# Taming Risk

## A guide for Traders

**By Norman Hallett**

THE Disciplined Trader
The Psychology of Profits

The policy of being too cautious is the greatest risk of all.
**Jawaharlal Nehru** (1889 - 1964)

Take calculated risks. That is quite different from being rash.
**George S. Patton** (1885 - 1945)

And the day came when the risk
to remain tight in a bud was
more painful than the risk
it took to flower

**Anais Nin** (1903-1977)

# Table of Contents

**Introduction….4**

**Chapter 1: Basics about Risk and Money Management…. 5**

**Chapter 2: Money Management-Basic Rules…. 8**

**Chapter 3: Money Management-Profit and Loss Strategies 12**

**Chapter 4: Types of Risk…. 21**

**Chapter 5: Risk Reduction Strategies-Equities…. 30**

**Chapter 6: Risk reduction strategies-Options…. 39**

**Chapter 7: Trader actions to reduce risk…. 57**

**Chapter 8: The trading Psyche…. 64**

**Appendix A: Developing an Investor-Trader profile…. 69**

# Introduction

In this fantastic digital age, we live in a time of exploding knowledge despite such inane new distractions as twitter or social networking. Indeed, the risk of our time is not having time to learn new things and explore new ideas. Indeed, for traders, new knowledge can mean stretching oneself in a way that can be directly measured in the cold, hard reality of the trading account balance.

Traders don't believe in "if only I had done this or that"… or "it's not my fault". Traders don't tolerate B.S-especially from themselves. To a trader "it is what it is". Being a trader is taking responsibility in an age of fuzzy accountabilities. You, dear trader, have no fear confronting one of the hardest taskmasters you can face….yourself. It takes guts to ask the question: "do I have what it takes?" Well, do you? Many people find even this question as inappropriate and politically incorrect. How dare you make me feel uncomfortable with myself?

But traders don't feel that way. They are not afraid to find out who they really are….what causes them fear. Few people face up to constant real time judgment devoid of ego protection. Being a trader is all about straight talk and acting on what they believe to be truth.

Ego helps to form us but it also can help to tear us down. Traders learn to control that destructive type of ego and allow dispassionate logic and intellect to take over. Yes, dear traders, it's not an easy thing to do…and that's a good thing because if it were easy, it wouldn't be profitable. And now we touch on the subject at hand: risk and reward. It's a basic truth that with no skin in the game there can be no gain. On the flip side, with skin in the game there can be gain but also the risk for some pain.

Each individual has a certain risk profile and that changes as success or failure plays on the emotions. Professional traders have long understood that there are certain procedures and strategies that help reduce risk but when dealing with the unknown future, there is no probability of 1.0 except death and taxes…and maybe death will be challenged in the future.

The purpose of this book is to present an overview of ways to control risk-primarily through strategies and procedures. It's not brain surgery or new wave thinking. The framework is in place. The methods presented have been tested by the cold, dispassionate judgment of the market and are adopted by almost all successful traders.

After reading this book, I hope you come away with some ideas for your trading that will help you reach your goals or at least open up your mind to topics for further study of risk and how to tame it.

Norman Hallett
CEO
The Disciplined Trader

# Chapter 1
# Risk and Money Management

Risk is the probability of losing something of value. If something or some event has little or no value, it has little or no risk. An easy way to find out what you value is to ask yourself what would hurt if you lost it. Could it be freedom? Don't risk being a criminal. If you value your relation with your spouse, don't play around. If it's money your value, either don't lose any or make enough that you can take a hit and keep on ticking. Indeed, maybe that's why the rich seem to get richer; money is no big deal to them because they have a relative excess of it. It's all relative. Losing $10 doesn't hurt much but losing $10,000 is another story and can cause a completely different emotional reaction. In fact, risk has a statistical-tactical nature and an emotional nature. And the trader needs to understand both sides of risk.

**Emotional Risk**

Most people weigh in their own minds what has value and the higher the value, the greater the perceived emotional risk of being without what you value. One of the dilemmas of being a trader is that money plays an important part as main the transactional tool. In fact, money is the way we measure success or failure in trading. To a trader, money is just a way to keep score. But it is the emotional importance of money that makes it hard for many to become successful traders. The more money means to a trader, the more the emotional risk of losing it. However, there are ways to control the emotional impact of losing money. First and foremost is to consider the fact that the money you use for trading should not be a "significant" amount-that if you lost it all, it would make little difference in the way you live your life. Indeed, if you need your trading money, there is usually too much emotional risk in losing it. It's that simple.

So, the entry price to become a trader is to have enough money that you can afford to lose it; not that that is the intention. This one fact is key to getting started as a trader: you need to control the emotional risk of losing money by placing an insignificant amount at risk. My friends, consider this truth: **traders lose trades all the time**. It comes with the territory. Of course, scar tissue helps, but if you can avoid the emotional cuts and bruises, why not do it that way? To do that, you need to set limits on what you can lose before the risk becomes too much for you to emotionally handle. You may believe yourself to be thick skinned enough to handle losing, but there are so many subtle psychological nuances when it comes to money and what it represents

It is the emotional risk of losing a valuable resource that is the killer to most aspiring traders. One of the most important strategies a trader must learn is how to neuter emotional risk, and as with most everything that involves fear, it is knowledge and understanding that conquers the darkness and brings enlightenment.

So, how do we go about conquering the emotional component of risk? We begin solving this problem by using the important strategy called ***Money Management.***

**What is Money Management?**

First of all, money management is all about defining your relationship with money. For most, money is something hard to come by and can do much to define the life one leads. But the money used for trading is just a tool and nothing more. To the trader, money is nothing more than a way to measure performance. Yes, the goal is to make the account balance grow but the need for the money used in trading is not crucial to the trader's standard of living and ability to meet financial obligations. For the most part, trading is usually part of an overall strategy for conserving and building wealth. Traders normally trade only a small portion of their total wealth-usually that portion of investment funds that have a higher risk-reward proposition and normally requires the most active participation of the investor.

Are you the kind of person who needs to have a large amount of money at the ready in case the sky falls in? Or, are you the type of person who feels confident in your ability to "land on your feet" no matter what transpires? Chances are, you are somewhere in between. In regards to trading, it's safe to say that the more time and study you put into the subject, the less emotional risk will play in your trading activities. But much of how you feel about money depends on your background and how you were raised to think about money.

If you saw your mom or dad using money as a tool to make more money, you'll probably have a different take on money than the person who saw money as just a way to keep the wolf from the door. But for whatever reasons you feel the way you do about money, you can find out how much money you should use for trading by asking the simple question:"How much can afford to lose?" Here is how you go about answering that question:

Begin by figuring out your actual budget to maintain your lifestyle. Don't just shoot from the hip. Sit down and write it out. Itemize it and track it for the last six months to a year. Use a program like Quicken or other personal finance software that will help you identify and categorize all your normal expenses. Don't discount the surprise expenses because there are always surprise expenditures.

Once you know how much money you need to cover the living expenses for your lifestyle, find out what your net worth is. You do this by adding up all your assets and subtracting all of your liabilities. On the next page is a sample worksheet for figuring out your net worth.

However, it should be part of your plan to trade only the "extra" liquid assets for trading activities. Just imagine what pressure you would put on yourself if you used your home or other important property as collateral. It would kick that emotional stress level right up there. Believe it or not, there are some traders who violate such a basic law of investing. But these people are gamblers and not traders.

# Net-Worth Calculation Worksheet

An important step in gaining financial control is to calculate your net worth (assets - debts). Every year, your net worth should be tabulated to review your progress and compare it with your financial goals. In addition, a net-worth statement is a valuable aid in planning your estate and establishing a record for loan and insurance purposes.

**Assets (What You Own)**
**Cash:**
Cash On Hand
_____
Checking Account
_____
Savings Accounts
_____
Money Market Funds
_____
Cash Value of Life Insurance
_____
Other _____
**Real Estate/Property:**
Home _____
Land _____
Other _____
**Investments: (*Market Value*)**
Certificates of Deposit _____
Stocks _____
Bonds _____
Mutual Funds _____
Annuities _____
IRAs _____
401(k),403(b), 457 Plans_____
Pension Plan _____
Other _____
**Personal Property: (*Present Value*)**
Automobiles _____
Recreational Vehicle/Boat _____
Home Furnishings _____
Appliances and Furniture _____
Collections _____
Jewelry and Furs _____
Other _____
**Total Assets _____**

**Liabilities (What You Owe)**
**Current Debts:**
Household _____
Medical _____
Credit Cards _____
Department Store Cards_____
Back Taxes _____
Legal _____
Other _____
**Mortgages:**
Home _____
Land _____
Other _____
**Loans:**
Bank/Finance Company
_____
Bank/Finance Company
_____
Automobiles
_____
Recreational
Vehicle/Boat_____
Education
_____
Life Insurance
_____
Personal (from family or friends)
_____
Other _____

**Total Liabilities _____**

**Total Assets Minus Total Liabilities = Net Worth** 

**Traders are by training conservative in their approach to investing. It is the analysis and control of risk-both statistical and emotional-before the trade that makes them so.**

And that conservative philosophy begins with establishing the trading account size and limits.

Once you have figured out your budget and net worth, ask yourself these questions:

- Do you and your family have adequate life, health and other forms of insurance?
- Do you have an educational fund set up for your children?
- Do you have enough liquid cash (or assets easily convertible into cash) to cover at least six month's living expenses?
- Do you have credit card debt balances?

Once these questions have been answered to your satisfaction, how much spare cash or assets do you have? Then ask question**: "How would you feel if you lost all of those spare assets or cash?"** And if you are married, ask your spouse how they would feel about the loss of those assets (it might not make a big difference in your decision but it will at least give you a heads up on how creative you would have to be about any losses).

You get the idea. Try to get a feel for how much money you can lose without feeling uncomfortable. If you feel uncomfortable about losing any money, forget about trading because losing is part of the gig. It's just a matter of degree and how you take losing that counts.

If you don't know it already, here is the general strategy of being a successful trader:

**Traders shoot for a high frequency of winning trades with targeted profits-usually small ones- and immediately and without hesitation- limit losses no matter how they "feel" about the trade. Numerous successful small trades can add up to impressive annualized gains as long as the losing trades are nipped firmly and quickly in the bud.**

But if you have a thing about losing money, even a small loss can work its wormy way into your trading psyche. You must absolutely understand and accept the fact that all traders lose trades. But the key is to make sure that losing trades have limited losses well below the target profit margins for winning trades.

# Chapter 2

## Money management-Basic Rules

So, now that we have established in your mind that all traders have losing trades, it's time to determine just how much loss you can afford. In other words, you need to establish pre determined limits on how much you will accept in losses before you take action to stop and regroup.

One of the principal methods for helping to reduce the effects of losing trades is manifested in how you manage your trading account. Once you have a trading system you have confidence in, you must try to find the best way to stay exposed to the win-loss probabilities of your trading system. **You must stay in the game over time to be a successful trader** and you do this by establishing some rules and procedures.

**Per- trade limit size**
Typically, traders will look at the total amount of money in the trading account and establish a maximum percentage amount of the account per trade. Remember that the goal is to have many opportunities at making many high probability winning trades-even though the profits may be small. After all, a 3% net profit per month can become a 36% annualized profit if done consistently. So, you want some staying power. As a result, you want to limit your per trade position size to provide as many trading opportunities as possible.

First, you need to determine what type of markets you will be trading in and what the minimum required total transaction cost per trade will be.

**As a general rule, most traders will trade up to a maximum of about 2-5% of the account balance per trade.**

For example, let's say you have done all your due diligence in establishing your "numb" zone for the trading account (no pain if you lose it all) and you set up a trading account for $20,000 (so if you blow it, forget the trip to Greece or the kitchen addition. There's always next year). Now, according to the anecdotal rule of thumb, you would trade not more than $1000 per trade (5% of account balance). Now it's important to note that it is by no means implied that your maximum risk per trade is the total $1000. Typically, you might have a stop loss set at a loss of about 4-8% of that $1,000 per trade limit. Therefore, your real risk per trade would be about $40 if we used a 4% stop loss on the example trade. That is, your *computed risk* for the maximum per trade limit is actually only .002 of the account balance. So, the $1,000 is *position size limit per trade* and the .002 is the *computed actual risk* as determined by the stop loss.

- **Position Sizing (per-trade limit size) is a vital form of risk control and capital preservation**

David Jenyns, a well known trader and trading coach from down under, is a proponent of what he calls as The Position Sizing Formula and it goes like this – the number of shares is equal to the maximum loss divided by the stop loss size. The maximum loss is defined by the stop loss size; it's the difference between the entry price and the stop loss value. David provides the following example: "So, if we have an entry price of $10 per share and we set our stop loss at $9 cents, the stop loss value is the difference between our entry price and our stock price or one dollar. It's just a matter of plugging the values into the position sizing formula, and it will calculate how many shares you should buy so you never risk more than your maximum loss of the $1 per share.

Let's look at this example. If our trading account value is $50,000, and we have a per trade limit of 2%, our maximum loss would be $1,000. If our entry price was $10 and our stop loss value was $9 and our stop size would be $1. Now, to use the position sizing formula, the number of shares is equal to our maximum loss divided by our stop size. We calculate that our maximum loss is set at 2% or $1000 and we divide that by our stop loss of $1 so we can purchase 1,000 shares. If this stock reaches our stop loss, and we have to exit the trade, we know we're not going to risk or lose more than 2% or $1,000 of our account balance. But we also need to consider transaction fees in the calculation and we do that by adding those transaction fees on to the maximum loss in the formula.

Notice that how many shares we can purchase is determined by our maximum loss and also the size of our stop. So, by increasing our risk, we can also increase the dollar value of the position sizing, or by simply reducing our stop size, that is setting a tighter stop loss, we can increase the dollar value of the position sizing we open."

Conserving trading capital is key to having the maximum opportunities to trade and let the ratio of wins to losses work in our favor. Some trading strategies provide for a win-loss ratio as high as 80% so it's a matter of staying in the game. Indeed, trading is hitting for average and not about hitting home runs….although we'll take 'em when they come along.

Sometimes we hit a rough patch in the probability highway, a kink in probability comes along or the unexpected event out on the statistical tail can take our account down. And create some instant angst. Even abiding by our per-trade limits and using real stops can sometimes find our trading account balance starting to melt away. So how far down do we let things go before we decide to put a stop to the losing and step back to re-evaluate?

**Drawdown Limit**

If you start investing with $5,000 and you lose $1,000 your "drawdown" is 20% of your investing funds. If you then made back that $ 1,000, your drawdown would be back to zero. Pretty simple concept. But making up for drawdown can become very problematic once things start to head south.

From our example above, we lost $ 1,000 (we didn't have our stop in place as our trading strategy demands), which leaves a balance of $4,000 in our trading account. To get back to zero drawdown, we would now have to make a profit of 25% ($4000 x 1.25 = $5000.)

So, our original 20% loss requires a 25% gain to get back to our original $5,000 investment (zero drawdown). But as losses increase, the percentage gain to offset those losses grows geometrically. For instance, a 50% drawdown requires a 100% profit to recover the drawdown!

| % Drawdown | % gain required to recoup losses |
|---|---|
| 10 | 11.11 |
| 20 | 25.00 |
| 30 | 42.85 |
| 40 | 66.66 |
| 50 | 100 |
| 60 | 150 |
| 70 | 233 |
| 80 | 400 |
| 90 | 900 |
| 100 | busted |

This famous chart tells it all. When you draw down your account to a certain level- about 35%- recovering starts to take a much higher rate of return to recapture the losses. So, another anecdotal limit is the trading account drawdown limit of around 30%-40%. At that point, it's time to stop trading and analyze what is happening with you and your system; how are you using it and how well you are sticking to your trading discipline.

The Drawdown limit is the pre-determined mental safety switch that demands that you to step back from trading until you go through a cycle of analysis, re-tuning your system- or your head- and doing some virtual trading until you regain confidence in your trading system.

So, we have a limit on how much money to allocate for each trade-the ***per trade position size limit***- and a limit on how much ***drawdown*** we tolerate for the trading account balance. The purpose of these two money management limits is to provide us with procedures which allow us to stay trading over time and let the higher winning probabilities of our trading system run its course before we get behind the power curve of trying to catch up. We will have losing trades but over the long run, more winning trades with higher profit margins than the fewer losing trades will work in our favor. But we need to be trading to make it happen.

In terms of controlling risk, having a drawdown limit is our maximum risk before re-evaluating our trading. The per-trade limit caps the maximum position size amount you put risk per trade. Of course, the use stops cut that maximum computed risk to a small percentage of the maximum per trade capital risk. As we have said, traders are conservative and calculate **before entering a trade** what the maximum capital risk is they are willing to accept. Again, if you can afford to lose the whole account-which will not happen-the emotion of losing a precious resource is minimal. In fact, if there is any pain involved, it is usually associated with the act of losing….but as you know, this is just part of the territory. Besides, traders always have their safety nets in place and two of the most important are the drawdown and per-trade limits.

- **So, basic money management provides for procedures to allow you to help keep your trading system in play over the long run of many trades so that your trading system's win-loss ratio can do its thing.**

# Chapter 3
# Money management-profit and loss strategies

**The KISS (keep it simple, stupid) strategy**:
If the market is trending up, buy it. If the market is trending down, sell it. If the market moves against you after you have opened your position, close out. If the market continues to move in your favor, hold your position until you are happy with the amount of profit and close out your position. In this fashion, you have only one decision to enter and that is to buy or sell. Where to exit is your money management strategy.

When exiting a trade you also have a number of choices. If you have a profit, you may nurse it along, hoping that it will reach your target. But even then, you might have the tendency to get greedy and linger a little too long hoping for a bigger move. But if we move stops to protect profits or at least breakeven (including transaction fees) we can take a chance. Losses are another matter. Traders hate losses and put full focus on getting out quickly-at the stop or before. If things don't feel right, punch out. It's a game of probability and every loss just gets you closer to a winning trade. Get out and move on.

**The philosophy of always being decisive when exiting a losing trade is essential if you want to stay in the hunt.**

A good way to think about it is that when you enter a trade the market should move in your favor almost immediately. If the trade doesn't move your way almost immediately after you enter it, you are probably wrong and should get out. This applies for long or short positions. You may miss a few wins, but it's the losses that hurt and not missed opportunity. For options traders, there are strategies that capitalize on sideways movement so in those cases no movement is the optimal and movement in any direction is cause for concern. We will talk more about premium selling strategies later in the book.

