a brilliant strategy, a visionary CEO, motivated people, and a vibrant culture. When performance falters, we’re quick to say the strategy was misguided, the CEO became arrogant, the people were complacent, and the culture stodgy.”

While good management and quality companies often seem to go hand-in-hand, and assessing managerial quality is indeed worthwhile, other factors such as industry structure loom larger.

Industry Structure

The structure of a given company's industry is critical to its potential as a quality investment. Competitors will always toil to take away any excess return a business is earning. Knowing the competition and understanding how it behaves is therefore vital to assessing the durability of competitive advantage.

Mini-monopolies - Focusing exclusively on monopolies would leave a small portfolio – along with considerable regulatory risk under a variety of antitrust laws worldwide. When thinking about monopolies, we think small, in terms of what we call mini-monopolies. They usually arise from a product offering highly-valued customer benefits unavailable from rival goods. They exist more in customers' minds than in economic models means they are sometimes less obvious, but their financial characteristics can be compelling.

A smoker almost always sticks to the first brand they smoked and, if a store doesn't carry this brand, will more likely go elsewhere than choose an alternative brand, even at a much lower price. With such a loyal customer base, a monopoly is established. The main competition the tobacco company faces is in making the product attractive for new users. The extreme value of these mini-monopolies is one of the reasons why tobacco companies continue to make a lot of money despite extensive government restrictions worldwide.

When a company makes products that yield unique customer benefits, it creates some sort of mini-monopoly. The degree is a function of customer loyalty – profound in the case of the hooked smoker and of varying intensity elsewhere. **A company's degree of monopoly power also varies between existing customers, where loyalty is a historical legacy, and attracting new ones, which requires considerably greater ongoing investment.** Finally, any given company may enjoy mini-monopoly power in some of its product lines but not in others. These groups deserve further analysis as they may contain some underappreciated gems.

Partial Monopolies - The extent of the attraction depends on competition for the sale of the upfront product. If the upfront market is highly competitive, then much of the back-end monopoly profit subsidizes the upfront purchase. Consider cell phone service providers, where front-end competition led most to give cell phones to users for free, becoming a 100% customer acquisition cost. Contrast this with the compressor market. In addition to excellent service margins (back-end profit), market leader Atlas Copco also achieves solid margins on original equipment sales (front-end profit). The combination has allowed Atlas to sustain high returns on capital and strong operating margins for many years, despite the cyclicality of its end markets. We evaluate evidence of partial monopolies in terms of such different outcomes and try to assess specific reasons why an industry may develop along the cell phone model or the compressor model.

Oligopolies - Consider two of the world's most famous duopolies: Coca-Cola and Pepsi in soft drinks; and Airbus and Boeing in aircraft manufacturing. The nature of their businesses is vastly different. Coca-Cola and Pepsi sell branded, fast-moving consumer goods. Airbus and Boeing develop high-technology equipment with long lead times. Even when it comes to market share, the pairs differ. Coca-Cola clearly dominates over Pepsi, while Boeing and Airbus share their market pretty evenly. In the aircraft business pricing is opaque, whereas in soft drinks it is far more transparent. It would not necessarily be obvious from these descriptions, but the margins and returns generated by the soft drink manufacturers have been meaningfully superior to those in the aircraft market. Clues as to the relative attractiveness of the two industries appear by probing who the customers are and how the selling is done. In contrast to the soft drinks industry, the aircraft industry sells to a concentrated industrial customer base and every individual sale is negotiated hard. This puts pressure on pricing and, ultimately, industry profitability. In any sector, it is important to assess whether competition is as real at the micro-level as it appears at the macro-level. Sometimes what seems to be a competitive market is rather a latticework of smaller monopoly-like structures where all participants extract high profits.

Look for oligopolies where the industry structure has been relatively stable over time and where the logic persists for that stability being maintained. Finally, we tend to prefer the leading players in oligopolistic markets – especially in industries where competitive advantages in areas such as R&D and A&P are enhanced by market leadership.

Barriers to Entry - The fact that an industry has few or no new entrants is usually a good sign. It indicates that barriers to entry are high and tends to lead to more rational competition. Observing many older players in the industry is also encouraging – it's a sign that long-term survival is possible. In some rare cases, the big firms in an old industry are still owned by the families that founded them. If this is the case, it is a good indication that the industry is not only enduring, but offers organic growth through retained earnings rather than dilutive new issuances of equity.

The best industries are those where all companies can afford to think long term. If an industry's technologies, demand and participants will remain constant, it reduces the incentive to attempt to increase earnings in the short run at the expense of the long. These kinds of effects tend to be more powerful if key industry players are family owned. While CEOs might have a three- to five-year perspective on a company, families think in generations.

The real danger from poor pricing discipline arises when it changes customer behavior or expectations. With branded products, discounting is the most common way to do this. Discounting can be seductive in the short term: it boosts sales, enables companies to hit their profit targets, and even brings gains in market share. But it is dangerously addictive. When companies see that it works once, they are often tempted to do it again. Competitors typically follow suit to protect market share and the industry starts teaching customers to expect persistent discounting. Once that occurs, the industry has trapped itself.

The advantage of share donators - Amid the ebb and flow of most industries, we occasionally see clear patterns of share donators. The most common sources are management incompetence and suboptimal product mixes, but both of those can usually be corrected within short time frames, so we don't count on them as long-term sources of gain to industry leaders. The more sustainable share donators suffer from structural problems. Ignored divisions of large companies, which are provided with fewer resources and mediocre managers, cede market share.

Markets where industry dynamics have been substantially unchanged and competition relatively rational over many years are more likely to remain that way. Another, more subjective, assessment we make is of competitive rhetoric. Where companies talk about peers in respectful terms, the competitive behavior often reflects this. If the language used is dismissive or aggressive, the risk of mutually destructive behavior increases.

Security by Obscurity - In business, as in nature, the ability to keep out of sight of potential predators is an advantage. While locks, lenses, and bathroom fittings all play an important role in everyday life, they occupy humble corporate niches. These sectors are relatively small, are not experiencing hyper-growth and do not offer obvious opportunities for technological revolution. We believe that this relative obscurity can offer a layer of protection from competitive disruption. Financial and intellectual capital is drawn towards ideas that can change the world and which have the potential to make big money fast. Consequently fields such as renewable energy, robotics, electric vehicles and disease prevention garner disproportionate focus. You are less likely to see vast amounts of capital allocated to improving ostomy bags or gaining share in the toilet fittings market. While operating in a niche sector does not, in itself, make a company great, it can help. An obscure industry, even one with appealing economic characteristics, tends to face lower disruption risk, making attractive industry structures more durable.

Customer Benefits

The products of quality companies confer considerable benefits on their customers and understanding the relative value of these benefits is an important part of business analysis. Let's focus on a few types of benefits most likely to differentiate a product or service in a way that yields superior economics. Introducing each – intangible benefits, assurance benefits and convenience benefits.

Intangible benefits - Intangible benefits arise when product decisions are made based on benefits that elude easy measurement.

Factors like taste and image are tough to measure objectively, but offer considerable intangible consumer benefits. With purchases based on intangible benefits, price is usually secondary. Intangible consumer benefits tend to be more prevalent in smaller items or those considered an indulgence. Think of your decision-making when buying chocolates for your partner on Valentine's Day. Price is probably not among the most important factors.

Intangible benefits often matter more to customers the more intimate the products are. Products that go in the mouth or on the skin carry more intangible potential than those that sit on a table or go into a machine, explaining why most people give the cost of their preferred toothpaste less thought than the price and brand of dishwasher detergent. This is one of the reasons why certain consumer products companies, from edibles to cosmetics, have proven to be such strong businesses over time.

