

Chapter 9:

Trading as a Business

“Trading as a Business” has always been a very good way to sum up my approach to trading. Every principle and idea in this book ultimately refers back to the notion that trading ultimately is a business and should be approached as such.

In the final analysis, business is simply the effective management of cash flow. A successful business generates more cash than it consumes. This is the goal of trading as well.

For most businesses, the key to success is attracting and keeping competent people. Personnel issues can and should consume a significant amount of time and effort, because a business really is only as good as its people. Trading for the most part eliminates this task, and also relieves us of the headaches and problems associated with managing employees.

Trading is a solitary endeavor. You will be freed from dealing with employees and the problems associated with managing employees, you will not be distracted by absenteeism, withholding taxes, EEOC rules and regulations, and disgruntled employee law suits. The only relationships you must manage are between you and the markets, and between you and yourself.

Bill Williams used to say that trading is the ultimate psychotherapy. He was right. Trading will expose some of your most prominent personality quirks as you attempt to trade your strategy. The more you learn about strategy trading, and the more you learn about yourself, the better a trader you will be.

Thinking of trading as a business has helped me enormously as a trader. It puts everything into perspective and helps me deal with my own psychological difficulties with trading execution. Once I stopped viewing trading as speculation, my trading improved. Once I realized that I was not going to get rich quick, that trading was not easy money, my trading improved. Once I realized that almost no businesses are successful overnight, my trading improved. Once I realized that I had to make an investment in the business, both in terms of my own education and in equipment and working capital, my trading improved.

Barriers to Entry

One concept that is commonly taught in business schools is that of ‘barriers to entry.’ This is a very simple concept that has important ramifications as you consider trading as a business.

The basic principle is that the higher the barriers to entry in a business, the higher the investment to establish market share but ultimately the higher the margins and profits. A good example is the beer business. Controlled by several large breweries, it would be financially very difficult to start up a new brewery and acquire significant market share. When Phillip Morris bought Miller, they spent over a billion dollars to acquire the business and do the advertising and promotion necessary to obtain market share. But Miller was successful, and when they achieved the share of market they wanted, the profits were outstanding.

The reverse is also true. If an industry has low barriers to entry, and there is a relatively small up front investment, there is much competition for profits and lower margins. This is the case for many service businesses, real estate brokers, securities brokers, cleaning services, etc. Restaurants are also a relatively low investment business. All you need is some decent space for tables and some cooking equipment and you are in business. However, the competition for customers is intense and thus the margins are low.

There is no good or bad when analyzing barriers to entry for a particular industry. If the investment is low, the stress comes from being smarter and superior than everyone else at making money. If the barriers are high, the stress comes from taking the large financial risk and the uncertainty of obtaining the target market share. Either way, the business is always difficult.

Trading is a low barrier business. You basically need a computer, a broker, and a modest amount of capital and you are in business. But because of the low barriers

to entry, the competition for profits is very high. There is no such thing as gaining market share.

Many people wrongly conclude that low barrier businesses are easy to start and trading is no exception. Many new traders think that trading will be easy and they will get rich quick. Experienced traders know that this will not happen. Trading is as difficult as any business I have ever been involved in.

The main point to remember is that trading is a business with low barriers to entry. This means that the competition for profits is very high and you will have to be smarter, more disciplined or more creative than the majority to make money.

The Product versus the Business

Producing a great product does not guarantee a successful business. History is littered with individuals who developed great products only to fail at running the business. Having a great product does not guarantee a successful business. Remember my restaurant example.

Most inexperienced individuals concentrate on the product. If the business is unsuccessful, they worry about and work on changing the product characteristics. In many cases, this will not fix the problem, because the problem is not the product.

In trading as well, most people concentrate on the product at the expense of the business, on the trading indicators and strategies rather than on managing the cash flow. They worry about the effectiveness of the indicators they are using and whether the entries and exits are the most effective. They argue with their brokers about fills and commissions, thinking if they get better fills and lower commission that the profits would improve. They miss the big point. A great product does not make a great business. A great indicator does not make a successful trader.

I can give you the greatest strategy in the world but if you can't trade it and don't know how to manage your cash flow, you will still be unsuccessful. I can't tell you how many traders have told me they are losing money trading profitable strategies!

So let's take a look at how to separate out the product from the business in trading. We know that the product is the indicator and trading method (or the strategy).

THE PRODUCT

I hope I have convinced you by now that trading a strategy is a better product than trading a “method.” I wouldn’t let any employees in a factory just be creative and make the product the way they thought it should be made on that particular day. If I did, there would be no consistency and no predictability in the product. Instead, we set up assembly lines and put in quality control procedures in place to ensure product quality and uniformity.

In the same manner, I cannot fathom how individuals think they can make money consistently when trading a “method” that allows them to trade when and how they “interpret” the Elliott Wave. That would be like changing your restaurant’s menu each day, depending on your judgement of what people might want to eat. “Let’s see, today we’ll make Chinese food, because yesterday we made Italian and no one came in.” The Elliot Waver would say, “Let’s see, today I will buy because yesterday I sold. I thought I was in Wave 2 and lost money, so I must be in Wave 3.” It’s a prescription for financial failure.

Once we have decided on the strategy (our product), we then judge it in its own merits. I have discussed this at length in the previous chapters, but it bears repeating. A strategy must have acceptable statistics, be easy to understand, easy to implement, and fit your own trading personality. If your strategy can pass these criteria then you can move on to managing the business of trading.

