

The 20DMF Real Time Evolution

Introduction: The Real-Time 20DMF has been in place since end of 2011. Since that time, we can see below that the returns have significantly improved. We will conduct during June-July 2012 a full back-test using minute data. The objective of this back-test will be to see the porosity levels that are necessary in order to avoid whipsaws.

We can see that the RT 20DMF produced 18.28% earnings while the EOD produced 2.78% (in its configuration of January 2012.) This difference is mainly due to a 16.72% gain that occurred because the RT could catch the buy signals of December 19 and April 12, while the EOD could not. The difference is that the RT system went intraday below -70 and then moved back up. Independently of these two trades, the two systems produced about the same results.

S&P500 trades using the 20DMF EOD

Shorted	11/17/2011	11/28/2011	1216.13	1192.55	1.94%
Bought	11/28/2011	12/13/2011	1192.55	1225.73	2.78%
Shorted	12/13/2011	1/4/2012	1225.73	1277.3	-4.21%
Bought	1/4/2012	3/6/2012	1277.3	1343.36	5.17%
Shorted	3/6/2012	3/9/2012	1343.36	1370.87	-2.05%
Shorted	3/12/2012	3/13/2012	1371.09	1395.95	-1.81%
Shorted	4/10/2012	4/12/2012	1358.59	1387.57	-2.13%
Shorted	4/13/2012	4/26/2012	1370.26	1399.98	-2.17%
Shorted	4/27/2012	5/1/2012	1403.36	1405.82	-0.18%
Shorted	5/3/2012	5/21/2012	1391.57	1315.99	5.43%
Bought	5/21/2012	6/7/2012	1315.99	1314.99	-0.08%
Shorted	6/7/2012	6/8/2012	1314.99	1325.66	-0.81%

2.78%

S&P500 trades using the 20DMF RT

Shorted	11/17/2011	11/28/2011	1216.13	1192.55	1.94%
Bought	11/28/2011	12/13/2011	1192.55	1234.35	3.51%
Bought	12/19/2011	1/4/2012	1224.31	1343.01	9.70%
Shorted	3/6/2012	3/13/2012	1343.01	1387.4	-3.31%
Shorted	4/10/2012	4/12/2012	1358.59	1380.89	-1.64%
Bought	4/12/2012	5/3/2012	1380.89	1389.82	0.65%
Shorted	5/3/2012	5/21/2012	1389.82	1295.35	6.80%
Bought	5/21/2012	6/7/2012	1310.75	1319.15	0.64%
Shorted	6/7/2012	6/8/2012	1319.15	1324.16	-0.38%

18.28%

The 20DMF Evolution of June 8, 2012

Introduction: This evolution deals with the possibility to force a new Buy or a new Short signal when the trend reverses up or down before a reverse signal is issued. This allows to "follow the trend."

1. A forced Buy Signal

On Figure 1, two new blue dotted lines are displayed at levels +30 and -30. A Buy signal is normally issued when the OB/OS indicator falls below the -70 level and then rises up from that level. However, sometimes, such as in December 2011 or in April 2012, the OB/OS indicator would fall close to the -70 level and then reverse up without issuing a Buy signal. The idea is therefore to consider that the -30 OB/OS level indicates a pull-back that was "deep enough" and hence, if after hitting the -30 level, the OB/OS signal reverses up above the +30 level, then a forced Buy signal is issued on crossing above the +30 level. In our example below, this cross over the +30 level occurred on January 3, 2012.