**Scaling in**
A popular strategy for growing profits aggressively is when a trader adds to a position when the movement goes in the desired direction. Many traders will "scale in" additional positions as the move progresses; this can also helps reduce risk if the trade turns bad later on. Other traders believe that catching the initial momentum of a move is where the real profits are made and add on positions immediately once the move has revealed itself. A compromise is called pyramiding or scaling in new positions. For example, the trade starts to move in your direction and you add three new positions. The move continues in your direction and now you add two new positions and so on. This strategy anticipates slowing momentum and reduces the risk accordingly.

For example, if your planned total position size in a stock is 1000 shares you might initially buy 500 shares, add 300 (if the initial position is profitable), then 200 more as the

position moves in your direction. In addition, if you do pyramid, make sure that you are locking in profits with trailing stops.

Being a trader requires a system to help determine direction of movement and an estimate of the strength of the move. Indeed, taking a small position is like putting your toe in the water. If the trade moves your way, it's a logical strategy to add to the position and leverage the favorable move. **But this strategy should still observe the per-trade limit**. In fact, the natural temptation for most traders is to double or triple up as the move progresses favorably. But this can be dangerous for your drawdown if things reverse and you haven't honored the per-trade limit. Remember, trading is all about patience, discipline and the long run. Money management rules are set up to give you some staying power. Remember, you will have losing trades. In fact, most traders will tell you it's not so much about the winning trades but more about not getting whacked by the "big loss" (oops, I forget to put on my stops!) and plummeting below that dastardly drawdown limit.

As with all trading positions, real stops and not mental stops should always be in place. Stops should be moved along with the trade (trailing stops) to help lock in profits and reduce risk. Don't be concerned about getting stopped-out and missing the "big move". There is always another trade.

The dark side of adding positions is when a trader adds positions to a losing trade in hopes of recouping losses. Never, never do this bonehead move. It reflects arrogance, ignorance and is most often is the unfailing way to failure as a trader. Traders must be humble. Don't let that small voice of ego tell you that you have special talents. Stick with the discipline of your pre-established trading system rules. If it isn't working, change the system first, test it and then act according to the new system. Impulsive trading should be avoided at all costs.

**Exit strategies**

Trading systems incorporate an entry strategy and an exit strategy**. But let there be no doubt that the rubber meets the road at the exit of the trade. Up until gains are actually realized, it's all only paper profit and what happened a second ago.** Only **a**fter the position has been officially closed out can the chickens be counted. And, oh yes, don't forget Uncle Sam's slice-unless you are trading in a tax advantaged account such as a self-directed IRA, 401K, etc. By the way, as active trading implies higher profits, it is usually a good idea to trade inside of a tax advantaged account.

What time period you trade (intraday, swing, position) will help determine the profit target and stop loss points of your trades. Shorter time periods have smaller profit targets and tighter stops; in and out with small profits…..again and again. As the margins you pre determine are only targets, the real world leaves the door open for making artful decisions. What do you do if the move is stronger in your favor? Do you let the profits run past the target and move the stop up? What happens if you enter the market and you see things you don't like? Should you exit the trade even if it hasn't been stopped out yet? Even with a clearly defined set of rules, there remain gray areas and seduction.

**Stop losses**
Stop losses are your fist line of defense for limiting losses-apart from picking a winning trade. And it is safe to say that almost all traders are proponents of always using **real stop losses**- don't trust your memory**.**

There are many ideas about where to set stop loss targets. There are those who subscribe to a percentage of the profit target. For example, if your profit target is 12%, the stop loss would be set at 6%-a 2 to one ratio. Others may prefer a 3 to 1 profit to loss target ratio. Many traders will look back over their typical holding time for a trade and look for the low (if long the position) during the past trading time period and place the stop at that point. Others consider the current volatility of the investment and set the stop accordingly. But whatever system chosen, all stops should be honored no matter what may come to pass.

**Gut-feel, false hope and intuition be damned!**

However, there are skeptics who will also argue that in setting stops you are vulnerable to the stops being "run." Most traders have probably had the experience of setting a stop loss, seeing the stock price retreat to activate the stop loss and as the price goes zooming by. The actual price to close out the position may be much more that the false promise of the stop. What might have been a profitable trade instead turns into a big loss. It happens all the time is some markets. This is particularly true with thinly trading stocks. However, it is important to note that with options, the stop is guaranteed to hold at the price set. However, as with all stop losses, it must be actually set for it to provide protection.

But skeptics of using real stop losses (instead of mental ones) are playing lose and dangerous because it is the catastrophic loss that can put a large dent in aggregate profits for a trader. Remember, trading is about a lot of small compounding profits. A few large losses can really hurt. These low probability events must be guarded against at all costs. So what if you miss a big move now and again. It's the big losses that need to be avoided at all cost. It's OK to be a skeptic, but don't be a stupid skeptic. Use real stops.

As mentioned, there are times when a trader might want to widen stops. For example, if you decide to trade a high risk (volatile) investment you may want to give it some "breathing room". Recall that stops are usually set at a 2:1 or 3:1 ratio to the profit target. Usually, high risk means high reward so this should be reflected in the stop loss setting. In other words, if you plan to trade higher risk investments, you should be compensated for the risk by the promise of higher profits , which can also mean a larger stop between price and stop. Also, if you plan to trade in a highly volatile market, you also might consider wider stops but also wider profit margin targets. Higher volatility should also mean greater reward as well as risk.

**Scaling out**
Just as there is a strategy for scaling into trades, there is also scaling out of trades. For example, per trade limit permitting, you might have a profit target of 12%. As the investment approaches 6% profit, you might take profits on 50% of the position. As the profits approach 12%, you take another 30% of the original position off the table and let the remaining 20% run until the trade runs out of steam. Of course, at each exit point, the stop loss is repositioned to trail the price movement and protect against the potential reversal.

You've probably heard this before: "**Traders are conservative and manage risk."**

**Some Expert Q & A**
Paul King is owner, head trader, trading coach, and financial consultant at PM King Trading LLC, recently was a guest expert at an intensive training course for **The Disciplined Trader (www.thedisciplinedtrader.com)**. While he was there he answered some good questions from traders about money management. Let's review some of the recommendations made by Paul.

1. **Could you describe the steps a new trader just starting out should go though in developing a system with good money management and low risk management?**

   **Paul King:** A complete trading system includes the following steps:
   - Testable Hypothesis (reason system will make money)
   - Market Selection (what market the system will trade)
   - Instrument Selection (what is the liquid universe of instruments within the chosen market)
   - Setup (what conditions need to be true for a potential trade)
   - Entry (what conditions need to be true to enter a specific position in a specific direction, long or short)
   - Position Sizing (how big should the position be for your account size or capital allocation to the system)
   - Exit Strategy (when do you get out of a winning or losing trade)

   In my experience the last 2 items on the list are the most important so nearly all your research and development time should be put into what good position-sizing looks like, and how to create a set of exit strategies that generates the highest risk-adjusted return. This is generally the opposite to the way most beginning traders approach system development since they spend nearly 100% of their time looking at complicated entry
   Signals (the proverbial search for the Holy Grail of predictive indicators), and position-sizing and exits are rudimentary, naive, or unsophisticated.

2. **What is the difference between RISK Management and MONEY Management and why are they important?**

   **Answer:** Thanks for the question - it's a good opportunity for me to get some terminology straight and make sure we're all on the same page. If you take a look at the attached pdf diagram (from my website here: http://www.pmkingtrading.com/Agreement/TradingSystemComponentModel.pdf) it should make things a bit clearer.

   Money Management to me is about how much of your account you are willing lose in order to have a decent chance of the return you are aiming for, so it's about how *big* your position sizes are in relation to your account value. I generally call this position sizing and it's about how to size any particular trade and it determines what size draw-downs you can expect, and what size annual return you can achieve.

   Risk Management is about how far away your stops are for any particular trade so it's about your exit strategy and how this determines the average (and maximum) size of winning and losing trades. Your exit strategy determines how much profit per unit risk you expect to generate from your trading system.

   These 2 things are also both related to how many simultaneous positions you are willing to put on, since this determines your "worse-case" simultaneous loss.

   If you think of your trading method as your favorite music on a CD player, position sizing is the volume control - it doesn't change the music, but if it's too low you won't be able to hear anything (i.e. won't overcome implementation costs), and if it's too high you'll get distortion and blow out your eardrums (lose everything)!

3. **Do you support taking profits off the table as a position becomes profitable?**

   **Paul King:** What I suggest you do would be to test how this method compares to just having one trade with a trailing stop. If you think about it logically, you are basically capping the maximum profit on 4/5 of your trades so the best winning trades will only have 1/5 of the size. If that sounds like a good idea to you then it must be because having multiple small winners feels better than less frequent large ones. In all these cases it's a good idea to test what the risk-adjusted return is with any particular method so you can compare them. I have a calculation called "System Value" that scores a method based on the following formula:

   ((Average Size of Winning Trade * WinningTrade%) - (Average Size of Losing Trade * LosingTrade%))/Standard Deviation(Losing Trade Size/Initial Risk) * TradesPerYear(or week or month)

This gives a risk-adjusted score to any particular trading method that you can use to evaluate the effectiveness of any changes you make (i.e. does the score go up or down).

4. **I know exits must be what fits an individual but is there a well balanced profit taking strategy that you can recommend? One that allows both room for noise and yet not leaving a lot on the table. Or put in another way, what is your favorite exit strategy?**

   **Paul King:** It's a paradox in trading that what feels the best to do is normally the worse for your results. Profit targets on the whole (although they feel good to lock in profit so it can't get away) reduce the average size of winning trades.

   One conceptual technique that is very valuable is having 2 sets of exit rules - one for currently losing trades that attempts to minimize them, and one for currently winning trades that attempts to maximize them. Any particular trade at a moment in time is either a winner or a loser and has the appropriate exit rules applied to it.

   One thing to consider is that the exit rules in your trading method dictate your risk-adjusted return so they should be THE single place you spend nearly all of your trading system development effort. What a good exit strategy looks like isn't a simple answer if you consider it's 90% of your trading method. My advice would be to give it the due consideration it deserves and spend less effort on entry signal/indicators etc. which generally only set trade frequency.

5. **Is there a book, website or any other material you have come across that you would recommend that would help me and others to fully understand what we need to do with regard to developing the most optimal exit strategy.**

   **Paul King:** Well, I have a recommended reading list on my web site here **http://pmkingtrading.com/id17.html** I happen to think the book at the top of the list is at least worth a read.

6. **What kind of position-sizing method do you use in your trading right now?**

   **Paul King:** Position-sizing is a BIG factor in your trading results meeting your objectives, but most of the time it's an afterthought or (worse) left to chance/margin rules etc. Along with exit strategy it is one of the most important (and most misunderstood and neglected) parts of a trading method. A significant portion of your research and development effort should be concentrated on how big you will size each trade to meet your objectives and stay within your tolerance for draw-downs.

**7. So which method do you recommend to use?**

**Paul King:** My research has shown that risking a percent of some measure of your current account value on each trade is the most effective position-sizing method. The main thing you want the method to do is to reduce risk (in $ terms) when you go through a losing period, and increase risk when you are winning; fixed $ risk, or fixed number of shares/contracts do not do this.

Scaling down as you lose is a good way to minimize the depth of a drawdown, and this is one of the keys to successful trading - up to about a 10% drawdown, getting back to breakeven is symmetrical (i.e. requires a similar amount of profit in % terms to get back to breakeven). Beyond a 10% drawdown, things get rapidly worse, until at a 50% drawdown it takes a return of 100% (i.e. you have to double your account) just to get back to where you started. Position sizing methods designed to minimize draw downs rather than maximize returns give you a much smoother ride and you are less likely to give up, or blow up.

**8. Is pyramiding considered a good money management strategy?**

**Paul King:** "Never add to a losing trade" is one of the few golden rules of trading, so adding to a losing position is not a good idea. "Throwing good money after bad" is the saying that comes to mind here.

As for adding to a winning trade if you think in terms of correlation of your portfolio as a whole, then adding to an existing position is the worst thing you can do as far as correlation goes; it's adding a 100% correlated unit and will increase the correlation of your portfolio (i.e. reduce diversification). Adding a different position (preferably on the opposite side, long or short) is always preferable in my experience.

My trading rules dictate that I always attempt to keep my long/short balance equal where possible (i.e. have a similar number of units/amount of risk long and short), and never have more than 1 unit in any one position if it's possible - these rules tend to avoid adding to winning trades rather than encourage it, and I find my results are less volatile due to these rules.

**General Rules for Money management and capital preservation**

Before we move on to other risk reduction strategies and techniques, it might be a good idea to present some general rules that were presented by David Landry for an article he wrote for Trading Markets.com. There are numerous lists and books written on the subject and the following is a good representation of what almost everybody agrees are good general rules to follow.

1. Risk only a small percentage of total equity on each trade, preferably no more than 2% of your portfolio value.

2. Limit your total portfolio risk to 20%. In other words, if you were stopped out on every open position in your account at the same time, you would still retain 80% of your original trading capital.

3. Keep your reward-to-risk ratio at a minimum of 2:1, and preferably 3:1 or higher. In other words, if you are risking 1 point on each trade, you should be making, on average, at least 2 points.

4. Be realistic about the amount of risk required to properly trade a given market. For instance, don't kid yourself by thinking you are only risking a small amount if you are position trading (holding overnight) in a high-flying technology stock or a highly leveraged and volatile market like the S&P futures.

5. Understand the volatility of the market you are trading and adjust position size accordingly. That is, take smaller positions in more volatile stocks and futures. Also, be aware that volatility is constantly changing as markets heat up and cool off.

6. Understand position correlation. If you are long heating oil, crude oil and unleaded gas, in reality you do not have three positions. Because these markets are so highly correlated (meaning their price moves are very similar), you really have one position in energy with three times the risk of a single position. It would essentially be the same as trading three crude, three heating oil, or three unleaded gas contracts.

7. Lock in at least a portion of windfall profits. If you are fortunate enough to catch a substantial move in a short amount of time, liquidate at least part of your position. This is especially true for short-term trading, for which large gains are few and far between.

8. The more active a trader you are, the less you should risk per trade. Obviously, if you are making dozens of trades a day you can't afford to risk even 2% per trade--one really bad day could virtually wipe you out. Longer-term traders who may make three to four trades per year could risk more, say 3-5% per trade. Regardless of how active you are, just limit total portfolio risk to 20% (rule #2

9. Make sure you are adequately capitalized. There is no "Holy Grail" in trading. However, if there was one, I think it would be having enough money to trade and taking small risks. These principles help you survive long enough to prosper. I know of many successful traders
who wiped out small accounts early in their careers. It was only until they became adequately capitalized and took reasonable risks that they survived as long term traders

10. Never add to or "average down" a losing position. If you are wrong, admit it and get out. Two wrongs do not make a right.

11. Avoid pyramiding altogether or only pyramid properly. By "properly," I mean only adding to profitable positions
12. Always have an actual stop in the market. "Mental stops" do not work.
13. Be willing to take money off the table as a position moves in your favor; "2-for-1 money management1" is a good start. Essentially, once your profits exceed your initial risk, exit half of your position and move your stop to breakeven on the remainder of your position. This way, barring overnight gaps, you are ensured, at worst, a breakeven trade, and you still have the potential for gains on the remainder of the position.
14. Understand the market you are trading. This is especially true in derivative trading (i.e. options, futures).
15. Strive to keep maximum drawdown between 20 and 25%. Once drawdown exceeds this amount it becomes increasingly difficult, if not impossible, to completely recover
16. Be willing to stop trading and re-evaluate the markets and your methodology when you encounter a string of losses.
17. Consider the psychological impact of losing money. Unlike most of the other techniques discussed here, this one can't be quantified. Obviously, no one likes to lose money. However, each individual reacts differently. You must honestly ask yourself, What would happen if I lose X%? Would it have a material effect on my lifestyle, my family or my mental well being? You should be willing to accept the consequences of being stopped out on any or all of your trades. Emotionally, you should be completely comfortable with the risks you are taking

Successful trader depends largely on understanding the ways to identify and control risk. It is not about timing the big move or being a home run hitter. Is about risking only a small percentage on any one trade and keeping total risk exposure within pre determined limits.

# Chapter 4
# Types of Risk

**Systematic Risk**: Quite simply, these are macro-economic issues that become market risks that ***cannot be diversified away***. Interest rates, recessions and wars are examples of systematic risks.

**Specific Risk:** These are risks specific to individual financial assets and ***can be diversified away as you increase the number of stocks in your portfolio***. It represents the component of an asset's return that is not correlated with general market moves. A good example might be technological change, Industry regulations, competition, internal issues, etc. These ***risks can be reduced through the use of assets which are weakly correlated with other assets and are more compartmentalized from the risks that may affect other assets classes.***

**Systemic Risk and the VIX**

Sentiment is emotion. In regards to how the entire investing public feels about the market can be measured in many ways and the market indices are good general objective measures of how investors and traders feel about the systematic risk in the markets.

One of the more popular measures of sentiment and systemic risk is the VIX.
In 1993, a new measurement for the index of volatility for the S&P 500 stock index (SPX) came out. It was to become like the canary to the miner for stock option traders. If the volatility index went up, traders should start looking for the exits. You see, there is an inverse relationship between the volatility index (called the VIX) and the movement of stocks. Usually, if the stock market starts to go down, activity in stock options increases. If stocks are going up, there is less interest in stock options (hedging against losses) and the index is subdued or goes down. In other words, the correlation between the VIX and stocks is a negative one. Moreover, the sensitivity of the VIX magnifies the movement of the stock movements. For example if the S&P 500 goes down 10%, the VIX may go up 35%. Conversely, if the S&P goes up 10%, the VIX may go down 15%. But what does this mean for investors other than the VIX as a "Chicken little"(the sky is falling in) fear indicator?

