

12. Trend Turning Points (III)

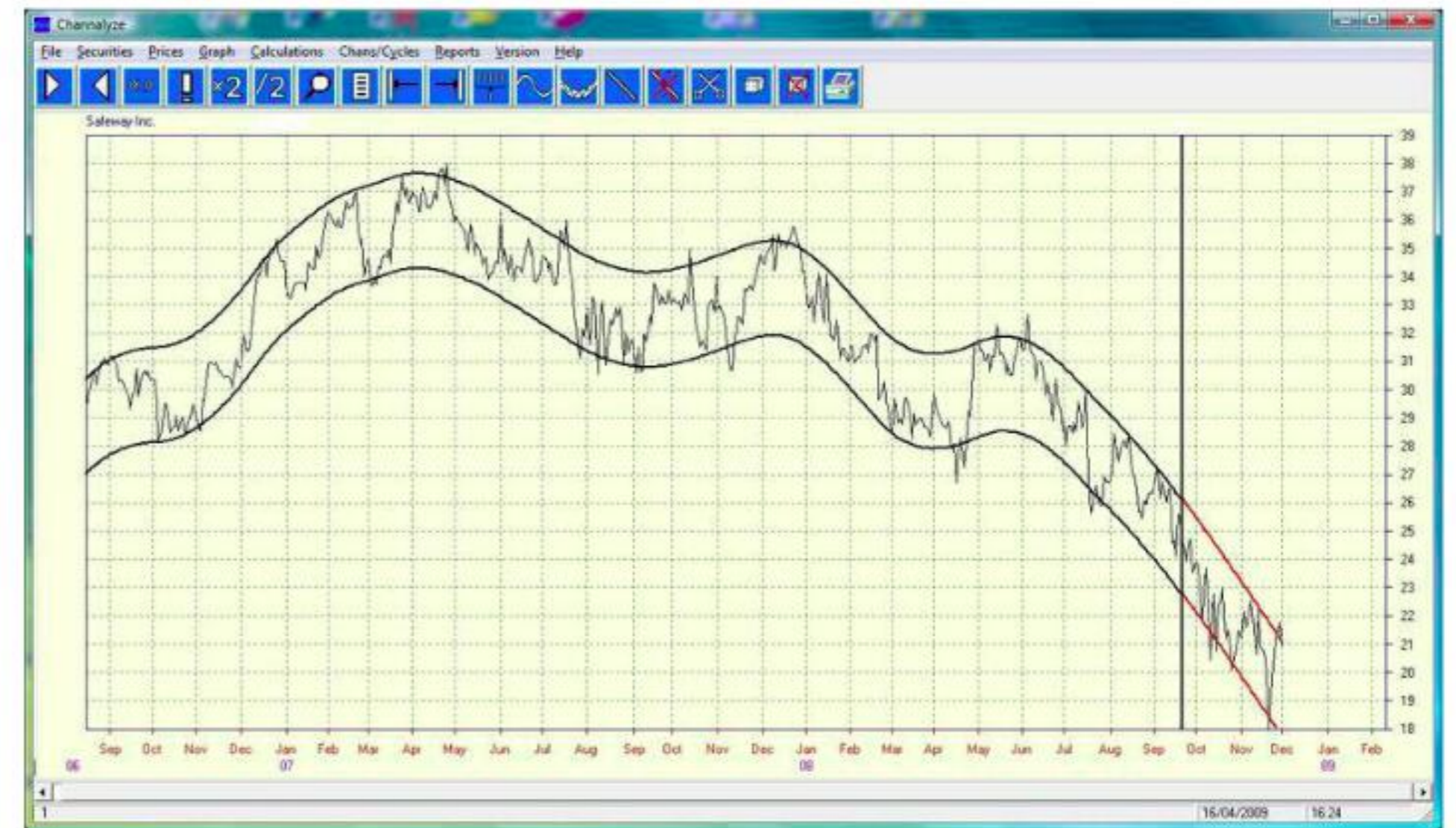
In the last chapter we saw that by careful analysis, using the peaks and troughs contained within a channel, we could establish whether the channel had changed direction in the gap between the latest data point and the last calculated point for the underlying centred average. This analysis usually entailed an adjustment to the curvature of the extrapolated boundaries. We also saw that when it came to channels based on very short-term averages, this method of extrapolation became more difficult because the averages were no longer smooth, owing to the influence of very short-term cycles. They also changed direction very quickly.

