

Value Investing and Enterprise Risk Management: Two Sides of the Same Coin

**Sponsored by
Society of Actuaries'
Committee on Knowledge Extension Research**

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January 2013



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Executive Summary

“Investing is simple, but not easy.” Warren Buffett

“Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted.” Albert Einstein

Risk and Return – A Balancing Act

The goal of this paper is to examine similarities between value investing and enterprise risk management (ERM) methods. For some, especially portfolio managers, this may be obvious. These investors come to the table with experience using risk as a constraint while trying to optimize returns. Years of experience have taught this group that risk balances return, and that return balances risk. Value is added by creating favorable imbalances. The investor with high returns and average risk has succeeded, as has the investor reporting average returns and low risk.

Many concepts are shared between ERM and value investing. When defining risk, which is generally unique to the individual, an analyst considers uncertainty, downside risk, and optimization. Value investors look at concepts like conservative assumptions, margin of safety, and asset allocation. These concepts are comparable, and this paper uses the International Actuarial Association’s Note on enterprise risk management (ERM) for capital and solvency purposes in the insurance industry to take the reader through general ERM topics. This is followed by a comparable value investing discussion and a comparison of the two practice areas.¹

In some firms, a risk manager is placed in a position with little authority, limiting the benefits of ERM. A process driven ERM function can identify risks and risk owners, create a common language, and send useful reports to the Board. A stronger risk officer adds value by using transparency to understand risk interactions, scanning for emerging risks and generally keeping a focus on how an entity’s risk profile is evolving.

Unique Solutions

Every situation is unique. Risks and circumstances are specific and rarely duplicated. This means that solutions need to be unique as well. Looking at risk prospectively differs from looking at what has happened in the past. This is true for investing as much as it is for risk management. Things change. Stuff happens. The past does not always predict the future. Creating a flexible,

¹ International Actuarial Association, *Note on enterprise risk management (ERM) for capital and solvency purposes in the insurance industry*

http://www.actuaries.org/CTTEES_FINRISKS/Documents/Note_on_ERM.pdf (March 31, 2009).

ethical, environment that uses common sense to guide decision making will create a culture that adds value for the investor and risk manager.

Quantitative models are important to both investors and risk managers because they lead to greater understanding of a risk profile. But there is also a downside to models. They work until they don't. Projected assumptions fail to be reproduced in reality. Sometimes the results are misleading, as can be the case when cash flows and income statements are used interchangeably.

Value investing uses the same quantitative valuation techniques as other asset classes, like bonds and real estate. Calculating the present value of contingent cash flows is the same for a risk manager and investor.

Not all models are computer-based. Qualitative models based on experience often do an excellent job, and also provide oversight for quantitative models. Investors are more likely to use these types of methods, as they generally don't have access to the detailed information available to an internal risk manager. A multidisciplinary method is sometimes referred to as a latticework approach to investing. This method takes the best each model has to offer and focuses on understanding how these models interact. It starts to take on the methods of a detective solving a mystery. This is similar to mosaic investing theory. Mosaic theory proponents collect pieces of information and put them together into a coherent story.

A successful analyst often uses time arbitrage. This allows those with a longer time horizon to make better decisions than those with a shorter time horizon. When the herd all moves in the same direction, reacting to each new piece of information, the intelligent contrarian looks at fundamental analysis. Has anything really changed, or is the current zig likely to be followed by a zag and remain true to the intrinsic value? It could be a competitive advantage for those willing and emotionally able to wait out the market's gyrations. The signal is the intrinsic value. The noise is opportunity, sometimes described by the parable about Mr. Market who gives you a price at which he will buy/sell every day and allows you to choose when to take advantage of this opportunity.

Both risk managers and value investors look at integrated risk analysis, seeking to understand aggregate risk across the entire entity. Knowing how the exposures might interact in the future drives scenario analysis and improves the odds of both survival and success. An investor's capital allocation process is comparable to a risk manager's capital management process, and many of the tools are compatible.

Those who are good at either risk management or investing have shown the skill set to succeed in the other. The actuarial skill set seems particularly advantageous to move seamlessly between investing and enterprise risk management projects. In the future, analysts will continue to calculate intrinsic values based on discounting contingent events. This can be applied to either investing or evaluating risks.

As was attributed to Charles Darwin, “*It is not the strongest of the species that survives nor the most intelligent, but the one most responsive to change.*” Whether your interest stems from ERM or you are an investor, this is a useful mantra to live by. You can never anticipate every risk, and those who overreact never take a risk. The balance between risk and reward requires both to be considered and neither allowed to dominate. An analyst needs to be aware of motivations and be wary of success and stable environments that blind management to growing risks. Both ERM and investing are processes that should be in a constant state of improvement. The modeling and knowledge necessary to succeed makes each a training ground for the other. They truly do have compatible skill sets.

Background

This research project was funded by the Society of Actuaries Committee on Knowledge Extension Research. The paper uses existing publications and mosaic theory to develop its conclusions, using previously published material to make specific points.

Research reports do not create themselves in isolation, and the researcher thanks the Project Oversight Group (POG): Bob Reitano, David Merkel, Dick Joss, Gordon Enderle, Jim Bridgeman, Robert He, Simon Segall, Barbara Scott and Steve Siegel for their insights during the development of this paper. Of course all errors and omissions remain the responsibility of the researcher.

Researcher

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Introduction

Enterprise risk management (ERM) has become important over the past decade due to recurring crises, a greater awareness of the interaction between risks, and a realization that computer power allows uncertainty risk to be considered more thoroughly. Within the actuarial profession, the concept was moved forward by casualty actuaries taking Dynamic Financial Analysis to the next level, along with life insurance actuaries extending their Asset/Liability Management work. The original SOA risk management task force was formed by the finance practice area, with significant representation from the Investment Section Council. As Chair of the Investment Section during this time, the researcher has always felt there was a close tie between investments and ERM. These thoughts came to a head in May 2010 when he attended a dinner meeting sponsored by CFA Nebraska the week of the Berkshire Hathaway annual meeting in Omaha, Nebraska. Wally Weitz (Weitz Funds) moderated a discussion that included Bill Miller (Legg-Mason Capital Management), Tom Gayner (Markel) and Ron Muhlenkamp (Muhlenkamp & Company). These value investors consistently made statements in such a way that the words “value investing” and “ERM” could be used interchangeably and the statement would still make sense. There were continual references to culture, incentives, and balancing risk with reward when making investment decisions. For example, a comment like “Culture is a huge qualitative consideration for value investors” could be restated as “Culture is a huge qualitative consideration for ERM”.

In 2011 Howard Marks, a successful long-time value investor (Oaktree Capital), published a well-received book titled *The Most Important Thing*. This research report refers throughout its sections to this book. His informed, common sense, skeptical approach to investing has left Marks with an enviable track record. His investing style combines risk and reward to a degree not recognized as well elsewhere. He says, “risk is the most interesting, challenging and essential aspect of investing.”²

Fundamental Analysis

When making an investment, whether it is common stocks, bonds, real estate, timber or some other asset class, a value investor researches the opportunity by looking at publicly available information and scuttlebutt, estimates the riskiness of the firm, and calculates its intrinsic value using a combination of added capital and discount rate to adjust for riskiness. Future cash flow streams are discounted back to the present, incorporating anticipated growth. A higher discount rate reflects greater uncertainty or higher risk. This is then compared against the market price of the asset to determine the purchase/sale decision. Transparency is important for fundamental analysis, and the analyst will look at competitive advantage and anticipate the future prospects of the company and sector before taking the plunge. Only assets selling at a significant discount to

² Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), Page x.

value are selected. Risk is reduced as the value becomes higher than the price. As Warren Buffett famously said, “Price is what you pay. Value is what you get.”³

Risk measurement is hard. Looking at risk prospectively may ignore some currently unknown risk or reflect incorrect frequency and severity estimates. Looking at it in retrospect is even harder as you can’t know what you or anyone else really thought about the risk at that time. If something went up in value does that mean it was not risky at purchase? If it went down was it more risky at purchase? You just don’t know, and there is a great degree of similarity with enterprise risk management in this regard. The risk manager who does a good job might have missed some obscure risk, while the poorly equipped risk manager might be in charge during a period when all companies make money. Who has done a better job? Depending on your perspective, the weatherman is either always right or always wrong.⁴

Mosaic Theory/Scuttlebutt

Mosaic investment theory is often explained by comparing it to a detective story. Investors collect information, from both public and personal sources, and tie the pieces together to determine the value of a company or security. The analyst developing the story collects all the pieces to see if they make sense in total. It is as much art as science, and experience becomes a valuable commodity.⁵

Enterprise risk management requires a commitment from senior management and the board, as well as implementation embedded throughout the firm. Risk experts need to understand the interactions between risks and how that impacts the risk/return profile for the entire firm.

Phil Fisher, writing in *Common Stocks and Uncommon Profits*⁶ describes the scuttlebutt method for investment decision making. According to Fisher, by reaching out to competitors, vendors, customers, university and government researchers and trade association executives, you can pull together a fairly complete picture of a firm. By using anonymous sources, these groups will often talk freely about the company of interest. While former employees have great knowledge, their comments should be confirmed and their reason for leaving investigated. Once an investor has completed this initial investigation, an open dialogue with the company of interest can begin.

³ Janet Lowe, *Warren Buffett Speaks: Wit and Wisdom from the World’s Greatest Investor* (New York: John Wiley & Sons, 1997). p 99. This references a January 20, 1966 letter to partners and is one of many statements Buffett repeats regularly.

⁴ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), pp 40-41.

⁵ Andrew Ross Sorkin, *Just Tidbits, or Material Facts for Insider Trading?* New York Times Deal Book column. <http://dealbook.nytimes.com/2010/11/29/just-tidbits-or-material-facts-for-insider-trading> (November 29, 2010).

⁶ Philip A. Fisher, *Common Stocks and Uncommon Profits and Other Writings* (John Wiley & Sons, 2006), pp 44-46.

In a version of mosaic theory also used by the legal profession, a collection of seemingly unrelated information adds up to useful knowledge. This is very applicable to investing as well. It's not enough to simply memorize and regurgitate historical facts. Only experience can filter information to show where it is inconsistent with preconceived notions. Each of these terms is talking about the same thing when related to investment decisions. Collect information, consider what the culture and risk appetite are at the firm, look at the financials and how they might project out into the future, and incorporate it all into an intrinsic value for the firm.

A combination of internal and external expertise is critical to both ERM and value investing. Internal experts generally understand the nuances of a firm's risks and culture better than someone from the outside. At the same time, internal expertise that does not regularly review ideas generated in the external environment can result in insular analysis. Peer review of ERM practices by external parties can bring new perspectives and ideas, keeping the risk officer from focusing on the wrong risks and allowing them to have broader strategic ideas.

Buffett's Search

The origins of value investing are credited to Benjamin Graham, an investor and professor at Columbia University who, with fellow professor David Dodd, published *Security Analysis* in 1934.⁷ Fundamental analysis has evolved over time beyond looking for cigar butts (investments with small value remaining that trade at a discount) to a comparison of price with intrinsic value, taking into account growth prospects and riskiness. In 2012 the leading proponent of value investing is Warren Buffett, chairman and CEO of Berkshire Hathaway. Along with his vice-chair, Charlie Munger, he has generated a great deal of reading material for the person looking to better understand this process. Some of the best sources are the Berkshire Hathaway annual letters. His readable Chairman letters are a great source of information for investors as well as a great way to see how an experienced investor thinks about risk. Typical is this excerpt from Buffett's 2006 letter, published early in 2007. Here he bounces back and forth between risk and return concepts.

I have told you that Berkshire has three outstanding candidates to replace me as CEO and that the Board knows exactly who should take over if I should die tonight. Each of the three is much younger than I. The directors believe it's important that my successor have the prospect of a long tenure.

Frankly, we are not as well-prepared on the investment side of our business. There's a history here: At one time, Charlie was my potential replacement for investing, and more recently Lou Simpson has filled that slot. Lou is a top-notch investor with an outstanding long-term record of managing GEICO's equity portfolio. But he is only six years younger than I. If I were to die soon, he would fill in magnificently for a short period. For the long-term, though, we need a different answer.

At our October board meeting, we discussed that subject fully. And we emerged with a plan,

⁷ Benjamin Graham and David Dodd, *Security Analysis* (The McGraw-Hill Companies, Inc., 1934).

which I will carry out with the help of Charlie and Lou. Under this plan, I intend to hire a younger man or woman with the potential to manage a very large portfolio, who we hope will succeed me as Berkshire's chief investment officer when the need for someone to do that arises. As part of the selection process, we may in fact take on several candidates.

Picking the right person(s) will not be an easy task. It's not hard, of course, to find smart people, among them individuals who have impressive investment records. But there is far more to successful long-term investing than brains and performance that has recently been good. Over time, markets will do extraordinary, even bizarre, things. A single, big mistake could wipe out a long string of successes. We therefore need someone genetically programmed to recognize and avoid serious risks, including those never before encountered. Certain perils that lurk in investment strategies cannot be spotted by use of the models commonly employed today by financial institutions.

Temperament is also important. Independent thinking, emotional stability, and a keen understanding of both human and institutional behavior is vital to long-term investment success. I've seen a lot of very smart people who have lacked these virtues.

Finally, we have a special problem to consider: our ability to keep the person we hire. Being able to list Berkshire on a resume would materially enhance the marketability of an investment manager. We will need, therefore, to be sure we can retain our choice, even though he or she could leave and make much more money elsewhere.

There are surely people who fit what we need, but they may be hard to identify. In 1979, Jack Byrne and I felt we had found such a person in Lou Simpson. We then made an arrangement with him whereby he would be paid well for sustained overperformance. Under this deal, he has earned large amounts. Lou, however, could have left us long ago to manage far greater sums on more advantageous terms. If money alone had been the object, that's exactly what he would have done. But Lou never considered such a move. We need to find a younger person or two made of the same stuff.⁸

While Buffett's search was for a portfolio manager, the job description has so many references to a risk management skill set that he clearly was searching for someone who considered managing risk a primary skill for a successful investment strategy. The requirement to avoid serious risks, including those never before encountered, is a clear reference to emerging risks. Other requirements refer to the need for a balance between qualitative and quantitative methods, independent thinking, and behavioral stability (calmness). Each of these is also a common ingredient in a strong risk manager. Buffett also alluded to the need to find someone whose culture is aligned with the company.

Starting in 2010, Berkshire Hathaway has hired two portfolio managers to manage small yet growing portions of the BRK trading portfolio, replacing the now retired Simpson. Todd Combs

⁸ Berkshire Hathaway Inc., 2006 Annual Report, <http://www.berkshirehathaway.com/2006ar/2006ar.pdf> (March 2007) pp 17-18.

and Ted Weschler will apparently take on increasing amounts of the portfolio as they gain the trust of Buffett and Munger.

Structure

Even with the exposure enterprise risk management has received over the past several years, many are still surprised at the relationship with value investing methods. This paper utilizes the headings from the IAA's paper on ERM to compare and contrast the two topics.

For this paper, the *Note on Enterprise Risk Management for Capital and Solvency Purposes in the Insurance Industry* paper published in March 2009 by the International Actuarial Association (IAA)⁹ will be parsed into sections, with first the IAA paper summarized, then similar concepts applied to investing, and then a comparison looking for similarities. While the IAA paper is insurance specific, it does a nice job walking the reader through a variety of general ERM concepts.