The business side of trading is the task of managing the trades after the strategy has been developed. It is managing your cash flow and risk once the core strategy is up and running. This is similar to managing your cash flow and risk once your assembly line is up and running, a much different task than the designing and making of the product.

Contribution Analysis

Let’s put together a simple profit and loss template for trading. It is based on a common business principal called Contribution Analysis. The basic formula is as follows:

Revenue (Gross Trading Profit) – Variable Costs (Slippage and Commision) =
Contribution

Contribution – Fixed Costs (Office Expenses) = Net Profit

The revenue for our business is the gross trading profits, that is, the gross profits minus the gross losses from the strategy itself. This revenue fluctuates just as does the revenue in any business. In quiet, sideways markets, trend-following strategies will experience a decrease in revenue, or even losses. In most cases you will want to trade through this choppy period, minimizing your losses so that you will be there for the big move.

Our local natural gas company loses money every summer. But it makes back the losses and more in the winter when everyone needs gas for heating their houses. Your trend-following strategy will lose money in choppy markets, but if designed correctly, will make back the losses and more when the big move comes.

Every business goes through sales slumps and recessions. It goes with the territory. Trading is no exception. Eventually, the market, for a period of time, will not produce the market action for which your strategy was designed. It goes with the territory.

All markets have cyclical volatility. All markets trend and then go sideways. All strategies have losses. Accept this as a cost of doing business.

Losing trades are simply a cost of doing business, nothing more, nothing less. Every business makes scrap. Manufacturing businesses make scrap parts, restaurants serve poor dinners, and service companies have to refund for poor service. Every business produces some percentage of defective products. We traders have losing trades.

You will never eliminate losing trades, just as manufacturers never eliminate scrap parts. You just simply try to keep scrap at a minimum, and a reasonable part of your costs. If your scrap rate gets too high due to inattention, then you may begin to lose money, in both trading and manufacturing.

Trading is like any other business. Keep monitoring your scrap trades to see if they are getting excessive. If they are, you may have to alter your trading strategy, just as we may alter the assembly line, or increase our quality control monitoring.

Viewing losing trades as scrap trades in a viable business is a valuable way to get over the fear of losing money. Losing trades are a cost of doing business.

VARIABLE COSTS

Slippage and commissions are the important variable costs when designing a trading strategy and managing your business. How you treat these can make the difference in choosing what strategy to trade and what parameters to use on that strategy.

Commissions are the easiest to deal with, as this number is simply what you pay your broker, per contract or per share or per trade. It is a fixed number so it should be easy to add to the strategy.

Slippage is more difficult to figure. Slippage is the difference between the order that you gave your broker and the actual price that you got for your order. It is very common to get slippage on a trade, and you should include an amount for slippage in the calculations for your strategy.

For example, I have given my broker an order to buy a contract at 195.20 on a stop. As the price hits my stop point, the broker in the trading pit starts trying to buy a contract at the market. He may get the price I asked for or the market may be moving so fast that he keeps bidding up until he gets filled. In this case, he bids 190.25 and can't get it. So he bids 195.30 and still can't get a fill. So he bids 195.35 and finally gets filled. The difference between 195.35 (the fill) and 195.20 (the order) is three ticks and is called slippage.

The question is, how many ticks of slippage do we assume is going to occur over a period of time. I always assume at least one, and like to test for two and three. When I am close to trading a strategy I like to use three to make sure I am covered.

So for most of my tests I usually use a straight \$100 for slippage and commissions. I assume one tick for commissions (you should be able to get your commission rate to one tick or less), and two or three ticks of slippage.

The effect of slippage and commissions can be substantial when looking at the effectiveness of several strategies, particularly when you are comparing them to choose which one to trade. Table 1 shows two sample strategies and their results.

Sample Strategies No Slippage and Commission		
Parameters	Strategy A	Strategy B
% Profitable	40%	60%
Ave. Profitable Trade	1250	1750
Ave. Losing Trade	500	500
Ave. Profit per Trade	200	862
# of Trades	125	29
Net Profit	25,000	25,000

Table 1

As you can see both strategies make the same amount of money. But if you look closely these are very different strategies, the most noticeable difference being the number of trades and the profit per trade.

If we add \$100 for slippage and commissions we get a very different view of these two strategies.

Sample Strategies \$100 Slippage and Commission		
Parameters	Strategy A	Strategy B
% Profitable	40%	60%
Ave. Profitable Trade	1100	1650
Ave. Losing Trade	600	600
Ave. Profit per Trade	100	762
# of Trades	125	29
Net Profit	12,500	22,098

Table 2

When comparing the two strategies in Table 2 you can see that using the \$100 for slippage and commission changes the results dramatically. Where in Table 1 the strategies were equal in profitability, adding slippage and commission makes Strategy B the more profitable. Over this period, Strategy B paid \$2,900 in slippage and commission (\$100 times 29 trades), whereas Strategy A paid \$12,500 in slippage and commissions (\$100 times 125 trades). Which strategy would your broker want you to trade? Ponder on this. Make sure you have enough slippage

and commission included in your historical tests. It will make a great difference in how you view a strategy's performance especially when compared to other strategies.

Some slippage is unavoidable in trading, particularly during fast markets when there are no guarantees. But some slippage is also poor execution on the part of the floor broker. Slippage and commissions are interconnected because you must eventually weigh the cost of commissions with the service of your broker. Poor execution and an extra tick of slippage on every trade can eat up a low commission rate very quickly. Remember that there are good floor brokers and bad floor brokers. It is worth paying a little more commission for better fills.