Here we will be investigating the behaviour of the intra-channel movements of the data. Since these reflect the behaviour of the sums of all the cycles of wavelength less than the period used for the average, then by using an underlying average of much shorter than the 301-days used in the last chapter, we can study these short-term trends and attempt to decide whether these have changed direction. A useful value for the average is one of 51 days. This value is the divider between cycles of wavelength greater than 51 days (this forms the channel itself) and those of wavelength equal to or less than 51 days (the intra-channel movement). Since cycles spend half of their time rising (these are uptrends) and half of their time falling (these are downtrends), then the intra-channel trends for a 51-day channel will be those of a persistence of 25 days or less.

In Figure 12.1 we show the chart of Safeway Inc. with the 51-day channel superimposed. The most striking point is on how many occasions the intra-channel movement took the price to the boundaries, from which the price then retreated.

Figure 12.1 – The 51-day channel for Safeway Inc. Note the large number of occasions in

which the price movement reached the channel boundaries.



A rising section of the Safeway chart is shown in Figure 12.2. Here the points of contact or near contact have been circled. The short-term movements are responsible for quite useful percentage changes.

Figure 12.2 – The 51-day channel for Safeway Inc. The occasions in which the price movement reached the rising channel boundaries have been circled.



The price ranges covered by the bottom-to-top channel movements are shown in Table 12.1.

Table 12.1 – The data from three bottom-to-top channel rises in Safeway Inc. stock. The 51-day channel is rising.

These movements are obviously not derived from just one cycle. If they had been, then since the wavelength would be constant, the times taken for the rises would all be equal. It can be seen in Table 12.1 that they are not, two taking 15 days and one taking 32 days. We will see in the next chapter which short-term cycles were present at this particular time in the chart of Safeway Inc.

Having seen how these movements have been identified with the benefit of hindsight, it is necessary to see how we would have identified them at the time that they were happening.

RISING CHANNEL

The sequence of events shown in Figures 12.3 to 12.6 shows how the analysis proceeds for Safeway during the latter part of 2006. There is always a logical sequence to follow:

1. draw extrapolated channel
2. check for price penetration of either boundary
3. if there is price penetration of either boundary, adjust channel
4. if price is at a lower boundary, wait for trough to be formed to confirm boundary position before trading
5. if price is at an upper boundary, wait for peak to be formed to confirm boundary position before trading.

It is important that this procedure be repeated each day, as the new closing price must be used in the re-calculation of the underlying average.

Safeway, 7 November 2006

The calculation of the 51-day channel gives the extrapolation shown in Figure 12.3. While the extrapolated portion shows a downward curve which has topped out in the gap, it is quite clear that the latest price is now rising above the upper boundary.

Figure 12.3 – The 51-day channel for Safeway Inc. The price on 7 November 2006 (\$29.6) is now penetrating the upper boundary. The channel therefore needs to be adjusted upwards.



An adjustment is therefore necessary to lift the curve so that the penetration disappears – this is shown in Figure 12.4. The result is that the adjusted channel is running essentially sideways. The fact that there is a succession of small troughs adds extra validity to the new position of the lower boundary and gives confidence that there will be a rise from this position, since we are now in an area of low probability of the price remaining at this location.

Figure 12.4 – The 51-day channel for Safeway Inc. The channel in Figure 12.3 has now been adjusted to give a sideways direction.



