SECTION V

THE MOMENTUM CONCEPT

One of the most useful concepts in technical trading is that of momentum; yet, for many traders, momentum is also one of the hardest concepts to understand. Momentum can be thought of as acceleration and deceleration.

In this discussion, upward momentum (acceleration) will be considered as 'plus' and downward momentum (deceleration) will be considered as 'minus'. Let's look at an example illustrating momentum.

Suppose that Pork Bellies closes one cent above the previous close for five consecutive days. The acceleration is zero. Conversely, if Bellies closes down one cent from the previous close for five consecutive days, the deceleration would also be zero. Now let's go back to the case where Bellies closes up one cent from the previous close for five consecutive days.

For the momentum factor to be **above** zero, it would be necessary for the price to close up **more** than one cent, so let's say that on the sixth day, the price closed up one and a half cents from the previous close. Now we have a plus momentum factor which is acceleration for the sixth day. On the seventh day, for the momentum to stay positive, the price must close up **more** than one and a half cents from the previous close. If the close on the seventh day were exactly one and a half cents more than the previous close, the momentum factor would again be zero. Now suppose that on the following day, Bellies closed up only one and a quarter cents more than the previous close. We would now have deceleration, or a minus momentum factor.

In Fig. 5.1, each point on the curve represents the closing price of a stock or commodity. Notice that from Days 1 through 9, each close is not only higher than the previous close, it is higher than the previous close by an **ever increasing amount**. Therefore, the price from Day 1 through 9 is accelerating and has a plus momentum factor. On Days 10 through 12, there is no acceleration or deceleration because the curve becomes a straight line. The price closed up exactly the same amount for each of these days, making a zero momentum factor for Days 9 through 12.

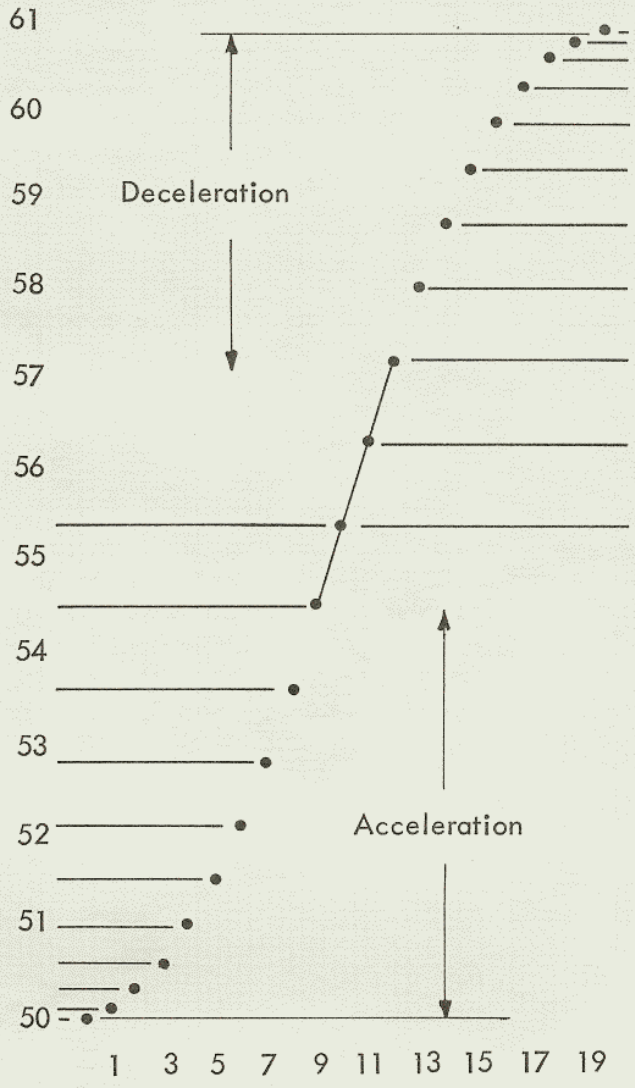

Fig. 5.1

On Days 13 through 20, the price is closing up from the previous close; however, each close is a smaller distance up from the previous close and the price is beginning to decelerate and the momentum factors are minus.