Assurance Benefits -. When parents buy baby food, a well-known brand like Nestlé's Gerber provides assurance that the food is healthy and safe. Companies pay a premium to use well-known product-testing or auditing firms – such as the Big Four – both as an internal assurance benefit and because it offers assurance to stakeholders. Farmers pay a premium for tractors from manufacturers such as John Deere because they offer time-tested quality products, fearing the risk of equipment failure on harvest results. Assurance benefits are often based on reputation. A reputation of high quality or reliability is earned over time. To compete with reputation is almost impossible, no matter how much money is staked on it.

Customer types - Customers are diverse but it pays to distinguish between two broad groups: retail consumers and corporate clients. Retail consumers can be fickle, acutely price-sensitive on some items and spendthrift on others. Consumers are more willing to splurge on items offering intangible benefits, particularly for smaller purchases.

Given the size and complexity of many corporations, the cost of changing suppliers can be significantly higher than simply the cost of product. Software is a great illustration: while there are cheaper alternatives to SAP, it dominates partly because customers know that switching is painful and expensive, in terms both of direct cost and business disruption. Corporate risk aversion is a powerful trait for sellers to exploit. In large corporations, making significant mistakes gets both individuals and the entity as a whole into the deepest trouble. As the famous 1980s saying goes: “No one ever got fired for buying IBM.” Similar to the case of retail customers, the prevalence of risk aversion among corporate buyers gives a clear advantage to products sold for their quality assurance benefits.

Competitive Advantage

The operator of the sole ice cream stand on the beach has a unique competitive advantage: it is a functional monopoly, the only purveyor of the product in that market. But this particular competitive advantage is hard to translate into further growth. The ice cream vendor might be able to increase revenues through price hikes, or by improved product mix, but the advantage is not scalable.

Technology - The most important facet of competitive advantage derived through technology is sustainability. A product offering superior benefits for customers will have a competitive advantage and should yield above average economic returns, but having just one product in this category is usually insufficient to sustain a competitive advantage. Rest assured, a superior product will quickly be copied. In mobile phone handsets, it typically only takes one or two quarters before all major players copy attractive innovations. While patent protection isolates a firm from some pressure, it is only a partial and temporary offset, as the pharmaceutical industry illustrates: drug prices collapse by 80-90% when patents expire.

When considering technology as a competitive advantage, the first question is magnitude. For some companies, technological edge is so slight or fleeting that it scarcely constitutes a competitive advantage. If the technology advantage is significant enough, the next question is how a company can keep churning out better technology than its competitors. Technology is only a sustainable competitive advantage if it helps make products that deliver superior customer benefits over long periods of time.

The simplest route is outspending rivals on R&D. Scale can also build barriers to entry that deter smaller rivals. Examples include inherent technological complexity; a need for advanced or interdisciplinary research skills that are harder to assemble and coordinate; and exorbitant capital costs for research equipment. But innovation is not only a spend game. A diverse set of innovation opportunities helps to mitigate the risk of total disruption across product lines – lose one race, win others.

Advantages in data collection and manipulation can often produce powerful competitive advantages. For Google, user data is endlessly harvested to refine algorithms that improve internet search performance. Another example is the credit-scoring models of Experian, which are continuously updated with new data to deliver superior products that reinforce the competitive advantage over rivals. **While technology can be a powerful and profitable competitive advantage when it works, it remains a challenging edge to sustain. A quick glance through the history of technological dominance should prove the point**, from Kodak and Polaroid to telephone answering systems and fax machines. Only a handful of companies have maintained technological leadership over time. Many faded into obscurity as the competition caught up or the direction of technological development shifted.

NETWORK EFFECTS - Network effects arise when a system's value increases as more people use it. In most cases, network effects represent a tangible benefit to customers, as with social media sites.

Internet search is another, though with a twist: the generation of data that enables the refinement of search algorithms keeps drawing in more users who in turn leave more data for endless harvesting and refinement. Ironically, when network effects are too strong, they may backfire. An extremely efficient network can produce monopoly power and government intervention risk rises. As much as network effects are to a consumer's benefit, a monopoly isn't.

Another area of concern is the high pace of innovation in many areas where network effects are particularly prevalent. While it is easy to spot the benefit of network effects, networks face potential disruption that can be sudden and devastating. In social media, Facebook unilaterally killed several network businesses, including MySpace and MSN Chat.

Distribution - Distribution as a competitive advantage means that a company's route to consumers is more effective than its rivals' for an otherwise equivalent product. For manufacturers who distribute through middlemen rather than making direct sales, relationships are critical. The best manufacturers nurture these relationships to make them mutually advantageous. Such relationships often provide a significant layer of protection for manufacturers.

Think of a scenario where a store feels the manufacturer treats it well, that customers like the product and product sales contribute meaningfully to the store's profit. It would take considerably more than a cheaper price from a rival manufacturer to induce the retailer to switch or alter its product mix. Rivals can offer lower prices, but a retailer faces risks: the relationship with the new manufacturer may not turn out as well or customers may like the alternative less.

Large retailers know their size and value to manufacturers. Consequently, they will bargain firmly, pitting manufacturers against each other, even dropping those who won't negotiate. In this case, having exceptionally strong product offerings that customers really want matters greatly.

When a company's ability to service or fix a product is vital to customers, distribution can take on a critical role. The need for a service network creates a chicken-and-egg challenge for manufacturers. If customers don't buy a product unless they know it will get serviced, companies may have to invest in a service network in order to sell. Having a service network running at low utilization, however, is expensive. Consequently, competing against companies with established service networks can be daunting, as it requires significant upfront costs. If such costs are high enough, they deter competitors.

Recurring revenue - Recurring revenue arise when an existing customer base buys additional services or products from a company: jet engines requiring service, security systems with trailing surveillance and response, and periodicals with subscription renewals. The most powerful version arises when such obligations to pay for the service are locked in. For instance, a customer who has already purchased equipment or software from the company is likely to require additional purchases from the provider in the future. The installed base of equipment then becomes an in-house monopoly with consistent revenue streams for the producer of the equipment. It becomes a virtuous circle for the company: the larger the installed base, the bigger the monopoly, and the more predictable the revenue streams.

High degrees of recurring revenues increase the stability of a business and the predictability of its cash flows. Such benefits even hold true for companies operating in cyclical industries. Take elevators, for instance. Equipment sales fluctuate in tandem with new construction, an inherently cyclical business. But service revenue continues steadily through economic downturns as building owners, occupants, and governments put a premium on safety and reliability. Even as new installations fluctuate, the existence of an installed base makes revenue growth relatively predictable. Such stability can be very valuable to investors. It yields predictable business models for value creation even in industries exposed to the volatility of cycles.

THE LICENSE MODEL - The purest form of recurring revenue involves periodic licensing fees that follow upfront product purchases. This license model features prominently in the software industry, where customers first pay an upfront installation charge and subsequently make monthly or annual payments for maintenance, support and upgrades. While customers may opt out of the license fee, most opt in, because without it there is substantial risk of product inoperability or obsolescence.

THE SERVICE MODEL - Outside the software industry, the more common form of recurring revenue is the service model: when repair, maintenance, and overhaul revenue can be expected on products sold but whose timing and extent are more uncertain. Many industrial companies enjoy good service revenue streams linked to products sold, but it is not always automatic. Corporate purchasers of capital equipment have several maintenance and service options other than their original equipment manufacturer, including rivals and third-party service companies. In some cases, even spare parts can be sourced from third parties. To make the service model work, therefore, companies must successfully compete against such alternatives, meaning converting new equipment sales into service contracts.

Product longevity influences the value created by the service model of recurring revenue. The longer equipment remains in use, the longer it will require service and spare parts. Equipment with a useful life of two or three years tends to be replaced rather than repaired on breakdown; costlier and longer-lived equipment is more often upgraded rather than replaced. Longevity has an offset, of course. Well-made long-lived equipment rarely breaks down and some machines will last decades with no or little specialized maintenance. The issue is how much annual recurring revenue can be expected, as a percentage of upfront annual sales. The bigger the percentage and the lengthier the time span, the better.

