

## CHAPTER 1

# The Risk Management Investment

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*Once a jolly swagman camped by a billabong,  
under the shade of a coolibah tree, and he sang as  
he watched and waited 'til his billy boiled, you'll  
come a-waltzing Matilda with me.*

*Waltzing Matilda, waltzing Matilda, you'll come a  
waltzing Matilda with me. And he sang as he  
watched and waited 'til his billy boiled, you'll  
come a-waltzing Matilda with me.*

—“Banjo” (A.B.) Paterson  
“Waltzing Matilda”

**I**n the words of a famous and well-compensated but (perhaps understandably) anonymous economist, “market prices tend to fluctuate.” I know this to be the case, for I have witnessed such fluctuation firsthand. Perhaps you have, too. Furthermore, I think we can agree that this, on balance, is a good thing. It’s certainly beneficial to my business, and I believe it is to yours, as well. However, I don’t pretend that this little bit of philosophy will offer much comfort to you when said price movement adversely affects your portfolio—particularly if, as often is the case, the movement is significant and abrupt and occurs without warning. Still, I encourage you to bear in mind the big picture the next time your favorite stock preannounces bad earnings. And also, come to think of it, do the same thing when your other favorite stock preannounces a *good* number, because you are much more likely to attribute this to your own shrewdness than you are to a lucky roll of the dice.

The truth is that market risk, like the very oxygen that we breathe, remains ubiquitous, necessary, and (oftentimes) unnoticed in the world of portfolio management affairs. Our mission, whether or not we choose to accept it, will be to manage this risk. If we do this job well, it's a fair bet we will be rewarded; if not, we are highly likely to suffer a penalty. Daily I hear from the traders I manage, "Don't worry, Ken, of course we will manage the risk. After all, we're *professionals*." Fine. Good. Perfect. Only there's one problem: Risk management *costs money* (or were you under the impression that I do this for my health?). Risk management verily hovers over the portfolio management process, reminding you of its presence and making demands at the most inopportune times. During periods of healthy performance, its unrelenting protocols nag at you in a very bothersome manner. When performance suffers, the steps you neglect to take in its name often fall under the heading of "too little too late."

Like highly personal physical exams my fellow baby boomers have the honor of receiving on an annual basis, risk management is a costly, often unpleasant (not only for the recipient, but also, I assure you, for the practitioner) exercise that, if performed regularly, can help prevent nefarious outcomes. My doctor, who is nothing if not a salesman, encourages me to view these procedures as an "investment" (or did he say "intervention"?). That the exercise costs me (in addition to a modest loss of dignity) nothing more than a nominal co-payment is an indication that my insurance company agrees with this characterization. Lying on the examiner's slab last year, eagerly anticipating our annual bonding ritual, the parallels between what lay in store for me and the services I perform on a professional basis really hit home.

And so it is partly as a tribute to my doctor that I call this chapter with which we'll begin "The Risk Management Investment." Risk management *is* an investment; and the more you think of it in these terms, the better off you'll be. As with any investment, it requires the allocation of scarce resources, for which it is reasonable to expect a return. I'm biased, but I believe that a well-conceived and efficiently executed investment in a risk management program ought to generate as healthy and steady a return as anything that's likely to make its way into your portfolio. And I heartily recommend that the next time the invisible hand of risk management finds its way into your nether regions, just do like I do: Close your eyes, repeat over and over again "It's an investment," and wait for the returns to come rolling in.

The Risk Management Investment will insinuate itself into your otherwise tranquil portfolio management existence in myriad ways. For example, you're almost certainly going to have to map your returns through a series of risk metrics that offer perspectives that differ materially from the ways in which you might otherwise view your overall performance. If you are a professional money manager, this measurement system is likely to be designed by others and will invariably, from time to time, yield results that seem counterintuitive. Indeed, as we will discuss later, your employing

institution may have viewpoints on how to best measure and control risk that may differ from yours and may impose constraints on you that actually interfere with your ability to efficiently manage portfolio exposure as you see it—even when you are operating with the purest of risk management intentions.

The mapping of your portfolio into risk estimation mechanisms is also likely to require some computing power, data inputs, and other resources for which the providers tend to charge a fee. Either you or someone you pay is going to have to understand this output, at least at its most superficial level. If this person does happen to be you, the time and energy that you apply to these activities will come at the expense of other uses you might have in mind for these most precious of your resources.

However, all of these commitments are minor when compared to this most important, capital-intensive element of the risk management investment process: its impact on your portfolio management decision making. Specifically, *your success from a risk management perspective will be determined by your willingness and ability to effectively adjust your portfolio in ways that serve the objective of risk control and capital preservation and that will, at times, run counter to the actions you would take if you were not constrained by a finite capacity to sustain losses.* These adjustments, to be sure, will occasionally cost you money, but I'm confident that not making them will cost you much, much more.