**VIX as portfolio insurance**

Normally, when stock option traders hear the word hedge, they think of a put or spread. If an investor has a portfolio of investments and wants to protect gains, they may purchase puts to help offset any losses; the long put options become portfolio insurance. But using VIX options can be better and cheaper protection. Because of this fact, VIX options are becoming popular as portfolio insurance. Consider the following example:

Suppose you have a portfolio and you want to protect the unrealized gains against loss. Let's say that you purchase out of the money S&P puts to protect against the down side. But as luck would have it, your portfolio grows and leaves a large gap between your out of the money puts strike price and the portfolio. Now the portfolio has more gains to lose before hitting strike price. You could close out the put position and roll up to a new strike

price, but this will cost money. On the other hand, owning VIX option protection is different. There is no strike price to hit. If the S&P moves down, the VIX moves up- usually in a much larger proportion. Additionally, there is no gap to cover before going into the money. Moreover, because of the volatility of the VIX, it takes less money to "insure" against loss. It only takes about 10% VIX option coverage to portfolio value to provide enough protection.

Lawrence McMillan, President of McMillan, a registered investment advisory firm in Morristown, NJ. provides a good example: Suppose one buys SPX Dec 1400 puts with the S&P 500 near 1530; the puts are approximately 8% out of the money. If a strong summer rally develops, the S&P 500 might rise to 1700 in September, a time when protection is most needed, as stocks tend to perform relatively poorly in the fall. But the puts are now 300 points out of the money, and therefore almost useless as protection.

**VIX as a sentiment indicator**

VIX can also provide a good barometer of the sentiment of the market for the next 30 days. If the VIX is going up, anxiety is going up as the VIX measures option prices and volume increase. Importantly, VIX doesn't have a linear relationship with the market in general; it is much more volatile. As a result, a moderate downtrend in markets will trigger a large upward movement in the VIX.

As volatility is food for the short term trader, keeping an eye on VIX can also add valuable information in helping to get a feel for the general market and looking for times of high volatility.

All in all, learning more about the VIX and VIX options may help not only in hedging situations but also in "catching bigger waves".

**The financial meltdown and the "unforeseen" systemic risk**

Would you buy insurance from somebody or some company who could sell your contract to anybody and have no requirement to tell you-the buyer of the insurance- about it? Would you buy an insurance contract from an unregulated insurance company?

**"No way!" you say.**

Well, some of the largest companies and most powerful governments in the world not only did that exactly that on a regular basis, but they created an unregulated market five times ten times the size of the collective value of the entire world's production! Yes, that's right. Large companies with legal departments and with legions of registered investment advisors all saw litle risk in doing just that. As a result, they created a huge systemic risk to the entire world's financial system. It defies logic to think that they felt it was good business practice to do that sort of transaction when they bought and sold Credit Default Swaps.

One day in October of 2008, the word got out to a few at the top of the economic accountability food chain that the big boys were heavily into the CDS monkey business

and panic struck. Undercapitalized counterparties who purchased the Credit Default Swaps from the original issuers (such as industry giant AIG and other large Wall Street Investment banks) began to let it be known that they had no intention of making good on defaulted bonds-such as the subprime market produced- which the original issuers had sold as investment insurance against defaults.

When the hushed truth got out that hundreds of *trillions of dollars* (!) worth of paper assets carried on the books of the world's financial institutions may have little or no value, the sleeping regulators and rating agencies-who were supposed to have been the safeguard- were forced to take action. Even today, the whole truth is obscured in a cloud of spin, diversion and smoke; we all know we are being had. It was systemic risk at its most obvious and nobody did anything until it was too late. But the really interesting thing is that the FED and Treasury Department are using the strategy of fighting smoke with more smoke. It's a real demonstration on how important perception is in controlling systemic risk for the world of intangible assets-like money.

The real misfortune, however, is for those millions of families throughout the world who became collateral damage as paper loses and negative intangible numbers gave way to real people scrambling to make ends meet, postponing retirement and generally losing even more confidence in the world's leaders to do what they were getting paid to do. Indeed, the world leadership-private and public alike- seem to be better at creating problems than resolving them.

The systemic risk was there for anybody with an important position in the world of finance to see. Many articles were written by scholars and experts warning of the potential problems of unregulated derivatives. Indeed, it was like creating a whole other shadow money supply. Who knows, maybe they all became shorts just before the news was carefully leaked out. And this last statement is the real systemic risk and damage that has been done.

Finance is built on trust and confidence in the system and to those who are aware of recent history, the systemic risk still looms large. The true story has yet to be told….if it ever will. Confidence in finance and investment depends on transparency and accurate information. That which we cannot see or fathom is the most dangerous to systemic risk.

So, we look to the "big picture" being presented or created to asses systemic risk. There are many other indicators based upon stochastic and technical analysis. But eventually, once it has been decided to enter the water, the focus on risk moves to the merit of individual trades-**Specific risk**.

**Specific Risk-How to determine the level of a risk?**

A simple way to asses risk for many equity investments is to look for the beta of a stock. The *beta score* compares the movement of the individual investment to the general movement of the market it is in. As the benchmark, the market is considered as having a beta score of 1.0 . A high beta (1.5 and above) means that the particular investment has price movements that are 50% more in variation than the general market. Let's say a

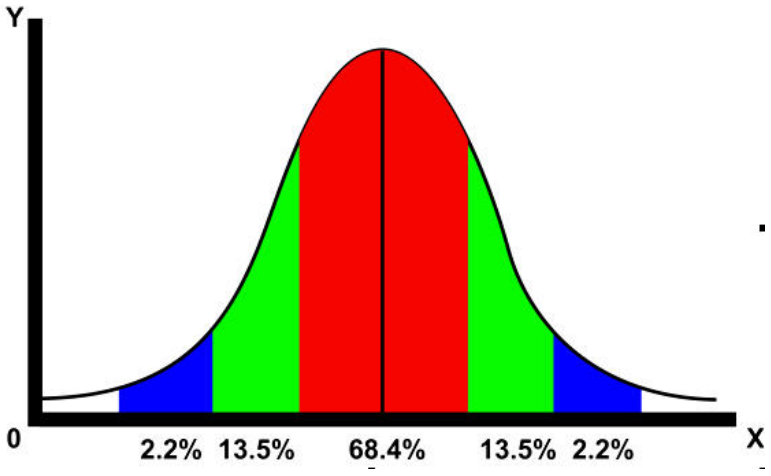
market index moves plus or minus 12% around its mean over a period of time. A 1.5 beta investment would generally move plus or minus 18%.

Of course, as with all statistical measurements, they represent history and provide only a *probability* of future expected movement. What do we mean by that?

One of the great controversies and concerns for all investors is the notion that investments can be measured for probabilities by using a Standard Distribution Curve. Most statistical analysis is based on the idea that price movement is considered random and therefore relatively free from bias. However, there is a growing concern that this is not the case and this point was made in the recent best-selling book ,**The Black Swan,** But for our purposes right now, let's consider how risk and probability are normally measured statistically.

The Standard Distribution Curve, also known as the Bell curve, is pictured below. This tidy representation demonstrates that there are certain probabilities of price movement for each investment over time and number of events.

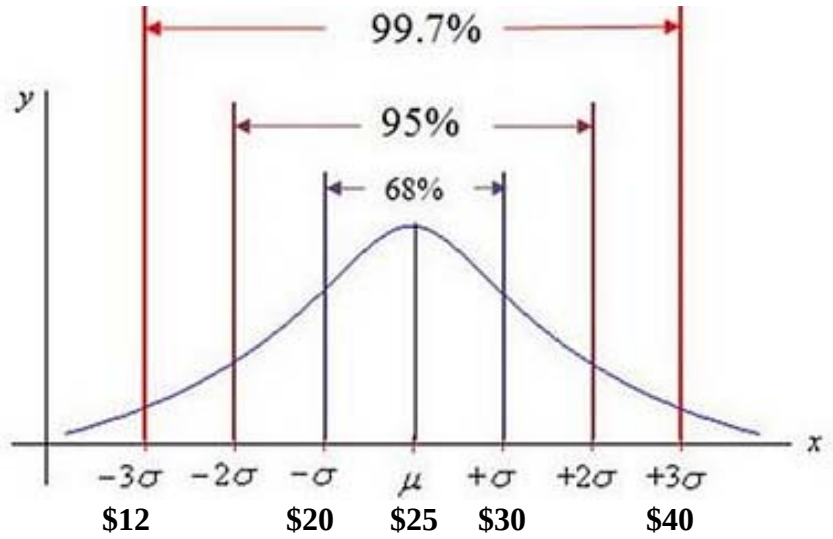
**Standard Distribution Curve**




Simply put, this chart shows the probabilities that a certain event will happen over a number of trials. For example, we can expect with a 68.4% probability that any event of the variable being tested will fall inside the red area. This is called the 1st standard deviation. Likewise, we have about a 13.5% probability that an event will happen in either green area. This is called the 2nd standard deviation. The blue area is the 3rd standard deviation and an event appearing there is likely to happen about 2.2% of the time in either blue area.

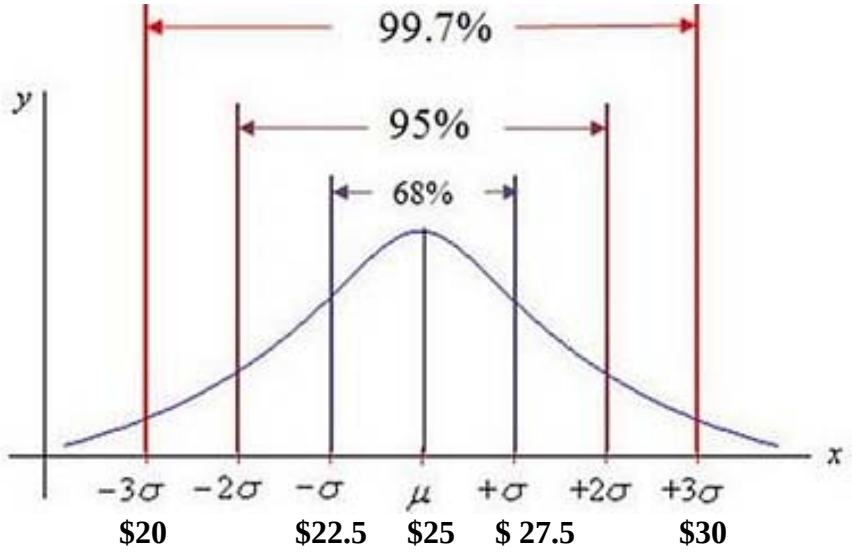
The closer the standard deviations are to the mean (center line) the less volatile the event is. For example, you might have a stock with a mean price for the year of $25. During the year, the stock had a low of $12 and a high of $40. As you can see in the graphic

below, the $12 and $40 price have only a .0003 (one in three thousand events) or .3% probability of occurring. Likewise, the price has a 68% probability of being between $20 and $30.




σ= standard deviation

This is a fairly wide price range ($12-$40) and this gives an indication of the potential volatility of the investment. In the investment below, there is less variation from the mean (μ). This indicates that the investment below has **less volatility and thus less risk for a larger move than the one above.**




So, measuring and comparing price movement and standard deviations is another way to quantitatively compare level of risk. But, as always, quantitative analysis based on data of past history of price movement and is only an indication of what *might happen* in the future. Of course, in most long or short strategies, a trader wants some volatility and

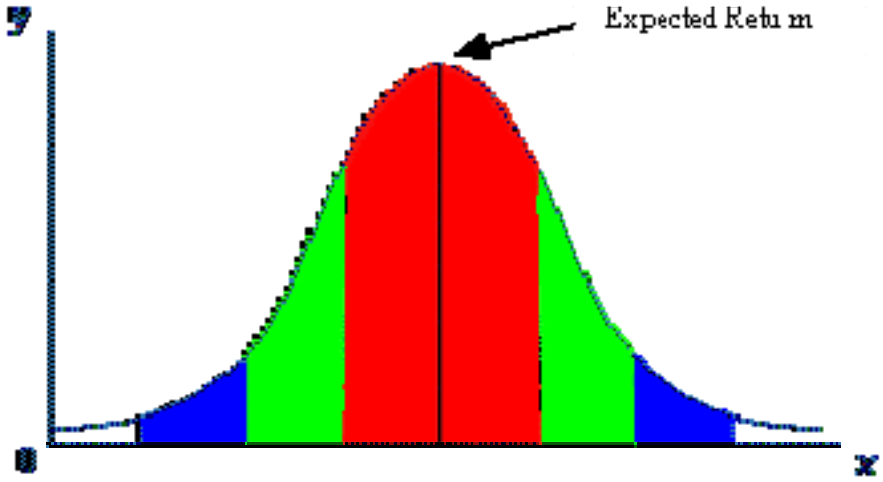
movement in either direction. Selling premium, however, prefers low volatility. More about that later.

**Common measurements of Risk**

Example of measuring risk (volatility)

Assume an asset has an expected return of 22%, and a return volatility (one standard deviation) of 15%. With this information, we can infer the following:

- The asset has a 68% probability of achieving an actual return between 7% and 37% (i.e. one standard deviation below and above expected return – On the graph, this range is represented the red area).
- The asset has a 95% probability of achieving an actual return between -8%(15% x2-22% avg return) and 52% (15% x2 + 22% average return ,i.e. two standard deviations




below and above expected return – On the graph, this range is represented the red+green area).

- The asset has a 99% probability of achieving an actual return between -23%(15%x3-22%) and 67% (15%x3+22%) (i.e. three standard deviations below and above expected return – On the graph, this range is represented the red+green+blue area).

The important point here is that *return volatility is a statistical measure of risk* (standard deviation) and can have a tremendous impact on actual return. The often quoted cliché says, "High risk, high reward", but that's only half of the story. With an understanding of return volatility, it's clear that the cliché fails to mention that high risk also means the potential for great loss. [1]

Besides using the comparative measures of standard deviations, there are more common methods of risk measurement.

Risk has two components:

1. Uncertainty, (ignorance of what the future holds)

[1] http://www.finportfolio.com/education/tutorial/tutorial_return_volatility.html

2. Exposure. (time)

The classic example is: Two people are going to the airport to catch a flight. The weather is bad. One of them calls the airline to see if the flight is still operating. The other does not. The person who knows that the flight has not been canceled has a different level of risk than the person who doesn't know if the flight has been canceled because there is less *uncertainty*. Both are *exposed* to the same risk of a canceled flight.

**Risk Metrics:** Portfolio managers use a series of risk measurements (procedures used to mathematically assign a number to risk) to provide a metric which interprets what the number means. Again, the purpose of presenting this information is to provide a basic understanding of what these measures mean to a portfolio manager-not how to do the procedure. Most software on the market do all the number crunching but it is up to the manager to interpret what the numbers (metrics) are saying.

**Beta:** Very similar to volatility in that Beta measures the movement of a single financial asset (in most cases-stocks) in relation to the general market. The stock market (represented by an index such as the S&P 500 or FT-100) is assigned a beta of 1.0. If a stock has a beta of 1.3 that is interpreted as a stock that has 30% more volatility (risk) than the market index. Sometimes Beta is used to describe a portfolio.

**Value-at-Risk (VAR):** Is a powerful tool used in assessing market risk. Its power is its generality. The real purpose for a VaR measurement is to somehow characterize a probability distribution for a portfolio's market value at a specific time. An example will help to explain:

> Value-at-Risk lets the manager know with a probability of 95% (two standard deviations) or 99% probability (three standard deviations) what would be the ***maximum loss*** to the portfolio value that can be expected for a specific time period. If you are managing a portfolio worth $1 million today, you could run a VaR test and find out what the ***worst case scenario*** would do to your portfolio for a specific time (horizon) with a certainty of 95% or 99%.

A practical example of using VaR as a decision point would be to say that when the portfolio shows a VaR of X% loss from the current market value of the portfolio, it is time to do some re-balancing. *VaR can provide an objective measure of risk tolerance for the total portfolio.*

**Sharpe Ratio**: The Sharpe ratio determines how much risk a manager assumed to achieve a portfolio's historical return. It is calculated by taking the difference between a portfolio's return and a risk-free return (measured by a Treasury bill) and dividing it by the portfolio's standard deviation.

> For example, if a portfolio had a Sharpe ratio of 1.30 and the benchmark has a Sharpe ratio of 1.00, then the portfolio produced a 30% better return than the index

versus the risk-free rate. Sharpe ratio can be an effective way to compare individual portfolios to determine the value added by an asset manager.

**Standard Deviation**: Standard deviation is a measurement of a portfolio's total volatility (risk). It is somewhat similar to beta but is calculated by measuring the disparity of a portfolio's quarterly returns versus its total average return over the same time period. *The more volatile a portfolio's returns, the greater the standard deviation*. Standard deviation does not predict a portfolio's future volatility.

**Style Risk:** is where a certain mix of asset selections (ie, value stocks or sector stocks.etc) begin to show an increase in risk by changes in volatility or changing correlation, the portfolio as a whole may move away from the efficient frontier. Those relationships that may have once been in balance may now need to be re-balanced or changed.

Technical indicators may show signs of unusual momentum building or other indicators such as the VIX or increasing volatility versus the historical volatility may propel prices out of their usual range. In this case, what might have been a stagnant or low risk investment may become transformed by systemic or specific risk -at least for a certain period of time. This is the Holy Grail for long or short traders: a normally predictable price movement getting ready to move out to the tail (either the -3σ or the +3 σ) end of the distribution curve- the "home run territory".

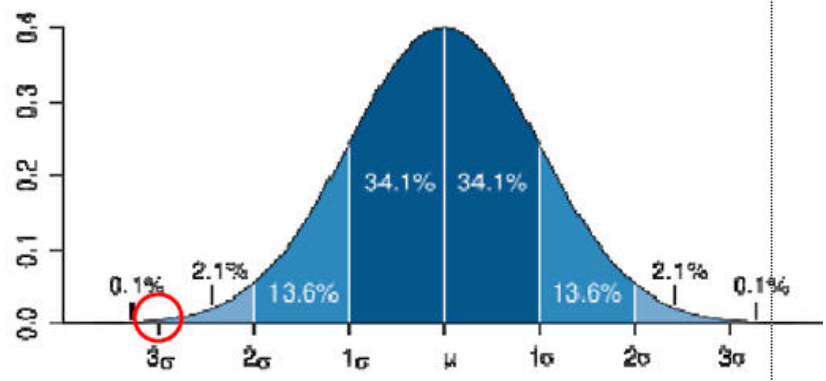
As a matter of fact, there are many traders and statisticians who feel that many markets do not really use truly random data needed for a standard distribution. Instead, some feel that there is skew in the market data and this alters the probabilities. In fact, it's not difficult to show that many investments will have many more tail events then the standard distribution would predict. In his now famous book "The Black Swan", Nassim Taleb coined the name black swan as representing events that occur outside the normal distribution. He believes that the model used in risk evaluation and probability in the financial field needs to be revised to reflect a more realistic distribution of events that may be more correlated than originally thought. The below article was written by Len Goodman and comments in more detail about the problem Taleb pursues in his book, **The Black Swan**.