The IAA ERM note supports the IAIS (International Association of Insurance Supervisors) Standards and Guidance materials. It has nine key features that will be used as major sections in this paper.

1. Introduction
2. Governance and Enterprise Risk Management Framework
3. Risk Management Policy
4. Risk Tolerance Statement
5. Risk Responsiveness and Feedback Loop
6. Own Risk and Solvency Assessment (ORSA)
7. Economic and Supervisory Capital
8. Continuity Analysis
9. Role of Supervision in Risk Management

⁹ International Actuarial Association, *Note on enterprise risk management (ERM) for capital and solvency purposes in the insurance industry*

http://www.actuaries.org/CTTEES_FINRISKS/Documents/Note_on_ERM.pdf (March 31, 2009).

1- Introduction

ERM

The IAA paper shares issues to consider and how practitioners have implemented ERM. It does not prescribe any “one” correct way to do ERM. It attempts to balance risk and return in an environment that is increasingly complex, uncertain and ambiguous. It recognizes the interplay between dynamic external influences and human behavior. This last point is very important, as behavioral finance has shown that humans are not the rational agents once assumed by economists. The paper contemplates strategic planning and its two-sided nature, considering market opportunities as well as business disruption and other downside risks when working through the business planning cycle. Performance measurement is discussed on a risk-adjusted basis, providing consistency between pricing, projections and reporting.

The focus of Enterprise Risk Management is that of a process designed to help make better decisions strategically, tactically and managing the firm day-to-day. An ERM framework focuses on holistic analysis and the interaction between risks, and not in-depth analysis surrounding any one risk. That is left to the risk owners, and their input is critical to understanding correlation nuances.

ERM Defined

Risk deals with uncertainty. Some prefer mathematical analysis surrounding historical data and two-sided variance calculations, while others prefer to look only at risk mitigation and seek to avoid specific negative outcomes (for example those threatening solvency).

Risk management looks at one risk at a time, generally for a single business line, and attempts to optimize or mitigate the risk in that context. Minimal effort is made to look across risks or to consider similar or offsetting risks in other parts of a firm.

In its leading edge 2001 report, the Casualty Actuarial Society’s *Final Report of the Advisory Committee on Enterprise Risk Management* defined ERM as

The process by which organizations in all industries assess, control, exploit, finance, and monitor risks from all sources for the purpose of increasing the organization’s short- and long-term value to its stakeholders.

This definition was very forward-thinking for its time, opening up ERM to opportunistic risks with a focus on both short- and long-term value. Many practitioners have not caught up to this best practice even now, maintaining a focus instead on short-term stock performance and downside risks. ERM practitioners are often segmented between those focused on controls typical of auditors, and those focused on financial impact, like actuaries. A strong ERM team will include both skill sets.

ERM is defined by some as ERRM, Enterprise Risk and Return Management. This more accurately describes best practice ERM. Practitioners look at strategic options as they impact the overall entity, so for example a company with operating units in various geographic regions would consider the diversification afforded from physical location as well as currency risk across jurisdictions. This is the holistic, or enterprise, view. In addition to risks accumulated by legal entity, some firms will also stratify risk through a risk budget process. At the enterprise level a firm will accumulate all of a specific type of risk and set a budget to allocate and limit the total risk accepted.

Firms instituting an ERM process will first identify the risks they have accumulated, then assess the risk using frequency and severity measures. Sometimes these are quantitative metrics but often qualitative, fuzzy logic, rankings are used (e.g., low/medium/high or 1-10). These risks are then prioritized and projects developed to adjust either or both the frequency and severity metrics. Entities will find value in having a common risk language, understanding and communicating any differences both internally and externally. Clear accountabilities need to be identified, distinguishing between risk owners in line management and those in risk management facilitation and coordination roles.

Tools continue to evolve to aggregate exposure to risk. Some involve diversification and the law of large numbers, where negative events are assumed to spread out following a statistical distribution. Early efforts held correlation coefficients steady, but recently tools such as copulas have allowed alignment between risks to vary. This has been especially useful when trying to model tail scenarios where contagion aligns risks more closely than in normal times.

Economic capital models range from simple deterministic stress tests to very complex stochastic scenarios that require immense amounts of computer time. Keep in mind that each complexity added to a model makes it that much more likely for the model to fail.

ERM requires strong communication and a risk culture that encourages discussion even if (especially if) there is not agreement.¹⁰ In fact it appears having varying views in a group that respects the opinion of others may lead to better decisions. To be effective it requires buy-in from senior management, but the culture must be embedded deep within the organization. ERM should be led internally, but with input and peer review from external experts. ERM is often implemented in surges, with initial projects revisited and extended periodically as new methods become available and internal risk culture evolves. The goal is to make an ERM framework become a sustainable process, not a one-time project that collects dust on the shelf. It must be used to be effective. A risk culture that encourages reporting of “bad news” allows proactive adjustments earlier and with lower cost than otherwise would occur.

¹⁰ David Ingram and Alice Underwood, “The Full Spectrum of Risk Attitude,” *The Actuary* (August/September 2010): pp 26-32.

Value Investing

There are several general forms of investing. Some use technical analysis, looking at charts of past market prices to make inferences about future prices. Modern portfolio theory holds that past volatility of market prices, relative to the volatility of the market as a whole, drives riskiness and future returns. It argues that you can optimize a portfolio using techniques like efficient frontier analysis, determining a desired level of risk or return and maximizing the other variable. This viewpoint of volatility as primary measure of risk becomes more prevalent during stable times. When a crisis hits, risk becomes defined by losses. Value investing looks at the financials of a single entity, looks at the company's strategy going forward, and projects future cash flow streams. Higher risk companies are given higher discount rates by investors, and an intrinsic value is calculated by discounting the projected cash flows or net income. This value is then compared to the current market price.

Warren Buffett was asked at the 2009 Berkshire Hathaway shareholder's meeting about the basics of teaching value investing. As reported by Steven Chen, FSA in the December 2009 International News Section Newsletter, the two competencies necessary to be successful are; knowing how to value a business and how to understand market fluctuations.¹¹ Sometimes this is not easy, and an analyst should be sure to understand the accounting nuances surrounding a given company's results and that of its industry.

Often the hardest part of investing is the behavioral aspects, and the best investors are able to overcome their emotions and focus on the information that differentiates opportunities. Buffett maintains that certain tenets must be satisfied before investing, acting as a filter. These relate to business, management, financial and market tenets.¹² You can find these categories listed in detail in Appendix V.

When using a fundamental analysis approach to investing, transparency of the information is important. Understanding what information is complete as well as where the material shortcomings are will help the investor assess the risk of an opportunity. With emerging risks, as Donald Rumsfeld said, "These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don't know."¹³ When attempting to value a series of contingent cash flows, the riskiness of the flows are often reflected in the discount rate used to create a present value representing the stream of payments. This riskiness reflects historical data for this risk as well as anticipated future events and conservatism for future unknown macro and micro events. When an investor completes this process using assumptions reasonable to them, this generates the intrinsic value of the firm. This discussion will focus on the discounted cash flow method.

¹¹ Steven Chen, "An Actuary's Experience at Woodstock for Capitalists", *International News* (December 2009):pp 57-60. www.soa.org/library/newsletters/international-section-news/2009/december/isn-2009-iss49.aspx

¹² Robert G. Hagstrom, *The Essential Buffett* (John Wiley & Sons, 2001), p 79.

¹³ Donald Rumsfeld, US Secretary of Defense. Department of Defense news briefing, February 12, 2002. http://www.goodreads.com/author/quotes/936753.Donald_Rumsfeld

In 2012 news broke that LIBOR (London InterBank Offered Rate) had been manipulated by the bankers responsible for determining the rate on a daily basis. While the methodology was clear, the lack of transparency in the process itself allowed some to make LIBOR fictitious at best. Although regulators appear to have been aware of the issue, it was allowed to continue as there were other, greater, problems to deal with during the financial crisis. The banking culture, across many firms, encouraged self-interested reporting.¹⁴

Interrelationships are also important considerations. There is rarely a direct linear relationship between two variables, and third and higher orders of interaction often are considered only after a crisis exposed their importance. When risks are combined, unintended consequences are the norm. Usually only the linear relationship is considered until an investment blows up due to some ignored interaction, and then the models are revamped. Dynamic hedging strategies continue to learn this lesson, reacting to real world problems and trying to anticipate the next interaction. These models continually become more complex, solving some identified issues but also replacing one risk with another. Einstein encouraged model simplicity (to a point), but financial economics follows no universal master plan and tend to become increasingly complex.

Comparison - Introduction

There are many similarities between enterprise risk management and value investing when considering best practices for each. Later sections will develop these parallels more deeply. Both consider risk and return to be two sides of the same coin.

A second similarity is the importance of both quantitative and qualitative considerations. While investors and risk managers each use a wide variety of models, they are built from the same platforms. Qualitative considerations like culture and hard to quantify assumptions are also looked at under both umbrellas. Transparency leads to more effective methods of analysis.

Human behavior is also important to both, incorporating changes in that behavior under different circumstances. Both practices tend to bisect their analysis between normal times and extreme events.

2-Governance and an Enterprise Risk Management Framework

ERM

Corporate governance focuses on benefits to stakeholders, working to improve results and better understand and communicate what those results are expected to be. This is accomplished through compliance techniques while avoiding box-ticking exercises. Risk tolerance levels must be discussed and agreed upon, with incentive plans aligned to the firm's strategic plan. There should be a natural tension between the risk team and management while both continue to work for the common good of the firm. Part of the risk team's job is to provide oversight.

¹⁴ John Mauldin, "Gambling in the House?" *Thoughts from the Frontline* (July 28, 2012).

<http://www.mauldineconomics.com/frontlinethoughts/gambling-in-the-house>

Risk culture is driven at the highest level by the corporate governance policy of the board. This policy should not only be formalized, it should be implemented by management. Some firms intend a good governance policy but then do something totally different in reality. The board's role is to set the tone and make it clear that risk should be considered as part of all strategic and tactical planning. Ignoring risks should not be tolerated. It is not the board's job to implement a risk management policy. Management should be accountable for the implementation, with the board providing oversight. Successful ERM requires engaged employees at all levels of a firm. This means that senior managers lead by example and encourage others to act in a fair and ethical manner. External input is likely required to keep up on current best practices and emerging risks. It also means that bad news should be escalated and messengers encouraged to report truthfully. The board must be able to trust the risk team. An effective ERM framework is one where behaviors are embedded in good business practices and not held out separately as another hoop to jump through.

An ERM framework develops a process to identify risks and manage them at a holistic level, working to identify the risk owners and prioritize risk projects. It is not to manage the risks themselves beyond providing oversight and consistent best practice methodologies. Coordinating a consistent risk language to be used is also an important yet often ignored best practice. Even among risk management professionals the lack of consistency between terms used can slow down the analysis. It is important to work through this since providing multiple varying perspectives is so useful in risk analysis.

Not all firms need to put forth the same effort to implement ERM. The IAIS principles talk about proportionality, meaning the level of supervision should be appropriate based on the nature, scale and complexity of the risk exposures. This is just as true for firms as it is for regulators. A small company will have broad coverage of products within their management team; everyone does everything, so common sense based on broad experience has much value in that context. A large firm has more specialization so there is greater need for a Chief Risk Officer and a risk team, consolidating reporting and ensuring consistency. Larger firms are more likely to take on complex risks and thus are more likely to have the modeling expertise needed for quantitative analysis.

Risk culture ultimately determines the success or failure of ERM. If one business unit is favored over others, or the CEO is thought to be infallible, it is a recipe for disaster. Many of the risk case studies of the past have been driven by concentrations of power with one manager or a small group. When decision making is concentrated and not allowed to be challenged, the risk increases for a poor result. This is not always at the highest level of the firm, as rogue traders at several firms have shown. The "golden child", whether it is the CEO or a historically successful team, can quickly lead a firm astray.

Most of the important risk variables in financial firms are not linear relationships. Some interact with human elements, like home mortgage prepayments, increasing the level of potential sophistication needed to reflect these complex dependencies. Modeling these risk behaviors is very difficult, and considering the impact of alternative assumptions is a key to successful implementation. Risk dashboards that monitor trends can help management understand the progress made toward their strategic plan.

Many risk managers view their job as strictly one that mitigates risk, yet a key part of strategic planning involves seeking out risks where an entity has a competitive advantage. This is sometimes called upside risk management, and leads to enterprise risk and return management. This guides the discussion to incentives and compensation. Most people will do what you reward them to do financially. Aligning incentives with a strategic plan will leave all stakeholders better off, much as when the person packing parachutes knows he will have to jump with a randomly chosen parachute that he packed. Best practices consider both risk and return. Firms should be very careful that unintended consequences do not lead to misaligned incentives, such as when a survey metric is used for compensation. Proactive responses will clarify roles and lead to an environment of continuous improvement.

Transparency is highly important when looking at a strategic plan. David Ingram, in the *Law of Risk and Light*¹⁵, argues that risks in the dark grow and risks in the light shrink. Said another way, risks that you are not aware of (in the dark) continue to grow because they are not noticed, while transparent risks (in the light) can be managed and sometimes traded. And if one side does not recognize, or underprices a risk, the more astute counterparty will take advantage of that fact. Gresham's Law of Risk says that those who do not see a risk will drive those who see the risk out of the market (originally developed for currency trading – bad money will drive out good).

Ponzi schemes like Bernie Madoff's funds are great examples of risks in the dark. When times are good, with markets healthy and increasing, investors are not as critical of results and "want" to believe returns are real. Warren Buffett talks about "knowing who is naked when the tide goes out". Both indicate a lack of transparency and are what Ingram means when he references risks in the light. These risks can often be traded, or at least are well understood. When a negative event happens, whether it is financial or not, good risk managers debrief and institute better tools for dealing with that particular risk. A concern is that risk managers focus too much on events that happened in the past and ignore the risk that is most likely to happen next. What risks are currently growing in the dark at your firm? Or systemically for the world economy?

*The received wisdom is that risk increases in the recessions and falls in booms. In contrast, it may be more helpful to think of risk as increasing during upswings, as financial imbalances build up, and materializing in recessions.*¹⁶ Andrew Crockett

Another version of this occurs in the casualty insurance market. This business cycles between hard and soft markets as new money enters when prices are high and tries to buy market share by underpricing risk. Few insurers are willing to drop out of the market when prices are low, and profits are challenged as a result of overcapacity.

Key performance indicators (KPIs) can be very useful for monitoring risk exposures. Risk managers find that these metrics generally evolve from initially being lagging indicators to

¹⁵ David Ingram, *Risk and Light*, <http://www.ermssymposium.org/2009/pdf/2009-ingram-risk-light.pdf> (April 2009).

¹⁶ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), p 46.

become leading indicators, providing information sooner and allowing better decisions to be made earlier.

Auditors play an important role in this process, but their focus tends to be on dealing with yesterday's issues. Emerging risks might not be considered at all by external auditors or regulators, so internal risk managers need to be more diligent about them. A concern surrounding the use of an audit team to drive the risk framework is that a message is sent to the rank and file that ERM is a compliance exercise rather than something to be embedded for better decision making. For example, insurance regulators in the United States recently developed a Risk Focused Examination process to deal with holistic risk management, yet it generally has low level auditors asking standardized questions about existing business lines without focusing on those that are rapidly growing or experiencing the early signs of a bubble. Very few follow-up questions are being asked, leading risk managers to interpret the process as a checklist exercise.