THE TREND BALANCE POINT SYSTEM

The momentum system set forth here utilizes this concept in a most unique way. This system will satisfy traders and brokers who like a lot of action. It will usually make three to five trades a week. It takes small consistent profits and therefore the percentage of correct trades will be quite high compared to most technical systems.

In this system we use only close prices to compute the momentum factor. The system is not a true reversal system because profits are taken at a target. The indicator that tells whether the trade should be *Long* or *Short* in the market is the MOMENTUM FACTOR.

Now let's see how this momentum factor is calculated. **The momentum factor is the difference between the close price today and the close price two days ago.** It is important to note that we always take today's close first and subtract **from it** the close two days ago. This means that the difference may then be either 'plus' or 'minus'.

Day	Close	MF
1	49.25	
2	49.75	
3	50.25	+1.00
4	50.75	+1.00
5	51.10	+ .85
6	50.75	0
7	51.00	— .10
8	49.75	—1.00
9	49.25	—1.75
10	49.50	— .25

In this example, the first momentum factor (MF) was obtained by subtracting 49.25 (Day 1) from 50.25 (Day 3). The second MF was obtained by subtracting Day 2 from Day 4. The third was obtained by subtracting Day 3 from Day 5.

Now let's look at Day 7. We subtract 51.10 from 51.00 and get a minus .10 (—.10). Whenever we subtract a larger number from a smaller number, we always use the sign of the number being subtracted. In this case, it is the sign of the larger number. On Day 9,49.25 minus 51.00 gives a difference of —1.75.

Below is a graphic example of the procedure:

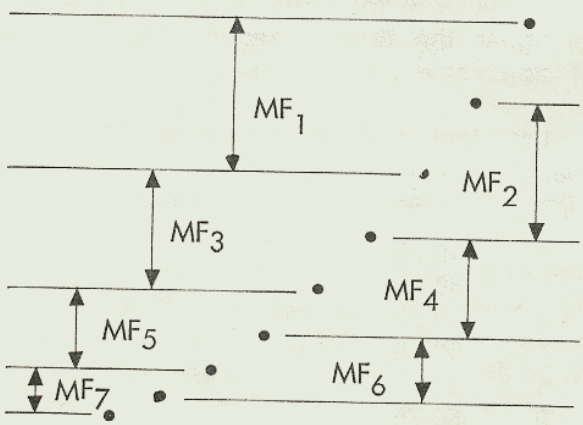

Fig. 5.2 (illustrates acceleration)

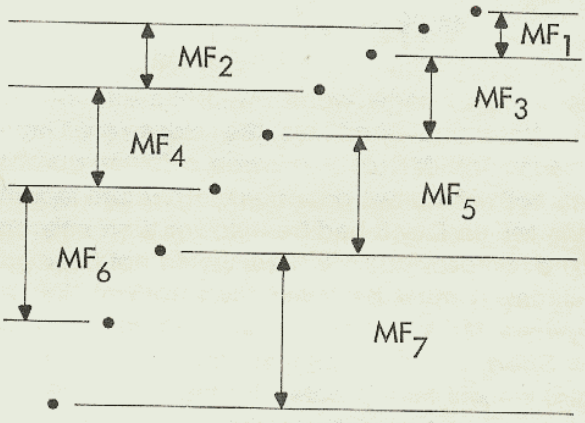

Fig. 5.3 (illustrates deceleration)

Now that we know how to determine the momentum factor on a daily basis, at this point we will outline the overall concept of the trading procedure and then take it step by step.

BASIC PROCEDURE

(1) Go *Long* on the close today when the momentum factor today is a higher number than the momentum factor for **either** of the previous two days.

(2) Go *Short* on the close today when today's momentum factor is a lower number than the momentum factor for **both** of the previous two days.

(3) Take profits at the target. Do not reverse.

(4) Exit the market at the STOP. Do not reverse.

(5) When **out** of the market, either at the target or at the stop, reenter on the close under the first or second procedure as applicable.

