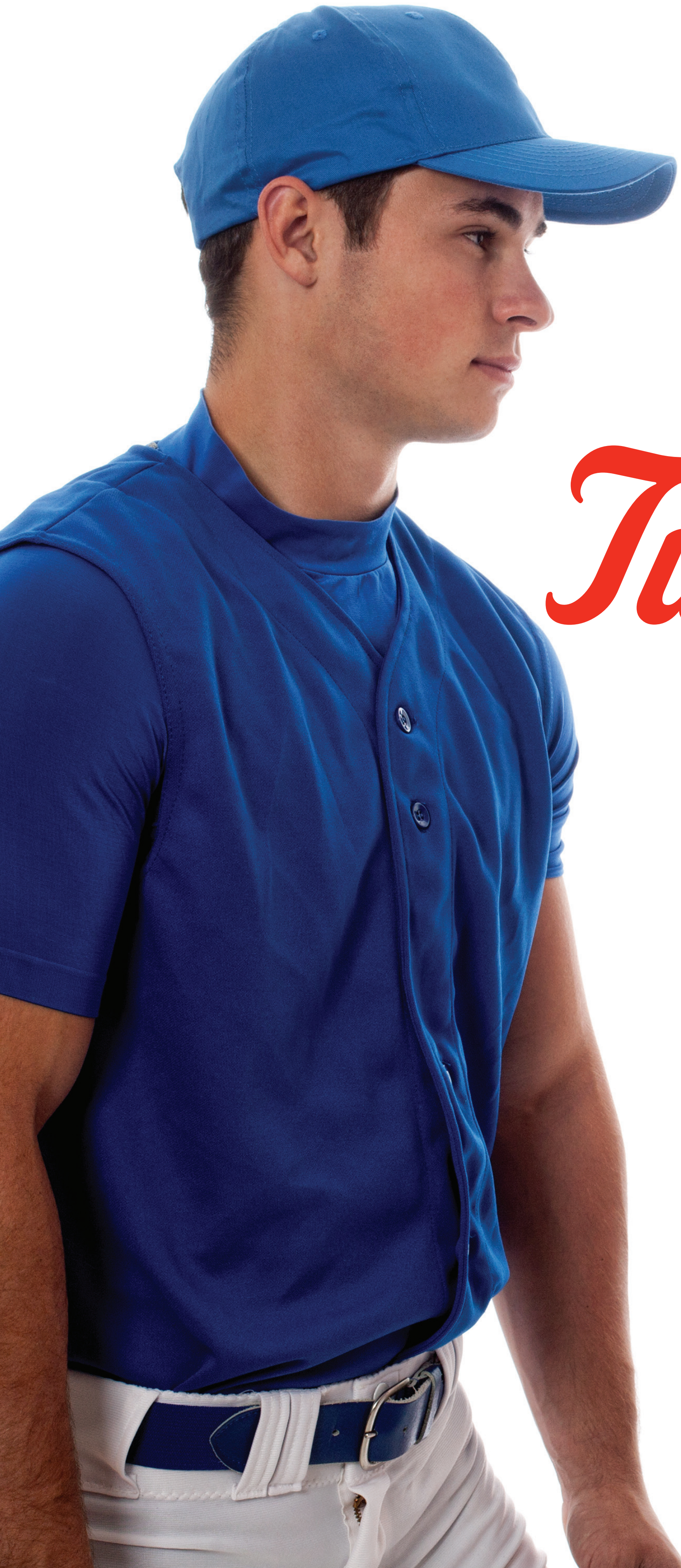
SOCIETY OF ACTUARIES

Article from:

The Actuary Magazine

August/September 2013 – Volume 10, Issue 4



Two Peas

PARALLELS BETWEEN ERM

DO ERM AND VALUE INVESTING LIVE IN PERFECT HARMONY? THIS AUTHOR BELIEVES THAT THE TWO SHARE MANY OF THE SAME CONCEPTS. DO YOU? BY MAX J. RUDOLPH

For many years I have been struck by the many similarities between the building blocks of enterprise risk management (ERM) and value investing. While attending a CFA Nebraska seminar focused on value investing, I heard star investors hint at the parallels between these two topics. This led me to write a white paper titled, "Value Investing and Enterprise Risk Management: Two Sides of the Same Coin."[1] I used the IAA report, *Note on Enterprise Risk Management (ERM) for Capital and Solvency Purposes in the Insurance Industry,*[2] to capture the primary components of ERM. To provide contrast between methodologies used for value investing and ERM, I started with material from well-known value investors. This article will

in a Pod:

AND VALUE INVESTING

summarize these findings. Some will find the points obvious, and I hope others will consider these concepts. No matter what practice area is your specialty, I believe there are nuggets of wisdom here that will help you make better decisions and add value.

RISK AND RETURN—A BALANCING ACT

Experience teaches us that risk balances return, and return balances risk. Value is added by creating favorable imbalances in a risk profile. The risk manager with high returns and average risk has succeeded, as has the investor reporting average returns and low risk.

