The following includes two excerpts from the 1st Edition of the Definitive Guide to Position Sizing Strategies. Although these sections are not included in the new edition of the book, we still believe the information to be very useful and so we have decided to include it as a bonus with the 2nd Edition. Some of the more significant information contained here can still be found in other parts of the 2nd Edition of the Definitive Guide to Position Sizing Strategies, but these particular sections were removed in full.

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Part I:

Are You Doomed to Failure?

Despite the importance of the material presented so far in Part I, most people have psychological biases that will cause them to 1) ignore the material totally or 2) do exactly the opposite of what is recommended. As a result, in this chapter, I want to show you some of those biases and what you can do to overcome them.

Judgmental Shortcuts

Why Judgmental Shortcuts Are Important: French Economist George Anderla found that the rate of information flow with which we human beings must cope doubled in the 1,500 years between the time of Jesus and Leonardo DaVinci. By the year 1750 (i.e., in about 250 years), it doubled again. The next doubling only took about 150 years to about 1900. The onset of the computer age, in the 1960s, reduced the doubling time to about 5 years. And, with the Internet, the amount of information to which we are exposed currently doubles in less than a year.

Researchers now estimate that humans, with what we currently use of our brain potential, can only take in 12% of the visual information available. And, for traders and investors the situation is at an extreme. A trader or investor, looking at every market in the world simultaneously, could easily have about a million bits of information coming at him or her every second. And since there are usually some markets open around the world at all times, the information flow does not stop. Some poor traders actually stay glued to their trading screens, trying to process as much information as possible for as long as their brain will permit.

The conscious mind has a limited capacity to process about 7 (plus or minus 2) chunks of information at a time under ideal conditions. A “chunk” of information could be one bit or it could be thousands of bits (for example, a chunk could be the number 0 or a number like 7,941). Read the following list of numbers, close the book, and then try to write them all down.

34 39 85 93 21 98 43 56 76 53

You probably couldn’t do it because we can only consciously process 7 (plus or minus 2) chunks of information at one time. Yet we have millions of bits of information coming at us every second. And with the current rate of information availability doubling every year, how do we cope?
The answer is that we generalize, delete, and distort the information to which we are exposed. We generalize and delete most of the information. For example, “Oh, I'm not interested in the stock market.” That one sentence takes about 90% of the information available on the markets, generalizes it as “stock market information,” and then deletes it from consideration.

Psychologists have taken a lot of these deletions and distortions and grouped them together under the label “judgmental heuristics.” They are called “judgmental” because they affect our decision making process. They are called “heuristics” because they allow us to sift through and sort out a lot of information in a short period of time. Heuristics are shortcuts! We could never make market decisions without them, but they are also very dangerous to people who are not aware that they exist. They affect the way we develop trading systems and make investment decisions.

The primary way most people use judgmental heuristics is to preserve the status quo. We typically trade our beliefs about the market and once we've made up our minds about those beliefs, we're not likely to change them. And when we play the markets, we assume that we are considering all of the available information. Instead, we may have already eliminated the most useful information available by our selective perception.

Interestingly enough, William Eckhardt points out in his chapter of *The New Market Wizards* that progress in knowledge results more from efforts to find fault with our theories, rather than prove them.\(^1\) If his concept is true, then the more we tend to realize our beliefs and assumptions (especially about the market) and disprove them, the more success we are likely to have making money in the market.

Thus, what are the beliefs and theories that need to be disproved for us to make progress? These beliefs represent many of the biases that we must overcome in order to make progress. My journey as a trading coach and as a modeler has certainly involved a lot of disproving the status quo.

> The secret to success is in understanding how these biases affect you, and then turning yourself into an effective investor/trader. If you try to project what you learn outside of yourself onto the market, you will not be able to apply any of the principles taught in this book. Money is made through the personal application of these principles.

**Bias 1: Locus of Control—The Lotto Bias**

This particular bias has to do with the need for control—a need we all seem to have—so investors focus on that area of investing in which they think they have the most control—picking the right stocks. However, it’s really just a bias.

This bias is particularly evident in the lottery game, Lotto. Almost every government that runs a lottery offers the game Lotto. And, just in case you are not familiar with it, you buy a card and you get to pick some numbers—usually seven of them. If the numbers you pick match the numbers that are randomly drawn, then you win the big multi-million dollar prize. People are
quite willing to play this game in large numbers because 1) they have the potential to turn a one
dollar investment into a multi-million dollar prize (but it usually is a negative expectancy game),
and 2) they get to pick any numbers they want.

Being allowed to pick any numbers you want in the Lotto game is what makes it appealing. In
fact, there is a whole industry that has sprung out of helping people pick the right numbers. First,
there are actually services that help people pick numbers. They are cheap—only a dollar per
pick—and they basically give everyone a different number. But if they help someone win, they’ll
make a million dollars in the next lottery. Second, there are people who’ll read your astrological
chart and help you pick the right numbers. Third, you can buy software that will analyze previous
numbers that have been picked so you can discern patterns and make better picks. And fourth,
you can even buy software that will randomly generate numbers, just like the machine, so you can
pick one of the randomly generated numbers. On top of that, remember that the lottery usually
announces the store at which the last winning number was sold and when they do, people will
flock to that store to buy tickets for the next lottery.

Does this all sound a little familiar? It should because it is very similar to what happens in the
stock market. People think that winning the stock market game has everything to do with picking
the right stock. About 30% of all books on how to make money in stocks have the word “picking”
in the title. Television shows related to the market frequently bring in fund managers or analysts.
And what does the host ask them? “What stocks are you picking for us today?” They might also
give the track record of the person being interviewed.

Last time Mr. X was on the show he picked XY and it’s up 12%. He also picked
CV, but it’s down 26% and he picked TY and it’s down 18%. What happened, Mr.
X? You didn’t do so well last time.

Notice how the presupposition in all of this is that it’s all about picking the right stocks. And,
obviously, my mistake when I bought my first stock, based on this kind of logic, is that I picked
the wrong stock.

The logic that says that success is all about picking the right stocks is so deep that mutual funds
are always at least 95% invested because they feel they are paid to pick the right stocks and keep
your money working for you. Furthermore, analysts are paid huge six figure salaries and their
only job is to analyze the balance sheets of the companies they research so that they can pick the
right stocks. And, by the way, I have yet to meet an analyst who has managed to become a good
trader through picking the right stocks. Some of them are okay as portfolio managers, but very
few become good traders.

Thus, the average investor, armed with this bias that he can control his success by just picking the
right stocks, finds himself in a world in which picking the right stocks is emphasized by everyone.
So when they lose money, they just assume that they picked the wrong stocks or that someone else
(who was giving them advice) picked the wrong stocks. And what typically happens? The
average investor never learns some of the key factors that are important for success—namely, the
Golden Rules of Trading given earlier.
What to Do About the Lotto Bias

In this particular case, realize that you also have control over your exits. You can exit at your predetermined stops and almost guarantee that your losses will be 1R or less. You can use trailing stops to let your profits run. This will almost guarantee that many of your profits will be greater than 1R. And if you follow these rules, pretty soon the returns that you generate will be enough to convince you of the wisdom of the Golden Rules of Trading.

Bias 2: The Need to Be Right

The educational process in most industrial countries came about not to really educate our children, but to develop good workers for our factories and other businesses. When most people worked in agriculture, we didn’t need a great educational system—it was just for the chosen few. But now we need “educated workers” to help with our businesses. Sure, we want these highly skilled workers to be able to think and come up with new ideas. But we also want them to be good employees and do what the boss wants them to do. So how do we do that? We do it through our educational process where children learn that the teacher is always right.

Children go to school for 12 to 16 years and what’s emphasized over and over again is that the teacher is always right. For example, as a child in school, you have to take tests. You learned that if you got less than 70% right, you are a failure. And you don’t get an excellent mark, an A, unless you get 94% correct or better on your test. Perhaps you get 95%. When you showed it to your dad, he responds, “Why didn’t you get 100?” So your dad wanted you to be right as well.

As a result, we grow up with a passionate need to be right. If you are not right at least 70% of the time, you are ostracized as a failure. But you want to be right 100% of the time so that your dad won’t criticize you. As a result, you even criticize yourself first so that you can correct the problem before your Dad starts to criticize you.

Now, let’s apply that to the stock market or to the futures market or to any other investment you might make. You want to be right and that to you means making money. Let’s say you buy a stock for $50 and know enough to set a stop loss—you’ll get out if it drops to $45 per share.

But let’s say it drops to $45 per share. You really want to be right, so if you got out you’d be wrong, or at least feel as if you were. All sorts of thoughts go off in your head. “It’s just a temporary setback.” “The analysts are predicting a great increase in the earnings this quarter—I can’t sell now!” “What if this downturn is just a few traders manipulating the market?” “I think I’ll hang onto the stock and not sell—at least for a few days.”

So you hang onto the stock and watch it fall even further. It drops to $40. Now you have a 2R loss. If it was hard to take a 1R loss, it’s even harder to take a 2R loss. And all the same arguments apply. Thus, you hold onto your stock.
Now the stock drops to $35 and you have a 3R loss. You know you really should get out, but now your portfolio is down $4,000. You can only write off $3,000 in losses, so you’d better keep this stock. You know it will turn around. However, you have a good solution to keep away the anxiety of watching yourself lose money. You won’t watch it anymore. You’ll look at it in six months and by that time perhaps you’ll have made a lot of money.

There is an old joke about the man who was dreaming about some “evil” entity that was stalking him. It kept getting closer, no matter how fast he ran. It got nearer and nearer. Finally, when the entity was almost on top of him, and he felt sure he was doomed. He turned to plead for his life, and what did he see? He saw the postman handing him an envelope, saying, “It’s just your brokerage statement.”

Perhaps, now you can understand why a psychologist and an economist won the Nobel Prize in economics for basically showing that it was very hard for people to take losses. People, according to those Nobel winners, become much more “tolerant of risk” when they are behind. Obviously, people have trouble cutting losses short. But that’s only half the golden rule. The other half is to let your profits run. The Nobel winners also showed that people tend to tolerate little risk when they are ahead, making it difficult to let profits run.

So let’s go back to our bias—the need to be right. What happens when you are right about your investment and it starts to go up? The golden rule says let your profits run—let it go up more. But you have a strong need to be right. Your $50 stock has gone up to $55 and if you sell now, you’ll be right and have a profit.

However, you know you should let your profits run and to do that you’ve got a 10% trailing stop. Now that the stock has reached $55, you won’t sell it unless it drops $5.50 to $49.50—your trailing stop level. However, suddenly your stock starts to drop. It drops to $54 and then to $53. You get nervous because your profit is slipping away. Now it drops to $52 and then to $51. You feel tied up in knots. It’s getting close to your stop and if you get stopped out, you’ll have another loss. You’ll be wrong. Suddenly, it drops to $50.50, and that’s enough for you. You sell the stock quickly for a $0.30 profit after costs. You really feel proud of yourself because you made money.

So what just happened here? Our investor, because of his overwhelming need to be right, sold out for a minimal profit. The stock actually dropped to $49.90 and then turned around and kept going until it hit $75. But our investor was happy because at least he didn’t lose any money.