DENSITY AND NETWORK BENEFITS - Service businesses benefit from growing their installed base in numerous ways aside from direct growth in sales and service revenue. Density economics contribute value: the more installed equipment in a region, the more efficient its maintenance becomes. Service personnel spend less time travelling between sites and have more experience with local environmental effects on equipment. The greater the density, the lower the cost of recurring revenues and, therefore, the greater the profit. Network effects add value: the larger the service network, the faster it can meet customer needs, especially high speed of repair.

Economic Effects - The combination of potentially negative working capital, rapid cash flows, and low capital expenditure to support growth is rare in business – but is a common feature of the recurring revenue model.

Some more on competitive advantage…,

Friendly Middlemen

The Helping Hand - Among a company's more valuable middlemen are those that bundle delivery of the company's product with their own expert services. In one such type of bundling, the middleman is both a salesman and an expert, say a dentist recommending an implant or even a brand of toothpaste. Or take an optometrist, who administers an eye test and prescribes glasses. Customers naturally ask for the optometrist's professional advice on the choice of lens and style. Unlike a salesperson at an electronics store, people are inclined to trust the optometrist despite the fact that he is also a salesman. Clientele are called patients, not customers.

The middleman needs reasons to recommend a company's product and companies employ various strategies to provide these. One is product differentiation. The company distinguishes its product in terms of value either to the middleman or to the end user.

Gold Standards - There are certain companies that customers simply accept as the gold standard in an industry. A conspicuous example is the debt rating industry, where investors and regulators rely upon a handful of firms, dominated by Moody's Investors Service and Standard & Poor's Corporation, to rate bonds. They charge significant fees, paid by debt issuers, for ratings that simplify investor analysis. Also designed to bring order to credit markets, the industry's stability and related barriers to entry are illustrated by the fact that it survived, basically intact, despite considerable rating errors in the years leading up to the financial crisis of 2008.

Company-Economics

LOW-PRICE BY NAME - Ask where to buy cheap but reasonable quality furniture and you will likely be told IKEA. Ask about affordable women's fashion and the names Primark, H&M and possibly Zara will crop up. **Companies that can successfully forge a price-led model into a brand reputation for thrift go a long way to breaking the curse of low-cost vulnerability to competitive invasion.**

LOW-COST SQUARED - A strategy of consistently low pricing is typically enabled by low unit costs. Some low-price businesses, however, achieve competitive advantages through several cost-saving small steps. When doing so translates into huge cumulative cost savings, the strategy punishes rivals and deters new entrants. We call this low-cost squared. Many companies that pursue low production costs achieve lowest-cost status – for a time. The more routine low-cost tactics give only short-term advantages because they can be copied. Low-cost airlines like Southwest pioneered shorter aircraft turnaround times, but traditional airliners soon followed suit.

To illustrate how cost advantages consist of many small things added and squared, walk into a Costco store. Buildings are massive metal sheds in cheap suburban or rural locations. Lighting is cheap. Virtually all products sit on pallets – no shelving, stocking, or carting costs. There are no plastic bags. Stores only accept cash or Costco credit cards. While each saving may not account for much, in aggregate the cut is deep and lets the company do one thing and do it best: offer the lowest price. Traditional retailers struggle to replicate all of Costco's advantages through frugality, though they copy what they can, like using pallets. Many are stuck in high-rent locales. Others invested considerably in display and presentation. Most opted long ago to accept alternative payment systems. Some have nowhere near the scale needed to challenge the Costco model.

Banks: A few Hidden low-cost winners - The banking sector is not generally a rich mine of quality businesses, but there may be a few hidden low-cost winners in the mix. As a sector, banking combines many elements we dislike: commodity products; high leverage; regulation and government support; and cyclicality. Operationally, gross margins of banks are expressed by net interest margin, the difference between the cost of funds (to depositors or others), and the price charged for funds (to borrowers). The margin is determined largely by uncontrollable macroeconomic conditions and available levers are often dangerous, such as charging too little interest or ignoring borrower credit risk. The latter poses an additional hidden cost: loan losses can sometimes take years to manifest. **Banks can achieve high net interest margin, as well as high profit for years, not by being good bankers, but by being imprudent.** As the financial crisis of 2008 reminded everyone, the same banks seem to get into trouble repeatedly. It is unfair to blame management alone, as they come and go, but corporate culture, a more permanent feature, plays an important role in banking and other businesses.

Pricing Power

Pricing power is a highly attractive feature: a company that can regularly raise prices above cost inflation is assured of growth, top-line and bottom. With no capital expenditure required to raise prices, enhanced returns on capital also result. The problem is that pricing power is often more conjectural than real – it is frequently discussed but rarely achieved.

Shades of Gray - In an ideal world, a company with pricing power can raise prices significantly without any decline in volume. In reality, no company has such absolute pricing power. It is doubtful that any company could double prices without losing volume.

The exercise of pricing power should be manifested in stable high gross margins as well as incremental periodic expansion in gross margin.

CONDITIONAL PRICING POWER - A common pricing pattern is what we call conditional pricing power: a company enjoying pockets of power due to select but recurring sales contexts. For example, an aircraft engine manufacturer may enjoy pricing power on its service business but this is conditional on its having closed a sale, where it may lack pricing power. Similarly, companies boasting loyal middlemen who impose effective monopolies likely enjoy a degree of pricing power. While far from uniform, conditional pricing power is more likely to be underappreciated by the market, making it of potentially great value to a quality investor.

Brand strength

Successful brands also offer something differentiated, whether product, design, or image. Winning brands create an affinity, an attachment with the customer, either emotional or logical. For want of a better word, they are loved. A company's industry plays a part: the Apple brand has its 'superfans', and there are life-long devotees of brands like Louis Vuitton, but we are not aware of similar appreciation groups for Air France or Delta Airlines – or Bank of America or HSBC. Differentiation and customer attachment allows for premium pricing and potentially gains in market share (the link between these two patterns and brand power is strong). Often such brands have non-replicable heritage and have endured over time.

THE DANGER OF NEWNESS - In some industries, history is less important. Nintendo is one of the most iconic brands in video gaming. Founded as a playing card manufacturer in 1889, it produced its first video game in 1977 and owns video-game icons like Super Mario. Yet, before finding partial redemption with its Wii product, it floundered. By the early 2000s, newer rivals such as Microsoft Xbox and Sony PlayStation had overtaken it. The fact that Microsoft was only founded in 1981 or that PlayStation was launched in 1994 didn't matter. Superior innovation from competitors diminished brand appeal. The Nintendo case illustrates how brands are more vulnerable when novelty and fast-changing technologies play a large role in the benefits it offers**. Innovation-driven vulnerability extends beyond technology to affect many industries, such as the fast-changing world of fashion. Innovation is a perennial challenge for apparel brands.**

SCALE ADVANTAGE - Scale can be a crucial facet of a brand's success, providing advantages in marketing and distribution. In prestige cosmetics, companies like Estée Lauder and L'Oréal command large market shares. With associated high margins and capacity to spend on advertising and promotion, they can reach customers more easily than smaller rivals. In sporting goods, Nike can attack rivals posing a threat in a given market by immediately increasing exposure, even hiring the best local athletes to endorse products.

High-demand brands are less likely to be displaced by an emerging or new brand. Customers are unlikely to defect from a grocery store on the grounds that it did not carry a particular brand of toilet paper, but failure to carry Coca-Cola may well produce some defections.

USING A POWERFUL BRAND TO DRIVE GROWTH - Brand power can be enhanced through innovation and extensions. With creativity and advertising, strong existing brands can anchor expansion into new products and categories.