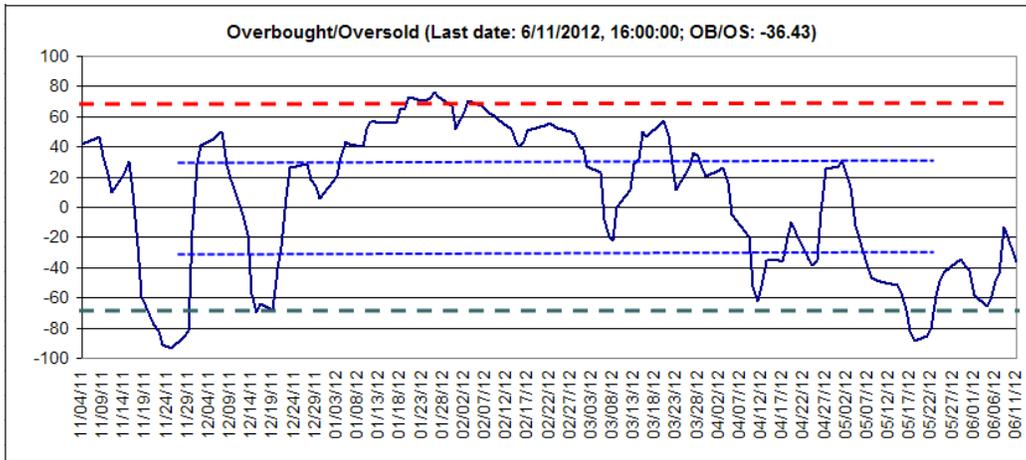


Figure 1: OB/OS

2. A forced Short Signal

The consequence of that rule is that if we fall back below the -30 level after having crossed above the +30 level, then a new short signal is issued, if the upper panel did not issue a new short signal earlier.

	Start date	End date	Start Price	End Price	Profit/loss
Shorted	7/25/2007	8/1/2007	1517.91	1465.81	3.43%
Bought	8/1/2007	8/3/2007	1465.81	1433.06	-2.23%
Bought	8/6/2007	8/15/2007	1467.67	1406.7	-4.15%
Bought	8/16/2007	11/7/2007	1411.27	1475.62	4.56%
Shorted	11/7/2007	11/29/2007	1475.62	1469.72	0.40%
Shorted	12/11/2007	12/24/2007	1477.65	1496.45	-1.27%
Shorted	12/27/2007	1/22/2008	1476.26	1310.5	11.23%
Bought	1/22/2008	4/30/2008	1310.5	1385.59	5.73%
Shorted	4/30/2008	5/1/2008	1385.59	1409.34	-1.71%
Shorted	5/7/2008	5/12/2008	1392.57	1403.58	-0.79%
Shorted	5/21/2008	6/5/2008	1390.71	1404.05	-0.96%
Shorted	6/6/2008	7/8/2008	1360.68	1273.7	6.39%

