

MORE DATA CONCERNS - INDIVIDUAL CONTRACT DATA VERSUS ROLLOVER DATES

BY MIKE CHALEK

In the last issue of *Futures Truth* (#2-2008), George Pruitt, director of research, addressed the problem of using continuous versus individual contract data. The bottom line here is they both have their application. Because of this, many traders are faced with quite a dilemma when they have to test their methodology with individual futures contracts that have limited life spans for computer simulation testing purposes. As George pointed out, you almost cannot avoid the continuous contract approach if you need to reference data before the transition of the expiring contract and the new front month contract. An example of this would be the need to employ something like a 200 day moving average. The problem here is that the new contract does not have that much data because no one traded that contract that far back in time. Therefore we are required to utilize the continuous contract. These types of perpetual time series are theoretical and cannot be practically trading in the real world. The popular type of continuous data would be a “back-adjusted” series contract that tends to smooth data. This is not a problem when testing a system against a single price series such as with equities. No smoothing process needs to be implemented with that type of data. There have been several papers written on this subject regarding the use of actual contract data, continuous back-adjusted data and perpetual forward-adjusted data. Needless to say, testing results were wide and varying (again refer to George Pruitt’s previous article). But continuous contracts, as convenient as they are, still do not parallel real life trading and the results may be somewhat misleading.

As most of us are aware, back testing on actual contract data presents other types of problems. The commercial software platforms such as TradeStation, and Genesis to name a few, cannot handle the data management of rolling from one contract to another. This involves a lot of internal tracking of the P/L, maximum drawdown, equity flat time and a host of other calculations too numerous to mention here.

Fortunately I have gone to great extremes to write my own platform to accommodate individual contract series data when testing my methodologies. I wanted it to emulate trading as close as possible to real life situations and have the flexibility to choose any rollover date that is stored in a flat file. The system I chose to back test is Dual Thrust, as it can be applied to individual contract data because the system requires very little overlap data between the expiring contract and the new contract. It is stop and reversal system, so time in the market is 100%.

While George noticed in his article that differences in performance numbers varied greatly when testing a system on continuous data vs. actual contract data, the same problem also exists when back testing individual contract data using various “rollover dates”.

In dealing with individual contract data, rollover dates have presented themselves as an insurmountable problem to many system testers. Look back data is a definite requirement when choosing the type of data series you want to test (continuous v. actual contracts). The question has always been when to properly rollover to a new contract.

The following two rules are should be observed when rolling from an expiring contract to a new contract.

1. Roll over days must avoid the first notice day and last trading day for a contract.
2. The contracts being rolled “from” and “to” should have strong volume and open interest on the selected date.

The test results below are quite revealing when back testing the big Russell contract over a six year period. I held the input parameters constant throughout the test period while varying the rollover time period from 1 to 10 business days. You will quickly notice a marked difference in the net P/L between the 3 day roll-over and the 10 day rollover time period of nearly \$100,000. That includes 25 actual rollover dates during the life span of the test period. And if we translate all of this per rollover period, we are looking at a difference of \$4,000 per rollover period. Actually this makes sense, because it is common for a lot of traders to roll on the second Thursday on each expiration month when trading the stock indexes. That just happens to be around the 9th or 10th business day into the expiration month.

This article is not intended to solve the contract rollover problem and can only lend itself to raise the awareness issue when testing certain systems and the appropriate data to use which would yield the most optimal results.

**RUSSELL (1 Day Rollover)
(01-02-2002 TO 02-29-2008)**

Performance Summary: All Trades

Total Net Profit	\$ 593573	Open Position P/L	\$ 10399
Gross Profit	\$ 2102924	Gross Loss	\$-1509351
Total # of Trades	1189	Percent Profitable	53 %
Number Winning Trades	635	Number Losing Trades	554
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3311	Average Losing Trade	\$-2725
Maximum Open Trade Loss	\$-29150		
Ratio Avg Win/Avg Loss	1.21	Average Trade (Win & Loss)	\$ 499
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	312	(From031008 To 050104)	
Profit Factor	1.39	Return on Account	639 %