## Statistical Paradigm Shift?

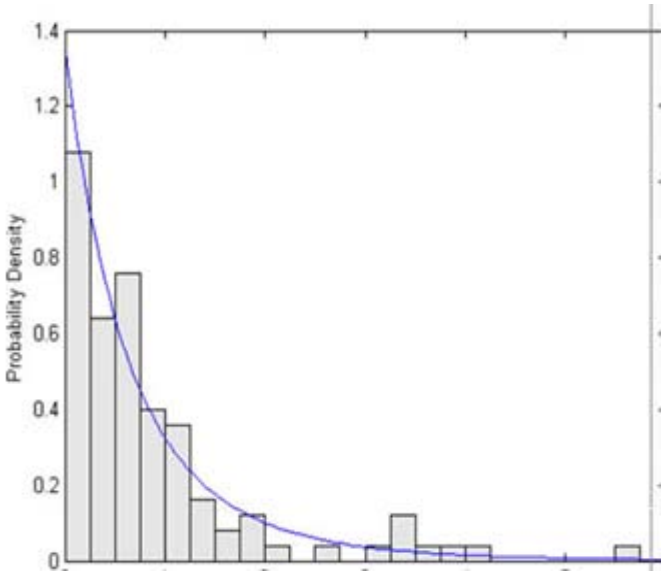
Lies, lies and more lies! Now the venerable Bell Curve (also known as the Normal Distribution Curve) may be found out as just another false god-at least in the field of investing. You see, a normal distribution defines probabilities among a set of random numbers. But investing returns and volatility aren't random. If this is so, then the validity of using normal distribution may very well nullify many important statistics used in the technical analysis of investments. For example, the measure of risk in a stock or option is measured by its variance from the mean of its prices. If a stock has a 15% variance from its mean, that means that price will vary-plus or minus- 15% from its average price. If you have a stock with an average price of $40 and a variance of 15% the price will normally move between $36-$46 about 68% of the time using one standard deviation.

But there exists the probability that at least 2.1% of the time, the price could move out of that range (two standard deviations) and .1% that it would move even further away from the mean ( Three standard deviations). That's if the data is random. But are stock prices random? We hope not. If that's true, then IBM could range between 0 and infinity. If that's the case, it's a total crap shoot. But management, analysts and investors would beg to differ.

**Chart 1: The Normal Distribution[1]**




There are some economists and statisticians who believe that stocks move more like what is encountered in electrical power distribution. The real market experience over the recent years demonstrates that stocks move out of the three standard deviation range quite frequently. According to normal distribution, that should only happen in one out of billions of events. The online bubble and other highly volatile stock implosion episodes have pointed out that many stocks have strayed out of normal distribution expectations.




According to the power distribution curve, it's not that uncommon for data to move out beyond a six standard deviation point. What this means is that risks can be much greater than those depicted by the normal distribution curve.

I guess you could liken it to how society and Wall Street seem to accept the bogus statistic we call inflation. Everybody pays attention to this most important number and accept it as fact. Incredible! Do you really think that housing prices, energy costs, insurance costs, medical costs should be ignored or given a "place holder number" way out of sync with reality? It's preposterous. Yet, the emperor still has new clothes. There are statistics and damn statistics. Maybe the seeming randomness of unexpected price movements is much greater and more frequent than we expect because we are using the wrong tool.

# Chapter 5
# Risk reduction strategies-equities

**Mix, match and measure**

Many people confuse diversification of assets with a strategy of low correlation of the portfolio mix. Diversification of assets means that there is a mix of different types of assets. The idea is that different types of assets spreads risk over different types of investments. For example, investing in bonds isn't affected exactly the same as factors that affect stocks. Or, buying foreign stocks won't be effected as much by the same things as stocks in other markets. There is some logic to that thinking but what diversification really tries to accomplish is to create a mix of investments which have weak to negative correlation with each other.

Take a look at the table below. The GSCI is a commodities index, the S&P is an equities index, the MSCIEAFE is an index of foreign stocks and the LT and 1month are long term and short-
term government bonds. When some-thing is strongly correlated with something else, they move more or less in lock step. When there is perfect correlation between variables, the correlation is 1.0. When two variables are loosely correlated, they have a smaller positive correlation index, and when two variables move in opposite directions from each other, they have a negative correlation. As an investor with a portfolio of investments, it is an excellent risk reduction strategy to have investment types with weak to negative correlation so that if one type of investments gets hit hard, the same factors won't have the same effect on loosely or negatively correlated investments in the portfolio. This obvious fact was turned into a Nobel Prize in 1990.

**Comparative Correlations**

| | GSCI | S&P 500 | MSCI EAFE | LT Gov | 1 mo T bill |
|---|---|---|---|---|---|
| **GSCI** | **1** | **-0.27** | **-0.128** | **-0.198** | **-0.003** |
| **S&P 500** | **-0.27** | **1** | **.0592** | **0.271** | **0.028** |
| **MSCI EAFE** | **-0.128** | **0.592** | **1** | **0.078** | **-0.117** |
| **LT Govt** | **-0.198** | **0.271** | **0.078** | **1** | **0.017** |
| **1 mo T-bill** | **-0.003** | **-0.28** | **-.117** | **0.017** | **1** |

**Asset Correlation**

This important factor measures the extent to which the returns on two assets move together (i.e. the extent to which those returns behave similarly in response to market events). To provide real protection for the portfolio, we want to select assets that won't react similarly to the same certain conditions. Correlation means that your different assets will react in a different manner to different economic events. Some may go up and some may go down thus diluting the shocks of any negative effects. This is real allocation in

that the statistics of correlation backup the fact that your eggs are really not in the same basket.

Asset correlation ranges from a maximum of +1.00 to a minimum of -1.00. If two assets have a perfect positive correlation (+1.00), their returns will tend to move simultaneously in the same direction. With a perfect negative correlation (-1.00), their returns will tend to move simultaneously in opposite directions. A correlation of 0 indicates that there is no relationship at all between the price movements of two assets. Since few asset pairs will come anywhere close to perfect positive or negative correlation, the following rules of thumb can be helpful:

- **High Correlation:** Asset correlation greater than 0.75; implies that the two assets respond very similarly to the market and that their prices will very often move in the same direction.
- **Moderate Correlation:** Asset correlation between 0.25 and 0.75; implies that the two assets respond in somewhat similar ways to the market and that their prices will move more or less in the same direction, depending on how strong the correlation.
- **Low Correlation:** Asset correlation between 0.00 and 0.25; implies that the two assets respond fairly independently to the market and that their prices also tend to move independently of one another**.**
- **Negative Correlation:** Asset correlation below 0.00; implies that the two assets respond fairly differently to the market and that their prices will tend to move in opposite directions

**Diversification**

A standard definition of diversification is spreading a portfolio over many classes of investments to avoid excessive exposure to any one source of risk. An asset class is: Individual stocks, bonds, mutual funds, cash, derivatives, etc. A portfolio is generally considered to be diversified with 15-20 stocks, however, in addition to number of assets, it is important to include stocks or funds that are not highly correlated. The difference between diversification and asset correlation (below) is that within asset classes there should also be loose correlation.

**Risk is Good**

There must be as many theories and strategies for picking a winning stock or mutual fund as there are stocks. Hearing about how investors pick those winners and how easy it is to make horizontal money (no work) plucks at the strings of our human hearts. It's as dramatic as a walk-off home run. But like a dramatic moment in sports, it doesn't really mean much to a team that doesn't win a pennant. That analogy rings true with most investors as home runs are sent sailing out of the park but the home team ends up a loser. We love a good story with a happy ending, but trying to pick winning investments has been shown to be of little importance in becoming a winning long term investor. This is a statement that is hard to understand. How can you be a successful investor and not pick winners? It's absurd!

But one of the good things about financial data is that there is tons of it and with the right statistical tools, there are ways of piecing together what is fact and what's fiction. And

the fact is that for an owner of an assortment of financial investments, *90% of the gains of such a portfolio is due to the asset class mix and the various amounts of each class that is held.* "How can that be!" you exclaim. All the hype from the industry that markets all the information about such things as fundamental analysis, technical analysis, stock timers, stock picking software, investment gurus, newsletters and the like-how can they be so…..irrelevant in being a successful long term investor?

Well, to continue the baseball analogy, it's like talking about "Home Run Derby" as opposed to the intricacies of the game of baseball. One is a small part of the other. Home runs are dramatic and exciting, but they are not the reason for a pennant winner. The same holds for the importance of picking the winners in respect to winning the portfolio game. Hitting a home run is nice but only part of winning over the long haul of a season.

One of the main reasons why the average investor (and broker) knows little about Modern Portfolio Theory (MPT) is that there has been very little "retail discussion" about the concepts or tools used in Modern Portfolio Theory (MPT). Up until recently, MPT has been the bailiwick of academics and professional portfolio managers; perhaps for a reason. Maybe the retail end of the securities business feels that the level of financial and statistical sophistication needed for MPT was a good place to segregate a high end service to be provided to larger clients; or just maybe it was because most of the decision makers felt it was too hard to understand for the average broker to explain to their clients. In fact, maybe the decision makers don't under-stand how it works. But once again, it seems that the busy business leaders of today are selling short (no pun intended) the "man in the street". But if your eyes roll up into their sockets and you get dizzy while reading my simplistic explanation of MPT, perhaps the gods of marketing are correct. However, I have learned over the years that the "average Joe or Sue" is not so average and deserves respect. So here we go.

**A brief introduction to Modern Portfolio Theory (MPT)**

Contrary to what many investment advisors believe, Modern Portfolio Theory demonstrates that having higher risk investments which are weakly correlated helps to optimize returns-even for a conservative investment strategy.

Harry Markowitz, who won the Nobel Prize in 1990 for his pioneering work on MPT, first established this investment approach in 1952, which attempts to construct a portfolio offering maximum expected return for a given level of risk tolerance. Prior to this, the investment community had discussed risk, but had no specific tools to quantify it. This breakthrough allowed economists and investment professionals to understand the market as a whole and analyze what makes each investment opportunity unique. Investments are described statistically, in terms of their expected long-term return rate and their expected short term volatility. The volatility is equated with risk, measuring how much worse than average an investment's bad years are likely to be. In today's markets, MPT is typically used by research analysts and portfolio managers as a tool that monitors risk and return characteristics of a portfolio in comparison to a benchmark.

Of course, once Markowitz won the Nobel prize for the work he had originally done in 1952 while pursuing his doctorate at the University of Chicago, the investment community decided to take a look and the landmark study by Professors Brinson and Beebower (1991), which substantiated the fact that, indeed, over 90% of the success or

failure of a portfolio is attributable to asset allocation and weighting. So naturally, the questions started to be asked that if over 90% of the success or failure of a portfolio is from what is owned, then why those in the media and the brokerage community spend so much time on the "which." But even with that study and a Nobel Prize, the emperor still seems to be dressed in the silk robes purchased by the industry. But let's get into a little more detail about how MPT actually works.

To help create a clear picture of how MPT works, we are going to do a quick walk-through of the process of setting up a portfolio. We will begin out as you would expect, but as you will see, things do "move to another level" as we get deeper into the process.

**Risk-Adjusted Return**

Investors want the best "bang for the buck" in that they want the best return with the least risk. Most everyone knows how to measure return but few know how to measure and evaluate risk. We all understand the old saw "no pain….no gain". But the smart investor, indeed, wants gain with no pain. Many studies have shown that it's not so much picking the winners as not picking the losers. This is one of the main concepts at the heart of Modern Portfolio Theory.

The famous "bell curve" or standard distribution curve below shows how a random set of numbers are distributed around the mean. If we have a low risk stock, the mean return would be at the center of the curve and on either side of the mean return would be the variations above or below that mean. The first section (red) is called the first standard deviation and shows where 68% of the returns above and below the mean would be. If we have a low risk stock, the numbers on either side of the mean will not vary a lot. For instance if we have a stock which has a mean return of 12%, 68% of the returns for a period of time might be +/- 15%; that is 13.8% or 10.2%. A higher risk stock with the same 12% return is more risky (volatile) because its variation around that mean within the first standard deviation might be +/- 25%; thus a range of 15% or 9%. The lower risk stock can give us the same average return but with less risk of getting 9%. Over the long term, the least damage done by losses the more profits we can keep and be *compounding over time*.

Which asset in the table would you choose?

| Asset | Return | Volatility |
|---|---|---|
| A | 33% | 115% |
| B | 18% | 22% |

Needless to say, the actual math behind these numbers is a bit ponderous but there is easy-to-use and inexpensive software that does it all in microseconds. However, it's important to understand the theory behind the numbers.

From the above discussion you can see that it is just as important to know the return volatility as it is to know the return because **it is reducing the probability and severity of losses that make the true difference in the overall performance of a portfolio over time**.

One of the first order of business when we start looking for assets to put in the portfolio is the **Risk Adjusted Return.**

**A measurement of *Risk and Return* is the Sharpe Ratio.**

**What is the Sharpe Ratio: It i**s the ratio of return to volatility; useful in comparing two portfolios or assets in terms of risk-adjusted return. This ratio was developed by Nobel Laureate William Sharpe. **The higher the Sharpe Ratio, the better**. **A high Sharpe ratio implies the portfolio or stock is achieving good returns for each unit of risk**. Because we earn returns by accepting risk, it is great when we get more return for less risk. The Sharpe Ratio or the Risk-Adjusted Return score- allows us to compare different assets or different portfolios.

The ratio is calculated by taking the difference between a portfolio's return and a risk-free return (measured by a Treasury bill) and dividing it by the portfolio's standard deviation. For example, if a portfolio had a Sharpe ratio of 1.30 and the benchmark has a Sharpe ratio of 1.00, then the portfolio produced a 30% better return than the index versus the risk-free rate. Sharpe ratio can be an effective way to compare individual portfolios to determine the value added by an asset manager.

The key to choosing assets for a portfolio is that there should be an appropriate Return to Risk, Diversification, and assets should not be too closely correlated. We want to capture as much return as possible but minimize losses. Yes, this does sound pretty basic, but it's a matter of actually coming up with the real numbers. As always, past performance is no guarantee of future performance but one should get as much information to make the best possible choice.

**Asset Classes**

Below are "pools" of stocks, bonds, funds and cash, which are loosely correlated-the first imperative of asset classes in MPT. These pools are representative of various levels of risk adjusted return. Keep in mind that mutual funds and ex-change traded funds (EFTs) have within them a broad spectrum of equities which also need to be evaluated as to the three characteristics: analysis of risk adjusted return, diversification and asset correlation.

The Pools of asset classes below are further analyzed as to the internal risk adjusted return and correlations considered for each asset within the context of the goals and risk tolerance of the investor. ***Most important is the weighting that each asset class receives to strive to get to "Efficient Frontier"*** **(our next topic)**.

**Pool # 1**

- International Equity
- Cash
- US Equity
- Bond
- International Equity

- US Equity

**Pool # 2**

- US Large Cap
- US Small Cap
- International Equity
- Cash
- Bond

**Pool # 3**

- International Equity
- Cash
- Bond
- US Large Cap Growth
- US Large Cap Value
- US Small Cap Growth
- US Small Cap Value
- US Large Cap
- US Small Cap

**Pool # 4**

- Cash
- Intl Emerging funds (Mutual or Exchange Traded Funds (ETF))
- Intl Developed funds
- US Municipals bonds
- US Govt & Corp bonds
- US Mortgage backed
- US Real Estate (REIT)

**Capital Asset Pricing Model**

During the process of looking for appropriate assets to meet the needs of the portfolio, MPT uses the Capital Asset Pricing Model (CAPM). The paradigm underlying CAPM is as follows: it looks at the risk and rates of return of financial assets and compares them to the overall stock market. The model assumes that most investors are risk adverse and expect to be rewarded. Once the best candidates for risk adjusted return are selected, the next step is to look for low correlations between assets. When we have accomplished this, we will have a portfolio which uses components with best risk adjusted return and low correlations. The purpose is to capture best returns while minimizing the risk of loss not only to the individual component but also across the total portfolio.

Below is an example of the results using a CAPM filter. Please note that the correlations between assets aren't shown but all assets have the lowest matrix of cross correlations with every other asset class.