My guess is that just about everyone who has read this far agrees with this general premise. However, we will be seeking more than moral victories from here on. Specifically, now that we've agreed that a solid, comprehensive, and consistently applied risk management program is a good idea, we will devote the balance of our time together developing such a program, the objective of which will be to provide you with the means to

- Establish rational and effective risk parameters for your account.
- Measure your exposures against these parameters.
- Identify the various alternatives in the marketplace to adjust your exposures, should you deem it advisable to do so.
- Pinpoint the specific situations that call for such adjustment, as well as the psychological and market-based obstacles that might interfere with your ability and/or willingness to make such adjustments—even when they are critical to your financial well-being.

As part of this process, we will develop a statistical tool kit, which will provide a simple, quantitative framework for both risk management and performance assessment. Certainly, this tool kit will not make us omniscient: We won't be able to predict with precision exactly what will happen to a portfolio every single time it is subject to market events—any more

than a heart surgeon can forecast the precise sequence of events that take place each time he or she opens up someone's chest. In both situations, there is an ability to estimate a range of outcomes, along with associated probabilities, given a careful reading of internal and external conditions. Moreover, in either case, while the outcome of any single intervention (into the portfolio or the chest) cannot be engineered with certainty, it's a fair bet that practitioners who use available empirical information as the basis for decision making will achieve favorable outcomes more often than those who don't. Over time and across situations, more heart patients survive and, in a similar fashion, more market portfolios are rendered much healthier—each by using techniques of simple statistical estimation that are based on inputs derived from empirical data.

However, while no one dares to describe the field of medicine (or any other biological discipline) as falling outside of the realm of science just because outcomes can't be predicted with certainty, people often wrinkle their noses at the suggestion that trading and risk management be given the same designation. In my estimation, both are *life sciences*, driven by factors that lend themselves to *prediction* that falls short of *certainty*. Moreover, if we don't accept that we can learn a great deal from certain patterns that tend to repeat themselves, in trading and risk management as in medicine and biology, then I would argue that we have no business whatsoever risking capital in the markets. From this perspective alone, unless you are committed to the use of available information inputs as the basis for a scientifically driven approach to portfolio management, there's not much point in wasting your time with these materials. On the one hand, if you don't see the opportunity—in fact, the need—to establish as clinical a trading environment as nature will allow, then your time will be wasted here. On the other hand, if you do choose to seek a statistical advantage through a sustained commitment to a rational and dynamic evaluation of both the market environment and the behavioral characteristics of your portfolio, then I'd say there's cause for heady optimism. Your powers of intervention through observation-based decision making, should you be shrewd enough to use them, can open windows of profitability that are not only sustainable but also scalable.

The keys to success in the effort are, in my view:

1. Identification of a rational set of return objectives, combined with an unfettered commitment to adhere to the essential constraints that apply to your investment program.
2. Ability to estimate portfolio exposures, for the most part on the basis of simple, historical statistics.
3. Understanding of the tools available to adjust these exposures.

4. Capacity for identifying situations where exposure adjustments are necessary (i.e., when risk profiles don't jibe with the aforementioned objectives and constraints).
5. Commitment to make such adjustments consistently and irrespective of the temptations that invariably exist to the contrary.

As we will see, risk management is much less about estimating and much more about doing—a subtle distinction that, sadly, is often overlooked by professional risk practitioners, as well as by those whose portfolios they impact.

The risk management investment takes several forms: These will include time, effort, and maybe some outlays for systems if your portfolio is sufficiently complex as to require the application of mathematical models to understand the pricing dynamics of instruments that you are trading. Most important, adherence to a sound risk management doctrine will routinely compel you to make trades and to assume portfolio profiles other than those that would precisely apply if risk management were not a consideration. Specifically, if you act as you ought, you will oftentimes find yourself unable to put as much capital at risk as you might like when great trading/investment opportunities present themselves. Similarly (though perhaps not as often), it may make sense to apply an excessive amount of capital at a trade about which you are less than thrilled—again, in the name of risk management.

The outlays imposed on those who choose to practice sound risk management therefore take the form of direct expenditures and opportunity costs. It should not surprise you that I will be encouraging you to view these “sacrifices” as investments rather than as expenses, for reasons that are implied in the title of this chapter and that comprise the core premise of this exercise.

Many of these concepts were well established long before that fateful day when I ventured into the field of risk management; but at least from where I stand, the process of applying them cohesively to the practice of portfolio management has been painfully slow to take hold. Most of my work over the years has thus involved the application of simple statistical principals to a practical risk-taking setting. Throughout the evolution of these efforts, I have attempted, at least nominally, to apply the scientific method (OGHET—Observe, Generalize, Hypothesize, Experiment, Theorize—to those who remember their school days) and would summarize the conclusions that I have drawn in the process in the following manner:

- There is a bona fide science that underlies the activities of trading, investment, and portfolio management.