Bought	7/8/2008	7/24/2008	1273.7	1252.54	-1.66%
Shorted	7/24/2008	7/29/2008	1252.54	1263.2	-0.85%
Shorted	8/4/2008	8/5/2008	1249.01	1284.88	-2.87%
Shorted	9/2/2008	9/3/2008	1277.57	1274.98	0.20%
Shorted	9/4/2008	9/16/2008	1232.6	1213.59	1.54%
Shorted	9/17/2008	10/9/2008	1156.39	909.92	21.31%
Bought	10/10/2008	10/16/2008	899.22	946.43	5.25%
Bought	10/17/2008	10/21/2008	940.55	955.05	1.54%
Shorted	10/21/2008	10/31/2008	955.05	968.75	-1.43%
Shorted	11/6/2008	11/20/2008	904.88	752.44	16.85%
Bought	11/21/2008	12/1/2008	800.03	816.21	2.02%
Shorted	12/1/2008	12/3/2008	816.21	870.74	-6.68%
Shorted	1/9/2009	1/26/2009	890.35	836.57	6.04%
Shorted	1/30/2009	2/2/2009	825.88	825.44	0.05%
Shorted	2/10/2009	3/6/2009	827.16	683.38	17.38%
Bought	3/6/2009	6/16/2009	683.38	911.97	33.45%
Shorted	6/16/2009	6/25/2009	911.97	920.26	-0.91%
Bought	6/25/2009	10/1/2009	920.26	1029.85	11.91%
Shorted	10/1/2009	10/9/2009	1029.85	1071.49	-4.04%
Bought	10/9/2009	10/26/2009	1071.49	1066.95	-0.42%
Shorted	10/26/2009	11/3/2009	1066.95	1045.41	2.02%
Bought	11/3/2009	12/4/2009	1045.41	1105.98	5.79%
Shorted	12/4/2009	12/23/2009	1105.98	1120.59	-1.32%
Shorted	12/31/2009	1/4/2010	1115.1	1132.99	-1.60%
Shorted	1/21/2010	1/27/2010	1116.48	1097.5	1.70%
Bought	1/27/2010	2/5/2010	1097.5	1066.19	-2.85%
Bought	2/8/2010	4/30/2010	1056.74	1186.68	12.30%
Shorted	4/30/2010	5/7/2010	1186.68	1110.88	6.39%
Bought	5/10/2010	5/18/2010	1159.73	1120.8	-3.36%
Bought	5/19/2010	5/20/2010	1115.05	1071.59	-3.90%
Bought	5/21/2010	5/28/2010	1087.69	1089.41	0.16%
Shorted	5/28/2010	6/11/2010	1089.41	1091.6	-0.20%
Shorted	6/14/2010	6/15/2010	1089.63	1115.23	-2.35%
Shorted	6/21/2010	7/2/2010	1113.2	1022.58	8.14%
Bought	7/6/2010	8/19/2010	1028.06	1075.63	4.63%
Shorted	8/19/2010	8/27/2010	1075.63	1064.59	1.03%
Bought	8/27/2010	3/7/2011	1064.59	1310.13	23.06%
Shorted	3/7/2011	3/21/2011	1310.13	1298.38	0.90%
Bought	3/21/2011	4/11/2011	1298.38	1324.46	2.01%
Shorted	4/11/2011	4/19/2011	1324.46	1312.62	0.89%
Shorted	5/5/2011	5/31/2011	1335.1	1345.2	-0.76%
Shorted	6/1/2011	6/9/2011	1314.55	1289	1.94%
Bought	6/9/2011	6/15/2011	1289	1265.42	-1.83%
Bought	6/16/2011	8/2/2011	1267.64	1254.05	-1.07%
Shorted	8/2/2011	8/23/2011	1254.05	1162.35	7.31%
Bought	8/23/2011	9/21/2011	1162.35	1166.76	0.38%
Shorted	9/21/2011	10/4/2011	1166.76	1123.95	3.67%
Bought	10/4/2011	11/17/2011	1123.95	1216.13	8.20%
Shorted	11/17/2011	11/23/2011	1216.13	1161.79	4.47%
Bought	11/28/2011	12/14/2011	1192.55	1211.82	1.62%
Shorted	12/14/2011	1/4/2012	1211.82	1277.3	-5.40%
Bought	1/4/2012	3/6/2012	1277.3	1343.36	5.17%