The more trades you make, the more important slippage and commission becomes. The more trades you make, the higher the volume for your broker and the lower your commission rates should be. This is a very important cost of doing business and one you should focus on once your trading business is up and running.

CONTRIBUTION

The contribution is the amount of money you have left over after deducting your variable costs to support your fixed costs and overhead, and to provide your profit. Contribution is the important number that will judge the effectiveness of your product and business. Even though you may have a profitable strategy that provides substantial contribution, you still have to be able to cover your fixed costs.

FIXED COSTS

Fixed costs are the costs associated with your business that do not fluctuate with the number of trades. For example, your office rent, computer expenses, and data and software fees are all fixed. The funds you spend on books and magazines, seminars, heat, air conditioning, and electricity should all be included in fixed costs.

You should make enough from your trading to cover these fixed costs and provide a profit. If you can't cover your fixed costs with your trading contribution, you will not have a viable business. These are important costs, and you should pay attention to them just as you would to your variable costs.

Cash Flow Management

The success of a business ultimately rests with cash flow management. If your business is going to grow, you need to invest your cash wisely. It is interesting to watch businesses in different industries compete for market share and growth. Why is it that one company outperforms the other when they essentially sell the same product? Why is it that one trader makes more money than another does when they essentially trade the same markets? I believe that the answer lies in managing the cash flow wisely. Successful businesses have learned to manage additional investment well, control risk, and manage the growth of the business wisely.

The corollary in trading is what is called money management and risk control. This is basically pyramiding strategies, when to double up, add additional contracts and get aggressive. Also, when to be more conservative.

This is an area of trading on which there is not much emphasis. In trading education, so much importance is placed on indicators and strategies that there is very little time left for the ultimate weapon—sound cash management. This is what ultimately distinguishes the superior trader from all others. The power of cash management through pyramiding and risk control cannot be overstated.

The essential question when dealing with issues of money management is when to add contracts and how many. When do we grow the business? We know that our trading business can be successful if we only trade one contract. But how do we know when to add another? Can our trading business grow even faster if we manage our cash flow through pyramiding and risk control?

The answer is a resounding yes! Cash management can have a profound effect on the profitability and growth of your trading business. Let's take a look at how this works.

I am going to show you one way of approaching cash management for futures trading. There are many others. So please don't think of this technique as all encompassing or the only one available. My intent is to show you that this is a very important part of trading and hopefully inspire you to study this subject in depth.

The method I will show you assumes that a fixed percentage of Net Profit is risked on each trade, say 20%. If you use a money management stop that limits the risk per contract, it would be an easy task to calculate the number of contracts you should trade. For instance, if we accumulated \$10,000 of Net Profit in our account, risked 20% or \$2,000, and knew from our strategy that each contract was

limited to a \$1,000 money management stop, we would buy 2 contracts. If the Accumulated Net Profit (ANP) balance grew to \$20,000, we would be able to trade 4 contracts and still only risk 20% of the ANP. As the account grew, we would increase our contracts without increasing our percentage risk.

The reason I use ANP is that I want to increase contracts only when I am trading with other people's money or risking my profits. My basic risk control philosophy is that when my own money is at risk, I will only trade one contract.

Studies have shown that most business fail because they are undercapitalized. The owners have not put in enough money to get the business through the start up phase (what traders know as initial drawdown). There are countless business that have great products and are managed well, only to fail due to lack of capital. There are countless traders that have had to quit trading because they ran out of money before the profits started. They were unable to fund the initial drawdown.

For trading, to make sure that I have enough capital I start the account with enough money to get through three times the MAXID on the strategy's historical test. For instance, if on the historical test the MAXID is \$11,000, I would put at least \$33,000 in the account in addition to the margin required, and then, only trade one contract.

I may be a bit paranoid, but I have always assumed that "they" were out to get my money. "They" being the professional traders. And "they" would try to put me through as much pain and suffering as "they" could. Their goal is to take me through substantial enough drawdown so that I quit trading altogether, leaving my drawdown with them. If I quit after substantial drawdown, "they" have won.

To prevent them from getting my money, I capitalize the account so that I can comfortably trade through any drawdown they will give me. I refuse to quit because of lack of capital. And I vow to trade through whatever drawdown "they" will give me.

Once I have profits, I become one of "them." Then I leverage those profits by pressing the number of contracts I trade, all the while not increasing my own personal capital at risk. I would rather risk your money than my own.

To repeat, I will increase my exposure as my profits accrue, and I will only risk those profits with multiple contracts, not my original capital. In the above example, if the Accumulated Net Profit (ANP) dropped back down from \$20,000 to zero, I would again be trading one contract as I would again risking my own money.

Now for the fun part. By changing the percentage of the ANP at risk, you can watch the exact same strategy provide markedly different profits depending on the number of contracts traded.

Let's take a look at a real example and see how the ANP Pyramid would have affected a very simple strategy. The strategy I have chosen is the old stand-by, a simple dual moving average strategy, which is a trend-following strategy. I used the Swiss Franc as the futures contract to be traded.

The first step is to find the optimal strategy parameters. The Strategy Parameter File SPF 1 shows the parameters I used to optimize the moving averages. For the short moving average, I tested from 2 to 18 periods, and for the long moving average I used 18 to 39 periods.