Notice what he’s done here. He’s cut his profit short and let his loss run. And isn’t that exactly the opposite of the golden rule of trading? What do you think your trading profits would look like if your results were similar to those shown in Table 5-1?
Table 5-1: Typical Investor R-multiples Resulting from the Need to be Right

<table>
<thead>
<tr>
<th>Trade #</th>
<th>R-Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+0.1R</td>
</tr>
<tr>
<td>2</td>
<td>−3.0R</td>
</tr>
<tr>
<td>3</td>
<td>+0.2R</td>
</tr>
<tr>
<td>4</td>
<td>+0.2R</td>
</tr>
<tr>
<td>5</td>
<td>+0.4R</td>
</tr>
<tr>
<td>6</td>
<td>−4.0R</td>
</tr>
<tr>
<td>7</td>
<td>+0.2R</td>
</tr>
<tr>
<td>8</td>
<td>+0.1R</td>
</tr>
<tr>
<td>9</td>
<td>+0.3R</td>
</tr>
<tr>
<td>10</td>
<td>−3.0R</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>−8.5R</strong></td>
</tr>
</tbody>
</table>

Notice that because of the bias to be right, our investor has managed to only have three losers. But those three losers total −10R. Our investor is right 70% of the time with seven winners. However, those seven winners total +1.5R. And the net result of our investor’s bias to be right is that he is down −8.5R after ten trades. Thus, if he were investing about 1% in each trade, he’d be down about 8.5%. Not a very good result for someone who was right 70% of the time—just above the failure level. And as he wonders what went wrong, he thinks to himself, “Perhaps I picked the wrong stocks.”

Yet, let’s look at the opposite situation. Let’s say that our investor made money three times out of the ten trades, two 3R gains and one 4R gain. He lost money seven times out of ten—all 1R losses. This is shown in Table 5-2.

What’s the net result for this person? Well, they are right 30% of the time, but the net result in terms of R is +3R. Had they risked 1R one each trade (and about 1% of their equity), they would have been up about 3% at the end of 10 trades. Now can you begin to see why the need to be right bias can be so deadly to your bottom line?
Table 5-2: Typical Investor R-multiples When Following Golden Rule

<table>
<thead>
<tr>
<th>Trade #</th>
<th>R-Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>−1R</td>
</tr>
<tr>
<td>2</td>
<td>+3R</td>
</tr>
<tr>
<td>3</td>
<td>−1R</td>
</tr>
<tr>
<td>4</td>
<td>−1R</td>
</tr>
<tr>
<td>5</td>
<td>−1R</td>
</tr>
<tr>
<td>6</td>
<td>+4R</td>
</tr>
<tr>
<td>7</td>
<td>−1R</td>
</tr>
<tr>
<td>8</td>
<td>−1R</td>
</tr>
<tr>
<td>9</td>
<td>−1R</td>
</tr>
<tr>
<td>10</td>
<td>+3R</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>+3R</strong></td>
</tr>
</tbody>
</table>

So now we have both halves of the research done by the Nobel Prize winners in economics. People tolerate risk more when they are behind (i.e., they won’t cut their losses) and tolerate risk less when they are ahead (i.e., they won’t let their profits run). And the net result is most people have trouble making money in the market.

**So what can you do about your need to be right?** Instead of focusing on being right, focus on not making any mistakes, where a mistake occurs when you don’t follow your rules. Your rules should be the golden rules of trading:

- always know your exit point, the point at which you’ll get out in order to preserve your capital, before you enter a trade. And if you don’t take such losses when they occur, consider it a major mistake.
- always at least keep some sort of trailing stop so that you can let your profits run. And if you find yourself taking profits too quickly just to make sure you don’t lose money, then that’s another major mistake.

If you consider breaking these rules as being wrong (i.e., making a mistake), you’ll find that suddenly you can make money—big money—in the stock market or any other investment field. And let me repeat the major lesson from the last chapter, because it applies here as well:

**In short, you now think in terms of probabilities and statistics.** And as a result, you can pay attention to just following your system, and making as few mistakes as possible, because when you do that, you “know” what your results will be in the long run.
Bias 3: Percent Gain

Imagine the headlines….

- If you’d taken this recommendation, you’d have been up 150%.
- If you had taken all of my recommendations this year, you would have turned $10,000 into $40,000
- XYZ, after I recommended it, went up 300%.

When each statement is made you visualize your entire portfolio being up that much. Instead of thinking XYZ went up 150%, you think of your portfolio being worth $250,000, instead of $100,000. However, that would only occur if you invested everything you had in that particular stock and managed to get the exact amount of profit that was reported. And what’s wrong with that logic? If you invested everything in that particular stock, your risk would have been huge. No one should take that kind of risk on a single stock.

Let’s look at what a stock being up 150% really means in terms of an R-multiple.

Say you bought the stock with a 25% trailing stop. You bought it at $10 per share with an initial stop loss at $7.50. The stock is now up 150%, meaning it is now up to $25 per share. You have a paper profit of $15, compared with an initial risk of $2.50, which means you are really up 6R in the stock.

Just because the stock is up 150%, doesn’t mean that you’ve sold it. At $25, your tailing stop is now at $18.75. Hopefully, it’ll go up more. But if you get stopped out, your total profit shrinks to $8.75. When you compare this with your initial risk of $2.50, it means you have a 3.5R profit. And that means if you risked 1% of your equity on the trade, you will make 3.5%. That is a far cry from thinking that your portfolio has moved from $100,000 to $250,000—but that is what most people envision when they read this headline, “if you invested in this stock, you’d be up 150%.” You’d probably find that if you invested 100% in each recommendation that you’d blow out your account very quickly.

Are you beginning to see how this bias works? More importantly, can you see how much better your thinking would be if you thought of your results in terms of R-multiples or risk-reward ratios?

Let’s look at the next example: “If you had taken all my recommendations this year, you would have turned $10,000 into $40,000.” This is another real headline from an advisory service. However, when I made some inquiries as to what it really meant, this was the answer:

If you had risked $10,000 on every trade recommendation that was made this year, then at the end of the year you would have been up $40,000. If you now translate that into R-multiples, the statement becomes “If you had taken a 1R risk on each recommendation during the year, then at
the end of the year you would have been up by 4R.” Let’s say that this advisor made 20 recommendations. That means the expectancy of his trading recommendations was a paltry 0.2R.

Looking at the original statement, you see your account up 400%. But if you demand enough information so you can think in terms of R-multiples and expectancy, you discover that it is a poor system with an expectancy of 0.2R. If you risked 1% on every trade, you’d only be up 4% at the end of the year.

Now let’s look at the third recommendation, if you’d bought XYZ, it went up 300%. Again, with this one you see your account up 300%. However, let’s assume that in this case it was an option trade. Your risk was the entire amount of the option contract. Your eventual profit was 3 times your initial risk, but since your initial risk was everything, your net profit is a 3R profit. Thus, we suddenly move from seeing our portfolio up 300% to realizing that we are probably up 3% because of this one trade.

And, when an adviser tells you about all of the trades that went up 200% or 300%, they are not telling you about the losses. Thus, you have no idea about the real expectancy of the system or the real performance of the portfolio.

So let’s say an advisor makes the recommendations in Table 5-3.

<table>
<thead>
<tr>
<th>Trade Recommendation</th>
<th>Result of Trade</th>
<th>R-Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy GE at $38</td>
<td>Loss to $28</td>
<td>−2R</td>
</tr>
<tr>
<td>Buy IBM at $60</td>
<td>Loss to $50</td>
<td>−2R</td>
</tr>
<tr>
<td>Buy GM at $45</td>
<td>Loss to $40</td>
<td>−1R</td>
</tr>
<tr>
<td>Buy CREE at $15</td>
<td>Gain to $45</td>
<td>6R</td>
</tr>
<tr>
<td>Buy VLO at $75</td>
<td>Loss to $67</td>
<td>−2R</td>
</tr>
<tr>
<td>Buy TSRA at $41</td>
<td>Loss to $29</td>
<td>−3R</td>
</tr>
<tr>
<td>Buy BHP at $65</td>
<td>Gain to $75</td>
<td>2R</td>
</tr>
<tr>
<td>Buy AAPL at $28</td>
<td>Gain to $82</td>
<td>8R</td>
</tr>
<tr>
<td>Buy WRF at $33</td>
<td>Loss to $16</td>
<td>−5R</td>
</tr>
<tr>
<td>Buy HD at $64</td>
<td>Loss to $58</td>
<td>−2R</td>
</tr>
<tr>
<td><strong>Total Gain/Loss</strong></td>
<td></td>
<td><strong>−1R</strong></td>
</tr>
</tbody>
</table>

During a period of six months, the advisor’s overall track record is negative 1R. What does he tell you? In April we bought CREE and sold it two months later for three times what we paid for it. We also bought Apple and sold it for a nearly a 300% gain. Wouldn’t you like that kind of success?
And what’s your reaction to that? “Wow, I could have bought CREE and tripled the value of my portfolio in two months.” Would you have? If you had bought the entire portfolio, as recommended, you’d have been down. But the advertising doesn’t say anything that is incorrect. It just leads you to think that their performance is much better than it really is.

In late 2005, the media announced a merger in which Valero was planning to buy out Premcor and become the largest refiner in the United States. One advisor had both stocks in his portfolio earlier in the year. However, both stocks were stopped out of the portfolio a week or two prior to the merger. However, when the merger was announced, this is what was sent to potential subscribers.

“One of our stocks recently bought out another one and both stocks had huge jumps in price on the announcement. You could have made huge profits in both of these stocks had you followed our recommendations.”

Again, can you see how this bias would hurt most people, especially since he sold both stocks prior to the merger? However, in this case the solution to the bias is simple. Don’t believe anything anyone tells you unless they can show you their track record in terms of R-multiples or as data that you can convert to R-multiples! Otherwise, they are just telling you about a portion of their recommendations and framing it so you imagine huge gains.

As a result, we recommend that you convert everything that people tell you about their performance into R-multiples. What was the initial risk? What was the reward-to-risk ratio (i.e., R-multiple)? Determine the SQN SM and then see what really happened. And if you do, ask, “How does that SQN SM compare with other SQNs SM I’ve seen?” For an example of this, see the 2nd Edition of *Trade Your Way to Financial Freedom*.

**Bias 4: Lots of Input Says the Same Thing**

This is another significant bias related to the amount of information to which you are exposed. Typically, the more people are exposed to certain information, the more likely they are to believe it. Yet, it could be the same information (i.e., from the same source). For example, let’s look at the idea that “stock picking is important to investment success.” Someone develops a story about how some guru made a fortune picking the right stocks. Let’s say that all of the news wires carry the story, so you read four different versions of the same story written by four different people. Now, one source started the story but because you are exposed to it four different times, your conclusion is “It must be right/true/correct.”

A huge number of sources say that picking stocks is important. For example, I looked up “picking stocks” in Amazon.com and the inquiry returned 158 items, including

- *How to Pick Stocks Like Warren Buffett* by Timothy Vick, and
- *Pick Stocks Like Warren Buffett* by Warren Boroson.
Notice how there is an assumption here that Warren Buffett, considered by many to be one of the world’s greatest investors, makes his money by picking the right stocks. However, Warren Buffett didn’t write the book—someone else did. Using his name and including “picking stocks” in the title makes it seems as if the key to success is picking stocks. And you don’t have to read the book to assume that—you just have to look at the title.

Here are a few more:

- *Michael Sivy’s Rules for Investing: How to Pick Stocks Like a Pro* by Michael Sivy
- *How to Pick Stocks* by Fred Frailey
- *World’s Greatest Stock Picks of All Time* by W. Randall Jones
- *Investing Smart: How to Pick Winning Stocks with Investor’s Business Daily* by Dhun Sethna
- *Pick Winning Stocks* by Edward Mrkvicka.

There are many more books with stock picking in the title. These are just to show you the prevalence of the bias.