Markets move like herds. Outliers are discouraged from following a path not consistent with others. Risk management practices are no different. What might be termed fringe practices may not be encouraged at all firms even when shown to add value.

Value Investing

A primary goal of personal investing is independence, the ability to have enough money so you can make your own decisions. Building a framework for consistent investing is a key to success. The most important aspect of this is to be ethical, treating others as you would want to be treated. This builds trust with your partners, investors and others you do business with. According to Warren Buffett, "It takes 20 years to build a reputation, and 5 minutes to ruin it."¹⁷ This lack of investment governance has ruined many a reputation over the years, when someone previously successful lowered their standards to make a quick buck. Insider trading scandals and other fraudulent schemes have been enticing investors for centuries. It is a mark of trust in government when this type of activity is subdued. Investor regulation is cyclical and lagging. Currently the convictions of Bernie Madoff and James Stanford, among others, are providing momentum for federal regulators to beef up the rules. Budget shortfalls are making this a challenge for both federal and state regulators. Bubbles and fraud have led to Sarbanes-Oxley and Dodd-Frank regulations. Both increase costs and have had limited success to date in reducing systemic risk.

Independent thinking is a common element found among successful investors. Following the herd is not conducive to outsized returns. Behavioral finance tells us that the herd is often wrong, and may even provide contrarians with leading indicators that are actionable. A value investor must be willing to appear foolish to the herd when taking the opposite view. Those who stay objective and understand the emotional issues and biases inherent in being a human have a consistent competitive advantage.

¹⁷ Roger Lowenstein, *Buffett: The Making of an American Capitalist* (Random House, 1995), p 111.

In any great organization it is far, far safer to be wrong with the majority than to be right alone.
*John Kenneth Galbraith*¹⁸

Developing a consistent methodology requires value investors to have a theory about valuing investments. A value investor focuses on fundamental analysis, determining the intrinsic value of a firm as a whole and viewing a share of common stock as a small but proportional slice of the overall company. This method can be consistently applied to all types of investments.

Value investors tend to use a multidisciplinary approach sometimes called latticework theory. Benjamin Franklin, in 1749, laid out the principles that led to the creation of the University of Pennsylvania (home today to the famed Wharton School). The focus on a coursework that crossed disciplines and focused on pragmatic lessons was unique for its time.¹⁹ Charlie Munger, a great fan of Franklin's, utilizes this multidisciplinary method when evaluating the financial value of a company.

Mental models utilize experience, rules of thumb and commonality from fields such as physics, biology, the social sciences, psychology, philosophy, literature and decision making. Reading from a broad range of topics will surprise the investor by providing nuggets of wisdom where none were expected to be found. The investor does not need a PhD in each of these areas, but does need to be a lifelong learner and seek out alternative views. Reading only business publications leaves an investor internally focused, and acts much like the man with only a hammer that sees everything as a nail. It also helps the investor to look at the big picture, avoiding insignificant detail. These are distractions keeping an investor from making good, efficient decisions. Many opportunities can be discarded immediately based on strong mental models. This reduces the time required to invest and frees up time to expand the latticework of knowledge through continuing education. Many models are quite complex, and it is easy to get lost in the minutiae. By focusing on the obvious, an investor can quickly filter out many opportunities that are not likely to add value.

Some argue that multidisciplinary approaches are rarely used because they are too hard. While that is true in some cases, another reason they are not used can be traced to behavioral finance. If an investor has a complex financial model for valuing a company, there is consistency and the investor can state that they followed the model. This can be a form of concentration risk, but the incentive (to be hired or retained) is driven by clients wanting to understand what the portfolio manager is doing. Trying to explain how your gut feel led to an investment decision is a much tougher sell.

It is also important that the investor avoid chasing after lost opportunities as part of the investing framework. Every investor makes mistakes of omission, where you miss an investment that later does well. Learn to live with it. Don't obsess over the 20 bagger that you were researching and missed. Instead, be happy that it was on your radar and use that confidence to help as you move

¹⁸ Peter D. Kaufman, *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 341.

¹⁹ Robert G. Hagstrom, *Latticework: The New Investing* (TEXERE LLC, 2000), pp 21-22.

forward. There is always another opportunity. A mistake of commission that causes you to lose capital is much worse.

Comparison – Governance and an Enterprise Risk Management Framework

In 1850 the political economist Frederic Bastiat published a paper titled *That Which is Seen, and That Which is Not Seen*, where he noted the importance of not only considering events and results that could be seen, but also those that did not occur and thus were unseen. For instance, in one example shared in the paper he considers a broken window and the increase in the economy caused by paying someone to replace it. He argues that you should also consider what would have been done with the money if not required to use it to replace the window. He hypothesizes that the money could have been spent on a new pair of shoes, so the shoe maker is worse off and the window maker better off. This paper develops the concept of opportunity cost.²⁰

Opportunity cost is an important concept for both risk management and investing. If you accept a risk, with its resulting return, that means you have not done something else (even if the default is to do nothing). For investors there are always multiple opportunities available and methods of ranking them must be considered. By combining risk and return in any cost-benefit analysis, better decisions are made.

Governance focuses on transparency, consistency and communication for both ERM and value investing. The importance of stakeholders' ability to provide oversight is consistent with the investor's need for information for decision making. That oversight needs to include all areas of the company and consider interactions between risks.

Trends are important to determine where a management team is taking a company. Both a risk manager and investor should constantly be seeking out leading indicators to allow comparative advantage and earlier decision making.

Incentives must be aligned and transparent. Governance will formally discuss any incentive plans, and the risk manager and investor should look closely to make sure these plans align with the needs of other stakeholders. An ancient example comes from bridge design, where Roman designers knew they would be required to stand under a newly completed bridge as a heavy chariot passed over it. Individuals should bear accountability for their actions. When all the members of a team are considered accountable, in reality no one is responsible for the results.

The circumstances of each company are unique. Standardized templates for ERM or fundamental analysis provide an initial pass of risk and return, with additional iterations designed to improve the result based on knowledge of the firm.

It is important to utilize people with varying perspectives to have long-term success. For example, at Berkshire Hathaway, decisions are made in consultations between Warren Buffett and Charlie Munger. Buffett is very focused on business, learning only about the social graces as he had to and with minimal knowledge outside what he needs to know to value a company.

²⁰ Frederic Bastiat, *That Which is Seen, and That Which is Not Seen* 1850 <http://bastiat.org/en/twisatwins.html>

Munger is a strong proponent of the Benjamin Franklin method of studying the liberal arts and combining the best of each into mental models.

3-Risk Management Policy

ERM

“A small leak will sink a great ship.” This quote from Ben Franklin shortens considerably what could be a long conversation about the need to address a small risk so it does not destroy the whole. For those who remember the Andy Griffith Show, Barney Fife’s advice is also useful. Portrayed by Don Knotts, Deputy Fife encouraged dealing with small issues early by commenting, “Nip it in the bud! Just nip it!” Recognizing a potential negative risk early improves the likelihood of successful mitigation. Many scandals and financial disasters started out as small issues and were either left to fester on their own or were covered up. The Watergate break-in was a third rate burglary by the Nixon Presidential campaign to discover information about Democratic opponent George McGovern’s plans. It was not a big deal by itself (however bad an idea it was), but the cover-up eventually led Nixon to be the first US President to resign. His team thought they were performing risk management “triage”, but the truth eventually came out.

Reputation

More recently, in 1998 Penn State University accepted assistant coach Jerry Sandusky’s resignation from the football program. They could have gone to authorities with the information they had related to alleged child abuses, but thought they could control the flow of information. A positive reputation built over a long period was ruined. It will take many years of ethical behavior to rebuild it. A seemingly isolated problem tied to one form of home mortgages nearly escalated into a worldwide economic depression in 2008. Interactions between variables are very hard to identify accurately in advance.

Having a formalized risk management policy, including a discussion surrounding risk appetite with the board, can help leaders get their hands around risk in a consistent fashion. When insurer AIG entered the business of guaranteeing default risk for home mortgages, there was little outside oversight. No one was allowed to question the risks assumed or the model parameters used to estimate the frequency and severity of events. Also going unchallenged were assumptions used by rating agencies to measure the risks inherent in this business.

Considerations

Having a formalized risk policy does not mean that judgment is not involved, but it can force a board to act when their decision making process might otherwise be frozen. For example, during the financial crisis insurers with a formal investment policy statement felt that it forced them to act in ways that were beneficial to the firm when decision makers struggled to get their hands

around the crisis.²¹ Each material and relevant risk identified should be addressed both strategically and operationally, and the risk policy should be reviewed at least annually. The IAA white paper suggests these aspects of a risk management policy statement be considered:

- Philosophy outlining the linkages to value creation
- Relationship between risk management and the firm's mission, values and strategic objectives
- How risk management is embedded in capital management, pricing, reserving and performance management
- Scope of activities
- Supervisory requirements
- Guidelines for integration of acquisitions
- Categories of risk including how they map to internationally recognized definitions
- Define risk terminology used
- Define risk appetite
- Define governance
- Define behavioral expectations of staff (culture)
- Process requirements
- Requirements for Own Risk and Solvency Assessment (ORSA)
- Specific requirements for silo risks
- Process for reviewing and updating the policy

The risk policy need not be so long that it is not read or understood by the organization. Length should be determined by needs, and should be clear and concise.

²¹ Max J. Rudolph and Rick Beard, "Why U.S. Insurers Fared Better Than Banks," *CFA magazine* (May/June 2012). www.cfainstitute.org/learning/products/publications/cfm/pages/cfm.v23.n3.3.aspx

Value Investing

Investment Policy Statement

According to *Managing Investment Portfolios*, the primary CFA syllabus textbook, an investment policy statement (IPS) has two main components. Objectives deal with risk and return, along with the interdependencies between them. Constraints are driven by requirements related to liquidity, time horizon, taxes, legal and regulatory factors, and unique circumstances.²²

*If you tell the truth, you don't have to remember your lies. Louis Vincenti*²³

While an IPS deals primarily with making sure the assets meet the needs of the liabilities, there is another side to an investment policy from the portfolio manager's standpoint. Trust is something that is earned through hard work, patience, ethics and independent thinking. These attributes are more important than being smart.

Time Horizon

The investor who is a lifelong learner, with great curiosity and patience, will understand which opportunities to be comfortable with, which should be passed on, and which are just too hard for the investor to get their hands around. There are many instances when investors leveraged their balance sheet by taking on debt, watched their investments drop and entered a death spiral of margin calls and forced sales. Even if the asset choices made are correct in the long run, leverage reduces the investor's ability to survive that long.

*In the short run, the market is a voting machine; in the long run, it's a weighing machine. Benjamin Graham*²⁴

*Being too far ahead of your time is indistinguishable from being wrong. Howard Marks*²⁵

There is no single, magical, formula that leads to successful investing. Great investors accumulate a base of knowledge and continually add to it. These experiences allow them to recognize patterns that are not seen by others, and sooner. Their curiosity allows them to learn from mistakes and accept constructive criticism as part of the learning process. This leads to

²² John L. Maginn, Donald L. Tuttle, Jerald E. Pinto and Dennis W. McLeavey, *Managing Investment Portfolios: A Dynamic Process. Third Edition* (CFA Institute, 2007), pp 11-17.

²³ Peter D. Kaufman, *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 68.

²⁴ Janet Lowe, *Warren Buffett Speaks: Wit and Wisdom from the World's Greatest Investor* (New York: John Wiley & Sons, 1997). p 96, referencing an article in the November 1, 1974 issue of Forbes.

²⁵ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), p 22.

independent thinking, delving into why something just happened and how it might impact future events.

Filters

These practices lead to the concept called circle of competence. Investment ideas that are inside this circle will be considered for purchase, comparing the intrinsic value against the current price. Ideas outside this circle are not considered. The investor continually tries to expand this circle but is comfortable ignoring those ideas where the companies are too complex or the future is too uncertain. It is an initial filter, reducing ideas being considered to a manageable number.

It's very important for an investor to continually test their assumptions and methods. Introspective modelers will often say that models work until they don't. An investor must constantly challenge their assumptions about the economy and how various assumptions interact.

Evolving Practices

Value investing has evolved over time. Ben Graham focused on cigar butts, while Phil Fisher's GARP (growth at a reasonable price) helped lead Warren Buffett to a strategy of discounting contingent cash flows to generate an intrinsic value for both assets and liabilities. This method is very flexible and allows the investor to move consistently between asset classes.

Charles Darwin, known for developing his theory of evolution, gave priority to evidence that conflicted with current theories.²⁶ In a famous example of fitting data in ever more complex ways to an outdated theory, scholars for many years "disproved" the Copernican view that planets orbit the sun in our solar system rather than an earth-centric view.

Investors should always be skeptical of their models, challenging assumptions and seeking out better tools.²⁷ This process is improved when external input is welcomed and multidisciplinary views are sought out.

Another important consideration in investing is the interaction between risks and events with each other. These higher order effects can drive results in several ways; they can provide diversification (independent risks/events are unlikely to occur at the same time), it might not matter at all, or it can multiply an impact. This often leads to unintended consequences. The investor who can identify these positive interactions in advance will be successful, as will the investor who anticipates correctly negative consequences of separate yet integrated actions.

²⁶ Peter D. Kaufman, *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 146

²⁷ Max J. Rudolph, "Why Every Company Needs a Skeptic," *Huffington Post. The Blog* (June 7, 2011) www.huffingtonpost.com/max-rudolph/why-every-company-needs-a_b_872477.html

Behavioral finance

Academics at one time positioned investors as fully rational beings, while traders had always looked for the patsy as described in books like *Liar's Poker*²⁸ and *Fiasco*²⁹. More recently, thanks to the work done over many years by Daniel Kahneman and Amos Tversky, among others, prospect theory has been able to identify several types of biases in the human condition. This work was recognized with the 2002 Nobel Memorial Prize in Economic Sciences. Kahneman has summarized his life's work in *Thinking, Fast and Slow*.³⁰ Humans make mistakes, mostly without knowing it. They are not rational, but those who are aware of these shortcomings and follow the "measure twice, cut once" adage have an advantage over those who follow their herd instincts. Whether it is overconfidence, anchoring, or mental accounting, most people make these types of mistakes with their money. As further research is done we will learn more, but neuroscience and our instinct to flee from danger has much to do with it.

For investors, temperament is the key. You can't worry too much, do your own research, show patience, and then strike at your target. This process improves when the investor treats school as the beginning of a lifelong journey of knowledge. While understanding finance, accounting and economics is important, investment success depends on mastery of the field of psychology.

The successful investor will keep their internal compass focused on ethical practices, both for themselves and for the companies they own. Some practices are "legal" but make it hard to look stakeholders in the eye. In the long run, an ethical investor ends up ahead. Learning from others is another useful trait. No investor knows so much that they can't improve their practices. An initial winning streak can lead to silo thinking; be aware of and avoid such practices.