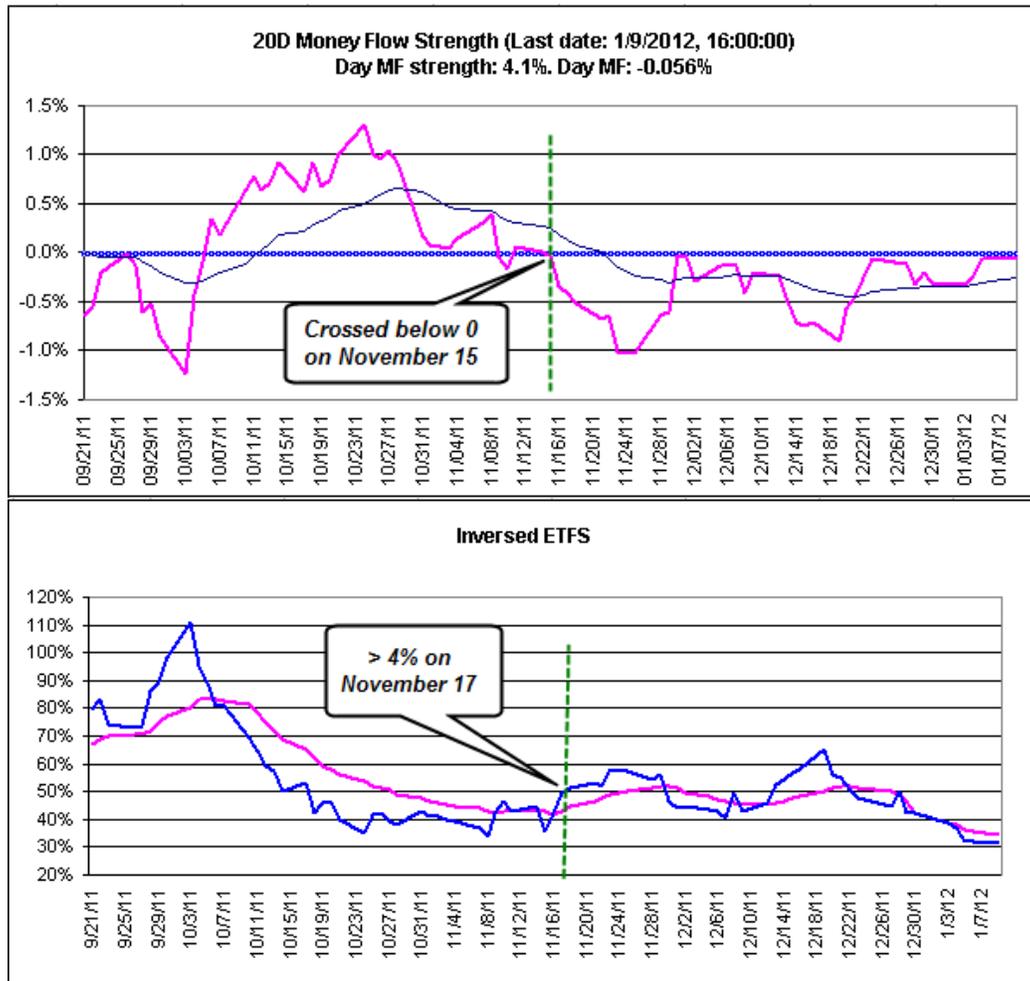
Shorted	3/6/2012	3/9/2012	1343.36	1370.87	-2.05%
Shorted	4/10/2012	4/12/2012	1358.59	1387.57	-2.13%
Shorted	4/13/2012	4/26/2012	1370.26	1399.98	-2.17%
Shorted	5/3/2012	5/21/2012	1391.57	1315.99	5.43%
Bought	5/21/2012	6/7/2012	1315.99	1314.99	-0.08%
Shorted	6/7/2012	6/8/2012	1314.99	1325.66	-0.81%
					194.62%

The 20DMF Evolution of January 11, 2012

Introduction: This evolution deals with the Short and Cover rules of the 20DMF so that inversed ETFs confirmations are used more wisely.

The actual rule **for issuing a short signal** on the 20DMF is simply that the true 20DMF signal (Pink line in the upper panel of the Figure below) must fall below 0 and at the same time, the four main inversed ETFs average TEV extension must be higher than 4% - The extension is the distance between the blue and the pink line in the lower panel.

The **short is covered** when the true 20DMF signal crosses back above the 0 level.



The idea behind the inversed ETFs confirmation of a short signal is that when the selling pressure is intense, in order to avoid outright selling of positions, funds start increasing their hedges using liquid instruments such as inversed ETFs. Such a move would "confirm" the selling pressure.

If we try to think more about this issue, shouldn't we also wait for an inversed ETFs confirmation to cover a short signal? This means that if we waited for the short signal to be confirmed through the detection of increased hedge positions, shouldn't a cover signal be also confirmed by a decrease of the hedges?

Finally, after a short position has been issued and covered, the 20DMF is structured in such a way that there must be another short signal issued before a buy signal. For these consecutive short signals, should we also wait for an inversed ETF confirmation? In reality, such consecutive short signals are the results of fake bounces. Fake bounces are powerful and might **not** need a confirmation.