However, the topic is even more common on television:

- Wall Street Week always has its panel of experts who pick the stocks they like.
- CNBC has programs like “Stock Picking Friday.” In fact, stock picking is predominant on CNBC and I have never heard one expert say, “I like this stock, but I’d sell it if it dropped to this level.”
- Bloomberg will also interview experts and ask them which stocks they like.
- CNNfn (which no longer exists) would frequently interview people to find out which stocks they were recommending. And my guess is that Rupert Murdock’s new Fox Business News will strongly feature stock picking.

The list goes on. If you just watch television to determine how to invest, you would be sure that the key to success was picking the right stock.

**What to Do About Lots of Input Saying the Same Thing**

Again, if you do what we suggest in this book and have enough confidence in yourself and your system, it shouldn’t matter what other people say. At tops and bottoms of markets, most people are always wrong, so do you really want to listen to what most people say?

**Bias 5: Authority**

We believe people who are in authority. If the analysts say so, they get paid six figure salaries, so it must be true. I actually pointed it out in the last bias. Two books on picking stocks had to do with how Warren Buffett picks stocks. In fact, there are nearly a dozen books that have been
Part I: Are You Doomed to Failure?

published on Warren Buffett. I even cover some of his style of investing in *Trade Your Way to Financial Freedom*. Furthermore, every author makes the assumption that Buffett’s success is because he is the key stock picker. And if Warren thinks it’s so, we believe it must be so. However, Warren Buffett has written none of those books and I’m sure that if Buffett told the truth about how he invests, he’d also emphasize his exit strategy. Now in one sense he doesn’t have an exit strategy because he buys stocks that are tremendously undervalued. If they meet those criteria, he will buy them and keep them. But in another way, he does have an exit strategy: when it becomes clear to him that the stock he’s bought is now overvalued or that the reasons for his investment have changed, then he’d probably sell it quickly.

People also assume that when analysts and fund managers talk about the importance of stock picking that these people are authorities. Consequently, it also carries a lot more weight when these people give an opinion.

**What to Do About the Authority Bias**

The answer here is obvious. If you do the sort of analysis of your system that we’ve recommend here, then you don’t need any authority other than your own data. It will give you the answer to each of the following:

- **How to trade?** You follow your system because you are confident in the results.
- **When do you exit?** Your system predetermines that prior to each trade (and even Warren Buffett does this indirectly by knowing he’ll sell when his company is no longer a good value).
- **How do you pick investments?** You don’t pick anything, your system trades when it gets a signal. Furthermore, you understand that picking stocks and your trading system’s entry are only a small part of what it takes to be successful.
- **How do you predict the future?** You can’t predict anything except that you will make money in the long run. You don’t even know whether your current trade will make money. In fact it probably won’t because it only makes money 39% of the time.
- **What if someone says you are wrong or stupid or crazy doing what you are doing?** If you have confidence in your system and its long-term results, then you won’t care what other people will say.

**Bias 6: Prediction and Understanding**

One key need most people have is the need to understand. One of my clients, Joe, claimed that he had the most difficulty with the market when he got into a position and didn't understand what was going on. As a result, I asked him a number of questions. “How often are your positions winners?” His response was that he was right about 60% of the time. “When you don't understand what's going on, how often do you come out a winner?” This time his response was that he almost never came out a winner when he didn't understand. I then said, “Since your system isn't much above chance, you probably don't understand that much about the markets anyway. But when you clearly are confused, you should just get out.” He agreed it was probably a good idea.
When you think about Joe's trading system, however, he really didn't have one. Why? Joe was so concerned about understanding that he didn't have clearly defined exit signals that told him 1) when he was wrong so he could get out and 2) when to take his profits.

Most people still need to make up elaborate theories about what is going on in the markets. The media is always trying to explain the market even though it knows nothing about the market. As I was working on this section of this chapter, a 91.52 point drop occurred in the Dow. The next day the newspapers were filled with statements like:

“Investors, spooked by prospects of an economic slowdown, switched en masse Tuesday to what's become an alluring bond market. The stock market sell-off was accelerated by computerized program trading.... Money managers are making a major shift all at the same time, that's why we're seeing such a heavy surge now. When it fell, it triggered a rush of computerized selling.... Wall Street now believes that the latest Fed rate increase will slow the economy. That's good news for the bond market, which hates inflation because it erodes the value of fixed interest bond payments. But it's bad news for stocks. There's a growing perception that maybe the rising rates we've had could have an impact on the economy, which could lead to some corporate disappointments.”

The “need to understand” bias becomes even more elaborate when it comes to trading system design. People manipulate daily bars in any number of strange ways and then develop even stranger theories to explain the market based upon those manipulations. The resulting theories then take on a life of their own, but have little basis in reality. For example, what is the rational basis for Elliott Wave Theory? Why should the market move in three legs one way and two legs the other?

When you think about academic theories about the market, those theories are all based upon predicting the market. Fundamental analysis is devoted to determining the fundamental characteristics behind the market. Some people believe that when you understand these fundamentals well enough, you can trade well because you know the factors influencing the market. In fact, most academicians believe that the markets are totally efficient if you could just understand the fundamentals. Anything else that might affect the market is just considered to be random noise.

Some people rebelled against fundamental analysis and developed technical analysis. Technical analysis amounts to trying to predict the market by looking at pictures of price bars from the market’s past. Market technicians believe that if you draw enough lines and observe enough patterns, you will eventually be able to perfectly predict the market.

Now that the Dow 30 has 300-point moves with some regularity—suggesting that the market is not efficient and random—a new field of study is beginning to replace fundamental analysis. That new field is called behavioral finance. It attempts to predict changes in the market by studying the inefficiencies in human decision-making. In other words, psychologists and economists study
some of the same inefficiencies that I am pointing out to you to determine why the market is so unpredictable. However, the value in understanding these judgmental heuristics comes from neutralizing how they impair you. When they no longer impair you, then you have a chance to make very high return rates with low-drawdowns.

I went to a conference on psychology and the markets in Frankfort, Germany in 1997. Numerous presenters talked about various ways that human decision making was flawed and how that might be better used to predict the markets. One even said that what our traders were doing was impossible—no one could consistently make over 50% in the market. All of the presenters missed the point. People don’t make money by predicting the markets. They make money by cutting losses short and letting profits run and by using proper position sizing to accentuate those effects.

The secret to success is in understanding how these biases affect you and in turning yourself into an effective investor/trader. If you try to project what you learn outside of yourself onto the market, you will not be able to apply any of these principles we teach in this book. Money is made through the personal application of these principles.

What to Do About the Prediction and Understanding Bias

Do you really need to understand how markets work? No you don’t. You only need to understand how the concept that you are trading works. For example, if you are a trend follower, all you need to understand is that the markets will occasionally move in very large trends and if you can catch the big moves, you’ll make a lot of money. You have a system that does that, so that’s all you need to understand about the market.

If you are a value investor, then all you need to understand is why something is undervalued and be confident in your ability to determine that. The other two things you need to understand are (1) when your investments are no longer undervalued, meaning it’s probably time to sell, and (2) when you might be wrong about your evaluation so you can safely abort and preserve your capital. You don’t need to understand the market at all. Warren Buffett doesn’t—he thinks the markets are irrational—so why do you need to understand them?

Similarly, no matter how confident you are in your system, you will have trouble making market predictions. But you don’t have to. You know your R-multiple distribution and you have its expectancy, standard deviation, and SQN$^{SM}$. That information will help you determine what to expect from your system in the long run. And as long as you position size to avoid any worst-case disasters, you should be able to achieve that expectancy. Do you need to predict anything else?

Are you beginning to see the importance of this kind of thinking and how it can steer you away from what works? When a pollster predicts how the American population will vote, he doesn’t necessarily understand why. He just knows what the likely outcome of the vote will be. You have enough information to know the likely outcome of your system and that’s all you need.
Bias 7: Wanting Lots of Facts

About 75% of the population have a sensory/detail orientation, while the other 25% have a big picture orientation. The sensory/detail orientation people have a tremendous bias that keeps them from trading successfully, which I call the “wanting lots of facts” bias. They want lots of facts and evidence to support their decisions, whereas the big picture people want to understand how it all fits together (i.e., the big picture) and then draw their own conclusion. Now how do you think this affects the two types of people?

Let’s say you went to an investment talk in which some guru was telling you about his Holy Grail indicator. He might show you something like the indicator shown in Figure 5-1.

His pitch is that he has a magic indicator and when the price goes above that indicator and hits a new 40 day high (as determined by his software), then look what happens to the price. Now one chart might not tell you much, but our guru will show you 50 such examples—all followed by a substantial price increase. And if you are one of the 75% of the population who needs a lot of facts, then you just got what you needed. Now you know how to pick the right stocks to give you a lot of money. You’ve been shown 50 examples that his software, with its magic indicator, leads to higher prices. That’s enough information to convince you it works. You buy the software for $3,000 and you start to make a lot of money, right? No, quite the opposite is true.

First, you only saw 50 examples in which the price went up. You did not see the examples in which the price did nothing or went down. As a result, from our guru’s pitch, you have no idea that the way you make money is through your exits and that the key to meeting your objectives (as discussed in Part III) is through position sizing. People who need the big picture might pick up on this, but people who just want lots of facts probably won’t until it’s too late.

What to Do About the Needing Lots of Facts Bias

If you understand the information in this book, but you still need lots of facts in order to be comfortable, then perhaps trading isn’t for you. Otherwise, simply make enough trades following your system with low position size until you are convinced that what we are saying is true.
Other Biases That Influence Being Right

In the remainder of this chapter, I’d like to focus on the issue of wanting to be right. It’s often been said that most traders would rather be right than make money. So let’s explore what causes this to happen.

So now imagine someone who desperately wants to make money in the markets. It’s this person’s passion. They get a software package that has lots of charting ability and they pour through chart after chart.

They start looking at the big moves in the market, wondering what those moves have in common. First, they notice that many big moves follow a consolidation period—not always—but often enough that it catches their eye. So their first trading idea is to trade moves breaking out of a consolidation period.

But how do you know what’s a real move or not? Suddenly, it hits them. There is a four-bar pattern that seems to occur on about 70% of the patterns they see. “That’s it!” they exclaim. And a new trading idea is born.

Now while this process might be better than what the average person is doing—buying investments simply because of a news story or a guru recommendation—it still has some major flaws in it.

Bias 8: The Law of Small Numbers

If you want to find something, such as a pattern that will lead to a big gain, it’s easy to do so. Our minds naturally gravitate toward finding what we want, in fact creating it, out of chaos. As a result, we tend to see patterns where none exist, and it only takes a few well-chosen patterns to convince people that the pattern has meaning. In the example given above, our trader found a great pattern that he thought would lead to success. In reality, he only found six examples of this pattern, but that was enough to convince him that the pattern was real and decide that he had a trading system.

However, here’s what he was missing:

- He only saw the six patterns that work and decided it was real. What he didn’t do was look at several hundred consolidations to see how often the pattern appeared and whether it always preceded a new trend. If he can come up with data that said, “Out of 300 consolidation periods, this pattern appeared in 213 cases prior to a new upmove,” then he would at least have a reasonable idea that the signal was real.
• Second, and this is a common bias, he didn’t look for how often the pattern leads to failure. How often does it occur and not lead to an improvement? Does it occur in non-consolidating periods? What happens when it does? For example, he might have developed a computer program to screen his data and found that the pattern occurred with some regularity, about once every ten days. Thus, in the same time period that he found 213 patterns leading to up moves, there were actually 7,124 other examples of this pattern that did nothing. Suddenly, we have a pattern that only works about 3% of the time.