**Example of Asset filtering for risk adjusted return compliments of FinPortfolio.**

There are 11 asset(s) found.

| Ticker | Name | Market Price | Average Return | Volatility | Sharpe Ratio |
|---|---|---|---|---|---|
| AEDBX | AIM European Development B | $25.79 | 56.37% | 28.42% | 1.81 |
| AEDCX | AIM European Development C | $25.80 | 56.38% | 28.43% | 1.81 |
| AGACX | AIM Global Aggressive Growth C | $27.92 | 42.69% | 28.55% | 1.32 |
| ASIBX | AIM Asian Growth B | $13.81 | 46.51% | 29.84% | 1.39 |
| FMIOX | FMI Focus | $33.51 | 52.11% | 28.36% | 1.66 |
| GTSAX | AIM Small Cap Growth A | $37.79 | 45.42% | 27.56% | 1.47 |
| GTSBX | AIM Small Cap Growth B | $36.54 | 44.39% | 26.45% | 1.49 |
| JSVAX | Janus Strategic Value | $11.10 | 47.93% | 23.23% | 1.85 |
| SCPBX | AIM Small Cap Opportunities B | $25.47 | 64.91% | 27.13% | 2.21 |
| WPB | ISHARES MSCI CANADA IOPV | $19.70 | 58.75% | 23.15% | 2.32 |
| WPGTX | Warburg Pincus Global Telecommun | $70.54 | 55.95% | 26.71% | 1.91 |

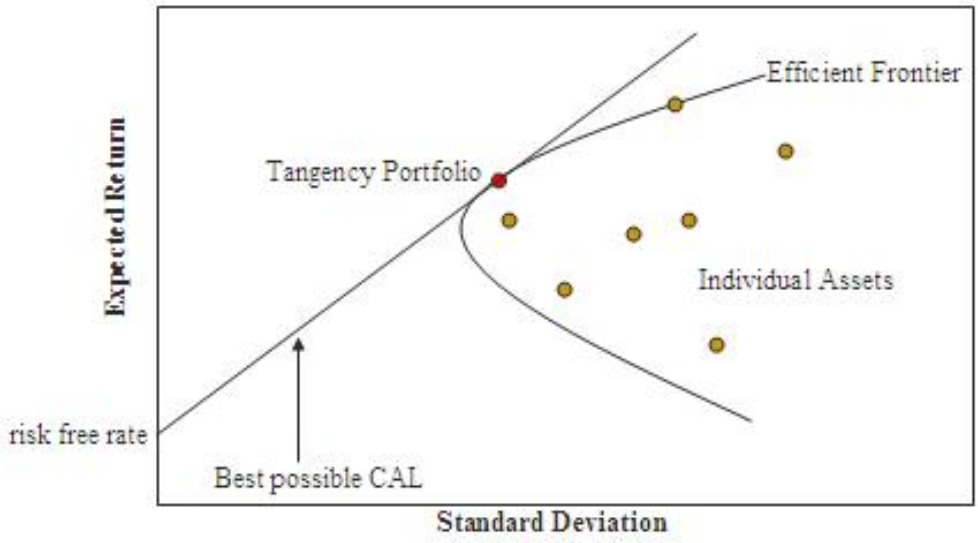
Software programs allow the user to set criteria and filter for best fit but it is vital that the investor understand the concepts of risk adjusted return and volatility. Basically, we look for high average return and low volatility. The Sharpe Ratio shows the ratio of risk and return. Example: WPB has a return of 232% over the measured risk. The higher the Sharpe Ratio the better the risk adjusted return. Another filter looks for lowest cross correlations between asset classes.

**Monte Carlo simulation, the Efficient Frontier and Portfolio Optimization**

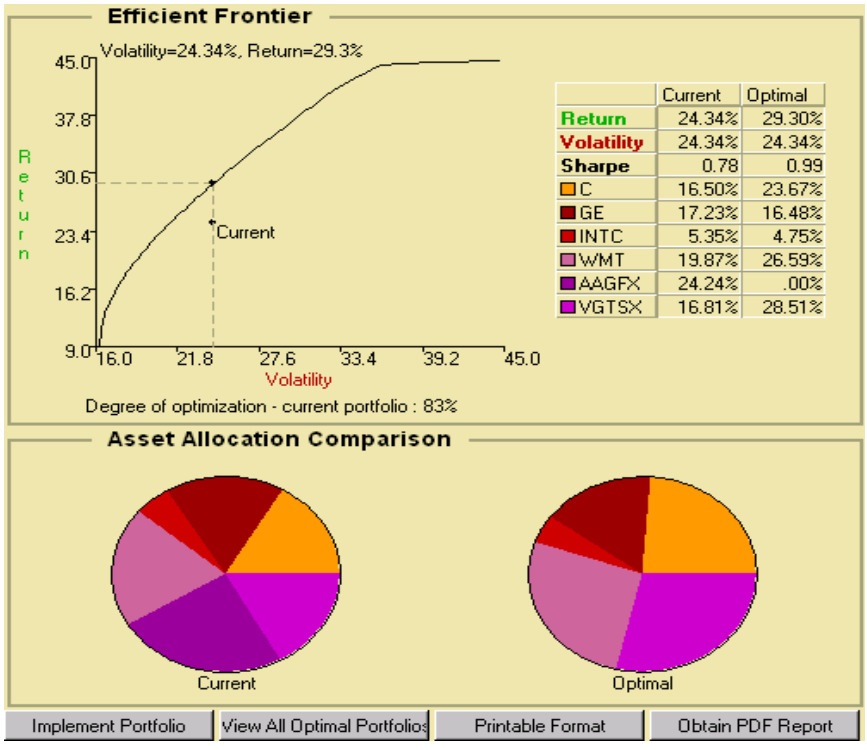
After selecting the proper asset allocation, the next step is optimization of the portfolio. This is done by looking at the probable returns of the portfolio by putting it through a simulation process called Monte Carlo Testing. This statistical simulation runs the portfolio through thousands of variable scenarios (changing interest rates, etc) to come up with a probability of how well the portfolio will actually perform. Once that is done, the portfolio is compared to a hypothetical "optimal portfolio" which is graphed out. The graph of the optimal portfolio is called "**The Efficient Frontier**" and shows the maximum risk adjusted return for various levels of risk and return. According to Modern Portfolio Theory, for any portfolio of assets there is an efficient frontier, which represents variously weighted combinations of the portfolio's assets that yield the maximum possible expected return at any given level of portfolio risk.[2]

[2] Wikiperdia.com

## The Efficient Frontier




The risk free line represents a hypothetical asset with no risk (no variance). This is usually represented by rate of return for a short term government bond. Because there is no variance, there is no risk and the line is linear. A point nearest to where the risk free line is tangent to the curved line is where the portfolio has maximum return and minimum volatility (risk). An actual example of an optimized portfolio given the goal constraints of the owner of the portfolio is shown below. The charts below were derived by finportfolio.com-an online provider of MPT solutions.



Note that the "current" portfolio with its allocations is only 83% of the "optimal," which is shown in the table with the re-allocation of assets necessary. The process of making changes to a portfolio for the purposes of optimization is called "balancing".

**Risk Analysis**

After setting up the optimized portfolio, it is up to the manager of the portfolio to monitor performance; this is accomplished by measuring and interpreting the various types of risk. As markets in today's shrinking world is almost a 24/7 operation, it's important to have a regimen for reviewing the changes in the portfolio. Moreover, the manager should have an "alert point" metric where action should be considered. Without a doubt, if reducing risk such an important factor in MPT, it a good understanding of risk, the way to measure it and interpret the findings, is an essential skill in managing a portfolio.

**Rebalancing the Portfolio**

How often should a portfolio be checked? There are some who feel that it can be counterproductive and stressful to be too focused on short term performance and there are others who feel that you should be doing a daily check. With today's software, however, it's possible to program alert points. A good example of an alert point is VaR. The computer can check at pre-determined intervals for a specific number and send an alert. Another example is to do a periodic comparison of current portfolio against the optimal portfolio. If there is a gap of a certain amount-say 85%-then a rebalancing would be called for. Exactly what that difference might be will be decided by certain factors such as transaction costs, current price of bonds held, etc. But one thing should be kept in mind; higher annual returns over long periods can make a significant difference at the end of the horizon.

# Chapter 6
# Risk reduction strategies-Options

**Why Options?**
Lately, the word "derivative" has become synonymous with a string of foul four letter words. Particularly the now famous Credit Default Swaps (CDS). For years, the dangers of derivatives have been proclaimed by some as a quick way to ruin. But the rapid growth of options in all types of markets-equities, indexes, futures, and forex- hasn't been because they are dangerous for investors and traders. Quite the contrary.

Many believe that options carry a lot of risk, but in actuality options are one of the least risky of investments. "Oh, yea" you say sarcastically. That's why brokers look down at the floor as they hand you a risk disclaimer statement booklet, which warns the reckless investor about the dangers of trading options. Well, the facts are that it takes a fairly substantial investment in time to learn about the elegance of options. Not only that, the retail investment industry doesn't usually spend the time (money) training their brokers about options. For retail, if the public doesn't have the time to learn about options and it costs too much money to educate brokers, well, it's just a better business decision to steer clients toward the company revenue model. But it's hard to keep a good thing secret for long. When investors hear that they can use less capital to make more potential profits (leverage), many investors go into trading options without adequate education. As a result, it becomes a case of a little knowlededge becoming a dangerous thing. Options get a bad rap and that only perpetuates the erroneous belief that options are risky and should be avoided by "the prudent investor". Nothing could be further from the truth.

For example, if you purchase 100 shares of Home depot (HD) you might pay around $3400. To purchase an option contract for the rights of 100 shares of HD for a specific time period, you might pay about $ 200. If properly set up, the most you could lose on the optioned 100 shares would be the $200 premium (option cost for 100 shares). On the other hand, it's possible for you to lose all of your $3400 on the purchase of the 100 shares of HD. A sudden bankruptcy or some unforeseen event (systemic risk) can make this unlikely event a possibility. It has happened before and will happen again. The risk exists. Not so for options, The maximum risk is the contract premium, which is a fraction of the cost of buying the underlying stock. It's a fact. And this attractive capability of limited loss and high potential return can indeed be a siren's song. It's that old holy grail of limited risk and high potential reward. But there is so much more to options. **As a matter of fact, derivatives were not invented so much for their leverage but more for their abilities to reduce risk.**

**Option Basics**
For our purposes, we will refer to stock options, however, the same principles and strategies apply to other optionable investments. There are many ways to take advantage of the tremendous flexibility of options. Some of the most common strategies employing options are:

- To hedge an existing long or short position in the underlying equity (it's like purchasing insurance).
- To leverage a position either short or long;
- To make a profit by selling the rights to the underlying stock. **With options, a trader can make a profit when the market is going up, down or sideways**. But for the most part, options are provide high leverage and risk control

As a general overview, options can be an effective way to leverage investment assets that can reduce shorter term risk while at the same time freeing up assets to purchase for the longer term. For example, an individual investor could use 10% of investment funds allocated for equities to purchase options and use the 90% to purchase positions in less volatile, long term positions.

As trading options is more complex than trading just the underlying asset, many investors don't want to spend the time to become better educated on the mechanics and benefits of trading options. But as returns on most traditional investment products become anemic, investors are starting to look for some way to boost profits with the least risk. Options offer a very attractive way to accomplish this goal.

Our modern era requires more education for those who want to participate in the benefits that a more complex society. Many have been forced to become computer literate and found out they could make the transition with little to no difficulty. What might at first seem to be daunting can turn out to be easy and interesting. At no time in history can it be more appropriate to say that "knowledge is power", and learning to trade options is an excellent example.

**A brief introduction to options**

Because options are all about managing risk, we don't want to shortchange the reader if you are not very familiar with options. If you have taken the time to read this far and aren't familiar with options, perhaps this introduction will lead you to find out more. There are many good online courses, mentoring services, books and seminars available on the subject and if you are serious about controlling risk in your trading, options are a must. But be ready to do some serious study.

The classic definition of a stock option is: a contract that gives the holder of the contract the right (not obligation) to purchase or sell a specific amount of underlying assets at a specific price if exercised within a certain time period.

An option is also called a derivative in that it derives its value from an underlying asset.

**Basic option terminology and definitions**

- The purchase of a Call contract conveys the right to buy 100 shares of an underlying asset at a specific price anytime before the expiration of the contract period.

- The purchase of a Put contract conveys the right to sell 100 shares of an underlying asset at a specific price anytime before the expiration of the contract period.
- The owner of an option is called the Holder.
- Hedging is when a position is taken in opposition to the underlying asset position. For example, if you are long 1,000 shares of XYZ a long put position would be taken (10 puts). If the stock goes down in price, the value of the put contracts will increase and should help offset the loss of the declining long stock position.
- The purchase of a call or put is considered as having a Long position.
- A person who sells options is said to have a Short position.
- A person who sells rights to an option is also called the Writer.
- One option contract consists of the right to 100 shares of the underlying asset.
- A Premium is the amount paid for each share in a contract.
- The Strike Price is the price at which the option can be exercised. For a call option, it is the price that the underlying stock must go above. For a put option, it is the price that the underlying stock must go below.
- Expiration date is the third Friday of the expiration month.

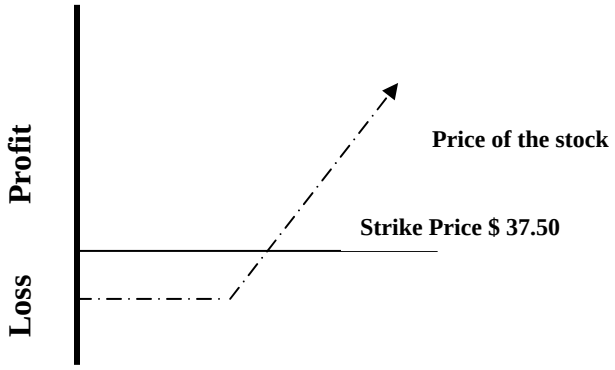
Let's stop here for some basic examples of how Calls and Puts can work to make a profit. The following two examples are the most common types of trades and are called "long positions" in that both options are purchased from a seller.

Example of purchasing a call option: It's February. You live in the Northeast and you heard a knowledgeable uncle say that spring usually brings about an increase in the stock price of Home Depot (HD) due to the seasonality of construction. The current price of HD is $ 35 a share. You would like to purchase HD stock, but you really can't afford to purchase the stock in any sizeable amount. You have heard about stock options so you decide to call your stock broker to find out more. Your broker tells you that the current price of a May contract of HD with a strike price of 37.50 is priced at a premium of $2.50 a share. One contract is 100 shares so a contract would cost $250. With $500, you can purchase two contracts which will give you "temporary custody" of 200 shares of HD until the third Friday of May (contract month). You ask your broker what the transaction costs (commissions) will be and he says that he will do it for free (in your dreams). So you purchase 2 HD EU-E (the EU-E designates the contract series which has the strike price and expiration month you bought) contracts which will expire on the third Friday of May.

As your uncle had figured, by mid April HD has risen to over $42 per share. Your May options now sell for a premium of $6 per share. You call your broker and have her/him close out your position (sell your contracts). You make a profit of $3.50 per share ($6-$2.50); you made a net profit of $200 or a 40% profit on the $500 premium in the two months you held your position.

Below is a graphic representation of what happens when a profit is made with a call

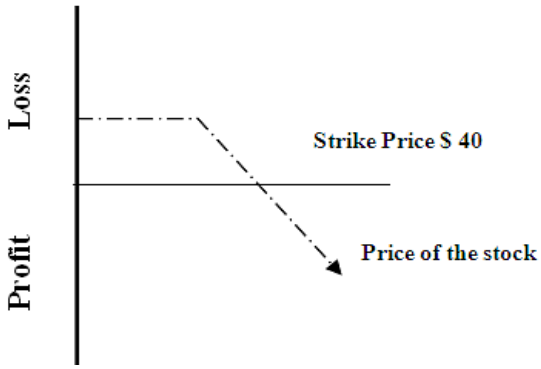
**Buying a call (long)**




Example of purchasing a Put option: It's now September and you believe that the price of HD will go down as winter approaches. The current price of HD is $43. You ask your broker to help you choose a Put to give you the opportunity to make a profit on the anticipated decline of the HD share price. Your broker tells you that the technical analysis shows that the price of HD could go below $38. Your broker advises you to buy 2 Put contracts with a strike price of $40 which will expire on the third Friday of February. The premium for each share is $1.30; therefore, each contract (100 shares of HD) will cost $130 for a total of $260 for the 2 Put contracts (not including commissions). You decide to kick it up to 4 contacts for a total premium of $520. Your broker tells you that the contract month (February) has a code of HD-EU-E (the EU-E designates the contract series that has a strike price of $40 and expiration month of Feb) and this symbol allows you to follow what is happening to your contract pricing during the life of the 4 Put options.

In December, HD has some unexpected bad news and the stock plunges down to $36. You and your broker decide not to take profits yet (you make money with a Put when the price of the underlying stock goes down.). In January, the price has sunk to $32 and your HD-EU-E options are selling at a premium of $6 per share. You tell your broker to close out your position. You will have made a profit of $4.70 per share ($6-$1.30) for a total profit on the 4 put contracts (400 shares) of $1,880 for a whopping 361% return on the $520 premium you paid for the 4 Put contracts.

**Buying a Put (long)**



To take profits or to cut losses, the contracts held must be "closed-out". In the case of a profit, the price at which the contract can be sold will be the price from which the original premium costs will be taken to make up the profit. (Don't forget commissions),

To cut losses before expiration, a contract can be sold (to close-out the position) and the price obtained will be subtracted from the original premium to figure the loss.

*To sell or write an option contract is not the same thing as closing out a position.*

There are several styles of option contracts:

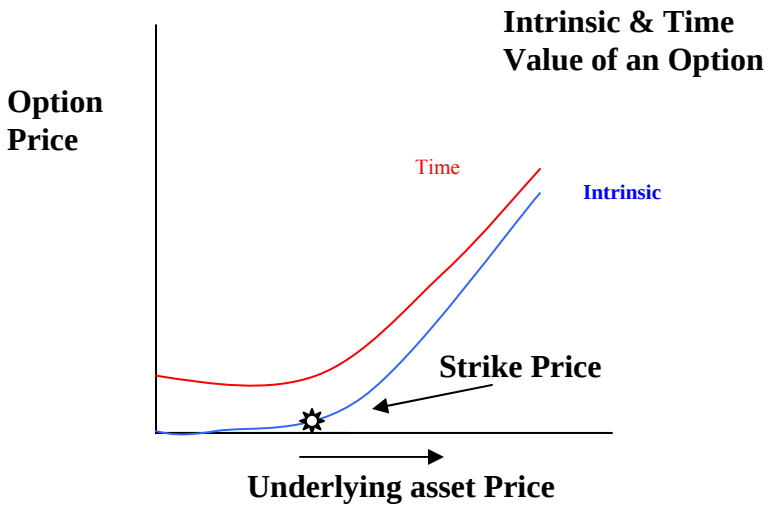
- American: The option can be exercised any time during the contract period
- European: The option can only be exercised during a specific period.
- Capped: The option can only be exercised if it hits a "Cap Price".

We are focused on the American style.