Risk can be defined based on the degree of uncertainty or the impact of downside events. Risk managers have historically focused on the mitigation of downside risk. Other risks can potentially be traded and optimized. Progressive ERM definitions, such as the one adopted by the SOA, consider upside risk. *Risk is Opportunity* is not our slogan for nothing! Best practice ERM incorporates strategic planning and opportunistic risk seeking, considering decision making at all levels and interactions between risks.

An investor adds value by understanding risk interactions, emerging risks and tracks a company's culture and risk appetite.

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

FINDING THE SIGNAL AMONGST THE NOISE

When the herd moves in unison, reacting to each new piece of information, the intelligent contrarian turns to fundamental analysis. Has anything really changed, or is the current zig likely to be followed by a zag? It may be a trading opportunity for those willing and emotionally able to wait out the market's gyrations.

Intrinsic value is the present value of a set of contingent cash flows. While the risk level impacts discount rates, the method is consistent across liabilities and asset classes. This is roughly the same methodology used by risk managers to calculate levels of economic capital. Both types of analysis look at aggregate values and consider higher-order interactions. The first-level thinker considers the world to operate directly, in a straight line, while second-level thinkers gain a comparative advantage by considering higher-order interactions. Humility and considering the possibility of being wrong are rarely recognized for the risk mitigation tools they are. Experience aids the analyst's assumption choices.

The value investor seeks to build conservatism into the purchase decision, finding companies with low market values relative to intrinsic values. Using concepts described by Nate Silver, the investor thinks of intrinsic value as the signal and fluctuating market prices as the noise.[3] The analyst with a long time horizon can practice time arbitrage, where perceived riskiness scares away those with a short time horizon.

If the signal is the intrinsic value, then the noise represented by market prices is opportunity.

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In an oft-repeated parable, Mr. Market gives you a price at which he will take either side of a trade and allows you to choose when to take advantage of this opportunity.

> *"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."*—Howard Marks

TEMPERAMENT

The successful investor and risk manager have similar traits. They both tend to be humble, more likely to talk about past failures than triumphs. They are wary of overconfidence and the shortcomings of taking information at face value. They are more likely to independently dig into a report than to assume it is true and are very aware of the perceived ethics at a firm. Concentrations of risk, where exposures are high relative to a diversified firm, require additional analysis. This is especially true for extreme outcomes or when combined with leverage. Concentration risk can be driven by exposures due to product, region, asset class, customer, counterparty, culture and decision making. Good risk managers and investors both consider dependencies between variables and how different risks and events interact. Sometimes patterns develop. Many economists now think bubbles are encouraged when the Federal Reserve keeps interest rates artificially low for an extended period. Other times unintended consequences can be positive, resulting in Charlie Munger's lollapalooza effect. This occurs when several decisions align in a positive way, and success stories such as the Ford Model T and Apple's iPhone result. Some refer to this as luck, "being in the right place at the right time," but there is often an underlying plan, like Apple's goal to improve design and make gadgets user friendly for everyone.

Analyst temperament and emotional stability overwhelm IQ when making risk and investment decisions. While some continue dancing, contrarians wait for the pendulum to swing too far and mean-revert. This mindset is comparable to that used by risk managers, mitigating risks that would exceed a stated risk tolerance during stable times (seeking out those unknown unknowns) while expanding tools for use during the next crisis. In other words, they buy hedges when they are cheap.

> *"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."* —Warren Buffett

COGNITIVE BIAS

Human behavior impacts risk management and investing. Resources are limited, and priorities need to be set. Not every opportunity can be pursued. Behavioral economics, driven by prospect theory, has led us to better understand that humans are not rational when dealing with finances and prefer to follow the herd. We have a variety of cognitive biases that cause us to revert back to our basic instincts developed as hunter-gatherers. Scientists are learning more about these tendencies through the study of neuroscience, but for now value is gained by recognizing these faults in ourselves.

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

SHINING A LIGHT ON RISK

Transparency allows practitioners to use informed common sense and results in better oversight. It is said that risk grows in the dark, when there is little transparency, and shrinks in the light, when models can be built to manage it.[4] Transparency leads to consistency and a longer time horizon built into decision making. Investors can reduce the discount rate used in models if they understand the risks underlying the model. Risk managers can automate the basic risk management process, allowing them to focus more on seeking out emerging risks and risks where there is a sustainable competitive advantage.

A variety of perspectives allows someone to talk through alternatives, improving decision making. Risk managers should have at least rudimentary knowledge of all product lines, and a sense for growing risks. Investors should stay within their circle of competence.

> *"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

MODELS VERSUS REALITY

The economy tends to move through periods of stability interspersed with crisis. During the stable portion of the cycle, more managers define risk as volatility and believe mathematical models can mimic the true relationships between risk and reward. Investors and boards of directors relax their risk appetite constraints and increase volatility in approved risk policy statements. They forget that volatility, especially when driven by leverage, can lead to insolvency. Time is not on the side of those who borrow heavily.