Investors should try to perceive a situation in multiple ways, as losing \$50 of \$100 found earlier is really no different than finding just \$50, yet most would be disappointed as the first scenario played out. While Kahneman's book has an academic feel to it, *Why Smart People Make Big Money Mistakes and How to Correct Them* by Gary Belsky and Thomas Gilovich presents many of these same arguments in an easily read form.³¹ Many of the studies were performed years ago, yet few investors utilize these techniques today. Those who do also understand parables like that of Mr. Market. Even Isaac Newton, who developed laws of motion but lost money in the South Sea Bubble and tried his hand at alchemy, seems to have understood behavioral finance at its root. "I can calculate the movement of the stars, but not the madness of men."

²⁸ Michael Lewis, *Liar's Poker* (Penguin Books, 1989).

²⁹ Frank Partnoy, *FIASCO* (Penguin Books, 1997).

³⁰ Daniel Kahneman, *Thinking, Fast and Slow* (Farrar, Straus and Giroux, 2011).

³¹ Gary Belsky and Thomas Gilovich, *Why smart people make big money mistakes and how to correct them: lessons from the new science of behavioral economics* (Simon and Schuster, 1999).

Emotional Finance

The professional investor deals with risk and pressures that go well beyond tracking error or the likelihood of underperforming their benchmark. They are part of a business that gets paid based on assets under management, so they have both business risk (loss of clients) and career risk (getting fired). Independent thinking and non-conformity can lead a portfolio manager to be ostracized. According to recent research by David Tuckett and Richard Taffler³², telling stories allows an investor to use standard themes to explain their results. These stories often involve grading management before the fact and explaining how management either let them down or fulfilled their expectations. They are found even for those investors who profess to take emotion out of their decision making by following an investment process. Sometimes facts are ignored when telling these stories and the job seems to turn into one focused on marketing to maintain and grow assets. This can be challenging as long time horizon clients turn into short time horizon clients when returns are poor.

These stories allow portfolio managers to move forward prospectively even after poor decisions play out. The paper suggests replacing common terms associated with investing like greed, fear and hope with excitement (potential gains), anxiety (potential losses) and denial (driven by ambivalence). This research involved interviewing over 50 portfolio managers, and does not seem to include any who focus on technical analysis.

*Our institutional clients sometimes define risk as tracking error; they're looking to maximize their information ratio. Yet, you can maximize your information ratio and minimize your tracking error and drive your portfolio right off a 40% cliff. In that case, it is about "career risk", right?...To me, the definition of 'risk' is not standard deviation, it's not volatility, it's not beta; it's what your risk of a meltdown is. What's the risk that you dig your client into a hole large enough that they never recover, they never get out of it? That's risk!*³³

Neuroscience

It is possible that eventually behavioral finance, emotional finance and neuroscience will merge and become one discipline combining the hows and whys of finance into one clear biological explanation. In the meantime scientists continue to conduct experiments where the brain is mapped as decisions are made. It is a natural extension of the Kahneman/Tversky work on prospect theory that showed what biases humans possess. Some of the interesting, yet scary,

³² David Tuckett, and Richard J. Taffler, *Fund Management: An Emotional Perspective*, Research Foundation of CFA Institute, 2012.

³³ David Tuckett, and Richard J. Taffler, *Fund Management: An Emotional Perspective*, Research Foundation of CFA Institute, 2012. Page 69 attributed to an interviewed portfolio manager.

tidbits recently recognized have been reported in a book, *Your Money & Your Brain*, written by Wall Street Journal columnist Jason Zweig.³⁴ Here are a few to ponder.

- Financial losses are processed in the same areas of the brain that respond to mortal danger. (page 6)
- We rely too heavily on the short-term past to forecast the long-term future. (page 55)
- We recognize patterns where none exist. (page 61)
- We are overconfident. (e.g., 93% think they are above average drivers in one study, pages 85-86)
- Many of the world's best investors treat their own feelings as reverse (contrarian) indicators. (page 173)
- Choice overload is nothing but trouble. (page 201)

Comparison – Risk Management Policy

Having a policy that says what you will do and when you will do it can provide consistency to a process and formally state the importance of ethics. This can guard against reputation risk for a company or help an investor avoid hits to market value by observing their reputational risk.

For either ERM or investing, becoming a lifelong learner and evolving practices over time will be best practice. This requires skepticism of your own practices as well as challenging others. Models work until they don't. This is true not just of quantitative models, but also mental models that involve qualitative metrics and experience.

Reviewing management practices and walking away is an option for investors but not for risk management practitioners as they don't control capital flows.

Goals based on time horizons change based on the current environment and other factors such as age and wealth, much as risk appetite varies based on the specifics of the individuals involved. Psychologist D.G. Pruitt describes the “Walter Mitty effect” as it applies to risk appetite (in James Thurber's short story titled *The Secret Life of Walter Mitty*, Mitty is meek in real life but a courageous hero in his daydreams). According to Pruitt, a stock market increase leads to bravery and investors take on additional risk. The opposite occurs when the stock market goes down and investors scramble for the exits and hide. This leads to buying high and selling low.³⁵

³⁴ Jason Zweig, *Your Money & Your Brain* (Simon & Schuster, 2007).

³⁵ Robert G. Hagstrom, *The Essential Buffett* (John Wiley & Sons, 2001), p 210.

Despite being overconfident, inexperienced portfolio managers tend to herd, staying close to their benchmark and forfeiting the higher returns that could come with intelligent, contrarian choices. This is comparable to the anchoring bias recognized in risk managers. Only bold risk managers and investors identify outliers and communicate them.

4-Risk Tolerance Statement

ERM

Risk tolerance is about which risks to take and why, not just how much risk to take. The key features associated with a risk tolerance statement in the IAA paper are tied to a risk budget and tying risk into the firm's strategy. Quantitative and qualitative tools are used, and dependencies between risk categories are considered. Levels of risk should be considered in strategic plans affecting the longer term direction of a company and embedded in ongoing operations.

While the risk manager is involved in the process of setting risk tolerance levels, it is the board that has ultimate responsibility. This discussion incorporates time horizon that matches risk tolerance with the corporate strategic plan. Risk tolerance levels should be stable, remaining unchanged with most annual tactical updates.

Risk tolerance is defined as a higher level statement of exposures reflecting the board's comfort with risks accepted. Risk limits, on the other hand, are tactical measures associated with the firm's business plan. Limits can be considered the day-to-day language used to implement a risk tolerance level.

Risk tolerance for an insurer might include discussions about acceptable lines of business, volatility of earnings, capital requirements (minimums and buffers), exposures, and principles for decision making (go or no go, pricing considerations like taxes and capital).

Limits focus on silo risks, considering outcomes due to counterparty risk, exposure concentrations, reserve targets, liquidity risk, asset class and derivative restrictions, and operational risk considerations.

Firms should utilize Key Risk Indicators (KRIs) that are proactive and forward looking. Sometimes these are called Key Performance Indicators (KPIs) or leading (vs. lagging) indicators. They should be careful not to outsource decision making, undertaking their own analysis to confirm work when completed by others. The opportunity cost of choosing one alternative over another is also considered within the risk tolerance statement.

Value Investing

Efficient Markets

Unless the investor has a belief in the strong form of the efficient market hypothesis (EMH), where price has already taken into effect all information of a company including insider information, knowing how much risk you expect is important to an investor. The EMH has

several versions, and the value investor might utilize a version of the weak-form version that historical information is incorporated, or the semi-strong form that incorporates fundamental information.³⁶

The EMH discussion often focuses on whether some investors can beat market rates of return once you have accounted for risk. Stock market bubbles burst after being driven by technology companies in the late 1990s and the general economic collapse in 2008. In both there were some investors who voted against the market consensus with their pocketbooks and won. These events left more convinced that markets are not always efficient. This debate has been going on for many years and will surely continue. While academic programs are generally based on efficient markets, practitioner credentials like those from the CFA Institute are more balanced and include various tools to calculate intrinsic values.

Efficient market proponents argue that an investor should determine the level of risk they can tolerate, utilizing asset allocation tools to meet their objectives. They suggest that index funds are the best form of asset exposure to have as the fees are lowest, and that asset allocation tools and distribution of asset classes provide the desired risk-return combination.

SuperInvestors

In 1984 Columbia University sponsored a seminar based on the 50th anniversary of Graham and Dodd's *Security Analysis* text. On one panel Michael Jensen, then at the University of Rochester but since 1985 at Harvard, represented efficient market advocates. He argued that someone could beat the market over a short time period based on randomness of returns and small sample sizes, but that you could not select portfolio managers in advance who would generate higher than overall market returns over time.³⁷

Representing what he called the SuperInvestors of Graham-and-Doddsville was Warren Buffett. Arguing that the academics had ignored a major argument against efficient markets, he presented the results from a group of investors who had been trained to use the tools developed by Benjamin Graham and had beaten market returns over a long time horizon. The academics argued that, given enough monkeys throwing darts at the Wall Street Journal, some would beat the mean. Buffett pointed out that he had identified a group with similar backgrounds, in advance, who had done so. It would be like postulating that a random monkey could write a Shakespearean play if there were enough monkeys, but then finding out that the ones who had done so all lived in the same zoo. Researchers would certainly be interested in what was different about that zoo.³⁸ In this case Graham created the intellectual theory, but each investor worked

³⁶ Zvi Bodie, Alex Kane, and Alan Marcus, *Investments* (McGraw-Hill/Irwin, 2005), Chapter 12 page 373

³⁷ Alice Schroeder, *The Snowball: Warren Buffett and the Business of Life* (Bantam Books, 2008), p 529.

³⁸ Warren E. Buffett, "The SuperInvestors of Graham-and-Doddsville," *Hermes* (Columbia Business School magazine) 1984 pp 4-15 http://www4.gsb.columbia.edu/null?&exclusive=filemgr.download&file_id=522

independently and there was little overlap between the portfolios. Efficient market advocates have developed a range of mathematical tools like beta, covariance and the capital asset pricing model (CAPM). Value investors focus on price and intrinsic value. Their interest in CAPM would be to better understand the thinking of the person they are trading with. Some prefer a concentrated portfolio and others lean toward diversification, but all work independently and are willing to take contrarian positions. Interestingly, several of these SuperInvestors began their funds at an inopportune time (e.g., the early 1970s) and performed poorly for an initial period of 3-6 years.

Warren Buffett is often called the greatest investor of his generation, if not all-time. His methods do not utilize complex models or insider information. Early in his career he had little money but instituted a process that has been successful for many years. David Merkel, who writes *alephblog*, has written about this process. The seven ways that “Buffett is different” are noted in Appendix VII, and provide a good context for comparison with other investors.

Risk Definitions

So what does a value investor talk about when asked about risk? Driven by calculating value and comparing against price, the more value exceeds the current price the lower the risk. What is the fundamental value of the business? Under CAPM, where a higher beta represents a higher risk relative to the market, a reduction in price would increase the perceived risk because it would increase measured volatility. This seems an anomaly to value investors. Of course this assumes no change in circumstances for the company. There may be a good reason why the price has gone down. Many times there is not and the reduction is due strictly to market forces, yet the perception is that a lower price is bad. The value investor requires a large margin of safety to proceed. Buffett shared an example in the SuperInvestors article that he has repeated many times since about the price of the Washington Post’s stock in 1973. The company’s market value quickly dropped by 50%, from \$80 million to \$40 million, despite his calculation of a \$400 million value (by 1984 the market value was \$2 billion). This would seem to lower the actual risk, yet the beta calculation increased, telling investors that the stock was more risky after the reduction.

Buffett makes an interesting point in the article that seems to be true today. “I’ve never seen anyone who became a gradual convert over a ten-year period to this approach...It is instant recognition, or it is nothing.”³⁹

Example: Berkshire Hathaway

One person who is a solid adherent to value investing and never has a good word to say about CAPM or the academics who teach it is Charles T. Munger. Charlie is Vice-Chair at Berkshire

³⁹ *ibid*

Hathaway and ran a highly successful private partnership before that. While Buffett is better known based on his annual reports to shareholders and for hosting the annual “Woodstock for Capitalists” meeting in Omaha (with Munger as his sidekick), Munger is also a prolific teacher and many come to Omaha each year just to learn what he has been reading in his spare time. Until recently he performed solo at the Wesco annual meeting, but the company is now a wholly-owned Berkshire subsidiary so the event was discontinued. He has also presented at several academic venues that have been recorded and transcribed, often by *Outstanding Investors Digest*. One of his favorite words is lollapalooza, which appears to translate as a synonym for positive contagion. When the stars align and sales take off due to multiple things going right, this is the lollapalooza effect. It is represented by a model from chemistry where reactions can speed up given the proper ingredient boosts. It is important when thinking about risk and investing, understanding that risk can also mean opportunity and a reminder that all great success stories reflect risks that were accepted and allowed to grow.

A 2012 paper claims that Berkshire Hathaway’s returns can be explained with leverage and buying low beta high quality stocks, as if that was obvious before Markowitz wrote his famous paper defining the Capital Asset Pricing Model (CAPM).⁴⁰ Perhaps this paper, and a companion paper from 2011,⁴¹ will help academics come to understand that it is not high risk opportunities that lead to high returns but rather being able to outperform others accepting comparable risk levels.

Lessons from a Candy Store

One of the great investment lessons learned at Berkshire Hathaway was taught through the acquisition of See’s Candy, now a nationally recognized brand with strong mail order sales and kiosks in airports around the country in addition to its California roots. Prior to its acquisition, many of Buffett’s purchases were the cigar butts of Benjamin Graham, his Columbia University professor and boss early in his career at Graham-Newman. The investors would find a company selling for very little relative to book value, much like a cigar butt with only a few puffs left. You could get some profits out of it in the short run but did not expect it to be around for very long.

See’s was a different story, incorporating growth into the investment decision. It was acquired for \$25 million, about three times book value, based on less than \$5 million annual profit before tax. By 2011 the firm’s pre-tax profits were \$83 million per year and the cumulative pre-tax profits since acquisition were \$1.65 billion. Buffett noted in his 2011 annual shareholder letter that this is with no invested capital (net of cash on hand).⁴² The idea of paying up for a business

⁴⁰ Andrea Frazzini, David Kabiller and Lasse Pedersen, *Buffett’s Alpha*, August 2012.

⁴¹ Andrea Frazzini and Lasse Pedersen *Betting Against Beta*, October 2011.

⁴² Berkshire Hathaway Inc., *2011 Annual Report*, <http://www.berkshirehathaway.com/2011ar/2011ar.pdf> (March 2012) p 14.

with growth opportunities is similar to Phil Fisher's GARP, growth at a reasonable price, and is how value investors generally evaluate opportunities today. It was a new definition of risk, moving beyond book value calculations to generate the value of a firm prospectively using assumptions about future growth potential to drive cash flows. This is more challenging mathematically, but has advantages in that it takes less time, energy and money to manage a good business than one that is struggling.