- The various components of this science can be isolated and evaluated in terms of their impact on financial performance.
- Using an extremely simple set of statistical and arithmetic tools, it is possible to evaluate which elements of a given portfolio management process are working efficiently and which are not.
- In turn, by making these quantitative comparisons across periods of time and intervals of varying success, it is possible to gain insights into the specific elements of the process that are underperforming in periods of performance difficulty versus those that are working when things are going right.
- Although it is not always possible to correct problems without generating other inefficiencies in the portfolio management process, it is extremely useful to understand these undercurrents, such that traders can harness their strengths and minimize their weaknesses in the most effective manner available.
- The methodology is also very useful in determining which types of market conditions work most directly in portfolio managers' favor and which work against them. In turn, this knowledge offers the opportunity to more efficiently match resource allocation to associated opportunity in the marketplace.
- When and where a portfolio manager finds areas for potential improvement, the same simple set of statistical tools that is useful in identifying problem areas can also be applied to attack the problems in a controlled manner.

This book and the risk management strategy I will outline simply build on these themes. We begin by discussing a process of identifying and living by a set of core objectives that will serve as the macrolevel measuring sticks of your success and/or failure. Here, you need to think very carefully about your options because, as I will argue when we get to it, there are multiple core objectives that rational investors can set for themselves, each based on a combination of market and personal factors and each implying a slightly different approach to portfolio management.

Once we have established the applicable objectives for performance analysis, we begin to build the statistical tool kit, which is designed to describe your trading portfolio from a quantitative perspective. The first element of this is what is commonly referred to as *profit/loss (P/L) time series analysis*, through which we will put your profitability patterns across time under a microscope—much in the same way that you would look at the technical patterns on the chart of your favorite security. Note that in order to achieve a practical understanding of time series analysis, it is necessary to grasp a small number of bedrock statistical concepts, most notably *mean*, *standard deviation*, and *correlation*. Each, in my opinion,

is conceptually simple and easy to calculate. Taken individually and as a group, they can offer insights into everything from the way markets behave to the relative merits of trading strategies that hope to capitalize on this market behavior.

It is likely that you will have encountered these concepts elsewhere, perhaps in your academic training; and I believe they are useful tools for anyone wishing to better understand portfolio management and its various subcomponents. I encourage you, if necessary, to review your understanding of them, as they are easy to master; and very little else in the bothersome area of statistics is needed to perform the type of targeted performance measurement that is the centerpiece of this book.

Through P/L time series analysis, we will discuss ways to measure your returns not just in terms of dollars invested, but also as a function of the amount of risk you are taking. We will also explore a methodology for setting your exposures to levels that will allow you to reach your objectives, while at the same time enabling you to ensure that under most market conditions you do not lose more than the amount you have predetermined to be your maximum threshold for economic reversal. Separately, I will cover the topic of *correlation analysis*, focusing on ways to measure and interpret the implications of similarities between your performance and external factors, such as the performance of the market as a whole, as well as internal factors, such as how actively you are trading, how much you are investing, and so on.

With the P/L time series tool kit available to help you identify and evaluate your performance in a much more scientific manner, I then describe a range of alternatives at your disposal that allow you to modify some pattern you have determined is counterproductive to your overall portfolio objectives (or making inefficient use of scarce portfolio management resources, such as risk capital). In addition, I discuss ways to use the same tool kit that identifies problem areas to evaluate the effectiveness of any corrective action you choose to take. Again, these methodologies won't be of any help in determining what trades to do when you are somehow operating outside zones of effectiveness. Instead, they will give you the means to identify and evaluate your alternatives in such a way that, I believe, best suits the very personal nature of the portfolio management process.

The final pieces of the statistical methodology I present are those that characterize your performance not across time but on an individual transaction level. By simply aggregating information that you have stored on individual transactions, you can do everything from figuring out how often you are right on a trade versus how often you are wrong, to determining how long you are holding each position and how this impacts profitability. Beyond this, I cover such topics as identifying and analyzing performance in individual securities, in sectors or market segments, in sides of the

market (long versus short), and in amount of capital deployed in individual trades.

Trust me on this one—there’s a treasure trove of useful information here. What is more (and you’ll find me annoyingly repetitive on this topic), by frequently performing these same statistical reviews—across different time intervals and periods of varying performance—you stand to achieve a much clearer understanding of the impact of external factors (e.g., the market environment) and internal considerations (e.g., the individual components of your decision making) on your prospects for achieving your goals and living within your constraints. In turn, the routine performance of statistical analysis across periods of relative success will allow you, should you so choose (and I think you should), to match up your market activity with the conditions and the modes of operation that are most conducive to your success. This alone won’t ensure glory or even consistent profitability, but it will give you a heck of an edge over your peers and other market participants who don’t heed these metrics and, as a result, risk squandering at least a portion of their scarce investment resources in ways that are almost certainly counterproductive—given their goals and constraints.