Strategy Parameter File Dual Moving Average Crossover			
Set-Up	Dual Moving Average Crossover		
Entry	None (Market on Close)		
Stops	None	Exits	None
MaxBarsBack	50	Slippage	\$75
Margin	None Used	Commission	\$25
Data Source	Swiss Franc Futures – Omega Research CD		
Data Duration	1/4/82 to 4/2/97		

SPF 1**TradeStation EasyLanguage****Strategy: Dual MA Cross**

Input: Length1(12),Length2(39);

IncludeStrategy:"Exit on 4/2/97";

IF CurrentBar > 1 and
Average(Close,Length1) crosses
over Average(Close,Length2)
Then Buy on Close;

IF CurrentBar > 1 and
Average(Close,Length1) crosses
below Average(Close,Length2)
Then Sell on Close;

In this case, the optimal length for the short moving average is 12 and the optimal length for the long moving average is 39. The Performance Summary for the optimal averages is shown in PS 1.

Performance Summary: All Trades			
Total net profit	\$ 86862.50	Open position P/L	\$ 0.00
Gross profit	\$ 186912.50	Gross loss	\$ -100050.00
Total # of trades	108	Percent profitable	46%
Number winning trades	50	Number losing trades	58
Largest winning trade	\$ 16562.50	Largest losing trade	\$ -6212.50
Average winning trade	\$ 3738.25	Average losing trade	\$ -1725.00
Ratio avg win/avg loss	2.17	Avg trade(win & loss)	\$ 804.28
Max consec. winners	3	Max consec. losers	5
Avg # bars in winners	59	Avg # bars in losers	15
Max intraday drawdown	\$ -12437.50		
Profit factor	1.87	Max # contracts held	1
Account size required	\$ 12437.50	Return on account	698%

PS 1

This performance summary is not bad for a first try. But remember that the Swiss Franc is a very trendy market and it is very easy to find a trend strategy that is profitable.

The real question is how do we improve this very simple strategy using cash management and risk control?

Note that the results in PS 1 are not all that bad for a simple moving average strategy. But keep in mind that the Swiss Franc is a very trendy market and it would be very hard to find a trend-following strategy that did not work on the Franc. The Profit Per Trade, MAXID and ROMID are acceptable. Even the Percent Profitable trades are higher than I would expect for a down and dirty trend-following strategy. A negative is that the Profit Factor is under 2.0.

So now let's apply our ANP Pyramid to this strategy and see if we can improve the performance by improving our cash management. There is no rule that says that we have to trade only one contract.

As I previously discussed, this technique bases the number of contracts traded on a percentage of the accumulated Net Profit. But before we can do this, we need to quantify our risk per contract. To quantify our risk, we need a money management stop so that we know the maximum amount of money we are risking on each contract traded.

Step 2 is to find the optimal money management stop for this strategy. So I ran an optimization on the 12/39 averages using a money management stop range from \$1,000 to \$5,000 in \$500 increments. The results are in Opt Table 1.

MMStop	NetPrft	ROMID	MAXID
\$4,000	\$90,450.00	810 %	\$(11,162.50)
\$4,500	\$89,450.00	766 %	\$(11,662.50)
\$3,000	\$82,400.00	728 %	\$(11,312.50)
\$2,500	\$76,450.00	718 %	\$(10,637.50)
\$5,000	\$87,162.50	716 %	\$(12,162.50)
\$3,500	\$85,100.00	698 %	\$(12,175.00)
\$2,000	\$76,512.50	679 %	\$(11,262.50)
\$1,000	\$70,112.50	637 %	\$(11,000.00)
\$1,500	\$67,362.50	473 %	\$(14,237.50)

Opt Table 1

The fact that every one of the money management stop levels makes money adds a tremendous amount of comfort when looking at this strategy.

The optimal money management stop based on both Net Profit and ROMID is the \$4,000 stop. So let's use this stop to quantify our risk for each trade. We now know that for every contract traded, we will only risk \$4,000. The Strategy Parameter File for this test is shown in SPF 2.

Strategy Parameter File Dual Moving Average Crossover			
Set-Up	12 / 39 Period Moving Average Crossover		
Entry	None (Market on Close)		
Stops	\$4,000 MM	Exits	None
MaxBarsBack	50	Slippage	\$75
Margin	None Used	Commission	\$25
Data Source	Swiss Franc Futures – Omega Research CD		
Data Duration	1/4/82 to 4/2/97		

SPF 2

The code for this is the same as in SPF 1 using the 12/39 moving averages.

The additional step is optimizing the money management stop.

I usually expect that the performance would be worse with the money management stop but it was not. It actually improved slightly. The Performance Summary for the strategy using a \$4,000 money management stop is shown in PS 2.

At this point, we have accomplished two things. In Step 1, we optimized for the two moving average lengths and ended up with the 12 and 39. Even though we

had the optimal averages, we had no way of knowing what our risk per trade was. Without a stop, the risk is open-ended. What we do know is that in the test without stops (PS 1), our largest losing trade was \$6,200. Without a money management stop it could even be higher.

Then in Step 2 we optimized to obtain the \$4,000 money management stop (the results in PS 2), this fixed our loss per contract to a specific amount so we can calculate how many contracts to trade based on this risk. The reason the largest loss is greater than \$4,000 in PS 2 is that it occurred on a gap opening beyond the \$4,000 stop point.