See's growth comes from internal generation of cash flows (profits) and is steady and reliable. It is sustainable. If you end up with a cash cow that does not have profitable growth opportunities, it can still be a good investment, but you must take capital and profits from the cash flows and reallocate them elsewhere. Many think this is the strategy Berkshire uses with the Buffalo News and other newspapers with local monopolies, cutting costs and collecting the profits. This is consistent with the Berkshire dividend policy. No dividends are paid because it is assumed that Buffett, the master capital allocator, can generate a higher return than shareholders on their own. Comparing the return of the S&P500 (with dividends) and Berkshire's book value, that has proven true. Annual outperformance since (geometric mean) has been 10.6% (19.8% BRK vs. 9.2% index).⁴³ Buffett has commented that this methodology change with the See's purchase is what led their team to buy Coca Cola stock and similar companies since that time, often using the float created from casualty insurance businesses as a cheap method to add mild leverage.⁴⁴

What Buffett retained from Graham's teaching was the importance of knowing your risk tolerance, building in a margin of safety around any calculations (using mental math or being more precise), and a detachment from the daily gyrations of the herd as reflected in the Mr. Market parable as described in *The Intelligent Investor*, written by Graham and originally published in 1949.⁴⁵

From Phil Fisher, Buffett learned how to consider a firm's strategy and how it impacted their likelihood of success in the future. As with all successful investors, Fisher spent time learning from his mistakes. He stresses patience, allowing time to let the positive features of an investment opportunity play out, and contrarian thought to find investments unpopular with the investment herd. His perception of risk is based on knowledge. The more he knows about a company the lower he views the risk. In Appendix II Fisher's list of questions about a company are listed. These questions combine risk and reward, asking how a particular company compares with others in that specific industry. They form the backbone of Fisher's writings and appeared in his 1958 classic *Common Stocks and Uncommon Profits*.⁴⁶

⁴³ Ibid

⁴⁴ Janet Lowe, *Damn Right!* (John Wiley & Sons, 2000), Chapter 11.

⁴⁵ Roger Lowenstein, *Buffett: The Making of an American Capitalist* (Random House, 1995), p 201.

⁴⁶ Philip A. Fisher, *Common Stocks and Uncommon Profits and Other Writings* (John Wiley & Sons, 2006), Chp 3.

In another investment classic, John Train details the expertise of nine great investors in *The Money Masters*.⁴⁷ At the end, in chapter 10, he compares their methodologies and finds each unique yet using methods overlapping with other successful investors. Some are willing to buy a successful, growing business and then show patience as it builds over a long time horizon. All consider some form of intrinsic value, but each has their own way of doing so. Benjamin Graham's methods are mathematically pure, but with the advent of computers it is relatively easy to identify cigar butts and they get bid up. Others seek out a margin of safety that allows them to be patient. Based on the publication date of Train's book, before the hedge fund era started, this was not a focus but each investor studied avoids significant leverage. The successful investors in today's markets make sure they have a depth of knowledge about a company and its industry, but not all visit company management. Buffett in particular is said to think like a businessman rather than a mathematician (Graham is listed as an example of the mathematician) about a company's future. An investor should follow as many companies as they can while being sure to know more about the company than the person they are trading with. This can be generalized to a circle of competence, where previous knowledge must pass a threshold not to be labeled "too tough to understand".⁴⁸ This creates a boundary that the great investor does not step outside of. Technology companies are thought by many to be too difficult for the layman to understand, although the next generation of investors will be more knowledgeable on those topics. Thomas Watson, Sr., famed for growing IBM into a business behemoth, said "*I'm no genius. I'm smart in spots, and I stay around those spots.*"⁴⁹

Methods

One comment to note is that "Graham thought mathematically, like a banker, not a businessman."⁵⁰ *The Money Masters* was first published in 1980, and it is interesting that bankers would be considered strong mathematicians. It may be that this has changed in the 30 years since then, as bankers seem more likely today to use black box models designed by physicists and focus more on top line growth like salesmen. There does not seem to be the mathematical depth in the banking industry that perhaps was once found there. MBA degrees do not focus on spreadsheets as that is considered below their talent level by many of the students.

One way to think about the disciplined mathematics of investing is how the investor views time horizon in their calculations. At opposite extremes sit those like Graham, who quantify the present and refuse to be distracted by the future, and romantics who look either too far or not far

⁴⁷ John Train, *The Money Masters* (Harper & Row, 1980).

⁴⁸ Peter D. Kaufman, *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 53.

⁴⁹ Ibid.

⁵⁰ John Train, *The Money Masters* (Harper & Row, 1980), p 209.

enough into the future. This impacts assumptions for future cash flows as well as riskiness as reflected in the discount rate. Time arbitrage is when the investor travels against the flow, in the opposite direction of the herd, in order to make a long-term investment. Buy low. Hold for a long time. This is value investing in a nutshell.

Great investors don't always agree on methodology. The driver between growth and management is debated. Does growth attract good management, or does good management generate growth? Their methods also differentiate between high growth and solid growth.

Overall, the investors described by Train are all thorough and realistic. They are sellers when the market is exuberant and buyers when the market is in panic mode. He lists five traits that seem to be common among the investors he has detailed. They are

1. Realistic
2. Intelligence to the point of genius
3. Dedicated to the craft
4. Disciplined and patient
5. Loner

How do investors you respect grade out on this report card?

Comparison – Risk Tolerance Statement

Risk tolerance is at the core of enterprise risk and return management, providing a constraint that allows strategic decision making to proceed. This filter is also used for investing in two ways. One is the entity risk tolerance, and is applicable whether it is an individual or institution. The other is the risk tolerance as applied to either a potential solo investment or in portfolio management. Making sure there is a margin of safety to provide conservatism is a concept used in value investing to combine valuation methods in a singular approach across all securities⁵¹ that would fit just as easily in a risk manager's job description. The five traits John Train developed for successful investors is also applicable to a successful risk manager. He must be realistic, intelligent, dedicated, disciplined, patient, and often take unpopular positions. This is the person often viewed as saying "No", but in reality can be utilized to help a management team figure out how to say "Yes" to an opportunity. The risk manager will have ideas about how to mitigate a concentrated exposure or risk that balances an exposure previously accepted. This ties risk tolerance to the strategic plan, considering both the level of risk and the level of return.

Risk is something that should be respected. The analyst who does not respect risk will not make optimal or well thought out decisions. The analyst should expect to be compensated for accepting risk, and a market that is not afraid of risk will not be compensated for accepting it.

⁵¹ Robert G. Hagstrom, *The Essential Buffett* (John Wiley & Sons, 2001), p 56.

This happened prior to 2008 as risk aversion dissipated and spreads narrowed on risky activities leading up to the financial crisis. These conditions should be monitored as an asset bubble early warning sign.⁵² It really is not “different this time” as the saying goes. When prices go up driven by leverage, everyone has an investment tip and complex asset classes are sold as safe. These are leading indicators of trouble on the horizon. Skepticism should always be present, in both directions. It is not a synonym for pessimism. The analyst should beware of over-pessimism as well, instilling a higher level of optimism than the consensus during a crisis.

Charles Kindleberger, an economic historian, segments a bubble into five stages:

1. Displacement – change creates opportunities
2. Euphoria – expectations drive prices higher
3. Mania (bubble) – prices go overboard, drawing neophytes and swindlers
4. Distress – insiders take profits
5. Revulsion – outsiders stampede, bursting bubble⁵³

Risk tolerance would be constant across environments (although varying as personal circumstances change) if humans were rational at all times, but we’re not. Having a formalized risk policy statement can help a board recognize that the group’s tolerance for risk has changed from stable times, when such issues are discussed, and chaotic times, when they are needed. During a crisis the risk tolerated by most people will go down, ignoring the adage that you should be greedy when others are fearful.

Another similarity between ERM and value investing highlighted by risk tolerance is that of transparency and the efficient market hypothesis (EMH). EMH has three forms, from the weak form that includes only historical price data (technical analysis) to the semi-strong form including all public information (fundamental analysis) to the strong form that includes even insider knowledge (illegal, fraudulent). These are varying forms of transparency as reflected in the current price. The discount rate used in calculating present values for intrinsic value and economic capital calculations is another form of transparency, reflecting the uncertainty of the underlying cash flows.

Developing a set of leading indicators for key risks is important to risk managers and investors alike. Anyone identifying a changing trend or new variable first has a competitive advantage. The story about the SuperInvestors of Graham-and-Doddsville illustrates that a disciplined investor who is willing to be an outlier can generate results that are better than average.

⁵² Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), p 47.

⁵³ Graydon Carter, (editor). *The Great Hangover. Wall Street Lays Another Egg* (HarperCollins, 2010). Niall Ferguson. p 57.

5-Risk Responsiveness and Feedback Loop

ERM

Various descriptions of control cycles include a feedback loop, where actual results are compared to expected ones and adjustments are made. This is especially important in an ERM feedback loop, where continued adherence to a poor risk strategy can mean disaster. External environments change, and internal adjustments are required as a risk profile evolves. Assessments need to be objective, as time impacts a risk profile. Looking back focuses on unexpected losses, searching for the root causes of the incidents and issues. The present views movements in key risk indicators, looking at trends to find impacts. Looking forward is where having the skill set is rare, using periodic risk assessments of activities, new initiatives and strategies to compare against established thresholds and escalation protocols, along with external events and the interactions between them. Risks must be aggregated across all business lines to consider risk limit breaches.

Emerging Risks

Emerging Risks are difficult to deal with due to various constraints. The time horizon of the typical management team and regulator is too short to consider how a risk might grow over time periods longer than five years. The risk manager will have time constraints and needs to fight against a natural inclination to focus on the present.⁵⁴ Behavioral finance practitioners term this the anchoring effect. Risk managers that recognize this tendency are more likely to overcome it. Emerging risks are two sided, with negative connotations of risks with a high loss potential as well as opening up business opportunities to provide a competitive advantage.

Emerging risks tend to be highly uncertain and difficult to quantify. The risk manager may be considered a “chicken little”, reporting multiple emerging risks for every one that occurs. Management teams need to figure this out as resources are limited, yet some emerging risks are likely to have material consequences.

Scenario Planning

Scenario Planning is a time intensive exercise, going far beyond scenario or stress testing (primarily a modeling tool). It can involve workshops, simulations or think tanks. These are designed to force management teams to consider issues not normally part of their day-to-day activities. A benefit from business continuity management is the consideration of risk and the resultant understanding of the planning flexibility necessary to be successful. A primary goal is to ensure survival under negative outcomes rather than guaranteeing maximum returns in favorable times.⁵⁵

⁵⁴ Max J. Rudolph, “Challenging the Herd,” *The Actuary* (August/September 2010): pp 12-14

⁵⁵ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), p 139.

Value Investing

*Outstanding investors, in my opinion, are distinguished at least as much for their ability to control risk as they are for generating return.*⁵⁶ Howard Marks

Ben Graham knew the difference between an investor and a speculator. Much of his understanding is attributed now to emotions and psychology, often part of today's behavioral finance research. While skills are important, Graham attributed temperament as key to being a true investor. In his mind true investors are calm (ignoring the mob's herd instincts), patient (wait for your pitch), and rational (fearful when others are greedy and greedy when others are fearful).⁵⁷

Mr. Market

The market provides continuous feedback to an investor or trader. Meet Mr. Market. In this oft-told parable attributed to Benjamin Graham, every day (actually continuously) he knocks on your door and offers a market price for a share of stock. If you have calculated the intrinsic value of the company, then you have an opinion regarding a reasonable price. When Mr. Market is exuberant and offers much more than your intrinsic value number you can choose to sell, and when he provides a very low result then you offer to buy. The value investor, with a long time horizon, understands that Mr. Market is there to serve you.⁵⁸

Feedback

A value investor encourages those around him to be skeptical of ideas and act as a devil's advocate who challenges assumptions and conclusions. This helps understand the drivers behind a company's success, and enables the investor to find hidden exposures unknown to others not willing to invest the time or focus. This is one reason why few firms are able to remain successful across multiple generations. The children do not have the same drive and focus to succeed that was present in their less well-off parents. Even though such actions add value over time, it can be a career ending move to suggest anything but positive feedback to an idea. Many acquisitions have been made in error due to this type of limiting culture.

Peter Lynch, former head of Fidelity Magellan mutual fund and one of the most successful investors in history, allotted three minutes for analysts to convince the investment committee about the merits of a stock. He did not want to invest in companies where the basic investment concept was so complicated that it took a long presentation to explain. A good idea should use simple language quickly enough to engage a 5th grader.⁵⁹

⁵⁶ Ibid, p 57.

⁵⁷ Robert G. Hagstrom, *The Essential Buffett* (John Wiley & Sons, 2001), pp 199-201.

⁵⁸ Janet Lowe, *Warren Buffett Speaks: Wit and Wisdom from the World's Greatest Investor* (New York: John Wiley & Sons, 1997). p 95.

⁵⁹ Peter Lynch, *Beating the Street* (Simon & Schuster, 1993), p 105.

Feedback, however constructive, is often received poorly. John Kenneth Galbraith, the eminent economist, said “*Faced with the choice between changing one’s mind and proving there is no need to do so, almost everyone gets busy on the proof.*”⁶⁰ The investor confident in their own beliefs, and a lifelong learner, will acknowledge their mistakes and learn from them. The best investors spend more time debriefing their failures than celebrating their successes. Charlie Munger states it quite clearly with “*Any year that you don’t destroy one of your best-loved ideas is probably a wasted year.*”⁶¹

The experienced analyst, both the risk manager and investor, needs to be perceptive and think beyond the initial level of information. By looking beyond the fact set to determine what the drivers might be, a perceptive analyst will consider what Howard Marks calls second-level thinking. This analysis is deep, convoluted and complex. First-level thinkers expect the world to operate in a simple, direct, straight line. Second-level thinkers spend time thinking about interactions, likelihoods, and the possibility that I might be wrong. What hidden risk am I missing? What could happen?⁶² What do I know that is not already built into the consensus view? It is a rare trait to possess. You can find more examples in Appendix I.

Flexibility

A key to investment success is to be able to look further out than others do. There are few companies a value investor will never invest in, but understanding general characteristics of a company and its industry can allow prioritization of ideas. For example, if future capital expenditures eat up future cash flows or you are highly leveraged, it takes just one misstep to lose everything. Compare this to a cash cow investment that pays you steady returns with little hope of future reinvestment. Comparing these alternatives against current options, citing the opportunity cost, incorporates returns as well as risks in the calculation.

This doesn’t mean the plan does not require occasional adjustments. Shortly after purchasing the Detroit Pistons NBA franchise, new owner Tom Gores (chairman and CEO of Platinum Equity) shared his vision with the team’s fans. “*I have a philosophy. Plan on it but don’t count on it. That’s how we’re gonna run this place. If the world changes, we’re gonna adjust. We can’t control everything, but we can be prepared.*”⁶³ This flexibility reflects his investment style, where his firm owns a variety of businesses ranging from technology to equipment rentals, and now includes a professional basketball team.

⁶⁰ Peter D. Kaufman, *Poor Charlie’s Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 44.

⁶¹ Ibid.

⁶² Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), pp 3-4.

⁶³ Mitch Albom, *Detroit Free Press* (June 5, 2011) p 3C.

Comparison – Risk Responsiveness and Feedback Loop

Flexibility and adjusting a strategic or tactical plan when necessary is the mark of a strong and confident management team. As more information becomes available, better decisions can be made. This is true for life experiences in general, so certainly is true for ERM and investing. Using a feedback loop to incorporate leading indicators and provide oversight brings out the best practices of both disciplines. Being intuitive and adaptive in your investing approach rather than fixed and mechanistic allows the art of investing to shine through.⁶⁴

The world does not stand still. Both our physical world and economic world evolve. The earth continually uses plate tectonics to move land masses around, building itself up, and erosion to tear itself down. Regulatory actions are both lagging and mean reverting. During the economic depression of the 1930s regulations were built up, then were gradually dismantled across decades by free market enthusiasts. The current environment is again one of increasing regulatory burdens. Risk managers and investors need to be aware of this evolving landscape as they consider alternative futures.