Safeway, 29 November 2006

By 29 November the extrapolated channel appears as in Figure 12.5. We now have the reverse situation, where the price on 29 November is violating the upper boundary of the channel. An adjustment is therefore necessary to remove this penetration. It would be premature to assume that this is the extent of the current rise until the channel has been adjusted.

Figure 12.5 – The 51-day channel for Safeway Inc. The channel was calculated on 29 November 2006 with the price at \$30.5. The price is now violating the upper boundary again. The channel therefore needs to be adjusted upwards.



The adjusted channel is shown in Figure 12.6. A large adjustment has been made here since this brings the sequence of small troughs mentioned above and the new small trough formed between the 27 and 29 November to the lower boundary.

Figure 12.6 – The 51-day channel for Safeway Inc. The channel in Figure 12.5 has now been adjusted to give an upwards direction. The small trough two days previously on 27 November identifies the position of the lower boundary.



If there hadn't been a small trough at this point then the boundary would not be raised as far and a few more days would need to be allowed to pass before the situation was clarified. A trade placed on 7 November would still be in place awaiting a significant rebound downwards.

Safeway, 18 December 2006

By 18 December 2006 the price, at \$34.61, had penetrated the upper boundary, as shown in Figure 12.7. Whether the stock should be sold at this point cannot be decided, since the first step is to adjust the channel to remove this penetration of the upper boundary. Once this adjustment is carried out, then whether to sell or not will depend upon whether the price movement forms a peak or not. If no peak is formed, then it should

not be sold.

Figure 12.7 – The position of the extrapolated channel on 18 December 2006. The price is at \$34.61 and violates the upper boundary. This will need an adjustment to remove the overlap.



The result of adjusting the boundary is shown in Figure 12.8. Subsequently the price fell back to \$34 on 20 December, which would be the signal to sell. Perversely, of course, the price moved back up again to peak out at \$35.31 on 27 December. Although a small amount of extra profit was lost, to sell a few days earlier was the correct decision.

Figure 12.8 – The 51-day channel for Safeway Inc. has now been adjusted to remove the violation of the upper boundary.



Safeway, 27 April 2007

The extrapolated channel drawn for Safeway on 27 April is shown in Figure 12.9. The extrapolated portion has now topped out, but it can be seen that the latest peak is violating the upper boundary. This means that it needs to be adjusted and of course the adjustment may remove the bend from the extrapolated portion.

Figure 12.9 – The 51-day channel for Safeway Inc. calculated on 27 April 2007. The extrapolated channel appears to have topped out but still needs an adjustment.



The adjusted channel is shown in Figure 12.10 and it can be seen that even after this necessary adjustment, the channel is still topping out. It is now time to close out the position.

Figure 12.10 – The 51-day channel for Safeway Inc. calculated on 27 April 2007 has now been adjusted to remove the violation by the latest price on 27 April.



This has been a useful exercise in extrapolating and checking if an adjustment is needed over this whole upward trend, and the value of a careful analysis has been shown. While there is always a temptation to jump the gun in buying situations and a temptation to wait a little longer on selling situations, these temptations must be avoided if a successful trading strategy is to be maintained.

Part of the reason for jumping the gun is that the trader feels that a lot of profit can be lost by waiting. What should be balanced against this is the increased risk of things going wrong. It can be seen from this example that there is still plenty of profit in each cross-channel rise even if the rises over the first and last days of the trend are removed.

FALLING CHANNEL

The profit to be obtained from the trends within a falling 51-day channel will be less than those from a rising channel, because the price rise will reach the upper boundary which is already falling. The amount by which it falls over the period during which the short-term trend is rising is obviously reducing the extent of the rise in the short-term trend. On the other hand, the falls will be greater.

The chart for AstraZeneca shown in Figure 12.11 is a good example of a great many intra-channel rises and falls which reach the upper and lower boundaries of the channel.

Figure 12.11 – The 51-day channel for AstraZeneca. Note the large number of occasions in which the price movement reached the channel boundaries.