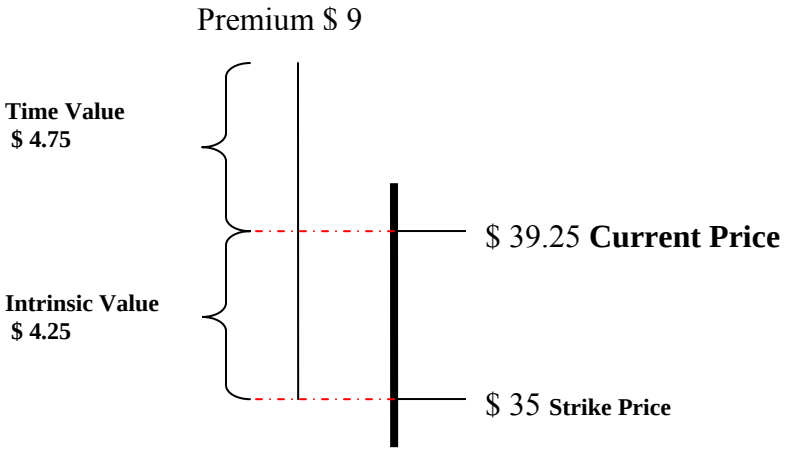
## More important terminology:

Intrinsic Value: An option has two types of value: 1) Intrinsic value and 2) Time value. Intrinsic value is the difference between the stock price and the strike price, if that difference is a positive number. (Example: current price=$ 40 and strike price=$36, the Intrinsic value is $4). For put options it is also the difference between the strike price and the stock price, if that difference is positive. (Example: current price=$ 20 and strike price=$25; intrinsic value is $5).

Time Value: As an option gets closer to expiration it loses value because there is less time for price movement to happen. There may be a point-usually early in the option period that an option may have more value than just intrinsic value. This difference between intrinsic value and the total premium would be the time value.



Another way of explaining Intrinsic and Time value: If you purchase a call with a premium of $9, a strike price of $35 and the current stock price is $39.25. The option has $4.25 of intrinsic value and $4.75 of time value. Moreover, as the contract gets nearer expiration date, the Time value "decays" and moves toward zero




In-the-money (ITM), Out-of- the-money (OTM) and At-the-Money (ATM)

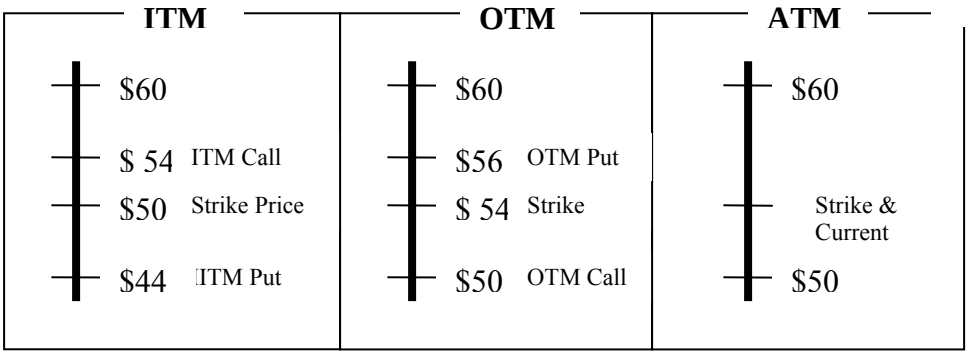
- In-the-Money (ITM): When a call is purchased with a strike price below the price of the underlying security. This means that the option has intrinsic value and it is exercisable.

In the case of an in-the-money put, the strike price is above the price of the underlying security and thus has intrinsic value.

- Out-of –the Money (OTM) is when a call is purchased with the strike price above the current price of the underlying security. The premium is totally made up of time value.

In the case of an out-of-the money put, the strike price is below the current price of the underlying security. The premium is made up of only time value.

- At-the-money (ATM) is when a call or put has a strike price which is the same as the current price of the underlying security. The option has no intrinsic value but may have time value (premium).



As you saw in the examples of buying a call and buying a put, the option trader must not only work out the direction that the underlying stock might move but also when that movement might take place. It's all about making money on movement-either up, down or no movement at all.

**Volatility**

As stated previously, the game is all about prognosticating in which direction the underlying stock will move and when this movement might happen. When trading stock options, it is desirable to have an underlying stock that has a tendency to make large moves (more volatile) so that the derivative will also make larger move. This is a general statement because there are some traders that trade in options with low volatility and look for small gains that happen many times over. But for the most part, option traders like stocks with some volatility.

When we are looking for stocks with higher volatility, we can look for the stocks Beta. When a stock moves exactly in synch with the market, that stock is said to have a Beta of 1.0 when a stock moves in a more exaggerated manner than the overall market, it is said to have a Beta greater than 1.0. For example, if the market moves up 2% and a particular stock moves up 4% you could say that the stock has a Beta of 2.0. This is a simplification but you get the idea. A stocks Beta can be normally be found when looking up information on a stock. Conversely, when a stock is less volatile than the general market its' Beta will be below 1.0. By definition, as an option is a derivative of the underlying stock, there is a very strong correlation between the two and we can *assume* that a stock option will mirror the volatility of its underlying stock. Most traders want volatility.

Situational outcomes of option trading

A purchase of an option contract can have three possible outcomes:

1. The option (put or call) is in-the-money. In this case, the option holder can do several things: Close-out the position and take profits if it is near the profit goal; or hold the option and hope for the value of the option to increase before expiration of the period; or exercise the option to get an assignment of the underlying security at the strike price of the option.
2. The option (put or call) is out-of- the- money. In this case the holder can do several things: If the option is not moving as anticipated, the position can be closed-out and a loss taken which would be the difference between the purchase premium and the current premium at which the holder can sell the contract ("closing-out the position"). Or, the

Holder cannot try to cut losses but hope that the option will move into the money before expiration. If nothing happens, the option expires and there is a total loss of the premium. One of the "advantages" of losing money trading options is that you know what your maximum loss could be; whereas owning the underlying securities could pose large unknown losses.

Who makes sure that option trading takes place in an orderly and responsible fashion?

In 1973, the Options Clearing Corporation (OCC) was founded and placed under the supervision of the Securities Exchange Commission (SEC). This private corporation is

made up of qualified *Clearing Members* who are charged with the responsibility of making sure that all option transactions and responsibilities are met. The OCC derives its income from transaction fees.

The OCC operates an informative website at: www.optionsclearing com

U.S Exchanges where options are traded

Listed options are traded on the following exchanges. The OCC does all the options clearing for all the listed exchanges below.

- American Stock Exchange
- Boston Stock Exchange
- Chicago Board of Options
- International Securities Exchange
- New York Stock Exchange, ARCA
- Philadelphia Stock Exchange

**Covered Call-a conservative strategy to make money in a sideways market.**

Up to now, we have only discussed the two most common and simplest positions. Let's review:

We know that when the trader believes that the underlying asset will move up within a certain period of time, the trader will take a long call position. However, if the trader believes that the underlying security will go down in price within a certain period the trader will take a long put position.

Now we will talk about how to make money when we anticipate little or no movement in price of the underlying asset.

Covered calls are used when a trader believes that there will be little movement in the underlying security (low Beta), and is one of the most conservative option trading strategies. This situation is a bit different in that the trader owns shares of underlying security. The trader believes that the underlying security will not have much movement and usually writes an out-of-the-money call option to sell to buyers who want to purchase calls on the underlying stock that the trader holds. The hope of the covered call writer is that the strike price will not be hit and the option will expire and the *writer* ( as opposed to the *holder*) can keep the premium from the sale of the options and also keep the underlying stock so that the process can be done again. The goal is to make a series of smaller quick profits so as the total of these trades can produce an enviable annual return, which can compare favorably with the home run hitters.

If the writer is wrong and the option moves above the strike price, the underlying stock can be "called away" and the option to purchase the stock at the strike price must be honored and the *writer* must present his stock for assignment to the *holder.* In which case, the writer keeps the premium and is paid the strike price for the called away stock. Covered calls are considered conservative in that if nothing unforeseen happens to the underlying stock, the worst case scenario is that the stock is called away and the writer may lose only the potential future gains or dividends of the stock.

Example: The trader owns 500 shares of Home Depot (HD). The trader feels that HD is a long term hold and the owner may have already made money on the stock's appreciation. HD has been stuck within a range of $38-$43 and the current price is $ 39.25; there has been little movement in the stock and the trader looks for some income from his listless stock.

The trader checks the quotes for call options for HD and notices that HD May options (HD EV-E) have a current premium of $ 4.25 per share with a strike price of $42.50. The trader does the math and sees that the 500 shares he would use to "cover" the sale of the 5 call contracts (500 shares) would total $ 2,125. He calls his broker and finds out what commissions there would be to write 5 call contracts. He then writes the five contracts and an option trader purchases the contracts. The *writer* receives the premiums for the five contracts. If the HD- EV-E contracts don't hit the strike price of $42.50 the *writer* keeps the premiums and the stock. He has two months until the third Friday of May so he hopes that HD won't hit the strike price and the options will expire. As good fortune would have it, May comes and goes and the trader has made a 10.8 % return on the value of his underlying stock. The trader is happy and decides to do it again and starts looking for another attractive premium opportunity.

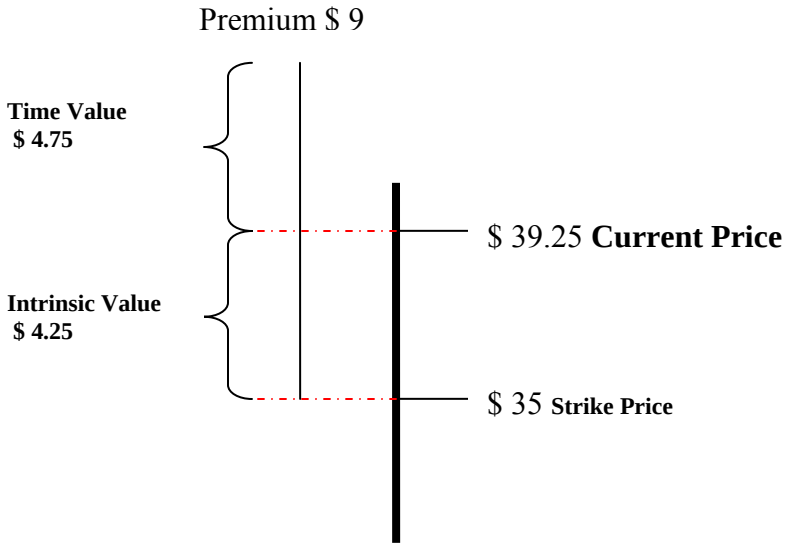
But there's more……

## Making profits on the sale of underlying stock with an ITM call.

Suppose the owner of 500 shares of HD wants to sell the shares. Instead of calling his/her broker and telling the broker to sell the shares, the owner can write an in-the-money call. Keep in mind that ITM calls have higher premiums because of intrinsic and time value.

Example: The owner of the shares sees that an in-the-money call costs a premium of $9 per share for an HD-EG-E (May contract month with a strike price of $ 35, which is in the money because the current price of HD is $39.25). For the five contracts (500 shares), the owner would get a premium of $4500 less commissions for writing ITM options for the 500 shares he/she owns. The stock price is currently $39.25 and the calls will probably be exercised and the 500 shares will have to be assigned for the strike price of $35, and, therefore, the owner will lose $4.25 per share ($39.25-$35) for a loss of $2125. But the difference between the premiums ($4500) for the ITM covered calls and the projected loss of $2125 still gives the owner a net profit of $2375 and would give the owner a 12.1% return on the sale of the underlying stock instead of selling at the current market price of $39.25 and paying commissions to sell the stock. What makes this covered call attractive is the time value of the option.

***On the next page is an illustration of the option values of the ITM covered call from the above example***




If you have understood what you have read so far, then you are probably asking yourself: "is a covered put the same as a covered call-only in reverse?" The answer is yes and no. There are some peculiarities with "shorting a stock" which make the covered put a little different and for the time being let's leave that discussion for another time.

So far, you have learned how options can make money when the underlying stock can go up (call), down (put) and neutral (covered call). These option trading techniques are considered the most straight forward and easy to understand strategies. It is important for the new trader to understand how these work.

**Basic trading Strategies:**

| Underlying stock trend | Up | Neutral | Down |
|---|---|---|---|
| Option | Call | Covered Call | Put |

**Hedging with Options**

One of the main reasons options were developed was to help lock in portfolio gains through a form of playing both ends against the middle. In other words, hedging your bets is to bet on all the possible outcomes. For example, if you think the market is going up and you are long, you can also sell the market short so if you are wrong, you win either way! Basically, that's what hedging is. But options have a really cool mechanism to help decide how to go about hedging.

Without going into detail on the subject, the option pricing model provides a measure of probability that allows for a much more accurate analysis of what option ratio is most appropriate for adequately covering unrealized gains. It's called *Delta*.

Delta is the most important and one of four important variables produced by the option pricing model. Among other things, allows the value of puts and calls to be balanced with the underlying assets. This is called the hedge ratio.

Hedge ratio tells us how many options at a certain Delta we would need to reduce the total position risk to near zero. For example, if we have 1000 shares of a certain stock, how many stock options will we need to buy or sell to offset potential losses of value in the underlying stock? This is an important tool for portfolio managers who want to "lock in" unrealized portfolio gains. Here is how it works.

Suppose you have 1000 shares of XYZ stock and you have realized a nice gain over the years. Now, the market seems to be entering a period of correction or there are potential short term problems within the company. To help protect the shares against losses, stock options in the form of long puts or short calls can act to offset potential losses. For our purposes, we will buy puts. But the big question is: How many puts must we buy and at what strike price to protect at a 100% correlation any downward move in price of the underlying stock. In other words, if the stock price goes down, how many puts must be purchased at a certain strike price to gain profits on the options to offset the losses on the underlying stock?

One share of a stock has a delta of 1. Its value is in itself. How many options must I buy to produce a Delta of 1? You could buy two options with a Delta of .5 to cover each share or 3 options with a Delta of .34; or 4 options with a Delta of .25. You get the picture. Keep in mind that a long position always has a positive Delta; a short position or a put has a negative Delta. Therefore, to reduce Delta to zero requires offsetting Deltas.

To test your understanding, try this example: You have 300 shares of ABC and you want to protect against a downward move. How many options should you buy (or sell) to cover the total downside risk? First of all, how many long Deltas does the position have? How many negative Deltas must I find to offset the long position? How many puts must I buy if I buy an ATM put with a .5 negative Delta or if I buy an OTM put with a negative Delta of .4?

Answer: The 300 shares of ABC have total positive Deltas of 300. To offset the 300 long (positive) Deltas would require 300 short (negative) Deltas. If you use the ATM options with 50 deltas (100 shares per contract) you would need to buy 6 contracts of the ATM options. For the OTM options with a .4 Delta, you would need to buy 40 (negative Deltas per contract) and divide that into the positive Deltas of the 300 shares. Thus, you would need to buy 7.5 contracts (round off to 7 or 8). Don't forget to deduct the cost of the put positions from unrealized gains.

**A brief introduction to complex option strategies**

You have been introduced to the most basic and common trading strategies -the put, call and covered call. But experienced traders use many combinations of Long (buy) and Short (selling) positions to take advantage of movement trends and at the same time reduce (hedge) risk. The purpose of introducing these positions is to give you a glimpse of what may lay ahead after the new trader gains experience and confidence in using the simple long call, long put or covered call stock option trading strategies.

**Spreads:**

A spread is when a trader is both buyer and seller (writer) of the same type of option (call or put) on the same underlying security with different strike prices and or expiration dates.

- Bull spread: Long a call with a low strike price and short a call with a higher strike price, or long a put with a low strike price and short a put with a higher strike price.
- Bear spread: Short a call with a low exercise price and long a call with a higher exercise price, or short a put with a low exercise price and long a put with a higher exercise price.
- A vertical spread: the sale and purchase of the same option in the same month but at different strike prices.
- A calendar spread is the sale and purchase of the same option in different months with the same strike price.

Example of a vertical spread:
Let's suppose you think that a stock will stay range bound; that is in a more or less stagnant situation. At the same time, you analyze that the market is in a general up direction. In this case, you can say to yourself:

"Self, if there is going to be any movement, I think it will be in a slightly up direction. Therefore, the probability is lower that the stock might have a tendency to move down than up. As a result, it might be a good idea to sell a put thinking that we will expire near or above the strike price. In which case, we keep the premium". Now, to protect against a surprise reversal, an option trader can buy an out of the money put. Of course, we purchase the "Bull Put spread" or "Vertical Credit spread" (we sell the option with the higher premium-thus the premium form the sale more than offsets the premium paid for the out- of-the-money put) and make sure we are out of the spread position before expiration if any option is in-the-money.

For example: Current price of XYZ is $ 45
(stagnant with a slight positive bias)

Sell XYZ $45 Put @ $5.00
Buy XYZ $42 Put @ $1.00
Net Credit: $400
Breakeven Price $41

On the other hand, if the option trader thinks that it is more likely that a stagnant stock is more likely to break to the downside than the upside (no good news and things are generally negative for the market and the stock), you can ask yourself: " self, lets sell a call and protect against a strong up move by buying an out-of- the money call. Therefore, if the stock goes down we collect the net premium. This "Bear Call spread"-again a Credit spread, also allows us to collect premium

For Example: Current Price of XYZ is $45

(stagnant with a slight negative bias)

Sell XYZ $45 Call @ $5.00
Buy XYZ $48 Call @ $1.00
Net Credit: $400
Breakeven Price: $46

**Morphing a position**

Morphing can take what might appear to be a losing spread position into a big win. Suppose you put on a vertical spread with the idea that the underlying would stay range bound and that you will collect the premium at expiration provided there is no large movement. But as things do happen, the company comes out with some surprise news that sends the stock soaring; not what you planned on happening for this type of position. No doubt, your short position will be assigned (exercised) and you will be forced to fill the contract. However, the good news is that you have a long position at the higher strike price and the underlying is moving its way and increasing in value. So, you close out the short leg of the spread and hold on to the long leg. This is an example of the hedge against high risk that a spread offers the option trader. If the market goes down, you keep the premium. If the price stays flat, you keep the premium. If the stock goes soaring, you make a profit. The only times that the spread lets you down is if the price is just a little bit ITM at which time you lose the premium you made writing the contract and eat the long premium you paid for the call.

## Straddle

Long a call and long a put with the same exercise prices (a long straddle), or short a call and short a put with the same exercise prices (a short straddle).

Example:

One of the beautiful things about stock options are the marvelous range of strategies they offer. The straddle can be used in two very different situations: when the option trader believes that a stock is ready to make a pronounced move-either up or down- or when a stock is in a stagnant period.