Brands like Hermès or Louis Vuitton have gradually expanded from limited lines of ultra-expensive handbags and travel accessories to ready-to-wear clothing and sunglasses. Such innovation is less a function of big R&D budgets than the ability to exploit the full value of existing brands.

Brands considered strong status symbols often offer significant innovation leadership – many luxury brands glide easily from handbag to perfumes or sunglasses. However, too many products can dilute the appeal. While companies like Louis Vuitton have limited expansion to a few related categories, there are examples of overreaching. Take Pierre Cardin. Initially a high-end fashion brand, the company licensed its brand out to products as diverse as cigarettes and pens. The end result has been a material dimming of the brand cachet**.**

Portfolio Companies - A diversified brand portfolio offers several advantages. For one, when some products struggle, others absorb the loss and buy time to enable needed corrections. Additionally, brand diversity can contribute scale that pays off in more effective advertising and promotion, R&D and distribution. The combination of scale and brand diversity can also lead to attractive acquisition opportunities, especially to enable larger companies to buy smaller upstarts. The payoff is twofold, adding growth and combating competitors, which can be especially valuable in product lines where novelty matters to customers or where brand performance is volatile.

On the downside, managing a portfolio of brands requires a wider skill set than handling one or a few brands. Juggling many brands, especially in multiple segments, risks obscuring corporate focus and stretching management too thin. Resource stewardship must be ramped up to assure their most effective deployment across various lines.

LONGEVITY - One relatively simple way to assess brands is **durability**. The market can be a brutal evolutionary system. To survive for a long time in a competitive, sometimes cut-throat environment, a brand must have special qualities. Brands that have retained preferred status for decades have something special. While this doesn't insulate them entirely from future disruptions, such brands clearly have an enduring appeal that should help them to survive.

Innovation dominance

Companies with high gross margins have more to invest in tactics to defend and grow their business, in areas such as R&D, A&P, or distribution. Such companies, able to invest more than their rivals, forge a virtuous cycle of growth: more spending drives revenues at high gross margins that spins off more investable resources. Spending on R&D – more specifically, on innovation – can be a particularly powerful part of this quality.

INNOVATION CULTURE - A culture of innovation dominance is attractive, particularly one that regularly renders new products. It is usually easier for companies to command higher prices and margins on new products versus old ones. When existing customers switch from the old to the new, the result tends to be a more attractive price mix. New products can also attract new customers, driving volume growth as well.

In many industries, companies must innovate constantly simply to defend their position. When such innovation comes alongside declining margins (as R&D expenses are not covered by incremental sales), a company is engaged in costly cannibalization, not value creation.

To create value, innovation must increase volume or induce customer switching from a company's less profitable to more-profitable offerings. In consumer goods, the most common way to achieve such switching is the trade-up to a more expensive version of an existing product. **The path to 'premiumization' is often smoothest for products associated with social status or those conferring health advantages, where a higher price is often perceived to yield a greater benefit.**

In markets where consumers are more cost conscious, or products are defined primarily by taste benefits, volume gains are often a better target for innovation. In our experience, products with clearly defined stand-alone taste benefits are harder to 'trade up' because of inculcation: consumers used to the taste of a certain cereal, soft drink or candy bar are unlikely to be persuaded of the merits of a new and improved version. Why, after all, is there no premium brand of Corn Flakes, Kit-Kat or Coca-Cola? Rather, for many food categories, innovation is focused on packaging or completely new flavors, both aimed at volume gains.

Brands with records of successful innovation in a given category are likely to be capable of adaptive innovation in new categories – take, for example, Reckitt Benckiser’s or Colgate’s strong track records of innovating in apparently humdrum sectors from toothpaste and household cleaning products to cold remedies or foot care.

R&D-LED INNOVATION - Innovation dominance led by R&D is most common in companies commanding a large relative share of R&D spending in a given field. We aim to define these fields precisely in order to provide the most accurate assessment of relative share. If definitions are too broad, say the global pharmaceutical industry, hardly any company holds a large share. Narrowing this classification down, for example to oncology or diabetes care, enables a more meaningful assessment of which companies have a leading share of R&D spending. While a dominant share of R&D spending doesn’t guarantee predictable long-term outcomes, it can indicate a competitive edge. For example, Essilor’s clear market leadership in the lens market is underpinned by the fact it accounts for around 75% of total industry R&D expenditure. Dominant companies also tend to enjoy a broader range of innovation opportunities.

Forward Integrators

Under the right conditions, forward integration can be hugely valuable. There are several types of forward integration, including store ownership, franchising, licensing and internet selling (e-tailing), each of which we examine below. Typically, the most successful forward integrators are powerful global brands: weaker brands struggle to draw shoppers to stores or traffic to websites. Consider LVMH's own store expansion over the past decade, Nike's success online (sales already exceed $1 billion), or the continued growth of franchised hotel brands such as Marriott or Holiday Inn.

STRATEGIC VALUE - Forward integration gives companies more influence over customer experiences. Consumers respond not just to products, but to brand image and even to advice and guidance. In retail stores, clever merchandising can stimulate customers to trade up and explore new things, as they try on clothes or smell perfume. Companies which control the store-front are able to shape these buying experiences more precisely. Above all, producers who sell direct name their own prices, instead of ceding control to warehouses, distributors or retailers. What's more, they exercise a mini-monopoly in their own stores, without competing brands or private labels vying for space.

OFFENSE AND DEFENSE - Forward integration can also ease entry into new markets. Companies that control their own stores and infrastructure depend less on the kindness of strangers to promote the company's benefits. Dependence on partners or other companies in supply chains can prove particularly tricky in emerging markets, where verifying reliability can be difficult. In our view, companies that take the time to build their own operations from scratch are more likely to succeed than those who are at the mercy of third parties.

FRANCHISING - The economics of a strong franchise model are often compelling. In its purest form, a franchise-based business provides growth funded by third parties – franchisees – and theoretically infinite returns on capital. Franchising is arguably the ultimate expression of brand power: franchisees pay fees for the right to use a brand. The fee level is justified by the economic power of the brand.

Since revenues are more stable over time than net income, the revenue-based franchise fee adds predictability to the franchisor's return. For the franchisor, expansion requires modest incremental capital, as franchisees are typically responsible for providing most of the assets, including property, fixtures and fittings.

Successful franchising models generally have two characteristics. First, the underlying business needs powerful economics: strong enough for a third party to make an attractive return even after paying a fee to the brand owner. Second, there is a minimum scale requirement: the company must have the infrastructure to support a franchise system and the financial firepower to support a brand with A&P.

Such characteristics are developed over time. Most predominantly-franchised businesses have gradually migrated from making money and building brand equity in company-owned outlets. It is difficult to franchise out a new, unestablished brand. However, where the right conditions exist, the benefits can be material for both the franchisee and the brand owner.

Market Share Gainers

A basic measure of company quality is propensity to gain market share. A company with better products (in terms of quality and/or price) and superior execution should regularly attract new customers from competitors and widen its reach among existing consumers.

A RULE WITH EXCEPTIONS - There are several exceptions to the rule of preferring consistent gains in market share, particularly short term. A company facing rapid increases in costs may wisely choose to raise prices ahead of competitors, at the expense of market share. In such cases, letting market share slide may be a rational decision.

In industries where growth and economics can be detached for significant periods of time, short-term market share gains may be a negative. Take industries such as insurance and bank lending. Gaining market share in bank lending is easy: simply lower credit standards. The risk from such behavior may not appear for years when defaults occur, as the credit default swaps at the heart of the 2008 financial crisis highlighted. Likewise, insurance companies can quickly gain share by relaxing underwriting discipline, with associated losses delayed until claims are filed. In these settings, market share must be viewed with a correspondingly long horizon. While quality companies should still gain share over the long run, in these industries they likely cede share during economic booms and gain during economic busts.