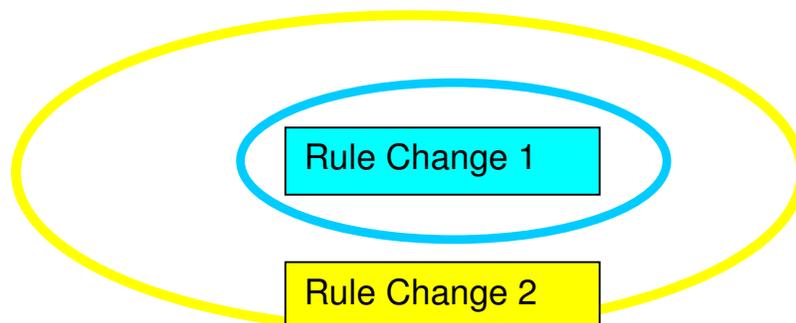
I basically decided to test these ideas. The results are below.

Rule Change 1: The cover signals must also be confirmed (Inversed ETFs must have their extension fall below 4%)

Rule Change 2: A secondary short position does not need a confirmation. On the contrary: a fake bounce can be detected either by the inversed ETF extension not falling back below 4% **OR** by the 20DMF true signal falling back below 0. This means that during the bounce, either large players did not cover their hedges or they increased their short position and kept/pushed the 20DMF in negative territory.

Rule change 1 would typically extend an existing short trade, since it would wait for a confirmation before covering.

Rule change 2 would typically initiate a secondary short trade earlier than before or would create new secondary short trades. It is to be noted that the introduction of Rule Change 2 makes obsolete the introduction of Rule Change 1, because Rule Change 2 intrinsically includes Rule Change 1. Indeed, If a new secondary short is issued as soon as either the 20DMF or the inversed ETFs show weakness, then it means that the old rule to cover shorts only when the 20DMF crosses above 0 (without inversed ETF confirmation) would be overruled by Rule Change 2 - because the non-inversed ETF confirmation would indeed be detected as a shortable weakness.



The trades initiated using the "Old rules" are shown in Table 1.
The trades initiated using the "New rule change 2 - which intrinsically includes new rule change 1" - are shown in Table 2. The differences are shown in yellow.

Comparing both tables, you will note the following points:

1. All the short trades that follow a buy trade are entered at the same date, because they follow the same entry rule for "primary confirmed short" trade. They might however close at different dates.
2. The yellow trades of Table 2 refer to the secondary short trades (the failed bounces.) The failed bounce trades of Table 2 are generated earlier than the confirmed short trades of Table 1, but they also are kept longer.
3. You will note that the "failed bounces" shorts improved the non-compounded returns from 170.93% to 199.51%.