Let's say XYZ is trading around $ 58.50 and is going to come out with earnings that may greatly exceed the guidance target. Volatility has been increasing in the stock and you want to take advantage of the high probability of a jump in the stock price. If you purchase both the July 60 call and the July 60 put simultaneously in a one to one ratio, you would have a *long* Straddle. The July 60 call trades at $3.13 and the July 60 put trades at $2.47. The combination of these two prices accounts for 5.60, which is the cost of the Straddle. If the stock spikes up, you are there. If XYZ fools everybody and comes out with lower earnings and spikes down, you are there with the put. Win-Win. But not so fast.

Unlike many other stock option spreads, the straddle requires that the option trader act quickly if the stock does indeed spike-in either direction. Most often, once the big burst has happened the stock can rebound. A straddle play requires nimble action. Also, if XYZ comes out with rather mundane results and the stock barely twitches, the straddle

could be in danger of expiring worthless. Of course, the maximum loss is the cost of the spread. So, a long straddle is indeed playing both ends against the middle. The worst case scenario is if the stock remains stagnant. The best case is if the stock spikes-in either direction. Either way, if the stock spikes, the option trader must be ready to pull the trigger and close out the position.

On the flip side, a stock option trader can use a straddle to take advantage of a stagnant stock. A *short* Straddle is when the option trader sells a call and sells a put for the same stock for the same month in an attempt to capture the premiums and have the short Straddle expire worthless; allowing the stock option trader to keep the premiums.

## Strangle

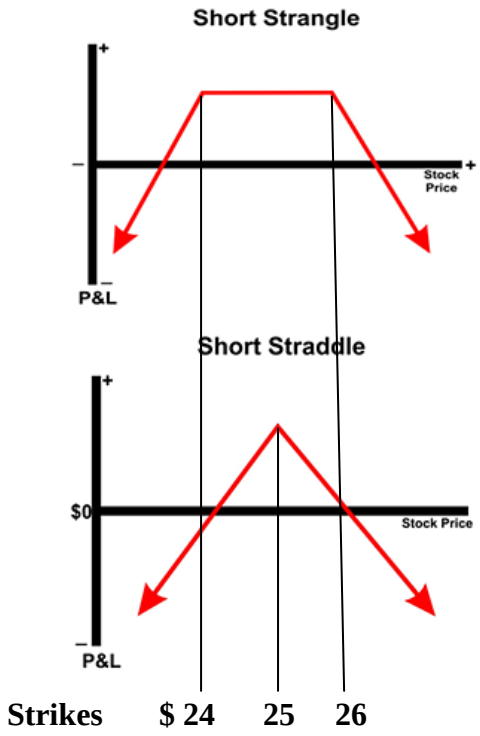
The term "Strangle" is a pretty provocative name for something as innocuous as a conservative premium capture strategy. But it does describe how it is supposed to work. It's like putting a choke hold on a price by surrounding it above and below with out-of-the-money strikes. Normally, a strangle is composed of a long call and a long put with different strike prices (a long strangle), or short a call and short a put with different strike prices (a short strangle). The looser strike prices range allows for the prices to range a bit without deteriorating the profitability or to bring about a surprise assignment. Moreover, when a stock has higher implied volatility, it helps increase the value of an out-of-the money option and thus the premium. While a Straddle looks for at-the-money strikes, this creates a bit more risk-particularly if implied volatility is increasing.

Perhaps the best way to demonstrate the differences between a straddle and a strangle is to use a pictorial presentation on the next page. The same principal holds true whether long or short.

In the case of a straddle, the strike price of the call and the put are at the same strike price. This means that as soon as the price starts to vary from the strike, the option value changes. For example, if you are short a straddle, as soon as the price goes down from the, the profit of the position starts losing value. On the other hand, because the strangle has two different strike prices, as long as the price stays within those two strikes, the position maintains value.

The strangle gives more breathing room for the price to move which is opposite of what the connotation of the word "strangle"

The graph on the next page demonstrates a pictorial view of how there is more room for movement of the price and still provide enough protection to lock in the premium. However, the straddle has a much narrower band of movement before the premium starts to diminish.




## Butterflies

The Butterfly is a fairly sophisticated series of spreads that help reduce risk.
The first thing you must understand about the Butterfly is that it is constructed by using either all calls or all puts. The Butterfly is never a combination of the two. (We will talk about an exception called the *Iron Butterfly* later.)

Whether you choose to use calls or puts, butterflies are always constructed in a "1-2-1" arrangement. For the *long Butterfly*, you would buy one low strike, sell two medium strikes and buy one high strike with the strike prices equally spaced. The center strike typically matches the current price of the stock.

Example:

If the stock is 55 and you decide to create a long Butterfly by using calls, you could buy a 50 call, sell two 55 calls, and buy one 60 call. If you decided to use puts, you could buy a 50 put, sell two 55 puts, and buy one 60 put. The long Butterfly is always long the outer strikes and short the center strike.

You would construct the *short Butterfly* in the opposite way. The short Butterfly will always be short the outer strikes and long the center strike. For example, to create a short Butterfly, you could sell a 50 call, buy two 55 calls, and sell one 60 call. The short Butterfly trader is simply taking the opposite side of the trade with the long Butterfly trader.

This is not a complicated construction. The trick is to understand that while there are three strikes to a Butterfly, there are four options involved. I know the construction will be hard to associate with long or short in the beginning, so here is a little trick or two to help you remember how to differentiate a long Butterfly from a short Butterfly.

When I think of whether a Butterfly is long or short, I always look at that first strike. If that first strike is long, then it is a long Butterfly. It is as simple as that. Some people find it easier to just focus on the center strike where you have the two-option position. If you are short the center strike then you are long the Butterfly.

The opposite would be true for short butterflies. These are just a couple of ways that you can determine whether a Butterfly is long or short until you become so familiar that you automatically know which Butterfly is which. Until you get to that point, you will want to use little tricks to remember which one is which. Use whichever is most comfortable but I suggest you focus on only one "trick" and use only it until you become so familiar with butterflies you don't need it any longer to recognize which one you have. Make your choice and stick with it!

**The Collar**

This is considered the safest way to lock in profits on the unrealized gains of the underlying stock held by the trader-investor. It is like the ultimate option hedge against risk**.**

If an option trader has been holding an underlying stock that has accumulated gains and the trader is concerned about losing those unrealized gains (e.g. the trader feels that the market will enter a correction phase or the company may experience some bad news), the option trader can establish a "collar". This is done by opening a single position whereby the option trader will write out-of - the-money covered calls on the shares (each contract is 100 shares), and simultaneous long position in out-of-the-money puts. Both selling and buying is a combination having the same number of contracts and are established using the same expiration month.

The selling of the covered call provides a premium which will offset the cost of the long put position and many times provide a credit. If the underlying stock goes down, losses in accumulated profits are largely offset by gains of the long put position. If the stock goes up but does not go into the money, the position may provide additional profits on the premium and if the stock goes into the money and is called away, the stock option trader makes the additional profits over and above the original accumulated profits. Yes, if the stock is called away the stock option trader will lose the potential additional profits if the underlying stock were still held, but the collar is used when the feeling is that there is an imminent possibility of the stock losing value. The combination may be closed out as a unit just as it was established as a unit. To do this, the investor enters a combination order to buy a call with the same contract and sell a put with the same contract terms, paying a net debit or receiving a net cash credit as determined by current option prices in the marketplace.

**Other Types of Options:**

**Index Options**

Like an option based on an underling security, Index options allow the trader to derive an option from a spectrum of individual stocks classified and grouped by sectors, capitalization and other identifiable qualities. There are more than 40 different indices. Each index is made up of a weighted sampling of the particular market and this sampling is the underlying asset which defines the option. Like a mutual fund, the diversity of the components of the index provides for less volatility than the single equity option. These indexes allow traders to speculate on narrow and broad markets and function just as options derived from individual securities. Examples of the smorgasbord of indices traded can be found at the following links:

Unknown to most traders and investors, Index options have special tax benefits. Brad Griffin, a CPA and a fixture at Index Spread Options Trader talks about options, taxation and the unique status held by index option spreads. First of all, Brad explains that short-term gains from most types of stock and option investing are taxed as ordinary income. If you are in the 31% income bracket, you will pay 31% of your profits as short-term gains. For example, if you have a great short term trade with a profit of $2,000, you pay about $600 of the profits to the Uncle. If you have a losing trade, Uncle feels bad, but you're on your own, baby. Nice partnership. Uncle rewards a trader's patience because when a position is held for more than 12 months, it is considered as a long-term trade and any gains on stock and option investments are normally taxed at 15%. Moreover, if your tax bracket is below 25% then long term gains are taxed only 5%. Uncle is a compassionate fellow but probably wants to know why you have enough money to invest when you're in that low tax bracket.

Mr. Griffin goes on to explain that there is some good news because the gains from stock index options trades are taxed differently than gains on regular stock options and stocks. According to Brad, gains on stock index option spreads are considered ITC Section 1256 contracts. This means any gains made on these trades are taxed under a 60/40 rule: gains are treated as 60% long-term capital gain income and 40% short-term capital gain income (ordinary income)- *regardless of how long the investment was held.* At the end of his article, Brad reminds us to not trust what he says but do your own due diligence; always good advice.

For more about index options:

http://www.cboe.com/LearnCenter/workbench/products/sp100.htm

**LEAPS**[3]

Long-Term Equity Anticipation Securities (LEAPS) are long-term options available on over 300 equities and 11 indices. LEAPS provide traders and investors with a longer-term view (some with a period of several years) of the market as a whole or on an individual

[3] Chicago Board of Options Exchange(CBOE)

stock. As with traditional short-term options, LEAPS are available in two types, calls and puts.

Most people think of options as a speculative tool to be used for short term, repetitive trading. But options are much more. Most don't think of options as a long term investing strategy. But LEAPs takes the flexibility of options into the realm of longer term investing and not just short term trading,

A LEAP is an option to exercise the rights of the underlying stock within a certain period if in-the-money. For a LEAP, the expiration period can be from one to as much as two and a half years. This gives an investor a method to allow more time for a stock to perform as expected but without having to pay the price of owning the stock. For example, to own 100 shares of a stock priced at $50 would cost $5,000. To own a two year LEAP option on the same stock could cost about $1,000; thus, freeing up more investment capital for other uses yet keeping a position in the underlying stock. No matter what the cost of a LEAP is, it will be significantly cheaper than owning the stock outright. Not only that, you can roll a LEAP forward for an even longer period.

An important consideration when buying LEAPS is the breakeven price. To figure this important price, you need to add the LEAP option premium plus any other transaction costs to the strike price. For instance, if the LEAP cost $3 per share (a contract is for 100 shares) the stock price would have to rise to the strike price plus the $3. If the strike price were $40, then the break-even price would be $43.

As with all options, the total risk is the premium paid. If you own the underlying stock, the risk can be the total amount of stock owned. For example, if the stock costs $50 and you have 100 shares, your risk exposure is $5,000. If the option premium for the same stock is $2 per share, your total risk is the $200 premium paid.

Returns on LEAPS are much higher than owning the underlying stock.
For example, if 100 shares of a $50 stock appreciate to $60, you will have a gain of $1000 on your investment of $5,000 for a return on investment of 20%. If you had one option contract and it went from the initial premium of $2 to $4 you would have a gain of $200 for the contract. This is a return of 100% on the original premium investment of $2.

Options also can be sold (closed out) if they don't behave as desired. It's always advisable to use a mental stop-loss just as in all other trades.

<u>The key benefits of investing in LEAPS over buying the underlying stock is that the risk are lower, the cost of the investment is much less and the return on investment is much larger.</u>

# Chapter 7

# Trader actions to reduce risk

Of course, total accountability for trading lies with the trader. Education, training, practice, experience, and trying not to re-invent the wheel are all things a trader needs to do to become successful. Success in just about anything is not about luck of timing. It's about preparation, discipline and proper attitude.

Much has been written about investing and how to become successful at doing it. So, it's not surprising that there has been a plethora of abbreviated lists of the essentials of what it takes to become a successful trader. But it's always good to continually review the basics. So, a first line of strategy in helping to reduce risk and increase success is to ingrain the well known into the well implemented. But, as with most academic subjects, it's easy to talk-the-talk but a different matter to walk-the-walk.

## Characteristics of Successful Traders

Many investors take actions that aren't in their best self-interest. They make irrational trades; they trade based on emotion, rather than logic; they hold on to a losing position due to their unwillingness to admit they made a bad trade; they trade based on greed or panic… the list is endless.

Successful traders, on the other hand, all have a few things in common. Developing these characteristics and habits will help make you a successful trader.

1) **Successful Traders Set Goals**

   Successful traders tend to be incredibly goal-oriented. Why? Most people perform at their best when they're reaching for a *clear* goal. And there are three basic qualities that make up a clear goal:

   - The goal must be realistic. If your goal is to double your money every day, it sounds great – but it's not realistic.
   - The goal must be attainable. Just like with a realistic goal, an attainable goal must be within your current capabilities. The best goals are short-term goals; make your first goal a small one, and then continue to increase your goals as you experience success. World-class sprinters don't start by thinking of winning the Olympics.
   - The goal must be measurable. Goals that aren't precise, and can't be quantified or measured, aren't really goals at all. If your goal is to be wealthy, that's great… but what does "wealthy" mean? Our guess is that your definition of "wealth" will change as your net worth increases. If you can't define your goal, and measure your progress towards it, then you have no way of assessing your progress or of making changes to your techniques and strategies that allow you to reach your goal.

Successful traders set goals, and they also are confident they can reach their goals. Confidence is a key to staying rational, logical, and disciplined. Starting with small, realistic goals will help build your confidence in yourself and your abilities.

**2) Success Can Come at Any Level**

Whether you're a beginning trader, a trader with some experience, or someone who makes his or her living strictly from trading, you can be successful. Many people think they have to have significant capital, or years of experience, to trade successfully. That's not true. (It's also true that if you don't stay disciplined, focused, and rational, you'll end up as a losing trader, regardless of your level of "expertise.") All successful traders started as small investors; they didn't trade more than they could safely risk, they learned from their mistakes, and they developed systems that worked for them and that fit their personal styles. We have not defined different strategies for different "levels" of traders in this e-book because the principles are the same: logical, focused, disciplined trading creates success.

**3) Successful Traders Specialize**

It's simply not possible to understand and stay in touch with everything that occurs in all the types of investment vehicles and markets across the world. While some traders have developed systems that allow them to trade in multiple venues (for instance, in different stock markets around the world), most traders specialize in a particular type of investment, and in a particular market. You may enjoy trading in commodities futures; that enjoyment will help you focus and stay in touch with market events. If you aren't interested in currency trading, for example, don't trade in it – your lack of knowledge and motivation will cause you to lose focus and make mistakes. Successful traders tend to specialize; they pick an area to gain in-depth knowledge of, and they follow it closely, learning from past trends and patterns, and from their own trades. If you're a beginning trader, we recommend focusing narrowly on a particular investment vehicle and market; learn all you can, about the market and about yourself, before you move into other investment types.

**4) Successful Traders Take Losses in Stride**

No one likes to lose. But losing is a fact of life for traders; the key is to limit your losses and maximize your successes.

A losing trade is not a failure. It isn't a reflection of you or of your overall judgment. (If it was possible to be right every time, we'd all be rich.) The only way a losing trade is truly a failure is if you aren't willing to take the loss, without hesitation, and move on to find winning trades. By accepting that they've made a losing trade, and getting out of the position, successful traders focus on making money – not on being right all the time.

Many traders feel they don't want to "lose" money on any trade, and they stay in losing positions in the hopes that it will recover to at least the break-even point. There are three problems with this approach:

- The position may never recover to the break-even point.
- Holding on to a losing position ties up capital that could be placed into winning trades.
- Holding on to a losing position is an example of unfocused trading and a lack of discipline.

Successful traders are willing to take small losses. If you aren't willing to take small losses, or don't have the discipline to take small losses, don't trade.

**5) Successful Traders Stay Focused During Rapid Swings**

Most of us were raised to think that it takes years of hard work to acquire wealth. That viewpoint doesn't apply to trading in the markets; you can make thousands of dollars in minutes under the right circumstances. Successful traders understand that money can be made or lost extremely quickly, and they stay calm and rational.

Why is that attitude important? Let's say you've made several thousand dollars over the course of an hour trading futures contracts. You're thrilled and excited, and you may lose your composure and start making irrational trades. You may stay in the position longer than you should, for one of two reasons:

- You think the market will keep going up, and you don't want to limit your gains.
- The market falls, and you don't want to give up all the gains you've made, so you hold on in hopes your position will rally.

If you accept and understand that huge amounts of money can be made in a short period of time, you are less likely to become undisciplined in your trading. Successful traders take their gains in stride, no matter how large. They quickly move to protect their positions by setting stops, or covering a percentage of a short position. Successful traders stay rational and disciplined in the face of rapid gains or losses because they understand the nature of trading.

**6) Successful Traders Stay Flexible**

Staying flexible requires that you stay detached and unemotional about your trades. No matter how strongly you feel about your analysis of a position or a trade, you have to be willing to change that opinion and act quickly if necessary.

Successful traders realize that bad trades reduce the gains made from past trades and potential gains from future trades. Successful traders change their minds quickly and easily, and are not concerned about whether they were "right" or "wrong." They're concerned with maximizing their gains and minimizing their losses – and to minimize losses, they have to be willing to quickly change their minds. Remember: the more flexible you are, the more successful you will be.

**7) Successful Traders Don't Leap Before They Look**

One of the most common mistakes inexperienced traders make is to trade when they see an opportunity they think *might* be too good to miss. Jumping into a position based on a hunch, or on the belief that you may be missing an

opportunity, is no different than gambling. Almost every investor at one time or another has felt a rush of greed or enthusiasm for a trade – based solely on the desire not to miss out on a great opportunity that *might* be available.

Successful traders practice self-discipline, and apply skill and logic to their trading. They learn every day, and they use what they know to make intelligent decisions on every trade. Successful traders don't worry about missing out – they focus on making intelligent decisions.