Performance Summary: All Trades			
Total net profit	\$ 90450.00	Open position P/L	\$ 0.00
Gross profit	\$ 186912.50	Gross loss	\$ -96462.50
Total # of trades	108	Percent profitable	46%
Number winning trades	50	Number losing trades	58
Largest winning trade	\$ 16562.50	Largest losing trade	\$ -5137.50
Average winning trade	\$ 3738.25	Average losing trade	\$ -1663.15
Ratio avg win/avg loss	2.25	Avg trade(win & loss)	\$ 837.50
Max consec. winners	3	Max consec. losers	5
Avg # bars in winners	59	Avg # bars in losers	14
Max intraday drawdown	\$ -11162.50		
Profit factor	1.94	Max # contracts held	1
Account size required	\$ 11162.50	Return on account	810%

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PS 2

The \$4,000 money management stop actually improved the performance of the moving average crossover strategy. It improved the strategy by fixing the maximum amount we would allow a loss to be on any trade.

This is the core concept behind risk control. We in effect are limiting our risk to \$4,000 per contract traded.

The Profit Factor is getting closer to 2.0.

Now we are ready for Step 3, which is to determine what percentage of our accumulated Net Profit we will risk on each trade. For instance, if I choose to risk 100% of my accumulated net profit, I will trade one contract with a \$4,000 money management stop until I have made \$8,000. At this point, I will trade 2 contracts, each contract risks \$4,000 for a total of \$8,000 at risk. However, none of this will be my money! I have now made enough (\$8,000) to trade two contracts risking none of my money. If my net profit improves to \$12,000, I will trade 3 contracts (3 times \$4,000). If the Net Profit drops back down to below \$8,000, I will again only trade one contract.

The issue is how much of the Net Profit to risk on any one trade. In the example above, I risked 100%. But I may only want to risk 50% of the Net Profit, or 25%.

The only reasonable way to decide how much of the Net Profit to risk is to use the Optimization feature in TradeStation to test for the percentage risk and analyze the results.

To determine what percentage of the account we should risk on any one trade, we test the various percentages of the account that could be risked on any trade, and then increase or decrease the number of contracts accordingly. The results of these tests are in Opt Table 2.

% ANP at Risk	Net Profit	Average Trade	Profit Factor	ROMID	MAXID
10%	\$97,875	\$906	1.90	603%	\$(16,225)
20%	\$312,763	\$2,896	2.00	390%	\$(80,163)
30%	\$758,275	\$7,021	2.07	329%	\$(230,275)
40%	\$2,496,925	\$23,120	2.01	264%	\$(943,750)
50%	\$3,427,413	\$31,735	1.87	209%	\$(1,640,850)
60%	\$2,256,463	\$20,893	1.64	148%	\$(1,517,950)
70%	\$1,224,638	\$11,339	1.32	80%	\$(1,515,950)
80%	\$23,125	\$214	1.01	1%	\$(1,703,813)
90%	-\$291,125	-\$2,696	0.95	-6%	\$(4,516,563)
100%	-\$486,125	-\$4,501	0.89	-14%	\$(3,421,388)

Opt Table 2

Note that the profitability increases up to 50% of the Net Profit at risk and then declines. So there is an optimum amount of risk that would be appropriate. If we did no further tests, 50% would give us the most profits.

Also note however that the ROMID declines with the profits as the drawdown increased. So the large profits come at a great price.

As you can see, this increased the net profit of this strategy substantially, depending on the amount of Net Profit that we risked. From Opt Table 2, we can see that risking 50% of the Net Profit would give us the optimal profit. If we wanted to, we could find the optimum by running another test in 1% increments, but for our purposes, this test gives us all of the information we need.

The point for you to consider here is that we devised a simple moving average strategy that made a little more than \$90,000 trading one contract. With the ANP Pyramid strategy, we can get the profits over \$3,000,000. This should demonstrate to you that managing the cash and risk by increasing/decreasing the number of contracts traded is as important as the strategy itself.

Also note from Opt Table 2 that profits decrease as the amount of the Net Profit risked increases beyond 50%. This is also very significant. Risking too much of our Net Profit can decrease profitability. Somewhere between trading 1 contract and risking 100% of our Net Profit on each trade then, is an optimal percentage of Net Profit to risk. This amount is then translated into a number of contracts

that should be traded. Once we find this number, we see our profits increase dramatically.

This increase in profits however is not without a price, and the price is increased drawdown. This is the point where personal preference and risk aversion comes in. PS 3 shows the Performance Summary of the strategy risking 50% of the Net Profit and producing over \$3 million in profits. Compare this summary with PS 2. It is the same strategy, just different cash management.

Performance Summary: All Trades			
Total net profit	\$3427412.50	Open position P/L	\$ 0.00
Gross profit	\$7389700.00	Gross loss	\$-3962287.50
Total # of trades	108	Percent profitable	46%
Number winning trades	50	Number losing trades	58
Largest winning trade	\$2153125.00	Largest losing trade	\$-571762.50
Average winning trade	\$ 147794.00	Average losing trade	\$-68315.30
Ratio avg win/avg loss	2.16	Avg trade(win & loss)	\$ 31735.30
Max consec. winners	3	Max consec. losers	5
Avg # bars in winners	59	Avg # bars in losers	14
Max intraday drawdown	\$-1640850.00	Max # contracts held	193
Profit factor	1.87	Return on account	209%
Account size required	\$1640850.00		