**RUSSELL (2 Day Rollover)
(01-02-2002 TO 02-29-2008)**

Performance Summary: All Trades

Total Net Profit	\$ 589273	Open Position P/L	\$ 10399
Gross Profit	\$ 2087724	Gross Loss	\$-1498451

MORE DATA CONCERNS

(continued)

Total # of Trades	1191	Percent Profitable	53 %
Number Winning Trades	639	Number Losing Trades	552
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3267	Average Losing Trade	\$-2715
Maximum Open Trade Loss	\$-29150	Average Trade (Win & Loss)	\$ 494
Ratio Avg Win/Avg Loss	1.2		
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	181	(From040415 To 050103)	
Profit Factor	1.39	Return on Account	634 %

RUSSELL (3 Day Rollover)
(01-02-2002 TO 02-29-2008)

Performance Summary: All Trades

Total Net Profit	\$ 544923	Open Position P/L	\$ 10399
Gross Profit	\$ 2060699	Gross Loss	\$-1515776
Total # of Trades	1193	Percent Profitable	52 %
Number Winning Trades	629	Number Losing Trades	564
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3276	Average Losing Trade	\$-2688
Maximum Open Trade Loss	\$-29150	Average Trade (Win & Loss)	\$ 456
Ratio Avg Win/Avg Loss	1.21		
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	336	(From031008 To 050208)	
Profit Factor	1.35	Return on Account	586 %

RUSSELL (4 Day Rollover)
(01-02-2002 TO 02-29-2008)

Performance Summary: All Trades

Total Net Profit	\$ 556898	Open Position P/L	\$ 10399
Gross Profit	\$ 2068924	Gross Loss	\$-1512026
Total # of Trades	1195	Percent Profitable	52 %
Number Winning Trades	630	Number Losing Trades	565
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3284	Average Losing Trade	\$-2677

Maximum Open Trade Loss	\$-29150		
Ratio Avg Win/Avg Loss	1.22	Average Trade (Win & Loss)	\$ 466
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	336	(From031008 To 050208)	
Profit Factor	1.36	Return on Account	599 %

RUSSELL (5 Day Rollover)
(01-02-2002 TO 02-29-2008)

Performance Summary: All Trades

Total Net Profit	\$ 566448	Open Position P/L	\$ 10399
Gross Profit	\$ 2087024	Gross Loss	\$-1520576
Total # of Trades	1199	Percent Profitable	52 %
Number Winning Trades	635	Number Losing Trades	564
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3286	Average Losing Trade	\$-2697
Maximum Open Trade Loss	\$-29150		
Ratio Avg Win/Avg Loss	1.21	Average Trade (Win & Loss)	\$ 472
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	338	(From031008 To 050210)	

RUSSELL (6 Day Rollover)
(01-02-2002 TO 02-29-2008)

Performance Summary: All Trades

Total Net Profit	\$ 567273	Open Position P/L	\$ 10399
Gross Profit	\$ 2083299	Gross Loss	\$-1516026
Total # of Trades	1197	Percent Profitable	52 %
Number Winning Trades	632	Number Losing Trades	565
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3296	Average Losing Trade	\$-2684
Maximum Open Trade Loss	\$-29150		
Ratio Avg Win/Avg Loss	1.22	Average Trade (Win & Loss)	\$ 473
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2

Max Intraday Drawdown	\$ 92849	(From070808 To 070823)
Max Equity Flat Time (Bars)	182	(From040415 To 050104)
Profit Factor	1.37	Return on Account 610 %

**RUSSELL (7 Day Rollover)
(01-02-2002 TO 02-29-2008)**

Performance Summary: All Trades

Total Net Profit	\$ 596723	Open Position P/L	\$ 10399
Gross Profit	\$ 2090849	Gross Loss	\$-1494126
Total # of Trades	1197	Percent Profitable	53 %
Number Winning Trades	640	Number Losing Trades	557
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3266	Average Losing Trade	\$-2683
Maximum Open Trade Loss	\$-29150	Average Trade (Win & Loss)	\$ 498
Ratio Avg Win/Avg Loss	1.21		
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	190	(From040415 To 050114)	
Profit Factor	1.39	Return on Account	642 %