**8) Successful Traders Don't Passively Follow "Expert" Advice**

Blindly following the investment advice of a broker or analyst is foolish and self-destructive. Oftentimes, the broker's self-interest is completely different from yours, because the broker gets paid when you make a trade, whether it's a good trade or not. He or she *wants* you to trade. Analysts may have inside knowledge or years worth of experience, but in the end their opinions on the markets are just that – opinions.

Successful traders take responsibility for their trades and therefore their money. They learn, they stay focused and disciplined, and they make their *own* judgments about their trades.

**Continual Education and Training**

**Online Training**

The internet is a treasure chest of opportunity to traders not only to learn from A to Z, get special mentoring, shadow trading, participate in open blogs and bulletin boards and share the experiences and ideas of traders from all over the world.
It is the digital and trading is digital. More and more the fantasy of the "good life" is working from your home computer or laptop and making trades according to your own schedule and location. No office politics, climbing the corporate ladder or putting up with customer BS. Of course, the reality might be something completely different (nagging spouse, crying babies, barking dogs irritating neighbors and isolation) but the idea is there that a person can become their own business and plugged into the world left to match wits with the cold decisions of the impersonal market place. Trial by fire and standing tall. But as always, you get out of it what you put into it and if you aren't a self starter loaded with a strong work ethic and ability to be held accountable, trading for a living is probably just another aspiration to pursue.

Trading for a living is not an illusion because more and more people are doing it, but those who stick could probably make it anywhere. It takes that same kind of dedication and determination. But most importantly, a trader needs to be self directed and passionate about continual learning and objective, honest self evaluation.

Online training is a perfect match for traders. Sitting in front of a computer and interacting with markets is the same model that online courses use. With VOIP (voice over internet protocol) and free services like Skype, online learning for traders is flexible and usually taught by professionals with years of experience. Given the time and

ambition, almost anybody can become a successful because it's all out there on the net for anybody to learn. Of course, learning is only part of the equation.

**Virtual Trading**

Many stock brokerage houses now offer what is called "Virtual Trading". This is the next step you should take. A Virtual Trading account allows you to place trades as if you were actually making a trade. You even have to open an account and deposit real money but the trades you make are only "paper trades".

You begin doing your research and choosing an option to trade. You then call up your broker and he/she will help you place the trade. No trade will actually be made but you will go through the actual steps in placing a trade.

You will then track the trade and follow the rules for your system. If the price hits your stop-loss target, you'll call your broker to make sure that the position was closed out and record the paper loss plus paper commission in your journal.. Or, if your trade goes the way planned (hoped?), you decide when to close out the position and then record the paper gain minus paper commission in your journal. You then analyze the trade as to technical and psychological observations and then figure out your net ROI for the trade. Then you do it again…..and again.

**How long should you do Virtual Trading?**

When you do virtual trading, you are trying to accomplish several things:

- The mechanics of opening and closing a position
- How to record and analyze trades
- How well your system works (per cent winners)
- How well you like working with the brokerage.
- How you will schedule your trading activities.
- How well you like trading and if you want to continue.

Once you feel you have answered all of these items, you are ready to take off the "training wheels" and let the "real game" begin. I say "real game" because virtual trading is not really "virtual" because there is no real risk or reward.

No doubt, the real benefit of virtual trading is that when you are in it for real, you don't have to worry about the mechanics and can focus on dominating your emotions-particularly when you lose.

**Keeping a trading Journal**

We learn from our mistakes. Traders don't mind making mistakes as long as they become a learning experience. Indeed, this may be hallmark of a successful person in life. But as trading as a constantly ongoing activity, there is an opportunity to establish patterns of behavior. Understanding how to identify these patterns is the job of the trading journal. Not only are technical procedures monitored but also the trading psyche.

A trading Journal is so important to becoming a successful trader and we at Disciplined Trader have invited experts to train our students on their construction and use. The key function of the Journal is to provide a platform for constant self-evaluation and correction. Trading is an individual activity and it requires an objective way to judge,

benchmark and correct trading behavior. With the evolving online capabilities, more and more traders are either taking on a trading mentor or forming online groups to discuss and share ideas and experiences. And this is a good thing; however, a trading journal focuses each individual trader on each trade they make. This presupposes that the trader will provide an honest and "objective" self evaluation on each trade. This might be a difficult thing to achieve. As a result, traders should be encouraged to join an online community of other traders to help bring some objectivity to the self-evaluation process. Nobody truly enjoys criticism but if it can help you become a better trader, so much the better. In fact, once a trader learns to seek out the input and judgments of others, it indicates that the ego is melting away and letting the sun shine in. It's all about building confidence in your system and in yourself.

### Example Journal Entries

| Trading Journal | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Trade | Symbo | price | QTY | Total | Sell Date | price | gain/loss | comm | Net Pro | Gain/los | ROI |
| 6/10/2007 | buy | AAFW | 0.25 | 5 | -125.00 | 7/16/2007 | 0 | -125.00 | 7 | -132.00 | -132.00 | |
| | sell | AAFV | 1.18 | 5 | 590.00 | 7/16/2007 | 0 | 590.00 | 7 | 583.00 | 583.00 | 129.27% |
| follow the system? Yes | | | | | | | | | | | | |
| If not, why not? | | | | | | | | | | | | |
| Comments: Bear Call Credit Spread | | | | | | | | | | | | |
| OK | | | | | | | | | | | | |
| 6/13/2007 | buy | APVFT | 2.37 | 5 | -1485.00 | 7/13/2008 | 6.5 | 1765.00 | 7 | 1758.00 | | 196.00% |
| | sell | APVFS | 4.00 | 5 | 2000.00 | 7/13/2008 | 6.5 | -750.00 | 7 | -757.00 | | |
| follow the system? No. Used an upward sloping Volatility indicator | | | | | | | | | | | | |
| If not, why not?"lack of good candidates made me push | | | | | | | | | | | | |
| Comments: Bear Call Credit Spread | | | | | | | | | | | | |
| What would you do differently | | | | | | | | | | | | |
| Short call moved contrary and had to buy out. Should have set a stop. Also, Fast volatility indicator was sloping up | | | | | | | | | | | | |
| Should always set a stop on the shorted call if more than 1$ spread with buy call. | | | | | | | | | | | | |
| Consider treating an upward sloping fast volatility as a potential profit on the buy call use the short just as a hedge. | | | | | | | | | | | | |
| 6/18/2007 | buy | FCXFZ | 1.10 | 5 | -550.00 | 7/12/2007 | 0.55 | -275 | 7 | -282 | -282 | |
| | sell | FCXFV | 3.02 | 5 | 1510.00 | 7/12/2007 | 5.25 | -1115 | 7 | -1122 | 388.00 | 10.70% |
| follow the system? Yes | | | | | | | | | | | | |
| If not, why not? | | | | | | | | | | | | |
| Comments: Bear Call Credit Spread | | | | | | | | | | | | |
| Forgot toplace stop on short call. Need to put that in the position checklist. I got lazy and didnt check the news | | | | | | | | | | | | |

A journal should not only be for analyzing the technical execution of a trade and its outcome but also to try to fathom the emotional aspects of the trade. It is a given that

either a system has some flaws or its operator….or both. So we want to be establishing benchmarks and exceptions and finding ways to constantly bracket the ideal execution and attitude. This is a good point to make a segue into our next important subject of discussion-the trading psyche because our journal becomes our confessor and in-house psychoanalyst. Of course, it is always GIGO (garbage in, garbage out) so it's important to be as honest with oneself as possible. This is where trading becomes much more than a game of financial gain but also one of deep introspection.

# Chapter 8

# The trading Psyche

Uncertainty is what makes life interesting and motivating. Uncertainty of the future makes us prepare and become proactive thinkers. Uncertainty for many is fear. For others it is opportunity.

Trading is all about uncertainty and how to reduce the risks that always accompany probable outcomes.

The following is a short article I wrote several years ago called the "Zen of Trading" and provides an brief overview of how important attitude is in being a successful trader.

## The Zen of Trading

By Norman Hallett

Being trader isn't for everyone. As a matter of fact, you have to be a little "special" to make your living in this manner. You've got to be cool, calculating, and always ahead of the most slippery of animals-the markets you trade. But more than that, you need to know yourself.

You may think you know yourself, but being a trader will teach you who you really are. And this fact is one of the most important and long-lasting effects of being-day-in and day-out, riding the wave of uncertainty. If you have any self-doubt, a propensity to be negative or an inflexible ego…your goose will certainly get cooked before you can say "this must be a scam". But if you have the ability to recognize your weaknesses honestly and take them head-on, the benefits can be much more than just financial.

But, alas, its only human to have moments of weakness and it becomes necessary for a successful trader to develop a system not only for trading, but also for keeping the spirit tuned up and ready to rock and roll. This is a neglected yet most essential part of trading.

***Necessary Headwork***

Clearing ones' mind of extraneous thoughts has been a key tenant of eastern religion for thousands of years. In today's world of "information overload", we are constantly bombarded and overwhelmed by media of various sorts. Imagine if the ancients had problems clearing their minds, what would they have thought about modern times? But even more pervasive is the propensity for negative messages and idealistic images which are constantly pushed by advertising and news. A trader must not let their mind get cluttered by the constant distractions and subtle negative messages. More importantly, a trader must keep a positive and optimistic attitude. The question is: how does one do that?

Our habits and subconscious reactions are formed by a powerful combination of emotion coincidental with a learning experience. An example is when you are frightened or angry; we are at our most vulnerable to programmed behavior because of the chemicals and hormones amplifying emotions. That's why we sometimes act irrationally because we were programmed when we were children and we keep responding in accordance with an infantile conditioned response. When we're small, approval and disapproval are mighty conditioners of our behavior. We are constantly conditioned to have the right answer and take the correct actions. To do differently is considered failure. These are survival skills that we spend years learning to value. As traders, we need to learn how to defuse the emotional power of the subconscious fear of being wrong and learn to embrace the concept of probability.

***Successful trading means learning about yourself***

Learning how to use the powers of the mind to affect ones' life has been a holy grail since recorded times. For those who don't understand what trading is all about, they find it hard to believe how important mental preparedness plays in success as a trader. Ask any experienced pro and they will most probably tell you that ***having the proper mindset is even more important than having the best system.***

Just by accepting the fact that headwork is a necessary skill for a successful trader, is an important first step. There is a plethora of books, seminars, CDs and all forms of information on this important subject. Find the best form of training your mind and be ready to learn a lot about yourself.

We segued into this chapter when we were talking about keeping a trading journal. We also discussed that the journal was not only for chronicling trade executions but also for helping the trader take a look at the emotional side of each trade; purpose being is to try and see if emotion-namely fear-influences the trading discipline. An Israeli psychiatrist, Dr. Ari Kiev, has done in depth studies of the psychological aspects of trading. According to his studies, he has come up with some Journal questions that a trader should ask in order to gain some insight into the psychology of trading. The following is a list of those questions that you might want to incorporate into your journaling.

- How much were you influenced by emotional factors such as panic of fear of loss?
- Did you take a contrarian viewpoint and buy the investment in anticipation of an inflection point or did you buy it at the bottom of an extended base anticipating a breakout on certain fundamental or technical factors?
- Did you stay with the trade for an extended period of time, or did you get out quickly after making a small profit below your target because of anxiety?

- Did you add to your position and ride it up through an extended trend like a trend-following strategy or were you fearful of losing any little bit of potential profit?

- If the investment dipped below your original purchase price, did you stick to your fundamental understanding of the company or asset type and add to your position or did you get out of the position because of fear of loss?

- If the investment moved up after your initial purchase, did you take a contrarian position and start to short the position in anticipation of the investment breaking down and reversing direction?

- Was there anything about your trading style that was reflected in the way you executed the trade?

- Did you buy it at the bottom (or top) and scale into it as it moved? Or did you get in and out quickly?

- Did you see an opportunity to short prior to the actual inflection point? Once it hit the inflection point, did you get in and out quickly or think about scaling the position?

- Can you identify your style of trading on a regular basis? If not, under what circumstances does it change?

- Do you consider how others might have made the same trade? Do you ask others how they would have made the same trade?

- What steps could you have taken on the trade to help reduce risk even more?

- If you can identify a better way to have made the trade, why didn't you do it in the first place?

- Did you encounter a set of circumstances that you have seen before and handled them in a more effective way? If so, why did you alter your behavior?

- Do you have difficulty increasing your position size even though all the fundamentals and technical analysis support the idea?

As you can see, there are many questions you can interrogate yourself with. As you go through the list, feel free to add your own ideas of what to ask yourself (am I worried about my dog now that Michael Vick is out of jail) or abbreviating the list to meet your

needs. Just remember that most successful professionals constantly review the fundamentals and take nothing for granted. In other words, take short cuts at your own risk!

It didn't take me many years of professional trading to realize how important a trader's attitude is. If you ask almost any pro, they will tell you that successful trading is 60-70% mental attitude. Of course, all of them have proven systems and ton's of education on the subject but in the end it is what one actually does that counts. And in trading, the score is plain to see. After more than 25 years in the industry, I realized that there is a whole industry devoted to providing information about how to trade successfully. Maybe even some of it works. But, if it were that cut and dried, there wouldn't be such an abundance of advice. Indeed, it's no secret that what tips the scales is not the knowledge of the subject but the knowledge of oneself. Everybody understands this but little has been written regarding this all important trading aspect. That's why I founded Direct Your Mind and the Disciplined Trader to help serious traders become serious and successful.

As luck would have it, my wife, Tisha, is a psychologist and has been working for years with the taming, training and feeding of the subconscious. She made me a believer as she has helped traders such as me to help keep us in the right frame of mind for trading. You see, there is only so much reading and intellectualizing you can do. Learning how to develop deep seated subconscious beliefs can make all the difference. Tiger Woods believes he will win and most often he does. All those pro golfers have the swing and the capability to win on any given day. The difference is attitude. Not just thinking attitude but having it on a subconscious level. You believe and expect things to happen the way you want them to. After a time, when you realize through experience that what you believe can shape events, there is nothing that can keep you from what you truly desire. But, it's not easy and it certainly isn't for everybody. But successful traders are not everybody. What do you think the difference might be?

From a practical point of view, if you are going to do something-and do it well-most would agree that it takes a strategy to best accomplish the task. First, learn all you can about the task and its challenges and then develop a plan to reach the goals you set. As more and more competition demands better and better solutions, the impact of human psychology on performance has been gaining in importance in all fields. The psychological constituents of innovation and excellence are being dissected, analyzed and promoted as essentials in the formula for success.

So, if you really want to be successful and believe that you can, part of your development must include learning about the psychology of trading and how to use it to your advantage. But believe it or not, many people go into undertakings expecting to fail. They think that luck and timing are really major determinants in who becomes successful. That's probably why a high percentage of aspiring traders don't last very long; they go into it expecting to fail and therefore rationalize that putting the effort into a serious plan of education is a waste of time or that all it takes is a minimal effort. What do you think? Are you willing to do what it takes to become a successful and disciplined trader? If so, an important part of the formula is to open your mind to all the possible ways to prepare for success and learning to properly incorporate the proper attitude about winning into your trading-and your life-is essential.

“Most of traders lose because they don't have a winning strategy. Apart from this even among those traders who do, many don't follow their strategy. Trading puts pressure on weaker human traits and seems to seek out each individual's Achilles' heel. "

**Gill Blake**

# Appendix A: Developing an Investor-Trader profile

**Investment Objectives**

**Which choice best describes your investment objectives?**

- ☐ Preserving principal and earning a moderate amount of current income (1)
- ☐ Generating a high amount of current income (2)
- ☐ Generating some current income and growing my assets (3)
- ☐ Growing my assets substantially (4)

**Five years from now, what do you expect your standard of living to be?**

- ☐ The same as it is now (1)
- ☐ Somewhat better than it is now (2)
- ☐ Substantially better than it is now (3)

**Ten years from now, what do you expect your portfolio value to be?**

- ☐ The same as or a little more than it is today (1)
- ☐ Moderately greater than it is today (2)
- ☐ Substantially greater than it is today (3)

**What is your current income requirement (interest plus dividends) from this portfolio?**

- ☐ More than 4% (1)
- ☐ 2% - 4% (2)
- ☐ 0% - 2% (3)

**What do you want to do with the income generated by your portfolio?**

- ☐ Receive all income (1)
- ☐ Receive some and reinvest some (2)
- ☐ Reinvest all income (3)

**Risk Tolerance**

**You just received a substantial sum of money. How would you invest it?**

- ☐ In something that offers moderate current income

and is very safe (1)

- ☐ In something that offers high current income with moderate risk (2)
- ☐ In something that offers high total return (current income plus capital appreciation) with moderately high risk (3)
- ☐ In something that offers substantial capital appreciation even though it is high risk (4)

**Which of the following statements best describes your reaction if the value of your portfolio suddenly declined 15%?**

- ☐ Very concerned - I cannot accept fluctuations in the value of my portfolio (1)
- ☐ Would not bother me if the amount of income I received is unaffected (2)
- ☐ Be concerned about a temporary decline even though I invest for long-term growth (3)
- ☐ Accept temporary changes due to market fluctuation (4)

**Which of the following investments would you feel most comfortable owning?**

- ☐ Certificates of Deposit (1)
- ☐ U.S. Government securities (2)
- ☐ Stocks of older, established companies (3)
- ☐ Stocks of newer, growing companies (4)

**How optimistic are you about the long-term prospects for the economy?**

- ☐ Pessimistic (1)
- ☐ Unsure (2)
- ☐ Somewhat optimistic (3)
- ☐ Very optimistic (4)

**Time Horizon**

**What is the time frame for you to achieve your financial goals?**

- ☐ 0 - 5 years (1)
- ☐ 5 - 10 years (2)
- ☐ 10 - 15 years (5)
- ☐ 15 years or longer (10)

**What is your primary financial goal?**

- ☐ Wealth preservation (1)
- ☐ Education funding (2)
- ☐ Retirement planning (5)
- ☐ Long-term wealth accumulation (10)

**What is your age?**

- ☐ Over 66 (1)
- ☐ 56 - 66 (2)
- ☐ 46 - 55 (5)
- ☐ Under 46 (10)

An objective measure can be obtained from the questionnaire, but when it comes time to pick assets to put into the portfolio, it becomes a good idea to relate the profile to some objective measure of risk such as beta or volatility.