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PS 3

TradeStation EasyLanguage Strategy: Dual MA Cross

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Input: Length1(12),Length2(39),
      Percent(.02);
Vars: AccountRisk(0),Num(1);
IncludeStrategy:"Exit on 4/2/97";
AccountRisk = NetProfit * Percent;
Num = AccountRisk/4000;
If Num < 1 then Num = 1;
If CurrentBar > 1 and
Average(Close,Length1) crosses
over Average(Close,Length2) then
Buy Num contracts on Close;
If CurrentBar > 1 and
Average(Close,Length1) crosses
below Average(Close,Length2) then
Sell Num contracts on Close;

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There are some real concerns about this Performance Summary. First you should note that the largest trade is greater than 50% of the Net Profit. This is simply too high a percentage for the largest trade. Second, the ROMID decreased substantially, demonstrating that it took more investment (drawdown) to get a dollar of profits. Third, the Profit Factor is under 2.0. The financial risk/reward trade-off was changed substantially by using the ANP Pyramid. Would we trade it as is? Probably not. The risk/reward ratio changed dramatically as represented by the ROMID, which declined from 810% trading one contract to 209% with the ANP Pyramid.

What we know now is that using the ANP Pyramid can increase our profits dramatically. But it also increases the risk to a point where it probably is not feasible to trade this strategy. So what do we do now? The answer to this question is to work on the risk side of the equation.

At this point, I need to talk about the philosophy of risk control as it relates to trading strategies. This is a very important point, so I hope you will bear with me as I explain some of the subtleties.

The basics are that there are two sides to every trading strategy, the risk and the reward. Most strategy developers work on the reward side. They spend hours developing entry signals and testing different parameters, all the while using only one contract. Thus they are limited in the scope of their investigations because they only use one contract.

When you limit your tests to only one contract, there is not much you can do with the risk side of the equation. Strategy refinement simply becomes a matter of exit strategy and money management stop placement.

Over the years, I have learned that when using one contract, tight stops or exits are unlikely to improve the strategy. My tests have usually shown that the one-contract strategies with the largest returns usually have no stops or very wide money management stops. The reason for this, I believe, is that when you trade only one contract, the big returns occur when each trade is given a lot of room. A large profit from one contract can be readily eaten up by many small losses. Many times the small losses would have been large winners had they been given more room.

The point is that when trading one contract, there are not a lot of things you can do to work on the risk side of strategy. This is not true when you use the ANP Pyramid or other money management techniques.

As the number of contracts traded increases, my experience has been that it becomes more appropriate to spend a lot of time working on stop placement. A string of winning trades will result in increasing the number of contracts traded. If the run-up in contracts is designed correctly, closer stops and different types of stops (stops that are not appropriate to use when trading only one contract) will protect these profits. Let me show you what I mean.

The problem we have now is not with the profits (the reward side), but the risk (the drawdown). The drawdown has increased too much as we increased the additional profits. So let's work on the drawdown and see if we can't reduce it as a percentage of the profits (increase the ROMID).

If we are to focus on risk/reward, we should concentrate on the amount of money we make when compared to the amount of money we have lost. This ratio is the Profit Factor on the Performance Summary. If you look at Opt Table 2, we find the best Profit Factor is 2.07 (gross profit divided by gross loss) when we have risked 30% of our Net Profit. It is interesting to note that the best Profit Factor does not necessarily coincide with the most profits. So let's work with 30% of our Net Profit as our risk and see if using some tighter stops won't decrease our risk. The entire Performance Summary for the 30% strategy is shown in PS 4.

Performance Summary: All Trades			
Total net profit	\$ 758275.00	Open position P/L	\$ 0.00
Gross profit	\$1466000.00	Gross loss	\$-707725.00
Total # of trades	108	Percent profitable	46%
Number winning trades	50	Number losing trades	58
Largest winning trade	\$ 397500.00	Largest losing trade	\$ -77900.00
Average winning trade	\$ 29320.00	Average losing trade	\$ -12202.16
Ratio avg win/avg loss	2.40	Avg trade(win & loss)	\$ 7021.06
Max consec. winners	3	Max consec. losers	5
Avg # bars in winners	59	Avg # bars in losers	14
Max intraday drawdown	\$-230275.00		
Profit factor	2.07	Max # contracts held	27
Account size required	\$ 230275.00	Return on account	329%

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PS 4

This is the performance summary that we will start with as we begin to apply some creative stops to limit our risk with multiple contracts.

The Profit Factor is greater than 2.0. We hope to lower the drawdown while maintaining the profits, thus getting our ROMID from 329% up to where we started with one contract (810%). The one contract summary is PS 2.

The first stop that I would use to limit the risk is what is known in TradeStation as a breakeven stop. This stop places a stop loss at breakeven if the profit of the trade hits a certain amount. For instance, we might place a breakeven stop if the current profit per contract reaches \$2,000. Then, at least we know that we will not lose money on this trade.

BkEvn \$	NetProfit	AvgTrd	Profit Factor	ROMID	MAXID
1000	\$921,763	\$8,535	3.29	496%	-\$185,825
1500	\$635,600	\$5,885	2.28	263%	-\$240,963
2000	\$887,138	\$8,214	2.25	311%	-\$284,963
2500	\$1,007,488	\$9,329	2.41	502%	-\$200,588
3000	\$924,963	\$8,564	2.26	422%	-\$218,800
3500	\$925,563	\$8,570	2.26	428%	-\$215,838
4000	\$849,400	\$7,865	2.24	430%	-\$197,200
4500	\$849,400	\$7,865	2.24	430%	-\$197,200
5000	\$851,513	\$7,884	2.23	432%	-\$196,825

Opt Table 3

If we ranked these by profits or ROMID, \$2500 would be the best choice. But we are working with risk/reward now and we must focus on the Profit Factor which is the Gross Profit divided by the Gross Loss.