OLD	Start date	End date	Start Price	End Price	Profit/loss
Shorted	7/25/2007	8/1/2007	1517.91	1465.81	3.43%
Bought	8/1/2007	8/3/2007	1465.81	1433.06	-2.23%
Cash	8/3/2007	8/6/2007	1433.06	1467.67	0.00%
Bought	8/6/2007	8/15/2007	1467.67	1406.7	-4.15%
Cash	8/15/2007	8/20/2007	1406.7	1445.55	0.00%
Bought	8/20/2007	11/7/2007	1445.55	1475.62	2.08%
Shorted	11/7/2007	11/29/2007	1475.62	1469.72	0.40%
Shorted	12/17/2007	12/24/2007	1445.9	1496.45	-3.50%
Shorted	12/27/2007	1/22/2008	1476.26	1310.5	11.23%
Bought	1/22/2008	4/30/2008	1310.5	1385.59	5.73%
Shorted	4/30/2008	5/6/2008	1385.59	1418.26	-2.36%
Shorted	5/7/2008	5/12/2008	1392.57	1403.58	-0.79%
Shorted	5/21/2008	6/5/2008	1390.71	1404.05	-0.96%
Shorted	6/6/2008	7/8/2008	1360.68	1273.7	6.39%
Bought	7/8/2008	7/24/2008	1273.7	1252.54	-1.66%
Shorted	7/24/2008	7/29/2008	1252.54	1263.2	-0.85%
Shorted	9/4/2008	9/16/2008	1232.6	1213.59	1.54%
Shorted	9/17/2008	9/18/2008	1156.39	1206.51	-4.33%
Shorted	9/22/2008	10/9/2008	1207.09	909.92	24.62%
Bought	10/10/2008	10/16/2008	899.22	946.43	5.25%
Cash	10/16/2008	10/17/2008	946.43	940.55	0.00%
Bought	10/17/2008	10/21/2008	940.55	955.05	1.54%
Shorted	10/21/2008	10/28/2008	955.05	940.51	1.52%
Shorted	11/12/2008	11/13/2008	852.3	911.29	-6.92%
Shorted	11/14/2008	11/20/2008	873.29	752.44	13.84%
Bought	11/21/2008	12/1/2008	800.03	816.21	2.02%
Shorted	12/1/2008	12/2/2008	816.21	848.81	-3.99%
Shorted	1/14/2009	1/23/2009	842.62	831.95	1.27%
Shorted	1/30/2009	2/3/2009	825.88	838.51	-1.53%
Shorted	2/19/2009	3/6/2009	778.94	683.38	12.27%
Bought	3/6/2009	6/16/2009	683.38	911.97	33.45%
Shorted	6/16/2009	6/25/2009	911.97	920.26	-0.91%
Bought	6/25/2009	10/26/2009	920.26	1066.95	15.94%
Shorted	10/26/2009	11/3/2009	1066.95	1045.41	2.02%
Bought	11/3/2009	12/4/2009	1045.41	1105.98	5.79%
Shorted	12/4/2009	12/23/2009	1105.98	1120.59	-1.32%
Shorted	1/21/2010	1/27/2010	1116.48	1097.5	1.70%

Bought	1/27/2010	2/5/2010	1097.5	1066.19	-2.85%
Cash	2/5/2010	2/9/2010	1066.19	1070.52	0.00%
Bought	2/9/2010	4/30/2010	1070.52	1186.68	10.85%
Shorted	4/30/2010	5/7/2010	1186.68	1110.88	6.39%
Bought	5/10/2010	5/18/2010	1159.73	1120.8	-3.36%
Cash	5/18/2010	5/21/2010	1120.8	1087.69	0.00%
Bought	5/21/2010	5/28/2010	1087.69	1089.41	0.16%
Shorted	5/28/2010	6/10/2010	1089.41	1086.84	0.24%
Shorted	6/24/2010	7/2/2010	1073.69	1022.58	4.76%
Bought	7/7/2010	8/19/2010	1060.27	1075.63	1.45%
Shorted	8/19/2010	8/27/2010	1075.63	1064.59	1.03%
Bought	8/27/2010	3/7/2011	1064.59	1310.13	23.06%
Shorted	3/7/2011	3/21/2011	1310.13	1298.38	0.90%
Bought	3/21/2011	4/11/2011	1298.38	1324.46	2.01%
Shorted	4/11/2011	4/19/2011	1324.46	1312.62	0.89%
Shorted	5/5/2011	5/31/2011	1335.1	1345.2	-0.76%
Shorted	6/1/2011	6/9/2011	1314.55	1289	1.94%
Bought	6/9/2011	6/15/2011	1289	1265.42	-1.83%
Cash	6/15/2011	6/16/2011	1265.42	1267.64	0.00%
Bought	6/16/2011	8/2/2011	1267.64	1254.05	-1.07%
Shorted	8/2/2011	8/3/2011	1254.05	1260.34	-0.50%
Bought	8/15/2011	9/2/2011	1204.49	1173.97	-2.53%
Shorted	9/2/2011	9/6/2011	1173.97	1165.24	0.74%
Shorted	9/21/2011	10/4/2011	1166.76	1123.95	3.67%
Bought	10/4/2011	11/17/2011	1123.95	1216.13	8.20%
Shorted	11/17/2011	11/23/2011	1216.13	1161.79	4.47%
Bought	11/28/2011	12/14/2011	1192.55	1211.82	1.62%
Cash	12/14/2011	12/15/2011	1211.82	1215.75	0.00%
Shorted	12/15/2011	1/4/2012	1215.75	1277.3	-5.06%

