

Technicals – Special Feature

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*An objective look at
the TSF trading
system*

To refresh your memory: Two weeks ago we presented the TSF indicator, which uses linear regression to extrapolate the historical trend into the future. In the last 'Weekly Essentials' we gave you some pointers on how to objectively assess a trading system.

This week we want to combine these two contributions by detecting the trading signals generated by the TSF and evaluating their performance.

BUND futures with the TSF system



In the above case, the TSF line was calculated, buy signals were generated when the price crossed above the TSF line and sell signals were generated when the price fell below the TSF line. Here are the statistics:

tsf GBL1.DT LAST-20 min 09/16/1998 - 03/28/2000

Performance Summary: All Trades

Total net profit \$	21.9000	Open position P/L\$	-0.2800
Gross profit \$	91.1500	Gross loss \$	-69.2500
Total # of trades	963	Percent profitable	34%
Number winning trades	328	Number losing trades	635
Largest winning trade \$	3.0800	Largest losing trade \$	-1.1600
Average winning trade \$	0.2779	Average losing trade \$	-0.1091
Ratio avg win/avg loss	2.5482	Avg trade(win & loss) \$	0.0227
Max consec. winners	4	Max consec. losers	18
Avg # bars in winners	23	Avg # bars in losers	6
Max intraday drawdown \$	-3.4400	Max # contracts held	1
Profit factor	1.3162	Return on account	637%
Account size required \$	3.4400		

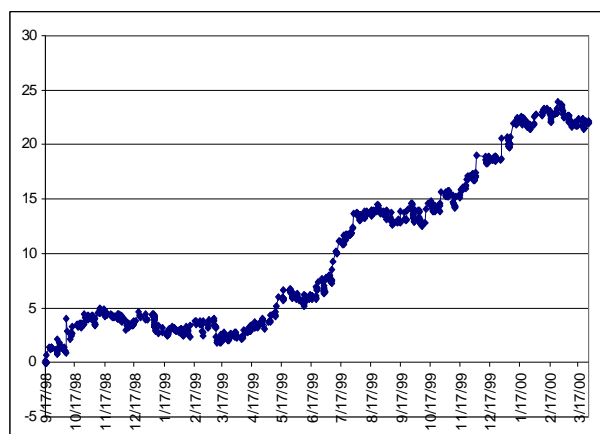
In the last 400 days the system would have generated 963 trades, 328 of which (hence only 37%) would have been winners. The ratio (of average profit from winning trades to the average

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loss from losing trades) is nevertheless over 2.5, which is a good figure. It is also alarming that the number of maximum consecutive losers is 17—which is substantially higher (only 4) than the maximum consecutive winners.

This can be explained by the nature of the system. The TSF reacts similarly to a trend follower: It loses in a trendless phase and wins when the underlying instruments clearly indicate a direction. A brief glance at the equity line can also reveal how stable the system is.

Equity line of the TSF system



Here, you can see that the first half year of the test period was marked by a sideways movement by the system's P/L line. Last summer and the last two months as well, there was hardly any change in the system's yield. Although it is true that there are no substantial swings, which shows how robust the system is, it is precisely in systematic trading that dry spells can be extremely detrimental to the motivation of traders—or their bosses.

All in all, a rather mediocre system which definitely could use some improvement. We could proceed by testing various optimising strategies and then testing the stability of their results. Sensitivity analyses of the optimising variables can be extremely informative too, revealing the areas where performance varies dramatically and where yield is relatively unaffected by changes in input variables.