• Now this problem might be fixed by saying, “I’ll screen for a consolidation pattern first and then look for the four-bar pattern.” This might make it workable. But there is still the matter of how often the pattern led to up moves. And when you check this out, it turns out that in the 300 consolidation moves there were 732 examples of the pattern. Thus, while 213 of them lead to up moves, the other 519 examples lead to nothing.

At this point, the pattern doesn’t look so good at all. But even if it did, we’d only have one part of a trading system—a filter and an entry. A full trading system also needs a worst-case stop, an exit plan, and good position sizing.

So now you have some idea what the mind can do for you when you want to be right and you don’t consider all of the issues involved in good trading.

Furthermore, people only see the patterns that lead to success and not the patterns that lead to failure (i.e., big losses). Imagine what this one bias could do to convince you to buy a stock with a certain pattern.

Again this particular bias is fixed by following the recommendations you’ve just been given in the book: learn to adopt a statistical approach to the markets and have a goal of not making any mistakes, where a mistake means not following your proven rules.

Bias 9: Once We Think We’ve Got It, It’s Hard to Get Rid of It

Once you believe you have found a pattern and become convinced that it works (by means of the law of small numbers), you will do everything you can to avoid seeing evidence to suggest that it doesn’t work. For example, once you found the pattern described above, most people would be very reluctant to see any sort of evidence that says it doesn’t work.

When you read the example above, you probably say to yourself, “Sure, it’s really important to do all of those things to determine if what I’ve found is meaningful.” But the bias most people have is to totally avoid doing anything like that. Once you’ve found it, you don’t want to know that you really haven’t found it.
There are numerous examples of this:

- If you believe that stock picking is the key to success, you’ll avoid evidence that suggests it doesn’t work.
- If you think you can make money with options because of the high leverage and limited risk, you’ll keep trading options despite loss after loss.
- I’ve even seen traders who develop a specific arbitrage strategy that has given them a real edge. They trade it and make a small fortune and then the strategy stops working. They’ll even tell me the strategy no longer works, but because of this bias they keep trading it and lose a lot of money. Perhaps they need real-world verification that the strategy doesn’t work.

**What to Do About the What I Know Is Right Bias**

Let me ask you a simple question. Do you believe what I’ve told you about how to evaluate systems? If you believe that, then that’s all you need to know. If you don’t believe it, then test it out for yourself. And if you don’t want to do that, then perhaps trading or investing is not for you.

**Bias 10: Representation**

Is reality what it really seems to be? As someone trained in how the brain works, I can tell you without knowing about such biases that it is not. Our brain just sees patterns of light that trigger cells to go off in the brain. We don’t know that something is a book or a ship or a bar chart until we are trained to recognize it.

So how does this pertain to investing? When people see a pattern in the market, is it really that? We already saw this example played out with the law of small numbers. But let’s jump further into what we are actually doing.

When people see something like Figure 5-2, they just assume it represents the market. First, the description says it is a chart of the S&P 500 so it must represent the market. But does it? When something is supposed to represent something, people assume that it is that thing.
Think about it. That chart collapses months of data into simple bars on a page, but you are willing to assume that it represents the market. Do you really know what was going on? Who bought and who sold? Who wanted to buy and who wanted to sell? Or more importantly, what’s going on right now? We assume that it is somehow in that chart. But that chart isn’t the market. The chart is just a representation of the stock prices presented in some easy to understand manner. And a lot of information is deleted in that bar chart.

However, when we start to think that our representations are real (and we all do this), it clearly distorts our thinking. And most people take it one step further because they do things to the data (i.e., draw trendlines; determine Fibonacci numbers; determine moving averages), which they think represent the market even more. But in reality, the more transformations you do on data, the less likely it is to represent the market.

In reality, the more transformations you do on data, the less likely it is to represent the market.

You might be feeling that “Van is full of it” by making such statements. “Of course, that represents the market!” But isn’t that Bias 9 acting in your head?

The only safeguard that I know of for this bias is to step back from everything, be in the “now”, and just notice what is actually happening. And you can do that if you have confidence in the long term results of your trading.

I’ve always recommended that your business plan for trading include worst-case contingency planning. Part of your worst-case contingency planning should center on this particular topic. What if something I think is real, really isn’t real? What are the implications for my trading?
Conclusion

Perhaps you can begin to see why I tend to gravitate toward the notion that everything is psychology. The more you understand this, the more you realize that at some level you are responsible for everything you experience.

And in my opinion, that’s the first key to being a great trader. You must own your own performance. You must believe that your system will make money long term because you’ve taken a valid, reliable sample of your system’s R-multiples. You’ve determined its SQN$^{SM}$ for each kind of market and you know what to expect in the future. You have specific objectives and you are going to use position sizing to meet your objectives based upon the methods illustrated in Part III. As a result of this process, you simply concentrate on the now. Are you doing the process? Are you following your system or are you making mistakes?

NOTES

I'm often asked the following question: “What kind of software do you recommend to help me with position sizing?” I’ll give you two answers to this: a short one and a more lengthy explanation. The short one is that every software product I know of has some drawbacks. The long answer you’ll probably understand after I give you some history.

My Experience with Position Sizing Software

The first trading software was either developed to screen stocks (i.e., to help you with the “stock picking” job that most people believe is important) or to optimize a trading system to fit the data. The first type of software simply searches the universe of stocks to find some technical or fundamental criteria that you think are important for stock picking. The second type of software allows you to overlay all sorts of technical indicators on a multi-year set of trading data to develop some sort of system that will give you a great profit on the instrument you are testing.

The problem with both of these types of software is that they don’t operate the way you do as a trader using position sizing. With position sizing you must make decisions with a portfolio of positions time period by time period. That’s not really compatible with how other types of trading software (that most people want) operate. Thus, there is a basic incompatibility between position sizing software and trading software.

The first person to seriously address this issue was Bob Spear who developed a product called Trading Recipes. Trading Recipes worked on a set of data as a whole, so Bob didn’t really solve the incompatibility problems I just mentioned. He did, however, have a position sizing overlay to work with the trading system you’d developed. Nevertheless, because the money management was basically an overlay to traditional “one trade at a time” type software, it was impossible to do anything that was time dependent in position sizing such as scaling in and out. Bob and I worked together for a while and I discovered the seriousness of the incompatibility problem. Trading Recipes was a DOS-based product and he found that the job of converting it to Windows and making it do “real” position sizing was overwhelming for him in the mid-1990s. However, his new Windows version, Mechanica, is now available.

My next adventure into position sizing software was when a software developer from England developed a product called Athena that would do everything that was in the original Special Report on Money Management. The software was great, but very expensive ($12,500). It basically linked with Trade Station® to combine systems with multiple position sizing models. Moreover, it had basic trading models built into it, in addition to “thinking” in terms of R-multiples. Athena had a channel breakout system built into it and also a random entry system. Many of the models from the original Money Management Report were tested with that software.
Athena also had major problems that prevented it from ever becoming a viable product. One of the problems was the lack of technical support for the product. In addition, through my research I also discovered that position sizing software like Athena could optimize position sizing to do extremely well with past data and not perform that well in real trading. As a result, I became much more interested in simulators to look at position sizing.

The first simulator we used was an Excel simulator developed by Frank Gallucci. At one time we offered a position sizing workshop with Excel products that Frank had developed. We stopped doing these workshops, which included the software for free, simply because there was not enough demand for them.

And finally, Chris Anderson developed a much more sophisticated simulator called Know Your System. I used this software to do my position sizing research, and have saved you a lot of time by giving you the results in this book. However, it is not available for sale for two primary reasons. First, there are major assumptions made with R-multiple simulations that could be violated by real trading. People could make some financially ruinous conclusions if they didn’t understand those assumptions. Second, my company is not a software company and my staff is not capable of doing any sort of technical support for the software.

I originally wrote the Definitive Guide to Position Sizing with the idea of bundling it around Know Your System. When we made the decision not to move in that direction, much of this book had to be rewritten. Instead, I have relied on using the System Quality NumberSM to help you with guidelines for what you can do with position sizing. We are also putting out the Secrets of the Masters™ Trading Game version 4.0, which has a lot more simulation capabilities, including allowing you to see your drawdowns in terms of R-multiples.

Overall, position sizing software has many problems, but the same can be said for trading software. My opinion, prior to writing this chapter, was that you probably need to develop your own software, or learn to program in Excel to get what you need in terms of position sizing. In fact, almost every really good software solution seems to require that you learn to do some programming. You probably didn’t want to hear that, but that’s just the way it is.

Nevertheless, I’ve asked various people to fill out a brief questionnaire about the software they are using. In some cases, I’ve asked the developer to fill out the questionnaire. Please understand that just because the software is mentioned here does not mean that I like it or recommend it. In fact, at the time I wrote this review, I had not personally tried any of the products mentioned here with the exception of XLQ.

As a result of doing this review I now believe that there are a number of packages out there that have become quite sophisticated. And whether you want to find a simple system that works and allows you to do position sizing or develop an almost custom solution to your needs as a trading business, there is some software that could meet your needs. Finding the right software is a lot like finding the right position sizing algorithm. You need to find out who you are, what you want to accomplish, and then look for the software package that comes closest to meeting your needs.
Software of this nature usually is “out of date” very quickly. Thus, if I mention that some software has certain shortcomings or lacks certain features, it doesn’t mean that will be the case when you read this. As a result, I’ve also included a web site for each product mentioned. I’d recommend that you go there, read about it, view the software demo (if they have one) or download the software users manual (if it’s available), ask questions related to what you want, and then make more informed decisions. In addition, I’ve only included software that is available commercially and has some support for the end-user.

First, it is important that you understand that there are six different categories of software that might be useful to you. I have not included software that primarily does screening or system optimization in any of these reviews. I’ve chosen to include six categories:

1. Software to keep track of trades and help you with expectancy and R-multiples.
2. Simulation software.
3. Position sizing software.
4. System-specific software with some position sizing capability.
5. Multipurpose software with position sizing capability.
6. Advanced software that might save you from having to spend hundreds of thousands of dollars on custom programming to run your trading business.

We will be reviewing the software that our clients have mentioned under each of these categories. In each case, when I mention some software, I’ve also put the name of the person who filled out the questionnaire, gave me enough information so that I could write the review, and, in one case, actually wrote the review that is included in this chapter.

Software to Keep Track of Your Trades

With software that keeps track of your trades, there are several ways to go. The first way involves using spreadsheets to do almost everything. Most people who travel this route use Excel, although one person said he uses Lotus 1-2-3.

EXCEL

If you have Microsoft Office on your computer, then you have Excel on your computer. In this guide I’ve already shown you examples of Excel keeping track of your R-multiples for each trade. You can then use the many Excel functions to determine the mean and standard deviations of your R-multiples as well as your System Quality NumbersSM. And if you use Excel, you can basically keep a running total of all of this information. For example, look at Table 2-6, which is an Excel table.

Excel also has the ability to get data from financial websites by simply clicking on the data tab, clicking on “import external data” and then on “new web query.” This will bring up a box in which you can enter the address of the web site you wish to go to (for example, Yahoo! Finance is
full of historical data). And once you get to that web site, you can simply import the data you want into Excel. This requires a certain amount of knowledge of how to use the spreadsheet.

**XLQ**

If you like the Excel route and don’t mind doing your own programming, then I highly recommend that you subscribe to XLQ\(^1\). This is basically a whole series of enhancements that you can add on to Excel that will give you lots of financial formulas and indicators. For example, there are formulas built-in to do many of the most common trading indicators, such as the Average True Range, various moving averages, MACD, DMI+ and DMI-, etc. There are over 250 different formulas, including many fundamental values that are added to Excel when you use XLQ.