As far as the intra-channel movements are concerned during a period in which the

channel undergoes a sustained fall, these are illustrated in Figure 12.12. Here the points at which the price movement approaches the upper and lower boundaries have been circled for ease of recognition.

Figure 12.12 – The 51-day channel for AstraZeneca. The occasions in which the price movement reached the falling channel boundaries have been circled.



The range of movement for three of these intra-channel excursions is shown in Table 12.2.

Table 12.2 – The data from three bottom-to-top channel falls in AstraZeneca stock. The 51-day channel is falling.

In Figures 12.13 to 12.22 we investigate how the channel position would be estimated from the same procedure as we used for Safeway, i.e. extrapolate the channel and then check whether an adjustment is needed in the light of the latest value for the data.

AstraZeneca, 3 January 2007

The position of the extrapolated channel for 3 January 2007 is shown in Figure 12.13. Quite obviously the last few data points are well above the channel and hence the channel will need to be adjusted in order to remove the degree of penetration. While the extrapolation shows the channel to have topped out, it can be seen that an adjustment might cause the channel to move sideways or even to continue to rise.

Figure 12.13 – The 51-day channel for AstraZeneca on 3 January 2007. The channel will need to be adjusted since the latest price is well above the upper boundary.



The adjusted channel is shown in Figure 12.14. It was not possible to remove the penetration of the peak in late October. Since on most occasions where a channel tops out there is an overshoot of the data above the upper boundary, this was accepted as being the case in this example.

Figure 12.14 – The 51-day channel for AstraZeneca on 3 January 2007. The channel has been adjusted to bring the latest price (2787p) to the lower boundary. The penetration by the peak in late October cannot be removed by channel bending so it is accepted as a normal overshoot at a channel top.



Figure 12.15 – The 51-day channel for AstraZeneca on 7 February 2007. The price is at 2950p and is above the extrapolated boundary.

There was also the decision as to whether to lower the channel slightly so as to bring the latest price to the upper boundary, or to lower it by a larger amount and bring the trough just formed to the lower boundary. Since troughs are more often associated with lower boundaries, this appears to be the best approach in the current circumstances. However, in cases like this where there is a credible alternative to the placement of the channel boundaries, no decision about placing a trade should be made until the situation is clarified by the new data points arriving over the next few days.

AstraZeneca, 7 February 2007

The position at 7 February 2007 is shown in Figure 12.15. Here the price at 2950p is now above the extrapolated boundary. Thus an adjustment will have to be made.



The adjustment is shown in Figure 12.16. As can be seen, only a small lift in the position of the channel is necessary to bring the price down to the upper boundary. There is now an indication that the channel is straightening out, but confirmation of this will have to wait for the arrival of more data points over the next few days.

Figure 12.16 – The 51-day channel for AstraZeneca on 7 February 2007 has now been adjusted.



No such conformation was forthcoming and the channel resumed its downwards path as a result of the general trend of price movement being down.

AstraZeneca, 20 August 2007

By 20 August 2007, the position was that shown in Figure 12.17. No adjustment is necessary and the expectation is for a rise in price within the next day or two. This is indeed what happened.

Figure 12.17 – The 51-day channel for AstraZeneca on 20 August 2007. No adjustment is necessary.



AstraZeneca, 16 October 2007

The channel then continued to fall for another few months, until the position shown in Figure 12.18 was reached on 16 October 2007. The price has now risen to the top of the falling channel. Thus a retraction in price is to be expected.

Figure 12.18 – The 51-day channel for AstraZeneca on 16 October 2007. No adjustment is necessary.



AstraZeneca, 14 November 2007

This position on 14 November 2007 is shown in Figure 12.19. The channel has continued to fall and the small trough formed on 11 November is now almost exactly on the lower boundary. Thus no further adjustment is necessary. The assumption is now that the price will rebound from the lower boundary.

Figure 12.19 – The 51-day channel for AstraZeneca on 14 November 2007. No adjustment is necessary.