A large cash position is comparable to holding a call option on future opportunities, providing additional flexibility. Those who have cash are sought out when investors are fearful and bargains are available.

Flexibility is also found and experience gained through scenario planning, stress testing and debriefing historical events. This does not have to be quantitative, although it could be. The risk manager has the insider information needed to build models while the outsider investor has to combine any models with a margin of safety due to the lack of full transparency.

The anchoring bias seen in ERM practitioners compares to the herd mentality seen in investors. Those who recognize these tendencies as shortcomings are more likely to overcome them.

Emerging risks are important to an investor looking to incorporate future risks and opportunities into cash flow estimates. For a risk manager the focus is more on identifying risks to avoid, but the process is the same. Keeping an eye out for new developments and how they might impact a strategic plan takes time to embed in your routine, but it will pay off in the long run.

While utilizing time arbitrage is likely to provide a comparative advantage for both the risk manager and investor, neither should operate with an assumed holding period of forever. The market will provide instant feedback for investors and risk managers of publicly traded firms. The concept of lifelong learning feeds nicely into the longer time horizon discussion.

Leverage, also called gearing, is when an investor or company borrows money so they can accept an opportunity offered to them. Although this is a normal form of business, the investor must remember the quote attributed to John Maynard Keynes when markets seem to be out of sync and opportunities abound.

⁶⁴ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), p 2.

*The markets can remain irrational longer than you can remain solvent.*⁶⁵ John Maynard Keynes

This is excellent advice that many wish they had followed. An excellent review of this concept is found in Roger Lowenstein's *When Genius Failed*, where some of the smartest men in the world assumed markets would mean-revert before their chips came due. This is the story of Long-Term Capital Management, a hedge fund that nearly froze up the world's economic system before being saved by a consortium of banks organized by the US Federal Reserve Bank.⁶⁶ Myron Scholes, Nobel Prize winner and LTCM board member, eventually recognized this risk. "My belief is that because the system is now more stable, we'll make it less stable through more leverage, more risk taking."⁶⁷ Busts inevitably follow booms.

*To buy when others are despondently selling and to sell when others are euphorically buying takes the greatest courage, but provides the greatest profit.*⁶⁸ Sir John Templeton

Leaders should be well versed in the language of risk. They should encourage unwelcome news as they are likely to figure it out anyway, and this reveals the information earlier for decision making purposes. The investor can view leaders and how they react to underlings and shareholders to better understand the risk culture at the firm.

The investor who understands the implications of a new technology can do well. A retail merchant bought an early cash register and saw that it reduced employee stealing recognized that cash registers were the business to be in and started National Cash Register (NCR).⁶⁹ In a 1990 discussion, a group of value investors (including many of the SuperInvestors described earlier) debriefed previous strategic failures like Sears and IBM during the 1960s and why they did not have a durable competitive advantage. As the discussion naturally turned to consider future risks, Bill Gates recognized the impact of the Internet and digital technology on a company like Kodak. If only he had been their risk manager...⁷⁰

The analyst should understand that they have added value if they can improve the relationship between risk and return. If they earn high returns for an average amount of risk, or average returns for a low amount of risk, they have succeeded. These choices should be tied to a chosen

⁶⁵ Ibid. p 30.

⁶⁶ Roger Lowenstein, *When Genius Failed: The Rise and Fall of Long-Term Capital Management* (Random House, 2000).

⁶⁷ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), p 46.

⁶⁸ Ibid. p 91.

⁶⁹ Peter D. Kaufman, *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 177.

⁷⁰ Alice Schroeder, *The Snowball: Warren Buffett and the Business of Life* (Bantam Books, 2008), p 625.

level of risk tolerance. Those who succeed generally do not try to hit a home run every time up. Slow and steady, while controlling risk, often generates successful results.

6-Own Risk and Solvency Assessment (ORSA)

ERM

When a company thoughtfully considers each material risk it has accepted, this encourages a consistent process for dealing with risk. The company's solvency position both now and in the future should be considered when completing an Own Risk and Solvency Assessment analysis. ORSA is an extension of a firm's ERM process, considering business objectives and risk tolerance to generate a risk profile.

Risk Profiling assesses both inherent risk, prior to any actions taken to reduce the risk (gross), and residual risk, taking into account any risk mitigation efforts to reduce likelihood/frequency or impact/severity. Looking at both inherent and residual risks can help a risk team analyze the susceptibility to counterparty risk, for example if a reinsurer were to become unable to pay. It also helps identify ineffective controls (when net is not much less than gross exposure) and over-controlled risks (when inherent risk is already low so risk mitigation strategies add little value).

New insights and awareness can be gleaned from risk profiling due to a focus on consistency, transparency, efficiency, knowledge learned, and creating a proactive culture. At the same time, a company can't be managed well if all that is considered are worst case assumptions.

A consistent risk profile includes a risk description, underlying conditions, consequences, categorization (mapping to allow risk aggregation), assessment of the inherent risk, controls and residual risk, along with an action plan developed to manage risks to desired levels.

Some risks, such as management capability and the nature of the business, are better managed with qualitative assessments than quantitative ones. The risk manager must not allow the risk profiling process to become stale or more than a tool of management. Its goal should be to provide information about significant, or material, risks that incorporates current levels of risk as well as trends in a living document. Potential and emerging risks should also be incorporated in the report to management. Each generation of the process should visit potential improvements as well as discuss emerging risks and risk profile changes.

A number of Risk Modeling techniques are available to the risk team, some of which are regulatory requirements, and others incorporate metrics like tail value at risk (CTE – conditional tail expectations), internal loss data or simulations. Risk managers should always look at data visually to look for trends and instances where data is not suitable for certain statistical analysis.

A concern for insurers is if ORSA, using one-year risk models, will cause long time horizon risks to seem more attractive based on the model selected.⁷¹ This happened prior to the recent

⁷¹ David Ingram, *Risk and Light*, <http://www.ermssymposium.org/2009/pdf/2009-ingram-risk-light.pdf> (April 2009), p 18.

financial crisis as regulatory models did not capture liquidity risk, so market participants seemed to be getting something for nothing. Models evolve in their complexity to fill in past holes, but leaks seem to always remain. Models should be viewed skeptically with common sense to anticipate these shortcomings.

Emerging risks can be dealt with in isolation from others or in a way that encourages an entire industry to include the possibilities in their pricing models. This can be a useful method, as including a risk not considered by the competition leaves them bankrupt in the long run but generates no sales for your firm. Surprises will happen. Planning for unknown occurrences can provide a comparative advantage.

Value Investing

For investment professionals (and amateurs), modeling is much more flexible. Regulators might provide standards for model assumptions and scenarios, but investors can treat this as interesting information or ignore it. They don't have to do the work and can reflect on the underlying exposures and whether the models provide a reasonable reflection of potential results. Scientists follow a process to help uncover unknown truths. These types of tools can be used by investors to develop complex mathematical as well as mental models. The mental models, sometimes called rules of thumb but really much more than that, may combine models from various disciplines. They can either be a way to quickly get in range of the correct number or a tool to be aware of exposures and how they might play out in the future. The Santa Fe Institute has, for many years, studied this "latticework" of knowledge and developed a better understanding of higher order effects by combining tools from disciplines other than the one being studied.⁷²

One of Charlie Munger's long-time friends, Brad Reed, commented on the importance of unintended consequences and uncertainty in his teachings. *"I have found particularly helpful Charlie's suggestion to use ideas from distinct disciplines, his insistence on trying to ascertain the consequences of consequences (of consequences), his suggestion that issues be analyzed by asking how to produce undesired results, and his injunction to abandon – or at least rigorously challenge – one's most cherished ideas. For me, his most apt aphorism is that 'a thing not worth doing is not worth doing well.'"*⁷³

Many investors differentiate between value and growth investing styles. A value style will seek out stocks where the intrinsic value is much greater than the market price. A growth style seeks stocks that will grow fast enough to be valuable at a point in the future. Howard Marks argues that these styles are really determining if there is value today or value in the future, but both are really looking at value.⁷⁴

⁷² Their website can be found at <http://www.santafe.edu/> for those interested in learning more about this important learning institution.

⁷³ Peter D. Kaufman, *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 88.

⁷⁴ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011), p 19.

Value investors often use simple models to act as an initial filter, deciding what not to consider rather than using complex models to optimize results. They often use discounted cash flows, with varying accounting schemes used to define profits sometimes replacing cash flows. The disciplined investor places the odds in their favor and uses consistent methods across asset classes. You must be aware of the factors that drive value and then focus on them.

Advice doesn't have to be complicated to be good. Charles D. Ellis⁷⁵

Munger has developed a checklist to filter and select investments. By focusing on risk, independence, preparation, intellectual humility, analytic rigor, allocation, patience, decisiveness, change and focus (described more fully in Appendix IV), he avoids forgetting something important. Most of these traits are covered elsewhere in this paper. The importance of ethics in a management team can't be overstated, and is often the hardest trait to ascertain.

The will to prepare beats the will to win every time. Knowledge of mental models and complex adaptive systems will help an investor look at the holistic results of an investment and how it fits with existing positions. The allocation of capital, where to invest, is the most important job for a portfolio manager. This includes a decision about how much cash to keep on hand for opportunistic investing. Some value investors prefer to bet heavily when the odds are in their favor, while others prefer various forms of diversification. Patience allows compound interest to work its magic and keeps transaction costs low.

Many models fail to consider adequately exposures that are especially sensitive to tail events. A recent example was liquidity risk. During extreme events liquidity dries up in a discontinuous manner; in normal times it operates well. It can disappear quite quickly. This may require qualitative implications to be considered by the analyst. Over time the investor (or risk manager) should review risk categories and update models to incorporate best practices.

According to many value investors, modern portfolio theory comes up short because it relies on historical price movements to determine the value of a stock rather than buying businesses with sustainable competitive advantages at a low or fair price. Even an index fund consisting of all stocks can be beaten, either by choosing companies that will outperform the index or by avoiding companies that will lag the index. Based on the small number of investors who consistently beat their benchmarks, this is very challenging.

In the *Four Filters Invention of Warren Buffett and Charlie Munger*, Bud Labitan describes filters that he feels describe the investment strategy of Berkshire Hathaway. They include understanding a business (financials and products), looking for a sustainable competitive advantage, quality of managers, and price. While the author presents these as inclusive filters, one could also view them as filters designed to reduce the population of options to a more reasonable number. You must pass all four to be considered.⁷⁶

⁷⁵ Charles D. Ellis, *How to Win the Loser's Game 4th Edition* (McGraw-Hill, 1998), p 169.

⁷⁶ Bud Labitan, *The Four Filters Invention of Warren Buffett and Charlie Munger: Two Friends Transformed Behavioral Finance* (2008).

Comparison – Own Risk and Solvency Assessment (ORSA)

Models, both quantitative and qualitative, are the most useful tools to understand a company's risk profile. The investor or risk manager can start with mental models, utilizing experience and knowledge accumulated over many years, to provide a picture of where risks lie, concentrations are high and mitigation needed. Higher order interactions can be especially tricky, and practitioners know from experience to look for unintended consequences as risks interact. Mental models should be multidisciplinary in nature, adopting the latticework of knowledge available and looking for potential interactions between risks.

Quantitative models can greatly deepen the information base about a company's exposures. Regulator required scenarios allow comparison against results of comparable companies. By using knowledge about exposures, the risk manager can be more specific about where risks are and how to prioritize them. Investors are generally working from publicly available information but may have a better feel for alternative opportunities and emerging risks. These models can provide investors with a filter that is either inclusive, looking for the optimal investment, or exclusive, trying to whittle down the multitude of options to a more manageable level.

Extreme events can also be tricky to model quantitatively. For an investor this leads to a search for deep “moats”, where the company has a sustainable competitive advantage and is hard to dislodge.

Qualitative assumptions often need to be converted to something that can drive a model. It can be a challenge not to be optimistic about potential outcomes for risks monitored qualitatively.⁷⁷ Fuzzy logic methods that segment results into high/medium/low or 1-10 rankings can lead to reasonable results for both calculating an intrinsic value or considering risk exposures.

While having a consistent process is very important for both the investor and risk manager, understanding that knowledge is cumulative for the lifelong learner, it is important to avoid paralysis by analysis. There are so many models that could be run that they need to be prioritized so decisions are made in a timely fashion. It is a balancing act. Another concern is that model users (generally not the model builders) will become overconfident, attaching great stock in the validity of the model used based on the effort it took to create. GIGO, garbage in garbage out, is an obvious shortcoming of some models. A model is only as good as its weakest assumption, and it might be years to identify based on a discontinuity. It is also easy to rely on the quantifiable parts of the model more heavily than the softer parts of the analysis.

One risk that interacts with the investor's analysis is when a company trumpets their risk process and how well they manage their risks. The best risk managers know there are unknown unknowns lurking everywhere and unintended consequences of actions or poorly understood dependencies can alter the best path forward. Many a press release heralding risk management was shown not to be true during the financial crisis and showed a management's hubris. The risk manager should always be humble and wary of the risk ever present around the next corner.

⁷⁷ Robert G. Hagstrom, *The Essential Buffett* (John Wiley & Sons, 2001), p 58.

Concentration risk has been shown to be a primary driver of past insolvencies. These include culture, accountability, incentives, exposures, leverage and systemic risks. Focused decision making authority may be the primary reason for outlier results. For every strong capital allocator, making good decisions, is an entrepreneur whose luck runs out or leaves a previous circle of competence to make an acquisition that does not work in the long run.

When modeling a company's intrinsic value, the analyst can think of the investment like a stream of cash flows (like a bond) where a present value can be calculated. These cash flows are contingent, and not guaranteed, so sensitivities should look at different possibilities. To calculate a present value, a discount rate must be applied that addresses the risk of the opportunity. This is often tied to the risk free rate and the rating of the firm. The underlying platform used by investors calculating intrinsic value and risk managers developing economic capital are the same. The assumptions vary, depending on the focus of the project. The risk manager may get much more complex in their analysis, but a model developed for one purpose is generally applicable for the other as well.

Uncertainty is a key component of models. The efforts of modelers calculating a value are sometimes taken out of context, with a best estimate single number the result. This is then taken by management and shared with stakeholders. As conditions change, and time passes, uncertainties are reduced and models improve, but this number can't be updated even if shown to be inadequate. In other cases models become black boxes, with information entered and extracted but few really understanding how the model works. In today's environment the Black-Scholes model is often used in this fashion. Users enter the input assumptions, including price, and the assumed volatility is solved for. (As an aside - this was not how the model was ever intended to be used. The original intent of the model was for volatility to be entered and the price solved for, not the other way around. This subtle change may be contributing to some of the model's current problems.) In the future a model could be developed which revisits option pricing from the ground up, incorporating assumptions such as future liquidity and uncertainty. These efforts could eventually merge these techniques using the law of one price. This states that all methods create the same price if the goods are identical and markets efficient. This would improve on the current regulatory method of adding conservatism to each assumption and lead to more consistent models between situations where there is a market and other situations where there is not.⁷⁸

The analyst reviewing a financial institution will see that ORSA allows an integrated risk analysis, considering all types of risk and their interactions. Similarly, an investor will look at how risks interact for the positions held and both will consider risk tolerance, risk appetite and risk limits when making future allocations of capital. This may be quantitative or qualitative, with the analyst using their gut feel to override risk models at times.