We don’t want to overstate the case here. While the analytical approach I will recommend *ought* to be useful to just about everybody, it is wrong to think that it offers a precise road map for improved performance. In my experience, there are very few unambiguous diagnoses and even fewer unilaterally beneficial remedies that emanate from the regimens prescribed in these pages. In fact (as we will discuss in detail later), there is a significant risk of taking too literal an interpretation of the analytical output and reacting to it in ways that will actually impede your path to optimal performance. For example, the numbers may indicate very clearly that the longer you hold on to individual positions, the better the result. However, if you respond to this input by simply lengthening your holding periods on every trade you do, taking little or no heed as to how this adjustment might impact other elements of your portfolio decision-making process, it’s a fair bet not only that you will not experience improvement, but also that you will lose in terms of both money and aggravation. It pains me to offer this disclaimer, but in the name of public service, I believe I am obliged to do so. Put it this way: If I had discovered any reliable statistical methodology that offered simple, unambiguous remedies for the scourge of portfolio management underperformance, (1) I’d be even more fabulously wealthy than I already am, and (2) I’d need to have my head examined if I even considered the possibility of sharing these results in written form for the royalty on the price of a book.

Know instead that the secrets to deriving full benefit from this magic can be found in the subtler shades of your market experience. These secrets take the form of putting your capital to work when its prospects for

yielding some benefit are high; of avoiding the repetition of identifiable mistakes; and of relying on those formidable but elusive twin pillars of the temple of gracious living, patience and discipline, when the likely short-term benefits for such reliance are neither comfortable nor gratifying.

“To thine own self be true,” said Polonius to Laertes, in Shakespeare’s *Hamlet*; and even though both were ultimately dispatched by the capricious blade of the Mad Dane, I think this advice was worthy of a loving father to his son. Brutal internal honesty is about as adaptive a trait for market participants as I can think of; and, for reasons that should be clear by now, *honesty* will be a major theme of this document. With this in mind, and before we start with the gory but necessary details of portfolio analysis, I’d like to share some high-level qualitative observations that I believe are perfectly in keeping with the spirit of both what I’ve written thus far and what those steadfast enough to forge ahead will read in subsequent chapters:

**Have a Plan and Stick to It.** Prior to engaging in market activity, it is important to take a careful study of everything from your objectives, to the resources you have at your disposal, to the market inefficiencies you are trying to exploit. Unfortunately, my experience in these matters is that even among professional money managers, this type of planning is the exception rather than the norm.

**Fight for Every Fraction of a Point in Trade Execution.** Often-times, even the best portfolio managers are focused more on the quality of their trading ideas than on the execution of the strategies. This is a critical mistake. Great ideas are easy to squander, and great follow-through always pays off. By carefully engineering your points of initiation and liquidation, you will experience significant positive differentiation of revenues, relative to a strategy that doesn’t feature this level of diligence—no matter how great or lousy your ideas are.

**Don’t Do a Trade Unless It Is Tied to a Predetermined Target Price and Stop.** As part of the process of both position selection and executions management, you should always adhere to a prespecified price range, on both the upside and the downside, that serves as a prerequisite for keeping the position open. This means that if the market you are trading either reaches your target or violates your stop/loss level, you must liquidate the position. If you still feel you are correctly positioned in this particular instrument, then get out and reinitiate the position with new target/stop parameters. If you do this, you are shaping your own destiny on every trade. If you don’t, then there’s no limit to how much money you can theoretically lose on a given transaction. Sooner or later, some combination of trades will blow you up.

**Don't Operate outside Your Limits or Other Constraints.**

Whether you are trading for yourself or earning your keep managing other people's money, you should have a series of limits in place that govern your portfolio management activities. These limits will invariably prevent you from constructing your ideal portfolio from time to time, so adhering to them will routinely imply trade-offs between what you feel is warranted based on market opportunity and what I argue is best for your long-term well-being as a portfolio manager. You will provide your own counsel in these instances, but I urge you to allow risk-control considerations to carry the day. Although you may be correct in your assessment of what's going to happen in the markets at any given time, your risk parameters are based on more static considerations that are likely to be less influenced by wishful thinking (e.g., by personal financial constraints or by the risk-appetite constraints of external capital providers).