Models need to be continually revisited. Proxies can save lots of time, but historical rules of thumb need to be tested for reasonableness during each decision-making cycle. Models work until they don't.

Risk appetite can act as a filter for decision making. A formal risk policy will guide pre-determined constraints. This provides a margin of safety around decision making. A written policy or formal investing process also helps maintain a circle of competence to filter out the options where it is too hard to determine probabilities of success.

Both risk managers and investors utilize models. Best practices include skepticism and understanding the current state of evolving model complexity.

> *"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

LATTICEWORK

Not all models are complex. Qualitative models based on experience can often do a really good job, and also provide oversight when set alongside purely quantitative models. Whether it is fuzzy logic (high/medium/low) or a round number that provides an idea of whether the magnitude is 10 or 100, this helps direct decision makers. Investors are more likely to use these types of methods as they lack access to the detail available internally. Mental models capture the essence of lifelong learning by continually adding to knowledge accumulated previously. You may be trained as an actuary, providing a broad knowledge base, but through continuing education you can become multidisciplinary in your thinking. This does not mean that you need an advanced degree in each subject, just that you understand the main features of the discipline. This type of approach helps to recognize problems as they might be approached by someone expert in each field and choose the best of each. Knowledge reduces risk, and lifelong learning increases knowledge.

A multidisciplinary method is sometimes referred to as a liberal arts or latticework approach to investing. This method takes the best each field 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 defines mosaic investing theory, and these tools are shared with risk management best practices. Information is collected and pieced together into a coherent story using a bit of informed common sense.

> *"Any year that you don't destroy one of your best-loved ideas is probably a wasted year."*—Charlie Munger

COMPARING OPPORTUNITIES

Charlie Munger employs a checklist (see "An Investing Principles Checklist" on page 23) when investing that would be appropriate for risk managers. He does not consider opportunities in isolation but rather compares holdings prior to acquisition against the holistic set of holdings after acquisition. This incorporates interactions between risks. His list includes measuring risk, independent analysis, lifelong preparation, intellectual humility, analytic rigor using the scientific method, proper allocation of capital (opportunity cost of alternatives), patience, decisiveness, recognizing change, and focus of priorities.

> *"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."*—Howard Marks

CONCLUSIONS

ERM is an evolving practice area. ERM practitioners focus on process development and holistic analysis to incorporate both risk and return in their review. Other practitioners look at many of these same areas. This enables better collaboration and leads to better strategic results. Value investors compare current market prices against the intrinsic values they have calculated, seeking signal using contingent future cash flows to generate a present value. Uncertainty due to management shortcomings, culture and an unclear environment shows itself through conservatism built into the cash flows as well as the discount rate.

One might argue that ERM is an internal process while value investing looks at a company from the outside, and they would be correct when viewed using top-down analysis. But both use bottom-up techniques to calculate intrinsic value or economic capital, and the underlying tools and thought process used for this are similar.

Many concepts are shared between ERM and value investing. When defining risk, which is generally unique to the individual, the analyst considers uncertainty, downside risk and optimization. Value investors consider conservative assumptions, margin of safety, and asset allocation.

The actuarial skill set seems particularly well set up to move seamlessly between investing and ERM projects. The skills do not come exclusively from actuarial training, but learning about probability, financial engineering and contingencies certainly provides a framework for success. Those who are good at either risk management or investing have shown the skill set to succeed in the other. Additional training would focus on the mental aspects of decision making.

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. Actuarial Standards of Practice 46 and 47 cover topics specific to ERM but may also prove valuable to investors. Charlie Munger's investing checklists similarly will prove valuable to risk managers.

As Warren Buffett said, *"I am a better investor because I am a businessman and a better businessman because I am an investor."* You can't anticipate every risk or risk interaction, but risk must be accepted to earn a return. A proper balance between risk and reward is necessary. An analyst needs to be aware of motivations and wary of success that blinds management to growing risks. Both ERM and investing as processes are constantly evolving. The modeling, knowledge and temperament necessary to succeed make each a training ground for the other. They truly do have compatible skill sets. A

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END NOTES

1 *http://www.soa.org/Research/Research-Projects/Risk-Management/2013-value-investing-erm.aspx.*

2 *http://www.actuaries.org/CTTEES_FINRISKS/Documents/Note_on_ERM.pdf.*

3 Silver, Nate. *The Signal and the Noise.* The Penguin Press, 2012.

4 Ingram, Dave. Risk and Light. *http://www.ermsymposium.org/2009/pdf/2009-ingram-risk-light.pdf.*

An Investing Principles Checklist*

THIS CHECKLIST summarizes talks given by Charlie Munger and can be found in Peter Kaufman's *Poor Charlie's Almanack* on pages 61 through 64.

- **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**
  - 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

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* Kaufman, Peter D. *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger.* PCA Publications, 2005, pp. 61–64.