Global Capabilities and Leadership

History is littered with examples of impressive domestic franchises that were eroded by the encroachment of foreign rivals. In the 1980s, European consumer electronics makers all but disappeared after Japanese manufacturers entered the market with higher quality and better priced alternatives. In the 1990s, England's financial industry, a cozy coterie of large firms centered in London, was shocked to find American investment banks aggressively muscling in on their territory.

By global industry leadership, we are referring more to product differentiation and business model than scale. A global industry leader's business model and products must stack up well against competitors in other markets. For example, Rolls-Royce engines compete well against any jet engine from US peers Pratt & Whitney or General Electric. While Rolls-Royce will not win every battle, it always has a good shot.

Willingness and ability to adapt to local tastes, cultures, and logistical challenges is critical. A great example is Yum!, which owns the KFC and Pizza Hut brands. A quick glance at a KFC or Pizza Hut menu in Beijing would be enough to show how much these brands have adapted to cater to local tastes. In addition to the chicken and pizza that US patrons would recognize, the restaurants meet local demand for a variety of traditional Chinese food from rice dishes to spicy soups. Such adaptability is often the result of considerable trial and error and takes time – both brands have been in China since the 1990s.

Corporate culture

Quality companies tend to have a strong sense of culture based on a core set of common values that drive success. These values vary by company, but examples include cost consciousness for a low-cost provider, scientific curiosity for a research-driven company, and team spirit in collaborative production businesses such as providing third-party certifications of credit quality or financial reporting.

Former employees can reveal hidden traits worth uncovering.

TRUSTWORTHINESS - Trustworthiness is common among quality companies. A common example concerns handling of bad news. Some companies obfuscate or delay reporting adverse developments while others promptly and forthrightly disclose them. A corporate culture of open and frank confrontation of facts is healthy.

Managers who mislead the market are likely training employees to mislead them. Likewise, we value companies that voluntarily confide their mistakes and discuss the lessons learned from them, because such exercises reflect a corporate culture committed to experimentation and improvement.

LONG TERM - Running a business is a long-term affair. Products take years to develop; winning the trust of customers and building scale in new markets can take even longer. We look for corporate cultures that manifest a long-term vision and companies that share our quest for long-term value creation. Such companies understand the importance of cost efficiency but focus on long-term sustainable growth and return on capital. Short-term earnings goals are readily achieved by cost cutting, and revenue growth targets can be hit through an aggressive acquisition campaign. We prefer companies which play the long game by allocating capital to organic capex, R&D and advertising in order to drive long-term growth.

FAMILY OWNERSHIP - Many companies we have owned over the past decade have large inter-generational family ownership. This reflects the parallels between what we look for and what such family businesses offer: a focus on long-term value creation. In addition, durable dynastic firms typically avoid excessive leverage and use retained earnings rather than serial equity offerings to grow. Family-owned businesses can of course fail, sometimes through misplaced confidence in the abilities of second or third generation managers. Here the distinction between family-owned and family-run can be important – research tends to confirm our hunch that corporate cultures of family-owned businesses often align them with the criteria of quality investing.

COST TO REPLICATE - One way of assessing the durability of a competitive advantage is to invert the analysis. Instead of looking at what supports a competitive advantage, we analyze what it would take for a newcomer to replicate the business and remove the advantage. Such analysis often reveals idiosyncrasies that can be instructive in assessing a business's quality.

Are cyclical businesses good?

Patterns of quality are not the only routes to achieving the attractive economic characteristics of cash generation, high returns on capital, and growth. Indeed, some companies that achieve such results are exposed to unstable or transient factors that jeopardize long-term sustainability. Companies that are prosperous today may depend on forces that are susceptible to unpredictable but rapid change. Many appear stronger than they are due to cyclical growth, the temporary tailwinds of fickle consumer trends, or technological leadership vulnerable to disruption. While such forces are too nuanced to automatically rule out consideration of companies exposed to them, they warrant greater scrutiny because of the significant downside risks.

Cyclicality - Prudence dictates minimizing exposure to deeply cyclical industries, such as energy and mining, where many companies sell commoditized products. Such companies rarely command sustainable competitive advantages. However, cycles also recur among purveyors of branded and other differentiated products boasting competitive advantages. Even quality companies must battle this reality and investors are better off confronting the fact head on. Cyclicality complicates the operating environment, taking control of important levers of value creation like pricing and mix optimization, costs, and capital expenditure. Expansionary periods may induce overinvestment, which leaves inadequate capital for investment in ensuing downturns. Pronounced cyclicality can encourage short-term thinking.

SUPPLY-DEMAND CYCLICALITY - The least attractive form of cyclicality effect occurs in pure supply-demand industries, such as steel making or offshore drilling. In these industries, products tend to be uniform and significant capital outlays are necessary for production.

During expansionary cycles, capacity additions are stimulated by high demand. A snapshot at that moment would reflect a robust and profitable industry. Expansions can last so long that most participants and many observers begin to believe that a structural change has occurred to eliminate the cycle. The economic expansion of the early 2000s led to such beliefs becoming prevalent in the years leading up to the great contraction of 2008.

When the economy shifts, as it inevitably does, demand drops and the costs of over-capacity come due. As demand drops, prices fall and profits suffer. In such an environment, it is virtually impossible to plot the future price path, to forecast its low-point or predict the duration of the downturn.

THE QUIET APPEAL OF FLOW PRODUCTS - When iron ore prices rise, mining companies plan and build new mines; but when they fall, new projects are postponed or cancelled. For a company whose profits are dependent on such capital expenditure, it is extremely difficult to predict results.

A more reliable estimate would consider long-term demand trends for the given commodity. While some industrial economists with related expertise might be able to model this, we find it too challenging to translate into a predictable cash flow pattern and therefore tend to steer clear.

THE SILENT ASSASSIN: CUSTOMER CYCLICALITY - Cyclicality can change customer behavior in unpredictable ways. During flush periods, companies spend. Budgets are generous and getting quality equipment and services delivered on time takes precedence over cost. But when times turn tough, cost consciousness rises. Besides initial cutbacks to capital expenditure, most companies reexamine their cost structures.

Some customers cut costs by stretching out equipment maintenance schedules and deferring overhauls or repairs. Some move to self-service maintenance or increase use of non-original spare parts. Companies can become more inclined to buy equipment or services from second tier providers, sacrificing reliability for cost.

LONG PERIOD SWELLS - Cyclicality's underpinnings can be murky, especially when expansionary periods (the swells) are sustained for a surprisingly long time. People begin to believe that cyclicality has been conquered, and growth starts to look sustainable even when it is not. After all, cyclicality is not something companies like to admit to. **If things stay good enough for longer than usual, they are inclined to perceive the great performance as the 'new normal'**. An acute problem with no-cyclicality arguments, however, is that they are the most dangerous when they look most reasonable. When expansionary periods last longer than before, companies exposed to the cycle will look the most compelling. Their five-year and even ten-year track records can look so strong as to make it seem illogical to consider what occurred 20 years earlier.

Sustainably higher growth has a different effect on a quality company's future value creation than a cyclical growth spurt. Underestimating the cyclical effects can therefore impact materially on investment performance.

Cyclicality poses several analytical problems. Amid cycle peaks, revenue growth rates and margins are usually elevated, but it is difficult to be sure by how much. In theory, the level could be inferred by computing the long-run average over a lengthy period covering multiple cycles. Trouble is, such long periods are often dynamic, with changes in the company, industry, and economy, so the measures may be incomparable. Even the companies themselves have difficulty discerning how specific changes in context relate to resulting profit levels. For industries that are closely linked to a particular commodity, the challenge gets even tougher.