170.93%

Table 1: 20DMF Trades using the "old" short rules

NEW RULE 2	Start date	End date	Start Price	End Price	Profit/loss
Shorted	7/25/2007	8/1/2007	1517.91	1465.81	3.43%
Bought	8/1/2007	8/3/2007	1465.81	1433.06	-2.23%
Cash	8/3/2007	8/6/2007	1433.06	1467.67	0.00%
Bought	8/6/2007	8/15/2007	1467.67	1406.7	-4.15%
Cash	8/15/2007	8/20/2007	1406.7	1445.55	0.00%
Bought	8/20/2007	11/7/2007	1445.55	1475.62	2.08%
Shorted	11/7/2007	11/29/2007	1475.62	1469.72	0.40%
Shorted	12/11/2007	12/24/2007	1477.65	1496.45	-1.27%
Shorted	12/27/2007	1/22/2008	1476.26	1310.5	11.23%
Bought	1/22/2008	4/30/2008	1310.5	1385.59	5.73%
Shorted	4/30/2008	5/6/2008	1385.59	1418.26	-2.36%
Shorted	5/7/2008	5/12/2008	1392.57	1403.58	-0.79%
Shorted	5/21/2008	6/5/2008	1390.71	1404.05	-0.96%
Shorted	6/6/2008	7/8/2008	1360.68	1273.7	6.39%
Bought	7/8/2008	7/24/2008	1273.7	1252.54	-1.66%
Shorted	7/24/2008	7/29/2008	1252.54	1263.2	-0.85%
Shorted	8/4/2008	8/5/2008	1249.01	1284.88	-2.87%
Shorted	9/2/2008	9/16/2008	1277.57	1213.59	5.01%
Shorted	9/17/2008	10/9/2008	1156.39	909.92	21.31%
Bought	10/10/2008	10/16/2008	899.22	946.43	5.25%
Cash	10/16/2008	10/17/2008	946.43	940.55	0.00%
Bought	10/17/2008	10/21/2008	940.55	955.05	1.54%
Shorted	10/21/2008	10/31/2008	955.05	968.75	-1.43%
Shorted	11/6/2008	11/20/2008	904.88	752.44	16.85%
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Shorted	12/1/2008	12/3/2008	816.21	870.74	-6.68%
Shorted	1/9/2009	1/26/2009	890.35	836.57	6.04%
Shorted	1/30/2009	2/3/2009	825.88	838.51	-1.53%
Shorted	2/10/2009	3/6/2009	827.16	683.38	17.38%
Bought	3/6/2009	6/16/2009	683.38	911.97	33.45%
Shorted	6/16/2009	6/25/2009	911.97	920.26	-0.91%
Bought	6/25/2009	10/26/2009	920.26	1066.95	15.94%
Shorted	10/26/2009	11/3/2009	1066.95	1045.41	2.02%
Bought	11/3/2009	12/4/2009	1045.41	1105.98	5.79%
Shorted	12/4/2009	12/23/2009	1105.98	1120.59	-1.32%
Shorted	12/31/2009	1/4/2010	1115.1	1132.99	-1.60%
Shorted	1/21/2010	1/27/2010	1116.48	1097.5	1.70%
Bought	1/27/2010	2/5/2010	1097.5	1066.19	-2.85%
Cash	2/5/2010	2/9/2010	1066.19	1070.52	0.00%
Bought	2/9/2010	4/30/2010	1070.52	1186.68	10.85%
Shorted	4/30/2010	5/7/2010	1186.68	1110.88	6.39%
Bought	5/10/2010	5/18/2010	1159.73	1120.8	-3.36%
Cash	5/18/2010	5/21/2010	1120.8	1087.69	0.00%
Bought	5/21/2010	5/28/2010	1087.69	1089.41	0.16%
Shorted	5/28/2010	6/11/2010	1089.41	1091.6	-0.20%
Shorted	6/14/2010	6/15/2010	1089.63	1115.23	-2.35%
Shorted	6/21/2010	7/2/2010	1113.2	1022.58	8.14%
Bought	7/7/2010	8/19/2010	1060.27	1075.63	1.45%
Shorted	8/19/2010	8/27/2010	1075.63	1064.59	1.03%