A Checklist for risk managers and investors

Charlie Munger's checklist for investing is important because it offers so many cross-references to risk management practices. He focuses on reputational risk, a risk often ignored by risk

⁷⁸ David Ingram, "Are You Sure About That?" *The Actuary* (October/November 2012): pp 8-9.

managers because it is so hard to model. He worries about the ethics of decision makers, making sure a company is getting paid to accept a risk with a margin of safety built in. It is clear that he views his number one goal as not losing any money in the long run. He then turns to independence, being sure to avoid herd mentality and recognizing the importance of regression to the mean. Eventually value will be recognized. As Benjamin Graham said so famously, *“In the short run the market is a voting machine; in the long run it’s a weighing machine.”*⁷⁹

Munger’s next points include preparation, continually asking why, and intellectual humility, knowing your circle of competence and seeking out evidence that varies from your view of the world. Analytic rigor requires focusing on the forest rather than the trees. Patience uses the power of compound interest and minimizing transactional costs to add long-term value. His final point is to be decisive, but here he stresses that the most important driver of investing success is to be prepared so that when opportunity knocks you can act quickly and decisively. Some level of automation for filtering will be helpful here. The contrarian is willing to buy when everyone else is selling, and sells when everyone else is buying because “this time it’s different.”⁸⁰

7-Economic and Supervisory Capital

ERM

The IAA paper on ERM provides a high level view of the models that can be built to reflect capital needed to support existing business. These types of models are used extensively in financial institutions, and regulators are moving in this direction as well. They can greatly improve a company’s understanding of the risks accepted, but have a tendency to become a black box.

In theory, these models incorporate interactions between variables and let the drivers of the risk profile unfold. This is very hard to document as historical data are limited, so it is important to sensitivity test assumptions. Many companies do what is called a backward stress test, where they start with a poor result (possibly an insolvency) and work backwards to create a scenario consistent with that result. Other stress tests work from a baseline scenario and adjust one or more assumptions to see the impact of the changes on the capital position.

Rules of thumb serve as proxy for an assumption that is too complex or time intensive to represent. These are based on historical experience and may or may not continue to work going forward. Experience tells us to be very skeptical of these types of assumptions, as financial crises are often driven by business written using proxies. They should be frequently reviewed. For example, home mortgages historically use the assumption that home prices monotonically increase. The depression of the 1930s and recent recession have shown this assumption not to be true. Another warning is when volatility is measured over stable periods as if this is reflective of

⁷⁹ Janet Lowe, *Warren Buffett Speaks: Wit and Wisdom from the World’s Greatest Investor* (New York: John Wiley & Sons, 1997). p 96.

⁸⁰ Peter D. Kaufman, *Poor Charlie’s Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), p 61.

the future. A proxy can save significant run time of a model and allow additional testing to be completed. Modeling is full of these balancing decisions.

Historically, capital models have been factor based and driven by exposures to a risk. Some consideration has been given to interactions between risk variables, but only to reflect diversification benefits. This type of capital requirement is countercyclical, releasing capital as business exposures reduce. These are referred to as rules-based methods. As computers have become able to handle large numbers of calculations, there has been a desire to move toward principles-based methods to better reflect risk exposures. These models reflect dynamic modeling methods, using common assumptions for external variables across product lines and considering the impact of extreme outlier events. This allows a centralized aggregation of the results by line of business or risk. Aggregation methods can reflect a fully integrated model that runs a scenario for each perceived scenario combination, or each product line/risk can be modeled separately and combined using tools like copulas. A negative feature of principles-based methods is that they are procyclical and increase capital during a crisis since assumptions are continuously updated to include more volatile results. Regulators using this method set up a cushion that can be released as needed.

While most financial risks have reasonable models available, operational risk modeling continues to develop. An example is provided by the Basel II banking capital requirements. There are three options of increasing sophistication. In its simplest version (Basic Indicator Approach), all operational risk is measured using a fixed percentage of the previous three year's average income, with no adjustments for types of risks present. The second version (Standardized Approach) varies the percentage based on perceived risk across eight lines of business. In its most sophisticated version (Advanced Measurement Approaches) the operational risks are modeled and aggregated internally. Trying to model risks like fraud and hiring practices is especially hard and should be done with caution and a good deal of external peer review to seek out disagreements. Often the risk is growing just when the historical data is saying it is under control. It is key to utilize the expertise present with the internal auditor and external auditor to consider a wide variety of potential issues. The auditors are very helpful in developing projects, especially those that improve controls.

Capital requirements become a significant factor when considering constraints within a risk tolerance. Companies may desire a certain rating, level of earnings volatility or return, and the regulatory, rating agency, or even internal economic capital models can be a key component in this discussion. The risk management process will help establish risk tolerance, identify and assess risks, and keep risks under control. Some companies will use their economic capital models to target a specific financial strength as defined by an acceptable risk of ruin metric as another constraint.

Economic capital models can be very complicated and hard to evaluate without the transparency that comes with insider knowledge. Only the insider will understand the nuances of a firm's risk culture or the sensitivity to specific assumptions.

Value Investing

Capital can provide a constraint for investors, but the focus on quantitative assessments is limiting from an investing perspective. Making a decision about a specific investment is often more about applying mental models rather than generating a statistic. A skepticism of accounting rules will allow financial results to be the beginning of analysis, not the end. Investors have many examples of accounting shenanigans, where extreme interpretations of rules or simply non-cash items like accruals and goodwill have distorted results and ratios. In addition to other metrics, the investor should always follow the cash. See Appendix VI for a brief discussion of insurance investing. Remember to always follow the cash.

Regulatory capital metrics can provide useful information, but the investor needs to understand their limitations. For example, does the metric consider diversification benefits? Synergies are important considerations, but exposures where positive synergies are ignored should be understood too.

The syllabus for the CFA Institute credential heavily utilizes *Managing Investment Portfolios: A Dynamic Process*⁸¹. One of the primary tools used by CFA charter holders is to define the unique objectives and constraints for each entity. Entity is defined here as broad enough to cover a wide range of investors, everything from individuals to trusts to institutions.

Objectives take into account risk and return. The client must define how they measure risk, their willingness to take risk, their ability to take risk, their risk tolerance, their specific goals related to risk, and risk allocation methods. The return objective requires the client to define a risk metric, a return goal, a required return, and specific return objectives.

Constraints will vary for each client, but considerations include liquidity, time horizon, taxes, legal and regulatory factors, and certain unique circumstances. These unique circumstances might be driven by things like social responsibility considerations or family health issues.⁸²

Comparison – Economic and Supervisory Capital

This section of the IAA paper is an extension of the previous one, so most comments comparing models between risk management and investing purposes have already been shared. Of course objectives and constraints, the basis of any investment policy statement, have innate meanings for risk management purposes.

Accounting practices are defined by regulatory bodies, and legally must be followed. The investor and risk manager should go beyond these financial statements to understand their basis, in other words why they do the things they do. Some accounting regimes are designed to best describe a going concern company. In these, initial outlays will be amortized over time in the

⁸¹ John L. Maginn, Donald L. Tuttle, Jerald E. Pinto and Dennis W. McLeavey, *Managing Investment Portfolios: A Dynamic Process. Third Edition* (CFA Institute, 2007).

⁸² Ibid pages 11-17.

income statement. If the amortization assumptions turn out to be optimistic the investment will need to be written off later, as the cash was already paid out and there is no way to get it back. Other regimes focus on solvency risk, so they write off these initial outlays right away and hold conservative estimates of money set aside for future payments.

Investors and risk managers spend a lot of time devouring the cash flow statements for a firm. If there are any financial shenanigans going on, for example using off balance sheet liabilities to hide expenses, this will be readily apparent. An accounting regime should take the cash flow statement and make it better reflect reality. Often with rules-based methods this gets taken advantage of, so footnotes in financial statements should be studied and analyzed for clues about the eventual health of the firm.

Another concern of mathematical models is the false precision these models are perceived to have. Even when the model owner is clear about the model shortcomings, the results (generally distilled down to a single number) are passed up the chain of command internally and compared against other comparable firms externally.

One of the best risk management books available is *Against the Gods*, written by Peter Bernstein.⁸³ This book does a great job of discussing the history of risk management. In his day job Bernstein was a portfolio manager and economist. This crossover interest of risk and investing is found throughout the investment literature. The quotes listed in Appendix I, from the Howard Marks book, could just as easily have come from a book detailing best practices in risk management.

Another common trait between ERM and value investing is the interaction between capital analysis and capital allocation. Within a financial institution like an insurer, ORSA allows the risk team to understand how interactions between risks play out and consider how they will interact in the future. This helps the firm allocate future capital. For an investor, capital allocation is one of the most influential duties. Warren Buffett frequently refers to his primary job as allocating capital, and how that matters so much since he tends to have a long investing time horizon.

8-Continuity Analysis

ERM

As risk management is increasingly incorporated into the strategic plan for a company, this will include considering scenarios designed to test the ability of a firm to stay in business. These can be financial in nature, requiring new business to be merged with run-off business models, or operational with qualitative assessments combined with specific stress scenarios. The key is to look at a firm on an ongoing basis, much like a GAAP income analysis would.

⁸³ Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (John Wiley & Sons, 1996).

The time horizon assumption is often the key to this analysis. Do you look out to the end of the line or for a pre-determined number of years? Other key points involve future management actions beyond a one-year time horizon, expected capital reductions/injections and forecast reliability. Models that consider dynamic business models and changing tactics are subjective and their limitations should be clearly articulated.

The major benefit of continuity analysis is the flexibility it adds when management has considered various scenarios in advance. A proactive stance generally provides a comparative advantage relative to competitors as a company will have considered high level plans across many alternative conditions. Some of these are necessarily quantitative in nature, but many will be qualitative and be designed to make management think through potential issues. Early scenario planning was practiced by Shell Oil Company, which developed a process during the 1960s which proved beneficial during the oil embargoes of the 1970s.⁸⁴

Value Investing

Investors who use fundamental analysis to determine investment decisions are only interested in past results in order to help them project the future. This is where quantitative and qualitative analysis intersects with behavioral finance concepts. It is completely different to run a portfolio using pretend money than it is to make a trade involving money you worked hard to accumulate. It is important to be disciplined and rational, avoiding ideology and the herd at the same time. In the emerging risk annual survey sponsored by the actuarial profession, the respondents appear to have an anchoring bias based on recent risks.⁸⁵ Combined with a tendency to read books and magazines that reinforce our existing beliefs, this helps identify the need to use multiple mental models and be constantly on the lookout for opportunities to learn from the successes and failures of others.

An analogy related to disciplined stock picking is to describe how Ted Williams hit a baseball.⁸⁶ “The Splendid Splinter” is one of the greatest hitters of all time, and his intensity and focus regarding his batting reached so far as to have him practice his swings in the outfield during games. In recent years, computers have allowed analysis of a batter’s statistics based on where the pitch was thrown. A good hitter might hit .400 on a pitch right down the middle of home plate, but only .220 on a pitch located at the outside part of the plate at the knees. The hitter who can swing at pitches he can handle does much better than the batter who swings at anything and soon finds out that the pitcher knows what pitches work best too. Ted Williams split the strike zone into 77 baseball sized cells. He accepted walks if the pitch was outside the strike zone. He argued that getting on base by any means was the key statistic and that his focused approach was also best for the team; their incentives were aligned. Investors who are patient, investigating many opportunities relative to the number accepted, will wait for the best options and are more

⁸⁴ Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World* (Bantam Doubleday Dell, 1991), pp 7-9.

⁸⁵ Max J. Rudolph, *Emerging Risk Survey Report*, www.soa.org/files/research/projects/research-2011-emerging-risk-survey-report.pdf (April 2012).

⁸⁶ Ted Williams, *My Turn at Bat* (Simon & Schuster, 1969).

likely to be successful. The “sweet spot” for investors is likely to offer high returns with low risk of losing money. This analogy is similar to one often used by Warren Buffett where each investor is given a punch card with 20 markings. You can only make 20 trades in your lifetime.⁸⁷ The investor with this constraint will research until they are sure rather than jump at every idea. Yes, some deals will be missed that would have made you money but you will also avoid deals made in haste.

In the long run, a stock can't return more than the underlying business. In the short run markets will overreact to news. The stock price may act as a pendulum, swaying back and forth around the intrinsic value. Alternating between too high and too low, much like a broken clock it is occasionally correct. Market values mean revert but do not stop at the intrinsic value, pushing the pendulum further away until the market's marginal investors stop buying (or selling), moving the price back through mean reversion. The successful investor will have capital available for allocation when Mr. Market offers a price with high odds of strong returns.

It is common to overinvest in things someone knows a lot about, often based on employment status or the industry expertise. Enron employees are often highlighted for how much they lost from concentrated holdings in their employer. In fact, an investor could reduce their risk by de-emphasizing investments that relate to their future earnings potential. For example, Wall Street stock brokers should invest more in bonds and real estate since they already have high exposure to equities from their job.⁸⁸

It can be hard to decompose investment returns between what is based on luck and what is based on skill. Investment careers cover statistically insignificant periods, so small sample sizes make it hard to use confidence level testing. This discussion usually leads to a discussion about coin tossing since the investor either beats the market bogey or doesn't, but the amount of outperformance should also be considered.

Comparison – Continuity Analysis

Continuity analysis requires a disciplined, consistent, proactive approach to understanding risk and return. The risk manager or investor is focused on projections, using historical results and drivers as a way to help form opinions about the future. Strategic planning requires knowledge of future products sold as well as runoff of existing business across a longer time horizon than used for tactical planning.

Results tend to mean revert; they overcompensate, going too high or too low until they swing back toward the intrinsic value. While the investor sees a market value on a continuous basis, it is not so obvious that the risk manager needs to react to the market price. A form of complacency can surround a company that has had stable and consistent growth, and this is when the risk manager needs to look closely for signs that future results will differ and make adjustments.

⁸⁷ Robert G. Hagstrom, *The Warren Buffett Portfolio* (John Wiley & Sons, 1999): p 197.

⁸⁸ Moshe Milevsky, *Are You a Stock or a Bond?* (Pearson Education, 2009).

When Warren Buffett talks about allowing only 20 investments in your lifetime, this also has applicability to risk management. Patience and discipline, focus and knowledge development are appropriate for a risk manager to consider. Discontinuous and haphazard approaches result in occasional surprises that could have been identified in advance with a better process.

Capital management helps the analyst to determine the likelihood that a financial institution will survive the short-term and make it to the long-term. Similarly, the good investor must consider both short-term and long-term time horizons to maximize the long-term wealth of an entity. Neither wants to bet the firm, and this analysis improves the odds.

9-Role of Supervision in Risk Management

ERM

In the IAA paper regulators are referred to as supervisors. This group is a key stakeholder for many companies, especially financial institutions. While a key activity is to deal with problems after they become public, the primary job of the regulator is to proactively attempt to avoid problems and deal with issues early. This is a risk-based approach to supervision. Risky institutions should receive more attention.

In a risk-based approach to regulation the focus is on understanding the nature of a company's business, governance, strategic/business plans, financial reporting, and risk management. Much like rating agencies, the regulator gets a transparent view of the business and is deemed an insider for trading purposes.