XLQ costs $74 ($119 for the enhanced version) with a reduced yearly renewal price and it is well worth it if you are very competent with Excel. In fact, Ken Long uses XLQ to write and send out huge reports on ETFs and Mutual funds to his database every evening ([www.tortoisecapital.com](http://www.tortoisecapital.com)). If he did this by hand, it would take 6-8 hours to prepare, but he does it all with XLQ and it only takes a few minutes of his time each day to run the software and generate the reports.

I would actually follow this same route, but it requires that you really become very competent working with Excel, and learn how to program macros, etc. That is not one of my skills at this moment, so I’m not using it as much as I’d like. But if you are considering software that still requires you to do a lot of programming and you don’t know how to program, then learning how to program in Excel and how to use XLQ might be the way for you to go. There really isn’t any training for how to use XLQ except for a demo spreadsheet; however, a fully functional version of XLQ can be downloaded and used for free for 45 days before the purchase. Ken says that there is a very active Yahoo users group for XLQ where you can ask questions and get help.

XLQ also has a COM interface allowing you to use all the formulas and data via other programs with a COM interface or any of the popular programming languages, including Visual Basic, C#, Access, C++, perl, etc.

For information about XLQ, go to [http://www.qmatix.com](http://www.qmatix.com). In addition, the developer, Leo van Rijswijk also offers custom solutions.

**Stator® Financial Management Software**

I’ve included Stator®,\(^2\) in this review because several of my clients have recommended it as a strong financial software package. Here’s what one reviewer said:

“I think the strong points of the software don’t lie in its position sizing capabilities (it doesn’t feature any testing, for example), but in the extensive ways you can present your past trades via statistical measures and graphical representations. It has all of this plus the ability to handle
multiple systems and generate a trading diary. Thus, it is a great package for monitoring your trading.” —Thorsten Reiss

The software is easy to use and will analyze your entire portfolio. It does have percent risk, along with portfolio heat and group heat, but it really isn’t designed for position sizing. It’s portfolio analysis software. Here’s what the web site says:

“Stator® provides you with all the tools you need to monitor and analyze your trading performance so that you can accomplish what all traders strive to do:

1. **Limit losses** by practicing sound risk management techniques.
2. **Improve weak spots** in your trading methodologies.
3. Know your exact **Profit/Loss situation at any point in time**.
4. **Learn from your mistakes** so that you never repeat them.
5. **Have total control and confidence** in your trading systems. [Note from Dr. Tharp: I tend to doubt the control part.]
6. **Find the perfect trading formula** suited to your trading style.
7. **Find and exploit new trading opportunities** from all over the globe.”

In addition to all of these benefits, you will also cut down on the amount of time you spend on simple administration tasks so that you can concentrate on finding more profitable trading opportunities.

Proper performance management is where successful trading evolves from. **For the cost of less than one single trade you can make an investment which will influence all of your future trades for the positive.**

It has the following important features:

- The ability to work with trading pools (i.e., multiple systems)
- Stop and target management of ongoing trades.
- A tax module.
- Extensive charts and system statistics. They’ve even included the System Quality NumberSM based upon one of my answers to a question that was reproduced in *Tharp’s Thoughts*.
- It allows you to create a trading diary.
- And it does numerous reports.

I have not seen this software myself, but you can visit **www.stator-aftm.com** to learn more. The website contains over 20 free video tutorials, which should give you a good feel for the software. The software comes in three editions, ranging in price from $55AU to $495AU (~$417US) and, according to the reviewer, is easy to use. Also when you purchase the software, you get a number of bonuses. I was interested to see that one of those was a copy of an article I wrote with Hank Pruden on the *Tasks of Trading*. 
**StockTickr**

StockTickr\(^4\) provides an online trading journal, shown in Figure 17-1, that tracks the performance of your trading system using the R(expectancy model). Trades can be manually entered into the journal or automatically entered using a simple Application Programming Interface. There are plug-ins for various software vendors and brokers.

When you enter a trade for a particular stock, StockTickr displays default values that correspond to your trading history and preferences. These defaults can be adjusted to fit your style. The values can be easily changed to reflect an actual trade. Changing the values for open price, shares, stop price, and portfolio value automatically adjusts the percent risked fields so you can see what your risk would be under different scenarios.

**Figure 17-1: StockTickr Journal Entry**

Once the trade is entered, it goes into your trading journal that can be accessed from any web browser with your login and password. StockTickr provides an "R table" that can be accessed by hovering over the dollar icon, shown in Figure 17-2. This displays price levels that would need to be reached to meet certain R-multiples for the trade.
For each trade, StockTickr automatically generates charts in various timeframes with the entry point, initial stop, and exit points plotted on the chart. This helps traders determine if they are moving their stop too soon or not quickly enough. You can also query for charts with various characteristics, such as 15 minute charts for trades that resulted in a 3R or better gain. This is shown in Figure 17-3.
StockTickr also provides a calendar view of your trading that is color-coded, showing more extreme gains and losses in darker colors. You can write comments for each day and you can click on the number link on each day to view the trades that occurred on that particular day. This is shown in Figure 17-4.
Figure 17-4: StockTickr Calendar

Figure 17-5 is an overview of the expectancy of your trading system per month.

<table>
<thead>
<tr>
<th>Month</th>
<th>Total R</th>
<th>Win %</th>
<th>Expectancy</th>
<th>Profit</th>
<th>Trades</th>
<th>Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 2007</td>
<td>0.78</td>
<td>100.00</td>
<td>0.78</td>
<td>126.00</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>January 2007</td>
<td>0.80</td>
<td>39.29</td>
<td>0.03</td>
<td>392.33</td>
<td>28</td>
<td>17,550</td>
</tr>
<tr>
<td>December 2006</td>
<td>6.70</td>
<td>50.00</td>
<td>0.30</td>
<td>1,122.50</td>
<td>22</td>
<td>14,200</td>
</tr>
<tr>
<td>November 2006</td>
<td>12.38</td>
<td>48.28</td>
<td>0.43</td>
<td>1,410.00</td>
<td>29</td>
<td>16,700</td>
</tr>
<tr>
<td>October 2006</td>
<td>-2.61</td>
<td>33.33</td>
<td>-0.09</td>
<td>-553.50</td>
<td>30</td>
<td>14,300</td>
</tr>
<tr>
<td>September 2006</td>
<td>5.35</td>
<td>42.86</td>
<td>0.19</td>
<td>725.12</td>
<td>28</td>
<td>12,300</td>
</tr>
<tr>
<td>August 2006</td>
<td>9.07</td>
<td>43.33</td>
<td>0.30</td>
<td>1,199.91</td>
<td>30</td>
<td>13,650</td>
</tr>
<tr>
<td>July 2006</td>
<td>0.29</td>
<td>20.00</td>
<td>0.06</td>
<td>-17.20</td>
<td>5</td>
<td>2,800</td>
</tr>
<tr>
<td>June 2006</td>
<td>-4.00</td>
<td>0.00</td>
<td>-1.00</td>
<td>-608.00</td>
<td>4</td>
<td>400</td>
</tr>
<tr>
<td>May 2006</td>
<td>-6.33</td>
<td>12.50</td>
<td>-0.79</td>
<td>-934.00</td>
<td>8</td>
<td>2,600</td>
</tr>
</tbody>
</table>

Figure 17-5: Monthly Performance

One of the neatest features of StockTickr is the ability to assign "tags" or categories to each trade. For example, you might want to track the performance of different strategies such as trading
against the 15 minute bars versus the 30 minute bars. You might assign the tags “long,” “15 Minute Bars” for a long trade you took using the 15 minute intraday bars and “short,” “30 Minute Bars” for a short trade using the 30 minute intraday bars. This would allow you to track the performance of your trading system for trades you assigned “15 Minute Bars” versus trades you assigned “30 Minute Bars.”

You can assign multiple tags to each trade and then access reports based on each tag. Figure 17-6 is a sample report based on the tag that was assigned to trades.

<table>
<thead>
<tr>
<th>Tag</th>
<th>Expectancy</th>
<th>Win %</th>
<th>Trades</th>
<th>Links to Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>scalp</td>
<td>1.31</td>
<td>100.00</td>
<td>1</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>Good EPS</td>
<td>1.24</td>
<td>26.32</td>
<td>19</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>long</td>
<td>0.37</td>
<td>39.50</td>
<td>119</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>Opening Gap Fade</td>
<td>0.27</td>
<td>66.67</td>
<td>9</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>30Min Bars</td>
<td>0.24</td>
<td>41.58</td>
<td>101</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>Dummy Trade</td>
<td>0.18</td>
<td>40.37</td>
<td>161</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>short</td>
<td>0.09</td>
<td>40.40</td>
<td>99</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>momentum</td>
<td>-0.03</td>
<td>37.50</td>
<td>24</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>15Min Bars</td>
<td>-0.17</td>
<td>36.67</td>
<td>30</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>Gospper</td>
<td>-0.29</td>
<td>26.67</td>
<td>16</td>
<td>Week Day, Calendar, Total R</td>
</tr>
<tr>
<td>breakout</td>
<td>-0.31</td>
<td>50.00</td>
<td>2</td>
<td>Week Day, Calendar, Total R</td>
</tr>
</tbody>
</table>

Figure 17-6: Example of Tags

There are a variety of reports available to slice and dice your trading system and figure out what works and doesn't work, such as the one in Figure 17-6.

StockTickr also allows you to detect trends, and trade based on probabilities of what works and doesn't work with your trading system. There are new reports being added quite frequently that give the trader more information about and more confidence in their trading system.

You can find out more information about StockTickr at http://www.stocktickr.com. I also believe you can do similar things at StockCharts.com, but we did not receive any reviews for that web site.

Simulation Software

Secrets of the Masters™ Trading Game

The Secrets of the Masters™ Trading Game is the only software product that my company puts out. The game’s purpose is to help you understand (at an experiential level) the immense impact that position sizing has on your bottom line. You get to play three levels for free when you download it from www.iitm.com and then if you activate it, you get to play the remaining levels.
When people play it over and over again, the typical response is “I learned so much.” But if your approach is to “try to figure it out,” then you’ll probably discover that there is no answer, simply because position sizing is as much an art form as it is a science.

You can probably do any sort of position sizing model in this book in the game, but none of these are built-in because that would defeat the purpose of the game, which is to experience different methods of position sizing. Instead, to follow some model, you’d have to calculate exactly how to do it outside of the program and then enter it into the program for each trade as it comes up. You could even take the last 10 R-multiples as a measure of volatility and use volatility position sizing. It’s up to you and your imagination.

Yes, we could make it automatic and incorporate many models in there. We could make it do everything quickly based upon a particular model. But that’s not the purpose of the software. This software is designed to give you a feel for the impact that position sizing will have on your trading, one trade at a time. And to do that you have to experience it one trade at a time. This means calculating your position sizing, entering the trade, and then seeing the results.

One nice feature of the software is that you can plug in the R-multiple distribution from your own system and simulate that one trade at a time. The Secrets of the Masters™ Trading Game version 4.0 will also keep track of your peak drawdown in terms of R for you because that feature is required in some of the position sizing models.

Version 4.0 of the game is designed to work well with Windows Vista. We also have a new realistic feature. In the old edition, there was no slippage, no commissions, no taxes, and no psychological errors except for some built-in losses. All of these things limit the growth of your account, but they were not built into the game. People would think the game was unrealistic because they could make trillions of dollars. The newest version will have a box you can check to add in most of these obstacles to wealth building for those of you who want more realistic results.