If you live within these parameters (assuming they are set rationally), you may give up some upside in selected situations, but you gain the considerable benefit of control. By contrast, if you violate them routinely, someday you are almost certainly going to be wrong, and in a big way (to paraphrase Blondie, "One way or another, it's gonna getcha getcha getcha"). I have seen even the most highly regarded traders in the world end their careers rather meekly because of this unfortunate reality.

**Compare and Contrast Periods of Relative Success.** Among the most important methodologies for portfolio diagnosis that I will describe in this book is that of comparing individual portfolio decision-making elements in periods of strong success against those in intervals of frustration. For example, you may want to compare such factors as your correlations to market benchmarks, or trading winning percentages across these interludes of diverging fortune, in order to see if they are markedly different. As we will discuss in great detail, this won't necessarily give you an answer key as to what will work in the future, but it will certainly offer insights that may help you apply your capital and other scarce resources more efficiently.

**Try New Things.** Markets, by their very nature, are in a constant state of flux. One reason for this is that any strategy yielding above-average risk-adjusted return (which we will define in painful detail later) is, by the unshakable laws of human nature, under a sustained threat by other market participants seeking to correct this "inefficiency." Indeed, as any close observer will tell you, the rate of change is increasing at an increasing rate. This means that there is a limited shelf life for nearly any highly successful market approach. Ultimately, I believe that almost any strategy either will require significant tweaking or will be periodically subject to

diminished returns over what constitutes a very real but little understood business cycle that exists for market participation of all kinds.

As a result, only those who are willing to perpetually adapt to change have the opportunity to succeed consistently at trading and investment over a lifetime. In addition to encouraging you to be proactive in the adaptation of your strategies, I will show you ways to use a statistical tool kit to establish a framework to ensure that your forays into uncharted waters are undertaken as controlled experiments, such that the likelihood of their success can be maximized, with minimal damage if things go wrong.

**Take More Risk When You Are Up and Less When You Are Down.** The Children of Israel didn't receive this commandment from Moses on the mountaintop, but I'm pretty sure that it was in the first draft of the tablets. Rumor has it that the Almighty, in his infinite wisdom, removed it as part of the punishment for that idol-worshipping romp in the desert (as led by Edward G. Robinson in the Cecil B. DeMille vehicle). It thus falls upon mere mortals such as myself to lead the faithful out of the wilderness of setting risk levels that don't include recent performance as a key decision factor.

The practice of sizing your risk on the basis of recent P/L performance is perhaps the most important rule for success that I've encountered in the markets. However, even if you buy into the concept, you will find it among the most difficult of conventions to follow (ranking, by some accounts, on a par with that one about thy neighbor's wife). This is particularly true when you are losing money, as there is a natural urge to increase exposures during difficult periods in the hopes of minimizing the time period of underperformance. Your instincts will tell you to load up and make it all back as quickly as possible—and your instincts couldn't be more wrong. For enlightened portfolio managers who wish to have long careers, the price of a P/L setback is measured not in the dollars needed to recover but in the time necessary to make those dollars.

By contrast, those who choose to increase their exposures after a difficult interval may see this strategy pay off once, twice, or even several times; but ultimately, it is a ticket to disaster where they will bomb out—perhaps in spectacular fashion. A mentor of mine, and one of the true pioneers of modern-day portfolio management (okay, it's Paul Tudor Jones), is fond of saying that sooner or later, we all go to the trader graveyard. In my experience, this does not actually have to be the case. I believe that if you cut losses during periods of performance difficulty, you can, in fact, trade into a state of immortality.

In addition to arguing the merits of setting your exposures as a positive function of performance, I will discuss simple statistical tools that will enable you to operate at exposure levels that will help you to stay in the

game indefinitely, no matter how badly you may suck at reading the markets.

### **HEY, JOE, WHERE ARE YOU GOING WITH THE RISK IN YOUR BOOK?**

Listen, Joe, I need to speak to you about your portfolio. I've been watching you closely over the past few weeks (of course, as your risk manager, this is my job). I know your performance has been a bit disappointing, but I want you to know I'm not particularly troubled about that. You've been through this before, and I'm confident that you'll pull through quite nicely, as you always have in the past. However, I do sense a certain anxiety on your part; and I won't lie to you, this concerns me a great deal. I know it's getting later in the year, and you're anxious to reverse your performance so you can get paid. I also sense, and correct me if I'm wrong here, that you're sniffing big opportunities in your space. Bottom line: My instincts tell me that you're debating whether now wouldn't be a perfect time to increase your risk profile.

What's that? Did I hear you say you want to take a shot here? Of course, you do! After all, we're looking at a world-class market opportunity, are we not? You've done your homework, and you couldn't possibly be wrong, could you? Besides, you're tired of losing money, and I don't blame you one bit for this. To put it bluntly, your recent performance has sucked, and the only rational answer is to trade bigger. There's certainly no portfolio management problem I've ever encountered that couldn't be solved by simply trading in bigger sizes, and God Almighty didn't breathe life into us just to trade for chump change. Once you've nailed your big trade, a lot of things are going to change for the better. You'll be nicely profitable, and you'll be in a great position to move forward in the markets in a very disciplined manner. All you really need to do is to get this next one right, and everything else will fall into place.