Activity levels for a company selling into the oil and gas industry will look very different if the new normal price for crude oil is $50 per barrel versus $100 per barrel. When buying companies with a strong commodity link, direct or indirect, an investor makes an implicit bet on the commodity price. We urge caution. History teaches that it is easy to have an intelligent opinion about commodity prices, but tough to get it right. Finally, although **time is the investor's friend with stable companies, time can be an enemy concerning cyclical companies.** When a company grows its business and profits consistently every year, an investor can relax and enjoy the beauty of compounding. Enter cyclicality, and investors can face long periods of stagnant or declining profits. This increases the importance of timing, with results being more dependent on when positions are bought and sold.

Timing investments in cyclical companies is never easy, but we try to understand the specific cycles to which our companies are exposed to the greatest extent possible. This helps us to mitigate risks and increases the chances that we can capitalize on the periods of growth.

The important lesson for investors is that the value of owning the highest quality company rises with cyclicality, as these companies tend to be better equipped to deal with it and capitalize on it.

ANALYTICAL PROBLEMS

TECHNOLOGICAL INNOVATION - The word innovation carries positive connotations, along with gratitude toward great inventors who have improved life, such as Alexander Fleming's discovery of penicillin, Thomas Alva Edison's light bulb and Robert Noyce's integrated circuit. But, at least for capitalists, innovation is two-edged: while great improvements create new fortunes and even new industries, they often decimate others. Innovation can be such a brutal and destructive force for businesses that we often avoid industries where the risk of significant technological innovation is high. **Among the most important questions we ask when investing is whether a company's products will still exist in a similar and relevant form ten years hence.** Asking this question doesn't solve all problems. Indeed buying a manufacturer of fax machines would probably have looked sensible until well into the 1990s. Even so, we still think asking the basic question reduces the temptation to wade into areas where rapid innovation is at play and is therefore likely to hurt us.

SCALING INNOVATION RISK - Small-scale innovation, like improved product packaging or safety, usually adds value and poses modest risk. It is large-scale innovation that can be perilous. Such innovation means disruption of existing economic models. Profit pools can rapidly shift from established companies to new ones. With every shake up, some great businesses are destroyed while others flourish. But it is usually easier to identify innovation's losers well before picking the long-term winners.

FAST-PACED INNOVATION - Even the best-positioned firm in a rapidly changing operating environment can easily be toppled. Given the unpredictable nature of rapid innovation, industries prone to it are unlikely to contain many quality companies. Such industries are more like lotteries, where a few stock pickers may get lucky once in a while but most lose out.

DEPENDENCY

Whenever a company depends significantly on factors outside its control, risk rises. These factors become important when they can significantly alter the competitive advantage or economics of the business. In this section we examine the issues associated with dependency on government policy or contracts before looking at some of the ways that stakeholder concentration or dependency on an unstable industry structure can increase the risks for an investor.

A. Government

We are wary of businesses where governments play a large role in determining corporate fortunes. Government actions, which are political and therefore often unpredictable, can both catapult a business to prosperity and cut it down.

The issue is acute for companies that rely on fixed infrastructure, such as telecom operators, utility and oil producers, and mining companies. Since wiring, power plants, oil wells, and mines cannot readily be moved, governmental impositions – from carbon taxes to excise taxes on oil and mineral extraction – are neither predictable nor avoidable.

Complacency about the role of government can arise when policies make a business artificially strong. Take the renewable energy industry in large parts of Europe. Before the global financial crisis began in 2008, generous government subsidies led many companies to think the renewable energy business offered great returns. The subsidies benefitted the companies building vast solar parks and wind farms, and also created a tremendous boom for suppliers of everything from wind turbines to silicon wafers.

When times abruptly changed and governments realized they needed to cut costs, subsidies to renewables were ready targets. With a few small government decisions, renewable energy companies from Norway to Portugal went from explosive growth to near bankruptcy. Such episodes, which recur in history, are why government industrial assistance or protection should be viewed as transient, no matter how noble or long-term the government's intentions may seem.

Businesses whose competitive advantage is tied to prevailing legislation or regulation face particularly serious disruption from policy shifts or changing legal interpretations. Even the most privileged positions can be torn asunder by a change in law.

B. New Entrants

While businesses have always faced the risk of new entrants, building and strengthening competitive advantages were reliable defensive strategies. New entrants are now much harder to fend off. Rivals that previously were not considered a threat can more easily move across borders, virtually or physically. In the UK, for example, the entry of deep-discounters in the grocery market has disrupted what many viewed as an unassailable industry structure.

No company is insulated from competitive onslaughts, but it pays to consider where the threat is more or less acute. Domestic companies already facing significant competition in foreign markets may find those rivals threatening them at home as well. It can be instructive, therefore, to study competitive advantage in a global context, measuring it not only against existing peers in the marketplace but also against a broader competitive set.

C. Shifting Customer Preferences

The economic damage inflicted by shifts in consumer preferences can be severe. When customer preferences change, customer benefits that once provided a competitive advantage can quickly evaporate, threatening even the mightiest of companies.

BENEFIT SWITCH - Companies try to control as many of the variables that influence customer decision making as they can, often through branding and packaging. However, changes in preferences are often associated with variables they cannot control. Take the tobacco industry: companies control taste and nicotine but not public attitudes towards health, which lead some people to quit and others to ostracize those who have not. In today's food industry, companies likewise grapple with increased interest in nutritional content rather than the historical focus on taste. In retailing, the historical competitive advantage that the consumer benefit of proximity offered is reduced by rising consumer preference for online shopping. No one can control such shifts, but we try to consider them as part of an overall assessment of the durability of competitive advantages.

FASHION RISK - Customer assessments of benefits sometimes change for inscrutable reasons, especially for products offering intangible benefits. Think of how brands seen as cool in the 1980s look hopelessly uncool today or how consumer demand for certain kinds of food or beverages may rise and fall, be it for sodas or red wine.

The toy industry has historically been fertile ground for fads to take root and flourish. Examples abound, from the Cabbage Patch Kids dolls and Care Bears of the 1980s. Wholesale revenues from Cabbage Patch Kids dolls, launched by Coleco in 1983, soared to $550 million in 1984, and total merchandise sales brought a multiple of that. A successful pop music record was released and the characters adorned products from clothing to breakfast cereal. The dolls were ubiquitous. By 1987, however, the fad was over, and wholesale revenue dropped by nearly 75%, a collapse that contributed to Coleco's bankruptcy.

Typically such fads are single products or brands whose appeal spikes in one year and then plummets within a few. Generally there is no practical need for the product and often there is some element of associated hype, such as a popular record or other gimmick. While catching a fad early can be lucrative, given stellar initial growth rates, the spectacular fall on the horizon dooms the idea as a long-term investment proposition.

GOOD-ENOUGH GOODS - Premium pricing is a significant source of value creation for many quality companies. By virtue of competitive advantages based on factors such as brand strength, they price products higher than similar alternatives. The strategy's success depends on offering demonstrably greater benefits compared to rival products. We refer to products that rivals push to challenge that advantage as good-enough goods.

Good-enough value propositions can be difficult to protect against. On the downside, risk is greater when products are distributed through influential middlemen that command customer respect, such as retailers creating private labels. Such middlemen have economic incentives to create their own good-enough goods. On the other hand, rivals are not invincible and where private label strategies have tried and failed – such as in personal care markets, and segments of the food and beverage industry – it is often a sign of brand strength.

Niche products are typically better protected than large product categories because good-enough goods are likely to require scale to work. Above all, if consumer benefits are genuine and strong, the risk of good-enough competition reduces proportionally. We struggle to see how a good-enough handbag will ever be a credible threat to a branded luxury-goods handbag. Similarly, we doubt that many airlines (or their pilots) would want to fly aircraft with a good-enough engine rather than one with an impeccable record for safety and soundness.