Incidentally, we get people who ask me how to do specific position sizing models with the game or try to find out how to get through a particular level. Remember the purpose of the game is to experiment with position sizing so you can get a feel for it. It’s not a problem to solve. It’s supposed to be a learning experience and you only get that experience by playing it a lot and experimenting. Asking me what to do (or to comment on what you are doing) in order to get through a specific level defeats the purpose of the game.

TradeSim®

TradeSim® was developed by an Australian company, CompuVision, as an add-on product for MetaStock. The author said that he developed the software after reading about Athena in Trade Your Way to Financial Freedom.

TradeSim®, however, is much more than a simple add-on because it allows you to do portfolio analysis, position sizing, and Monte Carlo simulations. TradeSim®, according to its web site, is a true portfolio trading simulator and backtester, which analyzes the trades in the proper
Part II: Position Sizing Software Examined

chronological order and sequencing, thus mimicking the way that real trades would be executed. The web site says that it can do dynamic money management (i.e., position sizing) and risk control at the portfolio level.

So let’s take a look at what one of the reviewers said about the various features. First, it comes with a basic system to simply demonstrate its functionality, but the software requires either Metastock or Bull Charts to generate the system signals. My understanding is that you can also manually input data to do simulations. It’s easy to use, according to the reviewer, but does require some programming.

In terms of position sizing, it does equal units (i.e., 10% per unit), fixed dollar risk per position, percent risk, percent volatility, and portfolio heat. It apparently doesn’t do things in which the position sizing depends upon what happens in the portfolio without some tweaking. For example, scaling in to positions could be done if you assumed two systems were operating together to produce the signals. Scaling out is also possible by assuming multiple systems. However, it does not do any form of market’s money, nor does it do fixed ratio position sizing.

TradeSim® will calculate expectancy and it will provide the data to generate the standard deviation of R, but you would have to calculate it outside of TradeSim®. It will not calculate the worst-case drawdown in terms of R.

Apparently, TradeSim® is pretty good with simulations. Based upon comments from the reviewer and the developer, I think TradeSim® may do simulations with R-multiples, on R-multiples with position sizing, and on equity curves. I’m curious if it can do that, why it can’t generate the worst-case drawdown in terms of R.

The software will allow you to run up to 20,000 simulations of the portfolio to generate the risk of ruin, frequency distributions and standard deviations of key portfolio statistics such as net profit, percent wins, percent losses, average drawdown, and maximum drawdown. The Monte Carlo output also produces charts so that you can see the relationship between various system statistics, such as profit to drawdown.

The Enterprise edition also generates open equity curves so that you can review individual trades on the chart. You can also review a whole portfolio of systems at one time. And lastly, you can model slippage with different types of buy and sell orders.

The documentation with TradeSim® is excellent and there is a strong user community with forums for support. To buy it, you simply pay for it online at http://www.compuvision.com.au/TradeSim.htm and download it. There are actually three versions of TradeSim®: the standard edition ($159US), the professional edition ($385US), and the enterprise edition ($1,199US). What was reviewed for me was a pre-release version of the newest Enterprise edition (V5.2.0) of the software. You can buy lesser versions, such as a trial to the standard version and then upgrade to other versions if you think it meets your needs.
Position Sizing Software

Market System Analyzer

Market System Analyzer\(^6\) is perhaps the purest form of position sizing software that I’ve seen on the market. Again, I have not used it, so this review is simply based upon users’ comments and my observations looking at the software web site.

In terms of position sizing, Market System Analyzer helps you determine what your position sizing should be with a large number of models, including the following:

- Fixed number of shares/contracts
- Units per so much equity
- Percent Risk
- Fixed ratio and a version of that in which you can adjust the speed at which position sizing increases (GRPS). It probably doesn’t include FRPS the way we recommend you do it in this book.
- Margin target
- Leverage target
- Equity curve crossovers

It also includes a number of methods we don’t recommend including optimal \( f \), Kelly Criterion, and a Larry Williams method based upon your drawdown.

The software seems to be missing the ability to do time dependent analysis such as market’s money, scaling in and scaling out. However, the manual explains that to do scaling in or scaling out, you simply have to treat each scale in or scale out as a separate trade and enter it into the software individually.

The software also does Monte Carlo simulations to give you confidence levels on your return rate, drawdown, return/drawdown ratio, and a modified Sharpe ratio. It does Monte Carlo simulations on your equity curve (as I understand it), but not on your R-multiples.

It helps you optimize your position sizing to meet various objectives including 1) maximum net profits, 2) maximum rate of return, 3) maximum average trade in a currency, 4) maximum average trade percent, 5) maximum profit factor, 6) maximum return to drawdown ratio, 7) modified Sharpe Ratio, and 8) limiting your maximum drawdown to a percentage of equity.

It also allows you to include trade dependency studies, parameter studies (a graphic position sizing sensitivity analysis), statistical studies, and has the ability to create trades from statistics. I have not really worked with any of these studies, so I don’t have a feel for how useful they are. However, the dependency analysis could be worth the price of the software by itself.
And lastly, you can either import data from TradeStation® (which is not necessarily a plus for me) and MT Predictor (reviewed below) or enter it as a spreadsheet. One drawback, in my opinion, is that it takes the data as the total profit/loss on the trade rather than as R-multiples. However, you can also input your risk, so there might be some way to use R-multiples.

The third version of the software is about to come out and the web site says that it will do portfolio analysis. The software is priced at $199 right now, so the price is certainly low enough for you to experiment with if you are so inclined. And you can download a free trial of the software, so that’s even better. There is also a complete manual online for how to use the software.

Although I haven’t used the software, I’ve looked at the web site (http://adaptrade.com). You might find it quite interesting and worth your while.

### System Specific Software with Position Sizing Capabilities

**MTPredictor™**

MTPredictor™ is the software that more people commented upon than any other. There is a reason for that. When I asked for a review, the folks at MTPredictor™ sent out an email asking their customers to send me a review. Eventually I just settled on having the people who developed and sell the software fill out the questionnaire.

This software is a little bit different from any of the others. It essentially offers trend following resumption methods based on a special Isolation Approach™ to Elliott Wave and has risk/reward assessment and position sizing abilities attached to it. When I asked, “What’s an isolation approach to Elliott Wave?” I was told that it involves a trademarked process that isolates the simple Elliott Wave ABC correction-to-trend and uses it to enter trades with a small, controlled risk and high potential reward. This approach has the added advantage of not having to fit the pattern into a larger pattern or to fit a smaller pattern into the isolated correction. In other words, it’s a trend-following with retracement type method.

Thus, I thought I’d do a review on both the methods and the software.

**The System:** There are 5 main types of trade setups (TS) automatically identified by the software and the developers stress MTPredictor™ is a method, not a system.

- TS1 involves a trend resumption into Elliott Wave 3.
- TS2 involves a trend resumption into Elliott Wave 5.
- TS3 involves a trend resumption into an unspecified Elliott Wave.
- TS4 involves a non-specific trend resumption.
- DP involves a swing trade confirmed by divergence.
The MTPredictor™ process enables the trader to find a trade, assess its risk/reward outlook, position size and manage the trade. The standard exit strategy uses automatically-generated Elliott Wave targets for profit-taking and there is also the option to use their Average True Range (ATR) volatility stop, adapted from J. Welles Wilder’s work.

With that information in mind, the developers supplied me with 838 trades published daily for customers between July 26, 2004 and July 22, 2005. These were all *day trades* lasting a few minutes to hours. The starting account size was $50,000 (though a minimum of $10,000 is advised as acceptable). Included were the key TS1, TS2 and TS3 set-ups, on the US index futures and ETFs and with a minimum +2x risk/reward outlook. Profits were taken according to the standard exit strategy mentioned above. The data did not include slippage and commissions. In addition, the R-multiples I was given were rounded to the nearest 0.25R.

The 838 trades had an expectancy of 0.46R with a standard deviation of 2.42R. They produce a System Quality NumberSM of 5.52, which is excellent and highly significant. However, the huge number is partially due to the fact that they gave me 838 trades. If I just look at the ratio of the expectancy to the standard deviation and then base the System Quality NumberSM on 100 trades, it comes out to 1.91, which is still an acceptable system that makes money at better than a chance level. A number of our customers said they were using this software (and thus these methods) and they were quite happy with it.

**The Position Sizing Capabilities:** According to the developers, the software does percent risk position sizing, using an integral position sizing calculator in both the real-time and end-of-day versions. Position sizing is supported in stocks, forex and futures. Percent volatility and group or portfolio heat are not supported. Scaling in position sizing (pyramiding) and scaling out techniques are routinely explained to customers, but don’t seem to be a part of the software.

As it is not a standard system, it doesn’t do simulations, but the developers say that they support and use Adaptrade’s *Market System Analyzer*, which was reviewed previously. It also doesn’t do expectancy calculations, but the in-house records (i.e., the ones I reported on) are available and customers’ own records are often posted to their discussion forum.

Thus, if you want to use a complete process from identifying the trade, through risk/reward assessment and position sizing to logical trade management, in a relatively automated package, then MTPredictor™ might be for you. It works on worldwide liquid markets and is supported by daily training reports focusing on risk control and position sizing. There are also two versions of the software: the end of day version is $1,995 and the real-time version (i.e., for day trading) is $2,495. For more information, please go to [http://www.mtpredictor.com](http://www.mtpredictor.com).

The software requires a moderate level of skill to use, but doesn’t require programming skills, which may be a plus for some of you.
Part II: Position Sizing Software Examined

Multipurpose Software that Includes Position Sizing

AmiBroker

AmiBroker is a fully programmable open-ended system that can probably do most of the things you want with sufficient programming. But that’s like saying SAS or C or FORTRAN, for example, are capable of doing what you want, too. AmiBroker’s advantage over general-purpose languages is that it has dozens and dozens of pre-coded features for technical analysis. My reviewer said, “Someone without strong programming skills who hoped to start AmiBroker and do all of the things you suggest in the second edition of Trade Your Way to Financial Freedom will be very disappointed. For example, I have not been able to program it to do simulations with my R-distributions to help me select a position sizing algorithm to achieve my objectives.”

I looked at the Table of Contents of the Users Manual and the newest version has a position sizing variable built into it. It gave the following comments about using it.

“For example,

“Position Size = 1,000/ means invest $1,000 in every trade
Position Size = −20 /means invest 20% in every trade (minus means invest a percentage of equity)
Position Size = −100 + RSI() means that the amount invested will depend upon the value of the RSI indicator with lower value resulting in a bigger investment.”

This is a classic example of how software developers will invent new position sizing models. This one certainly was not covered in this book, but it also doesn’t make any sense to me, unless it was somehow used in conjunction with a trend following retracement. But even then, does that mean invest 100% when the RSI is zero?

There is also a section that says “allow position sizing shrinking, which allows you to still invest if your available cash is less than the position size algorithm requires.”

I also thought it funny when I read, “Below is an example of the Tharp ATR based position sizing technique coded in AFL.” And what followed was an example of using 1% risk, where risk was defined by a trailing ATR stop. Thus, the example was both risk based and volatility based. So obviously you can do percent risk and percent volatility position sizing.

I also read a section of the Users’ Manual on portfolio backtesting. It gives an example of being 100% invested and dividing your portfolio into X number of equal positions based upon the dollar amount.

Another section of the Users’ Manual focuses on pyramiding, so obviously you can scale in and scale out. However, to give you an idea of the focus of the software, the manual gives the following as examples:
“1) Dollar fixed cost averaging, so that each month you might buy $X worth of some security.
2) Increasing the position when the profit is greater than 5% and decreasing the position when the position has a loss greater than 5%.
3) Partial scaling out at profit targets.”