*But what if you're not right?* Trust me here, you'll have bigger problems than you are anticipating at the moment—so big, in fact, that I strongly suspect the upside is not worth the downside. For one thing, you'll have lost a good deal of money—in the process further exhausting your risk capital at a most inopportune time. What's more, it will be difficult, without great effort, to rationalize away the following unpleasant realities: (1) Your thoughts about what constitutes a high-conviction trading opportunity are somewhat less than infallible; and (2) you've failed pretty unambiguously at the challenge of capital preservation—at a point when capital preservation was a particularly important objective. At that point, your capital reserve and confidence will be at an ebb; and what might be worse, I will be looking more fervently over your shoulder than ever before.

You now have the opportunity to play your big idea in smaller size. If you do this, no matter what happens, you will experience a palatable range of outcomes. Assuming you nail the trade, you should still make money (just not as much as if you had played it in large size). If the markets go against you, the financial damage will be minimal. Either way, you will gain the confidence that emanates from a sound and consistently applied risk management program. All of this could be yours by simply setting aside some of your remaining capital for a rainy day (sort of like an investment, if you catch the drift) and sacrificing some potential upside on a single set of high-conviction market ideas. At the end of the day, you'll probably end up ignoring my advice and, if things go wrong, just blaming the risk manager. Why not? Everyone else does. But for your own welfare, I urge you to take a good look in the mirror and ask yourself whether you might've had just the teeniest hand in creating your own misery from this sorry episode.

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**Always Save a Healthy Amount of Risk Capital for “Special Situations.”** Although the act of playing your best ideas at smaller sizes during a period of suboptimal performance is a prime example of the Risk Management Investment at work, you may be surprised to read that it does not always represent the best use of your risk management resources. I must point out that the mark of portfolio managers who have truly mastered these concepts is their ability to nearly *always* have an abundant reserve of risk capital available for high-conviction market opportunities. Specifically, *by practicing relentless risk management throughout all phases of a trading cycle, they avoid suffering precipitous drops in their risk-taking capacity and are therefore poised to take advantage of unique opportunities, whenever they present themselves.* This means setting aside a portion of their profits on all of their winning trades, as opposed to always and immediately redeploying these winnings in the market. It means cutting losing trades before their impact extends beyond that of mere annoyance. It means being patient about recovering losses after a bad spell, and it means exercising restraint and discipline at all times. This is what great traders do.

By contrast, mediocre traders often find themselves on a treadmill, where they've repeatedly squandered their risk capital on substandard ideas—a problem that they frequently exacerbate by pressing their bets at the wrong time. Then, when really good ideas do formulate in their brains, they have neither the means to put the trades on in respectable size nor the staying power to hold the trades long enough for the sequence that they envision to play itself out. After the fact, they curse their luck and blame sinister outside forces for their inability to make any money, the accuracy of their predictions notwithstanding.

I'm here to tell you that there's very little luck involved in these situations; that there are indeed outside forces at play; and that you are not wrong to believe there is a systemic conspiracy seeking to ensure that when your market prospects are at their greatest, your ability to capitalize on them is maximally constrained. This is true because portfolio managers as well as those who monitor their risk tend to operate with something of a herd mentality. Traders often have similar thoughts about market opportunity and routinely put on the same types of bets at similar times. In turn, risk managers (a breed not typically distinguished by their propensity for original thought) tend to impose similar types of constraints on portfolio managers, who therefore tend to effect risk reduction, at the same time and in a homogeneous fashion. Many, many times this means selling at or near the absolute lows or covering short positions at the top of their ranges. These risk-reducing trades often leave pricing inefficiencies in their wake, and those who have carefully preserved capital (i.e., those who are *invested* in risk management) frequently find themselves in an ideal position to capitalize. So when your risk management system tells you to sell your longs or cover your shorts, it is no accident that you may be making the former trades at the lows and the latter ones at the highs. And rest assured that the windfall you may be handing to the person sitting on the other side of the trade is likely the result of superior risk management on his or her part.

Examples of this "group-act" occur just about every day, embedded in market events both large and small. Consider the 1987 crash: Consensus was pretty bullish back then; and speaking for my fellow geezers everywhere who remember this event, the timing took everyone more or less by surprise. Anyone who was aggressively long got carried out; and for much of that day, there were no buyers anywhere (the New York Stock Exchange specialists showed themselves to be especially gallant by not answering phones and hiding under desks). So most who were forced to sell did so at or near the absolute lows. By contrast, some market participants were aggressively short, and they received a very fortunate windfall. Here's hoping they put some of that away for a rainy day.