Regulators can add value to a firm by contributing information about industry best practices, along with providing an extra set of eyes as an audit review to company practices. Strong regulation also discourages operators who are irresponsible and fraudulent, as they find easier pickings elsewhere. Developing a positive, rather than antagonistic, relationship can be a value added proposition.

Value Investing

A security regulator's job is to increase transparency whenever possible. This can be achieved by educating investors about an industry using simple descriptions or proactively looking for risks. As Einstein said, *"If you can't explain it simply, you don't understand it well enough."* He also made the comment *"Make everything as simple as possible, but not simpler."* If you think about this statement closely, it should be the modeler's credo.

During periods of stability risks tend to grow. Some would say that a rising tide floats all ships, and Buffett is known for saying, *"When the tide goes out we know who has been swimming naked."*⁸⁹ While these place graphic pictures in our head, there are many examples that have played out in this fashion. Ponzi schemes are hatched during good times. Perpetrators only get caught when the economy weakens and victims attempt to redeem their funds.

⁸⁹ Carol J. Loomis, *Tap Dancing to Work* (Penguin Group, 2012), p 161.

Regulatory requirements can be useful to the investor by showing that certain risks and scenarios have been considered. This requires a firm to set up a process, which is much more important than the results of any single scenario. Over time the investor can look at these results for trends and to see how a firm's decision making process and controls have evolved. One of the greatest challenges for an investor without insider access is to ascertain the company culture and how management feels shareholders fit in.

Timing is hard for investors. When do you buy, when do you sell, when do you adjust a position? Successful investors don't worry about errors of omission when they miss a big gainer. It's better to avoid a bad investment, or get out early, than to ride it down to zero.

Comparison – Role of Supervision in Risk Management

Regulators and rating agencies collect information about a company. This can form the base for both ERM and investment analysis, providing transparent information that leads to additional thought. Many times what is asked for is effectively a debrief of problems at other firms. To the extent that it is hard to obtain budget dollars for a risk management program, this can be very useful to get a unit staffed. Bureaucracies tend to be counterproductive and not as effective as a small team of broad thinkers and modelers. The same is true of investors. Small groups of analysts can be proactive and see which companies are developing solutions and adapting to emerging risks.

Investors and risk managers should look for consistency and habits. It's easier to prevent a habit than to change it. There are many distractions, and the analyst who can maintain independent methods and avoid herd mentality will have an advantage.

Conclusion

Risk management can be thought of as two distinct tasks. The first is setting up the process to identify, prioritize, and mitigate risks. The second would be strategic in nature, working with the management team to proactively choose risks to seek out or avoid. This would elevate strategic planning to a unit focused on enterprise risk and return management.⁹⁰ Risk managers who rotate to a business unit can be a large part of the education process at a firm, setting up leading indicators and using other tools they learned about in the ERM unit.

The actuarial skill set seems particularly well set up to move seamlessly between investing and enterprise risk management projects. In the future, analysts will continue to calculate intrinsic values based on discounting contingent events. This can be applied to investing, evaluating risks, or combinations of the two. Such projects could involve backing into an assumption, like the volatility assumption for Black-Scholes, and then deriving the same assumption using bottom up methods.

As was attributed to Charles Darwin, *“It is not the strongest of the species that survives nor the most intelligent, but the one most responsive to change.”* Whether your interest stems from ERM

⁹⁰ Max J. Rudolph, Society of Actuaries Joint Risk Management Section call for essays, <http://www.rudolph-financial.com/201202%20-%20ORSA%20essay.pdf> 2011.

or you are an investor, this is a useful mantra to live by. You can never anticipate every risk, and those who overreact never take a risk. The balance between risk and reward requires both to be considered and neither allowed to dominate. An analyst needs to be aware of motivations and be wary of success that blinds management to growing risks. Both ERM and investing are processes that should be in a constant state of improvement. The modeling and knowledge necessary to succeed makes each a training ground for the other. They truly do have compatible skill sets. Those who spend time as both investor and running a business have unique expertise. According to Buffett, *“I am a better investor because I am a businessman and a better businessman because I am an investor.”*⁹¹

⁹¹ Robert Lenzner, “Warren Buffett’s Idea of Heaven,” *Forbes* (October 18, 1993), p 14.

Appendix I - Howard Marks

Chapter titles from Howard Marks' book *The Most Important Thing*⁹²

1. Second-level thinking
2. Understanding Market Efficiency (and Its Limitations)
3. Value
4. The Relationship Between Price and Value
5. Understanding Risk
6. Recognizing Risk
7. Controlling Risk
8. Being Attentive to Cycles
9. Awareness of the Pendulum
10. Combating Negative Influences
11. Contrarianism
12. Finding Bargains
13. Patient Opportunism
14. Knowing What You Don't Know
15. Having a Sense for Where We Stand
16. Appreciating the Role of Luck
17. Investing Defensively
18. Avoiding Pitfalls
19. Adding Value
20. Pulling It All Together

⁹² Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011).

These quotes are from Howard Marks' book *The Most Important Thing*⁹³

It's not supposed to be easy. Anyone who finds it easy is stupid. Charlie Munger (page 1)

Second-level thinking (page 4)

- What is the range of likely future outcomes?
- Which outcome do I think will occur?
- What's the probability I'm right?
- What does the consensus think?
- How does my expectation differ from the consensus?
- How does the current price for the asset comport with the consensus view of the future, and with mine?
- Is the consensus psychology that's incorporated in the price too bullish or bearish?
- What will happen to the asset's price if the consensus turns out to be right, and what if I'm right?

Risk means more things can happen than will happen. Elroy Dimson (page 31)

The received wisdom is that risk increases in the recessions and falls in booms. In contrast, it may be more helpful to think of risk as *increasing* during upswings, as financial imbalances build up, and *materializing* in recessions. Andrew Crockett (page 46)

When you boil it all down, it's the investor's job to intelligently bear risk for profit. Doing it well is what separates the best from the rest. (page 57)

You've got to go out on a limb sometimes because that's where the fruit is. Will Rogers (page 65)

When things are going well and prices are high, investors rush to buy, forgetting all prudence. Then, when there's chaos all around and assets are on the bargain counter, they lose all willingness to bear risk and rush to sell. And it will ever be so. (page 73)

What the wise man does in the beginning, the fool does in the end. (page 76)

The air goes out of the balloon much faster than it went in. Sheldon Stone (page 79)

⁹³ Howard Marks, *The Most Important Thing: Uncommon Sense for the Thoughtful Investor* (New York: Columbia University Press, 2011).

The less prudence with which others conduct their affairs, the greater the prudence with which we should conduct our own affairs. Warren Buffett (page 91)

The market's not a very accommodating machine; it won't provide high returns just because you need them. Peter Bernstein (page 107)

We have two classes of forecasters: Those who don't know – and those who don't know they don't know. John Kenneth Galbraith (page 116)

It's frightening to think that you might not know something, but more frightening to think that, by and large, the world is run by people who have faith that they know exactly what's going on. Amos Tversky (page 116)

There are two kinds of people who lose money: those who know nothing and those who know everything. Henry Kaufman (page 116)

Every once in a while, someone makes a risky bet on an improbably or uncertain outcome and ends up looking like a genius. But we should recognize that it happened because of luck and boldness, not skill. (page 133)

Several things go together for those who view the world as an uncertain place: healthy respect for risk; awareness that we don't know what the future holds; an understanding that the best we can do is view the future as a probability distribution and invest accordingly; insistence on defensive investing; and emphasis on avoiding pitfalls. To me that's what thoughtful investing is all about. (page 140)

An investor needs do very few things right as long as he avoids big mistakes. Warren Buffett (page 153)

What We Learn from a Crisis – or Ought To

- Too much capital availability makes money flow to the wrong places.
- When capital goes where it shouldn't, bad things happen.
- When capital is in oversupply, investors compete for deals by accepting low returns and a slender margin for error.
- Widespread disregard for risk creates great risk.
- Inadequate due diligence leads to investment losses.
- In heady times, capital is devoted to innovative investments, many of which fail the test of time.

- Hidden fault lines running through portfolios can make the prices of seemingly unrelated assets move in tandem.
- Psychological and technical factors can swamp fundamentals.
- Markets change, invalidating models.
- Leverage magnifies outcomes but doesn't add value.
- Excesses correct.

Appendix II - Phil Fisher: The 15 points to look for in a common stock⁹⁴

1. Does the company have products or services with sufficient market potential to make possible a sizable increase in sales for at least several years?
2. Does the management have a determination to continue to develop products or processes that will still further increase total sales potentials when the growth potentials of currently attractive product lines have largely been exploited?
3. How effective are the company's research and development efforts in relation to its size?
4. Does the company have an above-average sales organization?
5. Does the company have a worthwhile profit margin?
6. What is the company doing to maintain or improve profit margins?
7. Does the company have outstanding labor and personnel relations?
8. Does the company have outstanding executive relations?
9. Does the company have depth to its management?
10. How good are the company's cost analysis and accounting controls?
11. Are there other aspects of the business, somewhat peculiar to the industry involved, which will give the investor important clues as to how outstanding the company may be in relation to its competition?
12. Does the company have a short-range or long-range outlook in regard to profits?
13. In the foreseeable future will the growth of the company require sufficient equity financing so that the larger number of shares then outstanding will largely cancel the existing stockholders' benefit from this anticipated growth?
14. Does the management talk freely to investors about its affairs when things are going well but "clam up" when troubles and disappointments occur?
15. Does the company have a management of unquestionable integrity?

⁹⁴ Philip A. Fisher, *Common Stocks and Uncommon Profits and Other Writings* (John Wiley & Sons, 2006).

Appendix III - John Train's winning investment strategies⁹⁵

1. Only buy a stock as a share in a good business that you know a lot about.
2. Buy when stocks have few friends – particularly the stock in question.
3. Be patient: don't be rattled by fluctuations.
4. Invest, don't guess.
5. High yields are often a trap.
6. Only buy what's cheap right now, or almost sure to grow so fast that it very soon will have been cheap at today's price.
7. If stocks in general don't seem cheap, stand aside.
8. Keep an eye on what the master investors are doing.
9. Buy investment management, if you find company analysis too difficult.
10. Decide on an appropriate investment strategy, and concentrate on it.
11. Be flexible.

⁹⁵ John Train, *The Money Masters* (Harper & Row, 1980), pp 222-227.

Appendix IV - An Investing Principles Checklist⁹⁶

- Risk (especially reputational)
 - Margin of safety
 - People/ethics
 - Get paid to take risk
 - Inflation and interest rate exposures
 - Avoid big mistakes
- Independence
 - Independence of thought can lead to objectivity and rationality
 - If your analysis is correct the herd does not matter
 - Regression to the mean results from mimicking the herd
- Preparation
 - Work hard and hope to have a few insights
 - Lifelong self-learner attitude
 - Will to prepare beats the will to win every time
 - Mental models from major academic disciplines
 - Ask why
- Intellectual humility (wisdom comes from acknowledging what you don't know)
 - Circle of competence
 - Identify and reconcile evidence that differs from your expectations
 - Beware of false precision
 - Never fool yourself
- Analytic rigor (scientific method)
 - Recognize that value is different than price
 - Progress differs from activity
 - Wealth differs from size
 - More important to remember the obvious than grasp esoteric
 - Business analyst (broad) is better than limiting yourself
 - Second order and above impacts matter – totality (holistic) of risk and effect
 - Think forwards and backwards – invert
- Allocation of capital
 - Number one job for investor
 - Consider opportunity cost
 - Bet heavy when odds are in your favor
 - Don't fall in love with an investment
- Patience
 - Utilize compound interest
 - Avoid transactional/frictional costs
 - Be alert for luck
 - Enjoy the process
- Decisiveness

⁹⁶ Peter D. Kaufman, *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger* (PCA Publication, L.L.C., 2005), pp 61-64.

- Contrarian – be fearful when others are greedy and greedy when others are fearful
 - Seize opportunity when it arrives
 - Opportunity meets the prepared mind
- Change
 - Recognize and adapt
 - Challenge and amend your best ideas
 - Recognize reality – especially when you don't like it
- Focus
 - Reputation and integrity are your most valuable assets and can be quickly lost
 - Guard against hubris and boredom
 - See the forest despite the trees
 - Exclude unneeded information
 - Face your big troubles

Appendix V - Tenets of the Warren Buffett Way⁹⁷

- Business Tenets
 - Is the business simple and understandable?
 - Does the business have a consistent operating history?
 - Does the business have favorable long-term prospects?
- Management Tenets
 - Is management rational?
 - Is management candid with its shareholders?
 - Does management resist the institutional imperative?
- Financial Tenets
 - Focus on return on equity, not earnings per share.
 - Calculate “owner earnings.”
 - Look for companies with high profit margins.
 - For every dollar retained, make sure the company has created at least one dollar of market value.
- Market Tenets
 - What is the value of the business?
 - Can the business be purchased at a significant discount to its value?

⁹⁷ Robert G. Hagstrom, *The Essential Buffett* (John Wiley & Sons, 2001), p 79.

Appendix VI - Investing for Insurers

Insurers, along with other financial institutions, have their own idiosyncracies. When an insurer accepts premiums today in order to pay claims at a later date this is considered “float”. Float can be considered a loan to the insurer, and these funds are available for investment. Depending on an insurer’s expertise they might be considered a liability expert who invests or an investor who uses liabilities to gather funds. A company like Berkshire Hathaway is the latter, focusing on keeping the cost of funds low on its liabilities so it can generate value through allocation of capital.

Another shortcoming of accounting practices is the format of the balance sheet. By separating the assets from the liabilities it is hard to track when assets are matched to liabilities and managed together. Some accounting rules will mark assets to market, for example, while limiting the true risk management that could be accomplished as liabilities continue to use book value. An alternative accounting regime would allow portfolios to be defined as assets, liabilities, or a combination of both when they are managed as a combined portfolio. Part of this discussion involves premiums and how they are classified. An alternative to viewing premiums as a negative liability cash flow is to view them as an asset class. This can impact the investment strategy for an insurer when utilizing constraints like duration metrics.

Appendix VII - How Warren Buffett is Different from Most Investors

<http://alephblog.com/2012/08/25/how-warren-buffet-is-different-from-most-investors-part-1/>

<http://alephblog.com/2012/09/04/how-warren-buffett-is-different-from-most-investors-part-2/>

This blog post, written by David Merkel under his alephblog post, reacts to the Betting Against Beta paper referenced earlier in this paper. Here Merkel suggests seven ways that Buffett has been able to show strong performance over many years.

1. He understands and invests in a complex industry, P&C insurance.
2. Buffett was willing to buy whole companies, not replace management for the most part, and operate them.
3. He analyzes cash flow streams from investments, and buys shares in companies, or the whole company when they offer a reliable high prospective free cash flow yield.
4. Buffett does not diversify, particularly in the early years. He plays for best advantage.
5. Buffett was comfortable managing a company, rather than a pass-through vehicle like a mutual fund or a hedge fund.
6. Buffett uses leverage (“float”) from the insurance companies to fund much of his assets.
7. He doesn’t care what form the investment takes.

The researcher agrees with these points, and notes the overall importance of #7 as it allows Buffett to remain flexible. It doesn’t matter if he is arbitrage trading around mergers, buying an entire company for a long-term holding period or a stock, he utilizes mental models to measure value and incorporates a margin of safety.