Approximately nine pages of the nearly 800 page Users’ Manual were devoted to position sizing and portfolio testing. I saw nothing in the manual about simulations or R-multiples. However, that doesn’t mean that someone hasn’t written something for this package that you might be able to use.

The price is right for this software. It’s a one time fee of $299 for the professional edition and a $149 fee for the standard edition. The fee includes four upgrades. Also, Amibroker’s language, AFL, is an open architecture language and my understanding is that there is a strong user group. The software seems to be compatible with multiple data feeds.

My opinion, after reading the examples in the manual, is that learning the language will involve a steep learning curve, and this software would not be very useful at all if you did not master the programming skills necessary to use it. For more information (and to purchase or download a free trial), go to http://www.amibroker.com.

Since this review was written, I was sent a book entitled, Quantitative Trading Systems by Howard B. Bandy. The book is written by someone with an extensive math and statistics background and it gives lots of programming examples using AmiBroker’s AFL language. Thus, if you plan to use this software, the book is a must.

**OmniTrader Professional**

I included OmniTrader in this review because of the recommendation of a long time client. However, when I went to the web site, www.omnitrader.com and took the tutorial, I would not have guessed it to be a product that does position sizing or simulation extensively.

Anyway, I got the following information from the web site about OmniTrader Professional.

“OmniTrader is the only software that generates buy and sell signals based on the ‘personality’ of each security in a given list. We call this powerful technique the Adaptive Reasoning Model (ARM). In just seconds, the program will test all of its 120 built-in methods on each symbol in a given list to find the precise techniques that are working well. Then, it uses those methods to generate signals. ARM was invented at Nirvana Systems in 1994, and here is how it works:

1. A list of symbols is provided to the software. This list can be as short as the S&P 100 or as large as the entire stock market, depending on how many candidates you want the program to generate for you.

2. Press ONE BUTTON in OmniTrader, and it will begin its proprietary analysis. In a matter of seconds, OmniTrader will test each of its built-in trading methods on each security, choosing the
BEST techniques to use. Using this approach, OmniTrader is able to determine the personality of each individual security, according to our proprietary Personality of Markets Theory.

“3. The software automatically finds Buy and Sell Signals on each symbol in the list, using the methods that have been found to work well for each individual security. The result is a set of Buy and Sell Signals—automatically. No other software offers this automation benefit.”

I have no information about the R-multiples generated by this system, and thus can offer no opinion about the system quality. You are on your own here to do your own research.

OmniTrader also has a simulation mode, but it doesn’t appear to be a Monte Carlo simulator. Instead, it is a way to practice trading the system to see what would happen before real money is at stake.

The latest edition of OmniTrader (2007) has a portfolio simulator. And according to Ed Downs from Nirvana Systems, it does all of the following position sizing methods: fixed size, fixed price, fixed percent, price to equity, size to equity, optimal \( f \), Kelly, percent risk and portfolio heat. It doesn’t do market’s money, or scaling in or scaling out.

The portfolio simulator provides full reporting of statistics (e.g., worst drawdown, best trade, worst trade). The user can simulate all methods at once to pick the best one. And the simulator generates equity curves that you can look at to determine how smooth they are.

There are several versions of the software 1) a Stock Version for $495, 2) a Futures Version for $695, 3) a real-time version for $895 and 4) a professional version for $1,948.

**Trading Blox™**

Trading Blox™ has a number of fairly good systems built into it, plus built-in position sizing. In addition, it also works with portfolios. Let’s look at the systems first. The built-in systems in Trading Blox™ depend upon the version you purchase. The “Turtle” version includes three systems:

- The Turtle System,
- Triple Moving Average, and
- Donchian—a simplified Turtle-like system that does not pyramid.

The Professional and Builder versions add eight more systems and some “trading blocks” that are not included in the standard version. The additional systems include:

- ADX,
- +DI/+DI
- ATR Channel Breakout—a volatility channel breakout system
- Bollinger Breakout
- Bollinger Counter Trend
The Definitive Guide to Position Sizing Strategies

- Dual Moving Average
- MACD
- RSI
- Stochastics

The extra blocks include a strength filter, a MACD filter, a group risk manager, having a profit target, pyramiding, having a gap open against, chandelier exits, percent risk, and percent volatility position sizing. If you want to have the flexibility to use all the basic position sizing algorithms, Trading Blox™ Professional is the minimum version to purchase. In addition to the supplied Blox™, Trading Blox™ Professional will allow you to add other Blox™ written by other users or posted to their support forums.

Trading Blox™ Builder has everything that the professional version has, plus the ability to build your own new trading blocks. This does require some programming skill in the Blox™ programming language.

The software allows you to look at R-multiples and do an expectancy calculation. It also has some Monte Carlo simulation features including the ability to look at what your possible drawdowns might be as a percent of your equity.

Let’s look at the basic building blocks of this software.

First, the portfolio manager allows you to track securities, commodity futures, and forex futures. It will also let you dynamically select which markets or stocks are available for trading based on a portfolio selection algorithm defined in code. And it has the ability to enter the exact specifications of the futures contracts so that the data can be properly analyzed.

Second, the Entry block allows you to create an order for actual trading.

Third, there is a Money Manager block, which implements the position sizing algorithm for a system.

Fourth, an optional Risk Manager helps you set risk parameters for dynamically controlling the risk of your positions. This includes the ability to insert stops, and adjust the position size of open trades based upon risk criteria that you set. This block allows you to both scale in and out of positions based on risk criteria.

Lastly, the Exit block allows you to specify your exit conditions. It’s important to know that this block will accept multiple criteria.

The System Editor, shown in Figure 17-7, is used to create new systems and modify old ones. It requires no programming skill to do this. All you do is simply drag and drop available blocks into the system and several entry and exit blocks can be used with each system. Each block can also be used in multiple systems, so all systems can share a common position sizing algorithm, for example.
The figure illustrates the concept of building a system by dragging various “Blox™” into appropriate spaces. Notice at the top you have a list of available systems, a list of available trading blocks (or Blox™), and a place to drag all the components, including the portfolio manager, the entry signals, the money manager the exit signals, and the risk manager.

The system tester allows you to test one system (or multiple systems) as a portfolio. And if you use multiple systems, each can be weighted by certain settings. Also, variables like the interest rate, the initial stop, and slippage can be defined globally so they are valid for each system. In addition, separate position sizing rules can be entered for each system. The output of the system tester includes all sorts of statistics and ratios, including the R-multiple distribution.

Figure 17-7: Trading Blox™ System Editor

Figure 17-8 is an example of how easy it is to use a particular system. It shows the Triple Moving Average system. It allows you to plug in the size of each moving average, the size of the ATR, and use different risk amounts for position sizing in a step-like function. You can specify the range of values and the stepping increment to automatically run a series of tests for all the values in the specified range. The example in Figure 17-8 will run tests with risk as 0.5%, 1.0%, 1.5%, 2.0%, 2.5%, and 3.0%. It will also vary the size of the stop and the number of days in the ATR computation across the values specified.
I find the conceptualization of Trading Blox™ to be quite impressive. First, many systems are included and can be adjusted according to your preference. Second, the more important components of position sizing and simulation are built into the testing. And it looks easy in that it just requires mouse clicks and dragging the right blox™ into the system testing components. Perhaps this is the future of system testing.

However, let me also be the devil’s advocate. Suppose I simply want to trade something that’s strongly trending, has a retracement, and then starts to resume its trend. I want to trade that with a stop below the old retracement. Chances are I probably couldn’t trade it without getting the version that allows you to do custom programming. And you must ask yourself “Is this what I’ll probably face?” I don’t have any experience using Trading Blox™, but this is the sort of issue that I would guess that most traders will eventually come up against.

And if that’s the case, then you’ll need to learn the “Trading Blox™ Language” and build your own systems. My impression is that the learning curve for that language might be rather steep, but that probably depends upon your programming skills.
However, if you want software that requires minimum programming skills, has good systems, and does position sizing and simulations, then Trading Blox™ Turtle or Trading Blox™ Professional might be the product you want. For more information, go to their web site, www.tradingblox.com. The Turtle edition costs $995, the Professional edition costs $1,995, and the Builder edition costs $2,990.

Wealth-Lab®

Wealth-Lab® is often mentioned to me as a platform for doing position sizing. This software is owned by Fidelity Brokerage; however, the web site says that other data providers are supported, so the software may be available to people who do not trade through Fidelity. You can apparently download a demo copy of the software from Fidelity at http://personal.fidelity.com/products/atp/content/wealthlab.shtml.cvsr.

Wealth-Lab® has a number of features that might appeal to non-programmers:

- Create trading systems just with drag and drop.
- Create indicators and indicators of indicators with drag and drop.
- Test strategies on a whole portfolio with true portfolio level backtesting.
- Optimize a whole portfolio and apply the best values to each symbol with a single mouse click.
- Apply optimized value on symbol/system combination and on all relevant tools.
- Real time scanning for systems.
- And Automated Trading Execution via Fidelity.

Of course, my primary interest in doing this review is to focus on the position sizing. My understanding is that with Wealth-Lab® you can scale in and out of your current position. In addition, there are a number of pre-programmed position sizing methods. To see the effect of position sizing you don't need to change the whole code. You just key in a number in the appropriate field. The software also features (for programmers) the ability to create your own position sizing strategy (called SimuScript) and apply it to any system on a portfolio level by just clicking on it. You can create your own performance report metrics as well.

About five pages of the very large manual for Wealth-Lab® are devoted to position sizing. The basic models are there, but they are very simple as illustrated by Figure 17-9. I scanned through the entire manual and couldn’t find how to scale in and scale out, even though I was told the software has the ability to do that.
However, the SimuScript selection apparently allows you to program all sorts of position sizing algorithms into the software.

Most of the manual is devoted to the many indicators that are available. And it almost sounds like the various indicators are thought of as systems. However, I cannot tell that for sure, not being a member of the Fidelity Brokerage community and never having used Wealth-Lab®.

Here is what one of the reviewers particularly liked about the software:

- “They have done a really good job at trying to break a trading system into different parts that will allow you to address your trading system in these different parts.
- For programmers who really want to get control of their trading system, this is the platform to use.
- They have a drag-n-drop indicator builder that will allow a non-programmer to build custom indicators by dragging and dropping pre-defined indicators in a wizard. Then you can custom configure each pre-defined indicator to your liking.
- I tried TradeStation®, and even took their program training classes and I have to say that Wealth-Lab® is a much better product for me.”

For more information about Wealth-Lab®, go to http://www.wealth-lab.com. Or if you’d like to download the trial version and play with it, go to the Fidelity link given earlier.
Mechanica Standard

Bob Spear\textsuperscript{14} has released his new software, Mechanica. Mechanica Pro (discussed below) has been in Beta testing for about four years and it is currently running some serious money for various CTA firms.

**Mechanica Standard** is the Windows upgrade to *Trading Recipes*. Fifteen years ago, Trading Recipes was definitely my favorite systems development software. However, its dependency upon the DOS operating system and its position sizing limitations were drawbacks. All of that has now been fixed by the introduction of Mechanica Standard Edition.

Mechanica starts by building on the foundation of Trading Recipes, and introduces new functionality in a number of critical areas, such as advanced multi-dimensional trading, and an enriched programming language that’s easy to use to code and test your trading algorithms and risk control strategies. If you are not afraid of doing simple programming, its ease of use definitely makes it worth considering. I found the language in *Trading Recipes* to be fairly easy and this one (a superset) is very similar. It has a state-of-the-art electronic help facility and its clickable cross-reference links are especially useful.

Bob sent me a number of screenshots from the software, but I’ve only included one because I believe it best illustrates the best feature of Mechanica—the ease of programming your own code. Figure 17-10 illustrates how simple it is to program a simple position sizing algorithm. It basically says you have $100,000 in cash and that your position sizing is equal to 2% of equity. Even I can handle that.