Let's look again at our example:

Day	Close	MF	Position	Price
1	49.25			
2	49.75			
3	50.25	+1.00		
4	50.75	+1.00		
5	51.10	+ .85	Short	51.10
6	50.75	0		
7	51.00	— .10		
8	49.75	—1.00		
9	49.25	—1.75		
10	49.50	— .25	Long	49.50

We went *Short* on the close on Day 5 because the MF of +.85 was a lower number than both of the two previous momentum factors. If the MF on Day 5 had been lower than **only one** of the two previous MF's, we would not have had a signal. **It must be lower than both of the two previous MF's to have a valid signal.** Once we are *Short*, we then calculate the target at which point we will take profits. But before we take up the target, let's continue the discussion of the entry point.

Now let's go back to Day 5. If you have followed the discussion to this point, you have one big question in mind. You have looked at the example and wondered, "If I have to know the close price before I can determine the momentum factor, how am I going to enter the market *Short* on the close at 51.10?" That's a good question. The answer is that we can determine before the close — in fact, even before the open on Day 5 — exactly what price will be necessary to produce a momentum factor of less than 1.00. This brings us to the TREND BALANCE POINT.

Since we are going to subtract Day 3 from Day 5 to obtain the momentum factor for Day 5, we can see very quickly that the close price of 51.25 on Day 5 will give an MF of +1.00. If the close is less than 51.25, the MF will be less than +1.00. If the close is higher than 51.25, we know the MF will be higher than +1.00. If the close is exactly 51.25, then the MF today will be equal to +1.00; therefore, 51.25 is a very crucial point. We call this point the TREND BALANCE POINT (TBP). If we are *Long* in the market, the TBP is defined as:

The point the price must close **below** in order to reverse our position to *Short*. If we are *Short* in the market, the TBP is defined as:

The point the price must close **above** in order to reverse our position to *Long*.

Here is our example again, with the TREND BALANCE POINTS indicated:

Day	Close	MF	TBP	Position	Price
1	49.25				
2	49.75				
3	50.25	+1.00			
4	50.75	+1.00			
5	51.10	+ .85	51.25	Short	51.10
6	50.75	0	51.75		
7	51.00	— .10	51.95		
8	49.75	—1.00	50.75		
9	49.25	—1.75	50.90		
10	49.50	— .25	48.75	Long	49.50
11			47.50		

On Day 5, the TBP was 51.25; therefore, we went *Short* on the close at 51.10. As soon as the market closes on Day 5, we can calculate the TBP for the following day. The question is, how high can the market close the following day and not produce an MF which will be higher than 1.00? Since the MF must be higher than both of the two previous momentum factors, obviously we pick the **higher** of the two previous momentum factors. In this case, they are +1.00 and +.85. The higher of the two is +1.00. Since we are *Short* we pick the **higher** MF and add this number to the close on Day 4 and obtain a TBP of 51.95 to be used for Day 6. On Day 6, our

previous two momentum factors are +.85 and 0. We pick the higher of these two, +.85, and add this number to the close on Day 5 and obtain a TBP of 51.95 to be used for Day 7. On Day 7, we look at the two previous momentum factors, which are 0 and —.10. **The higher of these two is 0;** therefore, we add 0 to the close on Day 6 and obtain a TBP of 50.75 to be used for Day 8. On Day 8, the higher of the two previous momentum factors is —.10. We add —.10 to the close on Day 7 and obtain a TBP of 50.90 to be used for Day 9

Remember, if we add a minus number to a plus number, the answer is the **difference** between the two numbers.

Now suppose we had taken profits at the *Short* trade target on Day 10. How would we reenter the market on the close of Day 10 — *Long* or *Short*? Since we had already calculated the TBP to be 48.75, we will go *Long* if the close is **above** 48.75 and *Short* if the close is **at or below** 48.75. Since we were *Short*, we would not change direction if the close were exactly 48.75. Whenever the close is exactly equal to the TBP, we continue to trade in the same direction.

Notice that —.25 is a higher number than the two previous momentum factors which are —1.00 and —1.75. (If operating with minus numbers is a little confusing at first, think of it this way; -25° is a higher temperature than -100° or -175°.)

Now that we are *Long*, to obtain the TREND BALANCE POINT, the question is, what close price will produce an MF **lower** than the two previous momentum factors? Now we take the **lower** of the two previous momentum factors and add this number to the close two days ago in order to obtain the TBP for the following day.