In the hunt for quality companies, distinguishing between sustainable and unsustainable performance is vital. To minimize the risk of error, it is useful to maintain a systematic process.

Barriers to quality decisions

An investing strategy that is long-term and focused on quality faces inexorable challenges, such as resisting temptations to respond to short-term dynamics and standing by qualitative judgments in the face of valuation metrics that can appear elevated. Such challenges can induce corresponding mistakes. Among others, they can allow prevailing macroeconomic conditions to have undue influence on decision-making or induce passing on a unique investment opportunity because of a high earnings multiple.

CHALLENGES - In quality investing, the four most significant challenges are: battling short-term thinking; conquering prevailing preferences for 'hard' numerical data over subjective assessments of quality; **accepting that quality companies are not always the most exciting investments; and accepting that quality stocks will often appear to be expensive.**

A short-term focus may lead investors to reach for companies promising higher earnings growth over shorter periods of time. Suppose a company has for two decades generated earnings growth averaging 9% and paid a 2% dividend, for an all-in return of 11%. If sustainable long term and available at a fair price, such a company would be far more appealing than most. But when investing culture focuses on short-term results, it is tempting to hunt and buy instead a less predictable company touting more rapid near-term earnings growth.

. Quality investors must constantly remind themselves that what counts are multi-year periods, not quarters, and that over such long periods of time, the advantage often goes to the plodding and patient rather than the daring and fleet.

LIVING WITH SHORT-TERM UNDERPERFORMANCE - While a quality investing strategy works over time, periods of underperformance are inevitable. Deeply cyclical sectors lacking strong steady returns on capital or with thin margins are anathema to quality investors. But share prices of such companies often benefit when markets trade certainty for hope. In these industries, small improvements in the macroeconomic environment frequently drive significant improvements in profitability. When markets favor such firms, a quality-focused portfolio will likely deliver comparatively weaker returns.

Although such scenarios are relatively uncommon – perhaps two or three years out of ten 36 – one occurred in 2013 among European equities. Investors scrambled to own any company poised to benefit from a European economic recovery. The upshot? 'Junk' rallied more than quality. Such short-term underperformance is painful while it lasts, but our experience has taught us to stick to our principles.

More than offsetting periods of underperformance, quality companies have historically fared much better than the market amid economic upheaval. The relative certainty provided by higher margins, stronger returns, greater stability and more robust balance sheets becomes disproportionately valuable. The global financial crisis underscored the point: valuation multiples shrank market-wide, but quality companies outperformed.

QUALITATIVE JUDGMENTS IN A DATA-DRIVEN WORLD - The quantitative orientation attracts talented individuals trained to analyze and trust numbers. While a strong quantitative background is an asset for investors, the resulting culture often obscures arguments or rationales based on qualitative analysis.

The more decision-makers are involved in an investment process, the greater the tendency to distill variegated information into figures, which are easier to circulate, compare, and comment on. **Analysts, managers, and directors can defend an investment thesis more readily in terms of earnings per share and price-earnings multiples than by outlining a company's recurring revenues or industrial positioning. It is easier to explain that a stock is cheap than that a company is great.**

BEING DULL IN AN EXCITING PROFESSION - For many equity investors, stock-picking is like an intellectual treasure hunt: the hope is to discover a company replete with hidden value, a battered trunk full of gold to be unlocked for spectacular returns. This way of thinking dovetails with the notion of market efficiency, where undervalued stocks are both hidden and rare. They require either astute research or at least an elaborate new angle. As such, **it is easy to think intelligent investing is the quest for something undiscovered.**

Quality companies often lack this cherished pot-of-gold characteristic: they tend not to have products that promise to revolutionize the world. In fact, many of the best companies are simple businesses that have done what they do consistently for decades. Worse, their quality is often, to some extent, already appreciated. Many investors would agree that Hermès or L'Oréal are outstanding companies. A general sense of quality is reflected in their stock prices, which usually trade at a market premium – although one often far lower than we believe that quality is worth.

Nevertheless, modern investors often share a propensity to seek the obscure instead of the obvious, to identify a hot new start-up company, an erstwhile laggard poised for a turnaround, or an emerging competitor threatening to revolutionize an industry. **Successful quality investing, therefore, sometimes requires avoiding the temptation of apparently exciting investment discoveries. It means accepting the relative dullness of analyzing what is often in plain view.**

MISTAKES WHEN BUYING

If smart people learn from their own mistakes while wise people learn from the mistakes of others, the goal is to be both smart and wise. The best thing to do after making or observing a mistake is to acknowledge it and absorb the relevant lessons to avoid repeating it.

TOP-DOWN INTRUSION - Quality investing is best conceived as a 'bottom up' exercise in the sense of focusing primarily on a company and its industry – the firm-specific or microeconomic factors. While many investors share this approach, a good portion also engage in 'top-down' analytics by looking at the broader environment, considering the state of international trade, the rate of inflation, or the relative strengths of currencies.

In a quality investing context, mistakes can arise from elevating top-down perspectives above bottom-up analysis. This kind of error often occurs when large macroeconomic themes start wreaking havoc with stock prices, leading to questions about an investor's exposure to factors such as trade, inflation, or currency values. These macroeconomic trends do warrant close attention as they bear on given companies and industries. However, when top-down factors trump bottom-up analysis, it often leads to choosing companies and industries for the wrong reasons.

Quality investors, inclined to hold for the long term, require the conviction upon purchase to ride out volatility. When an investment idea is predicated on elusive and exogenous forces of macroeconomics, it is far more difficult to have a conviction about a company or even an industry. When adversity or surprise strikes – for example when commodity prices fall or currencies reverse – it can be harder to stand by the thesis. The result is often not only a mistake on buying but a mistake on selling prematurely; even the dreaded syndrome of buying high and selling low.

NEXT-MONDAY OPTIMISM - In the corporate world, many managerial laggards sing the same tune, stressing that good times are around the corner, assuring investors that problems are behind them and swearing on a new product launch or acquisition. It is tempting to believe in such hopes – which we call next-Monday optimism – but they frequently yield mistakes.

Troubled firms and problem-riddled industries are far more likely to stay that way than to recover and scale new heights. Managers and their advisors who strive for a turnaround and present compelling strategies, however, are often convincing enough to induce investor optimism. Good examples recur every decade or so in the case of the airline industry and occurred in the steel industry for a few years at the start of the 21st century.

While turn-around or restructuring programs may create windows of opportunity for incremental improvement, broader industry conditions ultimately prevail. Even for investors able to pinpoint the time when a structurally challenged industry is due its moment in the sun, they still must time the sunset. That means timing both the decision to buy and the decision to sell, which makes mistakes twice as likely.

OVERCONFIDENCE - People are inclined to overestimate their knowledge and abilities, whether in driving or romance. In investing, overconfidence manifests in many ways, not least the reliance placed on specific earnings forecasts despite their inherent limitations.

Straying beyond the boundaries of one's knowledge and experience increases the risk of error. For instance, any investment in a stock that depends on the outcome of external factors beyond a company's control is on shaky ground.

Many investing mistakes arise from an illusion of predictability, which are especially acute in any rapidly-changing industry, such as technology. An investor may command considerable knowledge of a given tech-driven industry – whether artificial intelligence or robotics – that facilitates reliable evaluation of the short-term performance and prospects of the companies operating within that sector. Beyond that, factors of dynamism and fluidity degrade forecasting reliability.

DEBT - Debt brings varying interest rates, restrictive loan covenants, and scheduled due dates that put considerable control over value creation in the hands of lenders rather than managers, to the detriment of owners. Risks are particularly great for companies exposed to cyclical end markets. Since cycles invariably defy expectations, borrowers and lenders alike often miscalculate the line between reasonable and excessive leverage.