![Figure 17-10: Mechanica Rules Editor Showing Easy Programming Language](image)

It’s a unique collection of software tools developed through the years in response to Bob’s own research and the automation needs of CTAs and hedge fund managers, and has been subjected to years of real-world testing by others.
It comes with a number of end-of-day systems built into it, including basic trend following, a pivot system, a volatility system, a support/resistance system, a parabolic system, and a number of others. The code for these is already there for you to use or modify.

Mechanica also works with an entire portfolio of positions, not one trade at a time. And it allows you to work with multiple systems within a portfolio.

You can measure risk, as you choose to define it and view it globally, across every layer of your portfolio, across multiple systems. You can write your own algorithm for how to define risk and that will replace the global definition of risk in Mechanica if you tell it to do so. Thus, you could substitute volatility for risk or any number of other possibilities.

Mechanica has an extensive Monte Carlo suite. For example, you can take the daily percent changes in your equity curve and do a Monte Carlo analysis to see a range and probability distribution to show what you might expect in the future based upon the daily changes you have had in the past. It does NOT do R-multiple simulations.

The software will allow you do most of the position sizing models given in this book. This includes fixed dollar, fixed percentage, percent risk, percent volatility, group and portfolio heat, fixed ratio, and to some extent market’s money, scaling in and scaling out. My guess is that some of these require some programming. More advanced scaling in or scaling out is supported in the Pro version of the software, which is reviewed later in this chapter. In Bob’s opinion, the need for these advanced features only comes into play with futures, once your account size reaches about $1.5 million.

The software also offers portfolio level debugging, accurate forex conversions, has the ability to run all processes from a batch file, allows you to import an unlimited number of data fields (so you could do fundamental screening, for instance), automatically nets out commission/slippage from long and short positions that might happen at the same time in different systems (rather than charging for them), and it allows you to manage discretionary trades.

Bob has also promised me the ability to do lots of things with R-multiple analysis in the next version of the software. In addition, although the built-in systems are all end-of-day systems, one client uses it for intraday analysis though that functionality is not documented or supported.

Generally, if you want software that will allow you to program your own functions in the simplest way possible, then Mechanica Standard may be the way to go. It costs $3,000 ($995 for an upgrade) from Trading Recipes and you can get a lot more information at www.mechanicasoftware.com.

I’ve been using Mechanica in some of the articles in Tharp’s Thoughts (with help from Bob Spears for the programming), and at this point I’m quite impressed with it.
High End Software (As a Possible Alternative to Building Your Own)

Many trading businesses simply hire a team of programmers and develop the software that is needed to do their trading and research. To do this properly, you are probably talking about a minimum of $250,000 in expenses with no guarantee that you’ll be happy with the software that is developed. Nevertheless, most professionals seem to go in this direction. For example, at one point I asked Tom Basso if he thought there was a market for *Know Your System* among hedge funds and CTAs. His response was, “I doubt it because they all develop their own software.” Tom originally developed all of the software that was used to run Trendstat in Foxpro (which later became Access). However, by the time I met him, he already had a team of programmers on his payroll.

If you think you have special needs, but have few programming skills and only a moderate budget (i.e. $30,000 per year) for programming skills, then you may want to consider one of the following packages.

**Mechanica Pro**

Mechanica Pro\textsuperscript{15} is the first of two advanced software packages that I found. It will be officially released by the time you read this, but it has been beta tested for many years and, according to Bob Spear, the developer, it is currently managing significant money for various CTAs. This software, according to its website, www.mechanicasoftware.com, “Puts you on a level playing field with the biggest CTAs in the world. It is powerful...”

Mechanica Pro does everything that Mechanica Standard does but offers some additional features, including 1) Dynamic Risk Management 2) the ability to control multiple accounts 3) the ability to do options hedging simulations (there are many games that you can play with this) 4) automated report exporting to Excel so that you can quickly send almost any selection of Mechanica’s extensive graphical output to Excel and then to a client, 5) custom formatted order sheets and position output to use for execution and 6) the ability to call Bob and ask questions on issues that are giving you problems.

The first two features are the real gems. The dynamic risk management basically means that you change the size of any position in the portfolio at any time based upon what’s happening on any number of portfolio variables. You can dynamically resize open positions based on any combination of portfolio-level conditions or events you can envision. This gives you the ability to research and trade advanced scaling strategies, or make any number of market’s money adjustments to the portfolio. In my opinion, the ability to do dynamic risk management in a portfolio with multiple systems and support multiple accounts is an amazing achievement for a complete trading software package. However, if your account value is less than $500,000, then dynamic risk management may not be feasible for you to do.
The second two features really go together. With Mechanica Standard you can do multiple systems in a portfolio, but if you have multiple clients, each with their own account that you need to manage, you would need to have a different installation of the software for each account. And even if you did that, you still couldn’t easily export custom research to a spreadsheet to show prospective clients, or create custom order sheets for the execution desk. With Mechanica Pro you can do all of these things.

Mechanica’s advanced new multi-account Order Manager is specifically designed for CTAs and others who manage funds or multiple individual accounts. Featuring custom order and position reporting, with full batch automation, and advanced account level error detection, Order Manager helps keep multiple account equity divergence to a minimum.

- For fund managers, order management automation directly translates into administrative cost reduction, and frees your time for the pursuit of more important matters, like talking to customers, and increasing assets under management.
- For individual professional traders, it translates into more time spent on other endeavors...such as research.
- Customization allows you to output order and position reports, formatted to fit your unique requirements.
- For all traders, Order Manager's error detection helps eliminate potentially expensive order management snafus.

Bob says, “When a client says, 'Here's a million dollars to trade, what now?' I know exactly what: Set up the account in Mechanica and push GO, repeat on a daily basis, and watch the system go to work.

“When the client decides to add funds...Mechanica knows how to rescale the positions and adjust for the change.”

The last feature, I’m not too familiar with, but many funds like to put on an option hedge against a basket and even define the option pricing model. There are many sophisticated games you could play doing this and Mechanica Pro allows you to simulate them.

In addition, Mechanica Pro offers you the ability to talk to Bob Spear about any issues or questions you have. Though custom programming can be done for you on a contract basis, he will point you in the right direction and give you examples of what you need to do to solve your problems on your own.

Mechanica Pro is definitely a high-end product, selling for a one time fee of $25,000. The software also has an optional yearly maintenance fee of $4,500, which is waived the first year, but gives you access to all of the upgrades and also gives you the free access to Bob Spear.

There is also a System’s Developer Edition of Mechanica. Bob and I didn’t talk about that edition at all. But if you are a professional who develops trading systems for others, then you might want
to make some inquiries about this edition, which includes security features for protecting your systems against piracy.

**PowerST™**

PowerST™17 is a complete package developed by Bob Bolotin. Bob suggested that people come to his web site to find out about his product. However, his web site does not discuss the features of the software. Anyway, with that in mind, here is the description of PowerST™ that Bob gave me in a number of emails.

“PowerST™ is a professional level trading strategy testing product directed towards the more advanced systems researcher. With a specialty of end of day position trading and portfolio level money management, PowerST™ supports integrated portfolio level testing including the ability to test portfolios composed of multiple markets and multiple systems, advanced portfolio level money management testing capability, forward trade signal generation, extremely flexible optimization capabilities, and in general a very powerful and highly customizable testing environment.

“PowerST™ is an advanced, highly customizable, highly programmable backtesting software product with a depth of customization and strategy testing capability.

“For more information please visit the PowerST™ web site: [http://powerst.com/](http://powerst.com/).”

I don’t know the software capabilities, its features, or if there are built in systems. The following is a quote from an email from Bob Bolotin on its capabilities.

“Something about PowerST™ is that if a certain type of analysis is not provided, all of this type of analysis is user programmable (I think I have a good enough idea of what you are getting at in your list of features to say that with confidence). Most other software would require that the developer add support for this type of analysis and release a new software version, but that is not the case with PowerST™. PowerST™ users can program these kinds of concepts themselves.”

Thus it obviously requires programming, and I have no idea what level of skill is required.

“Also, I tend to be customer driven about what features are added to PowerST™. If customers request certain types of analysis I will often volunteer to provide it for them, or at least to help them get started with sample code (per what I say above that this kind of analysis is end user programmable). I consider this to be part of the ‘business level’ technical support provided with PowerST™.”

Bob responded to my question in the second paragraph about the level of programming skill required:

“Tо answer your question in the above, you are correct that the level of customization I am referring to requires some programming skill. Programming simple trading systems that are
relatively simple in other platforms is also relatively simple in PowerST™. However, PowerST™ also supports programming at a more advanced level, which is what I was referring to in this paragraph you are asking about.”

The hedge fund manager who developed the R-multiple chart shown on page 260 of Trade Your Way to Financial Freedom (2nd Edition) uses this software and swears by it.

PowerST™ costs $25,000 and has a maintenance fee of $1,000 per month, which I assume gives you a lot of custom help with whatever you need.

My overall impression is that if I were running a trading business and thinking about having someone develop software for that business, I would certainly look into the option of using either PowerST™ or Mechanica.

**Conclusion**

After writing this chapter, I must admit that I no longer think that the situation involving position sizing software is dismal. Instead, I think that, depending upon your needs, you can probably find the software you want. With that in mind, what you purchase will depend upon both your needs and your skills.

There seems to be plenty of entry and simulation software available. However, I haven’t used any of it and can’t really offer much of an opinion about any of it. Here, I would recommend that you go to the web sites, download sample programs or go through the online tutorials, and then decide what makes sense for your needs. If you go with Mechanica or Trading Blox™ Builder, then you have simulation software built into your program. I would also guess that you also have this capability in PowerST™, although it is not specifically mentioned anywhere in the web site.

If you have no programming skills and a very low aptitude for programming, then you appear to have three choices:

- MTPredictor™
- OmniTrader
- Trading Blox™ (Turtle and Professional Editions)

I would suggest that you check out the possible systems and see if they are something you believe in and would feel comfortable trading.

If you have some aptitude for programming and want to use the simplest language, then I think your choice would be Mechanica Standard or Mechanica Pro. Wealth-Lab® might work, although I don’t know how simple the programming is, however, it is limited to Fidelity Brokerage Customers. Trading Blox™ Builder might also work here, but my impression is that the language is a little more difficult.
If your programming skills are good, then you have a wide variety of choices, including Mechanica, Trading Blox™ Builder, AmiBroker, and PowerST™.

Lastly, if you want fairly complete software that will really help you run a trading business, then I would certainly check out PowerST™ and Mechanica Pro before looking into custom programming.

NOTES

1. Ken Long and Leo van Rijswijk reviewed XLQ.
2. Thorsten Reiss filled out a questionnaire on Stator® that I used in this review.
4. Dave Mabe reviewed StockTickr.
5. Adrian Reid filled out a questionnaire on TradeSim® that I used to write this review.
6. This review was accomplished through a software questionnaire filled out by Thorsten Reiss.
7. Steven O’Keefe filled out a questionnaire that enabled me to do this review.
10. Ed Downs filled out a questionnaire on OmniTrader that enabled me to write this review.
12. Curtis Faith filled out a questionnaire that enabled me to write this review.
13. Amanda Tonkin-Hill and Frank Eaves both filled out questionnaires that enabled me to write this review.
14. Bob Spear filled out a questionnaire that enabled me to write this review.
15. Bob Spear filled out a questionnaire that enabled me to write this review.
17. The review was written through numerous emails that I had with the developer, Bob Bolotin.