On Day 11, the two previous momentum factors are —1.75 and —.25. The lower of these two is —1.75; therefore, we add —1.75 to 49.25 and obtain a TBP of 47.50. So, at the end of trading on Day 10, we know that on Day 11 we will maintain our *Long* position unless the close that day is **lower** than 47.50, at which point we will reverse to *Short*.

Now let's review the procedure for obtaining the TREND BALANCE POINT (TBP):

(1) To obtain the TBP for tomorrow if *Long*, select the **lower** of the two previous momentum factors and add this number to yesterday's close.

(2) To obtain the TBP for tomorrow if *Short*, select the **higher** of the two previous momentum factors and add this number to yesterday's close.

NOTE: the two previous momentum factors are the MF for today and the MF for yesterday.

When stated in this manner it becomes a very simple procedure.

Remember, when we add a minus number to a plus number, we take the difference and use the sign of the larger number. For instance, if we add an MF of —1.75 to a close price of 49.25, our answer will be 47.50.

PROTECTIVE STOP

At this point, we know when to enter and when to exit the market. Since we enter on the close, we need a **protective stop** for the next day in case of an extreme move and in case the price should close limit against us and lock us in the market. Our stop must also be relative to the momentum concept upon which the system is based.

The stop for this system is a function of the True Range (TR) and the Average Price ($\overline{X}$). The equation for the stop is $\overline{X}$ plus or minus TR. If we are *Long*, the equation is $\overline{X}$ — TR. If we are *Short*, the equation is $\overline{X}$ + TR. $\overline{X}$ is a simple average of the high, low and close price. It is obtained by adding the high, low and close and dividing by three.

The True Range, TR, is the same one-day True Range used in other systems in this book. To recap briefly, it is the **largest** of the following three possibilities:

(1) The distance between the high and low made during the day.

(2) The distance between today's high and yesterday's close, or
(3) The distance between today's low and yesterday's close.

Let's look at an example. Suppose the following prices are for the last two days of trading:

	High	Low	Close
Day 1	50.00	49.00	49.10
Day 2 (today)	50.20	49.40	49.90

High to low = .80

Previous close to today's high = 1.10

Previous close to today's low = .30

True Range = 1.10

$\overline{X}$ = 50.20 + 49.40 + 49.90 = 149.50 ÷ 3 = 49.83

If *Long*, the stop is $\overline{X}$ — TR.

49.83 — 1.10 = 48.73

If *Short*, the stop is $\overline{X}$ + TR.

49.83 + 1.10 = 50.93

The stop is calculated after the market closes, using the most recent high, low and close price, and is then for use on the **following day**.

TARGET

The Target for this system is a function of the Average Price, $\overline{X}$ and the extreme price made for the day. If we are *Long*, the equation for the Target is $2\overline{X}$ — L. If we are *Short*, the equation for the Target is $2\overline{X}$ — H. For example, suppose the following prices are for the last two days of trading:

	High	Low	Close
Day 1	50.00	49.00	49.10
Day 2 (today)	50.20	49.40	49.90

In the above example, if we were *Long*, the target for Day 3 would be:

$\overline{X}$ = 49.83

T = $2\overline{X}$ — L

= 2 x 49.83 — 49.40

= 99.66 — 49.40

= 50.26

If we were *Short*, the target for Day 3 would be:

T = $2\overline{X}$ — H

= 2 x 49.83 — 50.20

= 99.66 — 50.20

49.46

The target is calculated after the market closes, using the most recent high, low and close price, and is then for use on the **following day**.

We always put the Target, the Stop and the Trend Balance Point (TBP) on the line on the work sheet for the following day because they apply to the following day.

To recap briefly, a position is entered only on the close in accordance with the momentum factor. A position is exited at the target, but not reversed. If a position is exited during the day at the target, then the position is reinstated on the close as indicated by the TREND BALANCE POINT. The TBP also determines whether an **existing position** should be held or reversed on the close. If the position has been stopped out by the stop during the day, no reversal is made at the stop. The position is reinstated on the close in accordance with the TREND BALANCE POINT.

Following are the definitions and rules of the TREND BALANCE POINT SYSTEM.