AstraZeneca, 16 November 2007

However, two days later the price fell slightly below the boundary and then rose again to form a second trough. This is shown in Figure 12.20. However, the calculation of the extrapolated channel causes it to be in a slightly lower position. This new position puts the second trough on the lower boundary, so no further adjustment is needed.

Figure 12.20 – The 51-day channel for AstraZeneca two days later on 16 November 2007. No adjustment is necessary to accommodate the new trough.



AstraZeneca, 14 January 2008

The position on 14 January 2008 is shown in Figure 12.21. The extrapolated channel has now increased its rate of fall. However, this now causes the peak formed on 11 January to be well above this boundary. The channel needs to be adjusted to remove this violation.

Figure 12.21 – The 51-day channel for AstraZeneca on 14 January 2008 with the price at 2308p. An adjustment is necessary to remove the upper boundary violation on 11 January, when the price was at 2318p.



The adjusted channel is shown in Figure 12.22. This new position for the channel simply continues the downward path of the channel at the same rate of fall that we saw on 16 November.

Figure 12.22 – The 51-day channel for AstraZeneca on 14 January 2008. The adjustment has now been carried out.



AstraZeneca, 20 March 2008

The position on 20 March 2008 is shown in Figure 12.23. The recent trough on 17 March lies exactly on the lower boundary. This means that no adjustment is necessary.

Figure 12.23 – The 51-day channel for AstraZeneca on 20 March 2008. The price, at 1879p, has risen from the trough at 1748 on 17 March. No adjustment is necessary since this trough lies exactly on the lower boundary.



AstraZeneca, 19 May 2008

The position on 19 March 2008 is shown in Figure 12.24. The extrapolated channel has now bottomed out as a result of the rising short-term trend from the low point. Although the channel has obviously bottomed out, the extrapolation does not look quite right. This is for two reasons. Firstly, channels tend to be approaching symmetry at turning points, i.e. the rate of fall or rise before the turning point is fairly similar to the rate of rise or fall after the turn. This is clearly not the case here. Secondly, the price is staying within the middle of the channel on the new upward leg.

Figure 12.24 – The 51-day channel for AstraZeneca on 19 May 2008. The price at 2289p is well below the extrapolated upper boundary. Quite clearly the channel has now

bottomed out. However, the extrapolated part should be more symmetrical about the low point. An adjustment downwards is required.



Usually around a channel turning point the cycles of shorter wavelength will increase in amplitude and reach or penetrate either boundary, so that the extrapolation needs to be adjusted. This is shown in Figure 12.25. Everything looks good and we can be fairly confident that the channel, and hence the underlying 51-day average, has changed direction and is now rising.

Figure 12.25 – The 51-day channel for AstraZeneca on 19 May 2008. The channel has now been adjusted so that the high price on this date is at the upper boundary. It can be seen that the turning point is now much more symmetrical.



It can be seen from the examples that have been presented that on some occasions no adjustment is necessary, since the features in the price movement which help to establish the channel boundaries are all in the right relative positions to the boundaries. The extrapolated boundaries in channels such as these have the highest validity, i.e. have the greatest probability that their estimated positions are correct.

On the other hand, it is at the channel turning points that the greatest amount of adjustment is required to avoid violations of the boundaries. That there is a greater amount of possible error in boundary placement at these positions is to be expected, since the estimated position of the channel will be that it is continuing in the same direction. It is only the fact that the price is penetrating one or other of the boundaries that gives an

indication that the direction is about to change.

Finally, it should be noted that in these two cases of Safeway and AstraZeneca, the rising and falling channels remain in this state for a long period of time, during which there are three or four occasions on which a trade could be placed. These longer-term channels were used so that the procedure for confirming a continuation of direction could be more easily explained.

In general, the persistence of the 51-day averages and hence the derived channel is not as long as this. It is more likely that only two or three trades can be placed between the estimated turning points.