Note that the strategy with the best Profit Factor is not necessarily the one with the most profits.

Opt Table 3 shows the result of the test of the different breakeven levels. The most profitable level is a \$2,500 level, that is, if the trade reaches a profit of \$2,500 per contract, we will move the original \$4,000 money management stop up to our entry price for a breakeven trade. But we are not looking for profits here; we are looking for the best risk/reward ratio. The best risk/reward ratio occurs with a \$1,000 breakeven target. The profit factor for this amount is 3.29, close to 50% higher than all of the other tests.

The most notable thing about PS 5 is that the percentage profitable trades has dropped to 30%. This is because a breakeven trade is considered a losing trade. In fact, it is a losing trade because we still have to pay slippage and commission on the trade even though we got out at breakeven. The ROMID has increased to 496% from 329%. And the drawdown has decreased from \$230,000 to \$185,000. All in all a good start.

Performance Summary: All Trades			
Total net profit	\$ 921762.50	Open position P/L	\$ 0.00
Gross profit	\$1323575.00	Gross loss	\$-401812.50
Total # of trades	108	Percent profitable	30%
Number winning trades	32	Number losing trades	76
Largest winning trade	\$ 480312.50	Largest losing trade	\$-103687.50
Average winning trade	\$ 41361.72	Average losing trade	\$ -5287.01
Ratio avg win/avg loss	7.82	Avg trade(win & loss)	\$ 8534.84
Max consec. winners	3	Max consec. losers	9
Avg # bars in winners	58	Avg # bars in losers	10
Max intraday drawdown	\$-185825.00		
Profit factor	3.29	Max # contracts held	35
Account size required	\$ 185825.00	Return on account	496%

PS 5

This is the same 12/39 Moving average crossover strategy with a \$4,000 money management stop.

The breakeven stop for all contracts is placed when each contract has a \$1,000 profit.

But this is not enough. I still think that this would be very difficult to trade this strategy. The drawdown is still high compared to the one contract strategy. We need to lower our risk even more.

The way I like to keep chipping away at the risk is to start moving my stop up to protect profits. Right now we have an initial \$4,000 money management stop per contract, and when each contract makes a \$1,000 profit, we move the stops up to breakeven. But we have done nothing to protect our earned profits. If we have a profit of \$10,000 per contract, we still have our stop at breakeven. I always try to see if moving up the stop won't decrease my risk even more.

\$TStop	Net Profit	AvgTrd	Profit Factor	ROMID	MAXID
1000	\$18,563	\$172	1.45	294%	-\$6,313

Opt Table 4

In this table, the best risk/reward parameters also have the most profit and the highest ROMID. Everything fell into place. We know we have found the right combination.

1500	\$45,663	\$423	1.48	316%	-\$14,425
2000	\$82,500	\$764	1.54	217%	-\$37,888
2500	\$220,675	\$2,043	1.71	203%	-\$108,225
3000	\$272,675	\$2,525	2.36	698%	-\$39,038
3500	\$898,313	\$8,318	3.65	1060%	-\$84,713
4000	\$626,263	\$5,799	3.43	1000%	-\$62,588
4500	\$747,375	\$6,920	3.28	912%	-\$81,888
5000	\$658,188	\$6,094	3.05	729%	-\$90,275

In Opt Table 4, we see that a \$3,500 trailing stop produces a substantial decrease in drawdown. Before we tested this stop, the drawdown was around \$200,000 (Opt Table 3). With the trailing stop, we have reduced the drawdown substantially to at or below \$100,000. And if you look at Opt Table 4, you see that at three stop levels, \$3,500, \$4,000, and \$4,500, the ROMID is greater than the ROMID we started with for one contract (810%). You could justifiably pick any of these three trailing stop levels for actual trading.

This is very significant. We have increased the ROMID from 810% to 1060%, and we also have increased the profits from \$90,000 to \$900,000.

What we have done is modify the original one contract strategy with the ANP Pyramid cash management strategy. Along the way we added an initial \$4,000 money management stop, a breakeven stop when the profit per contract hits \$1,000, and a \$3,500 trailing stop. The final Performance Summary is in PS 6.

Performance Summary: All Trades			
Total net profit	\$ 898312.50	Open position P/L	\$ 0.00
Gross profit	\$1236987.50	Gross loss	\$-338675.00
Total # of trades	108	Percent profitable	32%
Number winning trades	35	Number losing trades	73
Largest winning trade	\$ 478175.00	Largest losing trade	\$ -68137.50
Average winning trade	\$ 35342.50	Average losing trade	\$ -4639.38
Ratio avg win/avg loss	7.62	Avg trade(win & loss)	\$ 8317.71
Max consec. winners	3	Max consec. losers	7
Avg # bars in winners	45	Avg # bars in losers	9
Max intraday drawdown	\$ -84712.50	Max # contracts held	66
Profit factor	3.65	Return on account	1060%
Account size required	\$ 84712.50		

PS 6

Look at what you can do with some cash management and a few additional stops!

If you compare PS 6 to PS 2, you will see that every category of the Performance Summary has improved. The profit increased ten fold, the ROMID is now over 1000%, the profit factor is up substantially, and the ratio of average win to average loss is much better. The only thing that deteriorated is the percent profitable trades, but we know that this is just an increase in breakeven trades because of our new breakeven stop at \$1,000 profit. And note that our cash management had us trading 66 contracts.