**RUSSELL (8 Day Rollover)
(01-02-2002 TO 02-29-2008)**

Performance Summary: All Trades

Total Net Profit	\$ 593873	Open Position P/L	\$ 10399
Gross Profit	\$ 2094824	Gross Loss	\$-1500951
Total # of Trades	1197	Percent Profitable	53 %
Number Winning Trades	639	Number Losing Trades	558
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3278	Average Losing Trade	\$-2690
Maximum Open Trade Loss	\$-29150	Average Trade (Win & Loss)	\$ 496
Ratio Avg Win/Avg Loss	1.21		
Max Consec. Winners	11	Max Consec. Losers	8
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	190	(From040415 To 050114)	
Profit Factor	1.39	Return on Account	639

**RUSSELL (9 Day Rollover)
(01-02-2002 TO 02-29-2008)**

Performance Summary: All Trades

Total Net Profit	\$ 620098	Open Position P/L	\$ 10399
Gross Profit	\$ 2111324	Gross Loss	\$-1491226
Total # of Trades	1193	Percent Profitable	53 %
Number Winning Trades	642	Number Losing Trades	551
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3288	Average Losing Trade	\$-2707
Maximum Open Trade Loss	\$-29150	Average Trade (Win & Loss)	\$ 519
Ratio Avg Win/Avg Loss	1.21		
Max Consec. Winners	11	Max Consec. Losers	7
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	182	(From040415 To 050104)	
Profit Factor	1.41	Return on Account	667 %

**RUSSELL (10 Day Rollover)
(01-02-2002 TO 02-29-2008)**

Performance Summary: All Trades

Total Net Profit	\$ 645598	Open Position P/L	\$ 10399
Gross Profit	\$ 2124349	Gross Loss	\$-1478751
Total # of Trades	1189	Percent Profitable	53 %
Number Winning Trades	639	Number Losing Trades	550
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3324	Average Losing Trade	\$-2689
Maximum Open Trade Loss	\$-29150	Average Trade (Win & Loss)	\$ 542
Ratio Avg Win/Avg Loss	1.23		
Max Consec. Winners	11	Max Consec. Losers	8
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	182	(From040415 To 050104)	
Profit Factor	1.43	Return on Account	695 %

**RUSSELL (2nd Thursday Rollover)
(01-02-2002 TO 02-29-2008)**

Performance Summary: All Trades

Total Net Profit	\$ 617098	Open Position P/L	\$ 10399
Gross Profit	\$ 2101399	Gross Loss	\$-1484301
Total # of Trades	1193	Percent Profitable	53 %
Number Winning Trades	636	Number Losing Trades	557
Largest Winning Trade	\$ 19449	Largest Losing Trade	\$-29250
Average Winning Trade	\$ 3304	Average Losing Trade	\$-2665
Maximum Open Trade Loss	\$-29150	Average Trade (Win & Loss)	\$ 517
Ratio Avg Win/Avg Loss	1.23		
Max Consec. Winners	11	Max Consec. Losers	8
Avg # Bars in Winners	2.4	Avg # Bars in Losers	2
Max Intraday Drawdown	\$ 92849	(From070808 To 070823)	
Max Equity Flat Time (Bars)	190	(From040415 To 050114)	
Profit Factor	1.41	Return on Account	664 %

Mike Chalek is a system developer in the stock and commodity markets. During the past thirty years, he has been very active constructing computer based commodity trading systems and developing software for computer trading system techniques, in trend and day trading.

*His trading systems have been featured in such publications as the **Wall Street Journal, Forbes, Technical Analysis of Stocks & Commodities, Worth Magazine, Futures and Options World and Futures Magazine**. Mike has been associated with many key individuals in the industry such as Joe Granville, Larry Williams, Walter Bressert, J.D. Hamon, Jake Bernstein, and John Hill... and has been directly responsible for joint development of trading methodologies and systems. Chalek co-development the "Ultimate Oscillator" with Larry Williams that is now publicly recognized as a built-in indicator on many commercial trading platforms.*

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