Others—those who managed its risk very carefully, trading both sides of the market and maintaining a healthy reserve of risk capital for all contingencies—had a world-class opportunity when the market restabilized by staging an impressive four-month rally from its early December low. From there, as everyone knows, the markets were off to the races for more than the next decade. By carefully contrasting the outcomes that befell the heathens with those of the risk management faithful, one notices an acute dichotomy. With regard to the former, not only did they probably lose their shirts during the crash, but they also missed a chance to load up early into a market that increased fivefold over the next decade. By contrast, those

who minimized their damage in 1987 had investing power aplenty to catch the wave.

There are a whole bunch of scenarios like this, playing themselves out in events dramatic and mundane. Success can be defined in terms of having the capital to risk when risk is worth taking, or at least of having the sense not to take big risks when you can't afford to be wrong.

**Make Sure You're Taking Enough Risk to Justify Your Trading.**

There are also situations when the Risk Management Investment actually dictates the need to assume higher levels of exposures than those you are predisposed to take. And while these are perhaps less intuitive, the impact is often no less dramatic and, as such, they bear mention. One such situation occurs when the portfolio manager is operating at levels of exposure so low he or she can't possibly hope to meet return objectives. This manager may believe that he or she is being prudent, but I would quarrel with this characterization—particularly for professional money managers, a group who in my experience quite often run into this problem. You are not going to endear yourself to your capital providers by using up their financial and perhaps trading infrastructure resources in efforts that can't hope to produce the desired level of performance. For many of those to whom this applies, their risk-taking deficiency may render it impossible for them to even cover associated infrastructure costs. And I have witnessed enough of these scenarios to know with certainty that this is a condition that cannot last for long. Either risk taking increases, or the individual in question gets fired. It's as simple as that.

Over the longer term, successful portfolio managers also need to set aside some risk capital for developmental purposes, and this too can be thought of as a Risk Management Investment. Markets are always changing, and the methods that are working for you now are unlikely to sustain you in your purpose over an investing lifetime. It is therefore prudent not only to carefully note the changes you are observing, but also to use a portion of your accumulated risk capital to test new hypotheses and ultimately to develop new strategies. In later chapters, we'll discuss ways to establish clinical parameters for these developmental efforts, including timing, such that they become unlikely to cost you anything more than you are willing to expend on them, as well as methodologies for analyzing the prospects for success of these new approaches in a manner liberated from the natural forces of subjectivity.

**Pay Very Close Heed to Events “at the Margin.”** One of the few truly useful concepts that the field of economics offers is that decision making at the margin of behavior is a key driver of economic outcomes. Examples of this are everywhere. Businesses produce up to the point

where marginal revenue equals marginal cost. Consumers consume up to the point where marginal utility and cost intersect. Because of these realities, if you want to understand the economics of any situation, it pays to pay attention to activity at the margin.

How does this apply to portfolio management? In trading, success or failure is decided, more often than not, by behavior at the margin. If on each transaction you strive to save yourself a few pennies on commission, achieve a tick or two better on each execution, manage your risk to slightly more precise parameters, and conduct that extra little bit of research, you will achieve a dramatic, positive impact on your performance. I promise that, depending on where you are in your P/L cycle, this will turn good periods into great ones, mediocre periods into respectable ones, and otherwise catastrophic intervals into ones where the consequences are acceptable. Managing these types of performance metrics is hard work, but it is not nearly as difficult as losing lots of money or simply treading water. What is more, you'll never maximize your returns unless you factor these components in. Improving performance at the margins of your trading activity will be a main theme of this book.

**Do Not Become Overreliant on Other Market Participants for Comfort or Assistance.** Blanche DuBois would not have lasted through the first scene of *A Wall Street Car Named Desire* because depending on the kindness of strangers is the practical equivalent of financial suicide (except for me—I am your friend).

**Don't Do It (Just) for the Money.** Word up, brothers and sisters, if you're going to be in the markets, y'all ought to try to have some fun along the way. No field of human activity is more competitive; and in light of this, I believe that success requires not just ability but desire as well. More power to those who can get juiced by nothing else than the relentless pursuit of the dead prez. But in my experience, those who operate entirely from this perspective will not only run out of steam eventually but will also fail to capture some fundamental elements of the experience: the joy, the pride, the buzz.