Drastic mistakes regarding debt levels congregate in two related situations. The first are companies that combine substantial financial debt with high operating leverage. Amid periods of economic expansion, the operating leverage enables growing revenue at lower cost, enabling cash flows that comfortably cover repayment of borrowed money. But in economic downturns, high operating leverage readily translates into rapidly deteriorating cash flows and difficulty meeting debt obligations. Overlooking this feature of debt is a trap for the unwary and one that even experienced investors are prone to fall into.

A second place where debt poses elevated risk of mistakes concerns companies heavily reliant on leases, such as retailers. When retailers grow rapidly during economic expansions, growth often includes adding stores using leased spaces. During such periods, it is easy to overlook that such leases are a source of leverage. When economic conditions contract, the lease rates remain the same while revenue and cash flows decline.

Mistakes of Retention

Since quality investing entails owning the best companies for the long term, mistakes can occur due to complacency and failure to appreciate when a once-great company is falling from grace. We refer to this as the problem of boiling frogs, referencing the experiments which purported to demonstrate that frogs dropped in boiling water promptly jump out but those placed in cool water whose temperature is gradually raised to boiling remain in the scalding caldron. (We recognize the irony that this premise was subsequently proven to be false.) No company is invincible and we devote considerable effort to monitoring and noticing signs of deterioration to enable us to jump out of the pot before being boiled. In addition to the problem of the boiling frog, the following section discusses mistakes of myopia, rationalization, and developing emotional attachment to investments.

BOILING FROGS - Companies rarely deteriorate from great to good in a single quarter or year, but rather decline gradually over a few years or more. There is seldom a single defining moment when it becomes obvious that a business has gone from high quality to low. In the rare cases when decline is rapid and clear, it is easy to sell as quickly as a frog might jump from boiling water. In most cases, it is necessary to develop a means to discern the gradual decay and, especially, to resist complacency and denial in the face of gathering adversity.

A material profit warning, even from a company in a relatively stable industry, can indicate that serious internal problems are brewing, suggesting a need to fully reevaluate the investment thesis. The fact that one profit warning increases the chances of another one also raises questions of how much of a company's stock to own, even where we are confident that no structural changes have occurred to the investment thesis.

For many fallen angels, overall deterioration generally begins with small things not going according to plan: growth not materializing, unexplained pressure on margins, more discussion of competitive pressures, or gradual increases in capital expenditure. Each disappointment is small in isolation; management provides a good explanation for each and dismisses them as non-recurring. But a string of setbacks often signals a larger set of problems, which emerge or crystallize after it is too late for the business to make corrections or for the investor to mitigate losses. Thus even small setbacks warrant rigorous evaluation.

IGNORING CHANGES TO THE MARKETPLACE - Since quality investing chooses great companies for long-term ownership, complacency amid adversity is fertile ground for mistakes of omission; in other-words failing to sell ahead of decline. It is tempting to interpret adversity as transient – to see sagging growth as a blip rather than structural, or a new competitor as unthreatening to a company's core business. This attitude promotes a long-term view but can create blind spots. While each change warrants individual scrutiny, a few categories of change seem to account for a large portion of mistakes.

If a company's customers are getting poorer, the company will soon follow, as struggling customers reduce budgets. A German manufacturer of bank ATM machines, Wincor Nixdorf, assured investors of continued prosperity as the 2008 financial crisis dawned since credit market turmoil did not bear on cash dispensing. But as faltering banks cut costs, they bought far fewer ATMs.

Miscellaneous important topics

ACCOUNTING RED FLAGS

As the language of business, every investor must be conversant in accounting. Beyond assessing fundamentals of asset turns and margins to evaluate business quality, financial reports often contain innumerable subtle clues about the sustainability and predictability of earnings growth, cash flows, and returns on capital. They also occasionally reveal chicanery, eliminating a company from contention as a quality investment.

Endowment Effect

Quality investing is particularly susceptible because the considerable upfront research and extensive winnowing increases the endowment effect – the investor's sense of ownership encompasses not just the stock but also their analysis and judgment. The emotional connection amplifies with time, increasing susceptibility the longer a stock is owned. The endowment effect may manifest itself when an investor continues to own a stock despite a drumbeat of negative events revealing a deterioration of the company's fundamental economic characteristics. One strategy to combat this is to ask whether, with a fresh start, you would still buy the same company today.

A long-term strategy must be finely balanced against the recognition that things can, and will, change. All companies evolve to some extent and closely monitoring such evolution is an essential part of the investment process.

Valuation and Market Pricing

A quality investing strategy, therefore, emphasizes quality first, and valuation second. No investor wishes to pay more than fair value for a stock, but putting quality ahead of valuation helps us to seize the long-term opportunity.

When investors perceive valuation multiples of quality companies to be too high, we refer to the companies as tomorrow stocks. Many investors might agree that some of the companies we have been illustrating are great companies. They just want them cheaper and wait until ‘tomorrow’, when the price might decline.

The problem is that the day seldom comes: if a company keeps delivering operationally, its relative valuation multiple rarely contracts. If such a day does come, it is usually in the midst of the turmoil of a major market correction. While seizing purchase opportunities in such environments is lucrative, it is equally rational to buy quality companies when valuations are attractive enough, despite seemingly high multiples. Just ask the many thousands of investors who have passed on buying Berkshire Hathaway shares – today priced at more than $200,000 – at any time since 1965.

The risk of overpayment is also offset by a general tendency of stock markets to under-price quality companies. Share prices, even when at seemingly high valuation multiples, often fail to fully capture the combination of predictability and value creation such companies offer. Explanations for this phenomenon include market incentives skewed to the short term, a pervasive presumption of mean reversion that does not automatically apply to well-positioned companies, and an under-appreciation of earnings upside for quality companies.

Near-term focus manifests itself in the declining average stock-holding periods of US mutual funds, which have shortened from over six years in the 1950s and 1960s to less than a year more recently. It is also apparent from comparing what moves market prices versus what drives long-term value. **Although on a one-year view, nearly 80% of stock price moves are explained by changes in multiples, the driver of longer-term stock returns is earnings growth**. For investors seeking to profit in the stock market over the short term, the 80% figure underlines the importance to them of determining the right valuation multiple. Consequently, every bit of information that might justify a change in a stock’s multiple, however insignificant, is scrutinized, while longer-term earnings power and predictability is subordinated.

Another factor behind general under-pricing of quality is the widespread assumption in finance of mean reversion – that above-average levels of either growth or return on capital must return to average. We concur with the numerous studies providing strong evidence of pervasive mean reversion in business and a general tendency for abnormal returns to erode, but that does not warrant applying the assumption indiscriminately to all industries and companies.

While businesses facing open and competitive markets are almost certainly unable to sustain abnormally high performance, those benefitting from the patterns of quality companies do not necessarily face such headwinds – whether this is due to recurring revenues, friendly middlemen, pricing power, brand strength or the others we have catalogued. In such cases, superior cash flows, margins, returns, and growth can be sustained, and even improved, over long periods of time. Focusing on such businesses reduces the chances of error in cash flow forecasting and therefore the risk of permanent loss of capital. Such an approach does not prevent error or loss, of course, but reducing the frequency and severity of losses is as important to long-term returns as picking winners.

Companies that are consistently able to deploy cash at high incremental rates of return often exceed earnings expectations over the long term. So, while the valuation premiums of such companies may reflect solid expected operational performance, they often underestimate actual performance. Thus, stock prices tend to undervalue quality companies.

Mistake reduction

A basic tenet of intellectual inquiry is to attack a subject from multiple angles in order to form a full picture of a target investment. “To think is easy. To act is hard. But the hardest thing in the world is to act in accordance with your thinking.