The other item that you should note is that half of the profits came from one trade. This was a big trend trade, the second to last in the test, which had major profits with 31 contracts. It was the same trade that was the largest in the one contract test, but it was substantially larger because of the increase in contracts. I do not think this is a major concern because that is what we use cash management for, to increase our profits. The last profitable trade should be the largest as it will most likely have the most contracts. Table 3 compares the results of using one contract versus using the ANP Pyramid and additional stops.

Parameter	One Contract	ANP Pyramid & Stops
Net Profit	\$ 90,450	\$ 898,312
Average Trade	\$ 838	\$ 8,318
Profit Factor	1.94	3.65
ROMID	810 %	1060 %
MAXID	\$ 11,163	\$ 84,713

Table 3

Using the ANP Pyramid and additional stops has multiplied our profits by a factor of ten. Every other statistic improved as well.

But what about just adding the stops to the original strategy without the ANP Pyramid? Does adding the breakeven stop and the trailing stop improve the original strategy without cash management? Let's take a look at this in Table 4 below.

Parameter	One Contract	One Contract & Stops
Net Profit	\$ 90,450	\$ 87,325
Average Trade	\$ 838	\$ 809
Profit Factor	1.94	2.37
ROMID	810 %	1046 %
MAXID	\$ 11,163	\$ 8,350

Table 4

The addition of all the stops doesn't improve the strategy all that much.

You will see in Table 4 that the addition of all these stops really does not improve the strategy all that much considering that there is 15 years of data. To decrease the drawdown by \$3,000 over 15 years is hardly worth mentioning. As I said previously in this chapter, the use of risk reducing stops usually does not substantially help strategies that only trade one contract. But when you start using cash management techniques to increase the number of contracts you are trading, extensive risk control through the use of stop losses helps the strategy dramatically. The final strategy is shown in SPF 3.

Strategy Parameter File			
Dual Moving Average Crossover			
Set-Up	12 / 39 Period Moving Average Crossover		
Entry	None (Market on Close)		
Stops	\$4,000 MM \$1,000 Breakeven \$3500 Trailing	Exits	None
MaxBarsBack	50	Slippage	\$75
Margin	None Used	Commission	\$25
Data Source	Swiss Franc Futures – Omega Research CD		
Data Duration	1/4/82 to 4/2/97		

SPF 3

The code for this is the same as in SPF 1 and 2 using the 12/39 moving averages.

The ANP Pyramid cash management strategy was used to add contracts

Three stops were used: An initial money management stop, a breakeven stop, and a trailing stop.

Note: For the comparisons I made in this chapter, I also used *Portfolio Maximizer*, an add-on product to *TradeStation* available from *Omega Research, Inc.*

Summary

The steps you need to consider for managing your trading cash flow are as follows.

- Optimize the parameters of the strategy if appropriate.
- Limit your per trade risk by optimizing a Money Management Stop.
- Test a range of percentage Net Profit risk for the ANP Pyramid. I usually test from 10% to 100% of Net Profit.
- Determine the percentage of the Net Profit you will risk. The money management stop amount divided into the Net Profit dollars risked will determine the number of contracts traded.

- Test risk control stops against the strategy with the ANP Pyramid. At a minimum, I always test a breakeven stop and a trailing stop, but you should be as creative and exhaustive as you can.

Thinking of trading as a business is a very important step in the education and training of a successful trader. There are two important aspects of trading as a business. The first is to begin to think of your trading as a business comparable to any other business, whether it be a restaurant, a software company, a personal service company or a manufacturing company. You happen to be managing a trading company.

The second part of trading as a business is to move out of the realm of worrying about the product, and start to worry about the cash flow of the business and how you are going to re-invest the profits. This is what I call cash management, and what is called money management in the futures industry.

Cash management is the most important aspect of trading as a business. The more comfortable you become with the concept, the more important it will be to you. The final step for the accomplished strategy trader is to develop strategies based on the preferred method of cash management and risk control. As you get more sophisticated, you will begin to develop strategies that work well with your cash management preferences, rather than apply your cash management preferences to your favorite strategies. If you don't fully understand this last sentence, it's OK, you will.

As you saw in this chapter, we were able to take a mediocre moving average crossover strategy and increase the profits over a 15-year period from \$90,000 to almost \$900,000, just by managing the cash flow and the risk. We did not accomplish this by fooling around with the indicator.

Unfortunately, most traders never get to this point. What is needed to manage cash flow is a predictable cash flow. The only way you can begin to predict future cash flows is to trade strategies. You can not predict your future cash flow using the Elliott Wave or Gann Lines. You predict your future cash flow by projecting your historical tests forward. Once you can predict your future cash flow, you can then begin to manage that cash flow and reinvest and leverage the expected cash flow. This is a concept foreign to most traders.

There are many other approaches to cash management than just the ANP Pyramid that I have shown here.⁵ At the appropriate moment, you should put as much energy into studying all you can about cash management or money management as you have in studying indicators. As you can see, you can make a

poor strategy better simply by using cash management. When you understand the power of cash management, you will begin to spend more time managing the cash flow than exploring the latest and greatest indicators.

Remember, you don't need a great strategy to make money if you use appropriate cash management principles. But you do need an outstanding strategy if you are only going to trade one contract.

Learn all you can about trading as a business—about managing your cash flow and risk. It will turn what might be termed a chancy speculation into a viable business.

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