Why the joy? Wherefore the pride? Whither the buzz? Because you are playing one of the greatest games known to mankind. Because, as Teddy Roosevelt said, "In the arena," and not a "timid soul who knew neither victory nor defeat." Because your successes and failures will be very much of your own making. Because without traders like you, willing to risk capital in your belief about the value of economic assets, the world would have a much poorer notion of what those assets were worth. Because the markets you trade are critical to a process that builds roads and factories and hospitals around the world. Because if you weren't there to help efficiently

price capital assets, money would flow to the wrong economic projects, and we'd all be worse off as a result. Because no one really knows for sure what will happen over the next five minutes, much less the next five years. Because the band is playing and your feet should be tapping. Can you hear the beat? I can.

### **STRAY CAT BLUES**

Brian was a very successful portfolio manager at a highly respected financial institution. Several years ago, he found himself in a career-defining crisis, triggered by a widely publicized global market disruption. Up till that time, he had put together an amazing track record, over many years and across an impressively broad set of market conditions. Not only had he done very nicely in his own right, but he had become something of an industry unto himself, with literally dozens (if not hundreds) of stakeholders leaning on him for a portion of their well-being. True to his nature, Brian bore all of this with modest good spirit. When the crisis began to unfold, he was in the midst of yet another record year; but as fortune would have it, his portfolio was caught in the cross-fire of a hurricane that nearly engulfed the global financial marketplace.

Because he had unique market insight, he not only saw the unfolding storm threatening in its extreme formative stages but also recognized its potential magnitude before almost any of his competitors. At the first true warning signs, he started a massive liquidation, exhorting his colleagues to do the same—all well before the contagion expressed itself in the form of a full-blown market panic. The liquidation was a very expensive process and eradicated considerable portions of his profitability. His notions of a record year gone (at least at that moment), he focused exclusively on the objective of capital preservation. Most everyone around him was disappointed with his actions. Few had sympathy, and some of his closest supporters told him to go to the devil. “What’s the matter with the boy?” they said “Is he checking out for sure? Is he gonna close the door on me?” Then the crisis began to unfold in earnest, and this, of course, afforded him a measure of vindication. However, as often is the case in market disruption, the real damage occurred in intermittent phases. After the initial crisis, there was a period of calm, which nearly everyone (with the notable exception of Brian) took as a signal of a complete return to normal market conditions.

All through the calm period, Brian continued to liquidate his portfolio, letting most of his hard-won profits bleed away in the process. Some of his colleagues tried to be aggressive in the markets and encouraged him to do the same, but Brian didn't listen to any of them. Every day, he came in and reduced his position size as much as he could—given the liquidity of the markets. Then the second critical market disruption hit. By this time, Brian was nearly flat. Meanwhile, many

of his competitors were in free-fall liquidation mode in markets for which there were simply no takers for the other side of these trades. Several of his comrades blew their careers during this period. Some lost nearly all (and nearly all lost some) of their capital. Brian emerged, in the aftermath, with a healthy level of profitability still intact and ample risk capital to carry on the fight.

A story like this we would typically end right here, but Brian wasn't done—far from it, in fact. Though still up for the year, wherever he saw red, he was determined to paint it black. He was way down from his highs, and he was determined to operate at modest risk levels until he'd recovered these losses. The process took months; and at various turns, Brian resisted the temptation to return to aggressive or even normal risk levels. He simply wasn't going to risk another drawdown at that critical juncture. Sure, there were market opportunities; but he knew that if he got very aggressive there and happened to be wrong about his ideas, he'd be back down near his lows, and he was simply unwilling to put himself in that position.

After several months, he'd made it all back and was ready to attack wherever and whenever it made sense to do so. As the fates dictated, there were abundant opportunities for much of the rest of that year, and Brian ended up beating his record after all. Clearly, he had understood the value of the Risk Management Investment.

Brian is invisible now; he's got no secrets to conceal. Rumor has it though that he's got his trading Jones back, but I personally doubt he ever lost it. In fact, if you listen closely, you can hear the clip-clap of his feet on the stairs.

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I'd like to conclude this chapter by stating my belief that on the whole, Risk Management is a demanding but benevolent mistress who can and will cause all kinds of annoyances (or worse) if she is treated with benign (or, for that matter, malignant) neglect. For the most part, her demands will be reasonable; but if you don't attend to her wishes routinely, she won't be there for you when you need her most. At that point, you'll discover charms that you hardly noticed when she was hovering about you, begging for your attention. Strive to keep her satisfied while doing so is a matter of convenience and not absolute necessity. You'll find her a stalwart companion. Remember, she has your best interest at heart. Make her your regular dance partner; but be careful as to the style of music you select. She will tolerate Rap but tires quickly of it. She is leery of Hip-Hop, Grunge, New Wave, and other faddish genres; and she altogether eschews Punk. She's Never Been to Spain, but she kinda likes the music.

Above all, she loves the waltz, with its graceful, flowing lines; and she won't insist on leading—unless you utterly botch the job on your own. And no matter how clumsy you are, try not to step on her toes.