Bought	8/27/2010	3/7/2011	1064.59	1310.13	23.06%
Shorted	3/7/2011	3/21/2011	1310.13	1298.38	0.90%
Bought	3/21/2011	4/11/2011	1298.38	1324.46	2.01%
Shorted	4/11/2011	4/19/2011	1324.46	1312.62	0.89%
Shorted	5/4/2011	5/31/2011	1347.32	1345.2	0.16%
Shorted	6/1/2011	6/9/2011	1314.55	1289	1.94%
Bought	6/9/2011	6/15/2011	1289	1265.42	-1.83%
Cash	6/15/2011	6/16/2011	1265.42	1267.64	0.00%
Bought	6/16/2011	8/2/2011	1267.64	1254.05	-1.07%
Shorted	8/2/2011	8/23/2011	1254.05	1162.35	7.31%
Bought	8/23/2011	9/2/2011	1162.35	1173.97	1.00%
Shorted	9/2/2011	9/6/2011	1173.97	1165.24	0.74%
Shorted	9/9/2011	9/12/2011	1154.23	1162.27	-0.70%
Shorted	9/21/2011	10/4/2011	1166.76	1123.95	3.67%
Bought	10/4/2011	11/17/2011	1123.95	1216.13	8.20%
Shorted	11/17/2011	11/23/2011	1216.13	1161.79	4.47%
Bought	11/28/2011	12/14/2011	1192.55	1211.82	1.62%
Cash	12/14/2011	12/15/2011	1211.82	1215.75	0.00%
Shorted	12/15/2011	1/4/2012	1215.75	1277.3	-5.06%

199.51%

Table 2: 20DMF Trades using the "new" short rule 2

As a reference, I include below a Table that applies only Rule Change 1, without Rule Change 2.

NEW RULE 1	Start date	End date	Start Price	End Price	Profit/loss
Shorted	7/25/2007	8/1/2007	1517.91	1465.81	3.43%
Bought	8/1/2007	8/3/2007	1465.81	1433.06	-2.23%
Cash	8/3/2007	8/6/2007	1433.06	1467.67	0.00%
Bought	8/6/2007	8/15/2007	1467.67	1406.7	-4.15%
Cash	8/15/2007	8/20/2007	1406.7	1445.55	0.00%
Bought	8/20/2007	11/7/2007	1445.55	1475.62	2.08%
Shorted	11/7/2007	11/29/2007	1475.62	1469.72	0.40%
Shorted	12/17/2007	12/24/2007	1445.9	1496.45	-3.50%
Shorted	12/27/2007	1/22/2008	1476.26	1310.5	11.23%
Bought	1/22/2008	4/30/2008	1310.5	1385.59	5.73%
Shorted	4/30/2008	5/6/2008	1385.59	1418.26	-2.36%
Shorted	5/7/2008	5/12/2008	1392.57	1403.58	-0.79%
Shorted	5/21/2008	6/5/2008	1390.71	1404.05	-0.96%
Shorted	6/6/2008	7/8/2008	1360.68	1273.7	6.39%
Bought	7/8/2008	7/24/2008	1273.7	1252.54	-1.66%
Shorted	7/24/2008	7/29/2008	1252.54	1263.2	-0.85%
Shorted	9/4/2008	9/16/2008	1232.6	1213.59	1.54%
Shorted	9/17/2008	10/9/2008	1156.39	909.92	21.31%
Bought	10/10/2008	10/16/2008	899.22	946.43	5.25%
Cash	10/16/2008	10/17/2008	946.43	940.55	0.00%
Bought	10/17/2008	10/21/2008	940.55	955.05	1.54%

Shorted	10/21/2008	10/31/2008	955.05	968.75	-1.43%
Shorted	11/12/2008	11/20/2008	852.3	752.44	11.72%
Bought	11/21/2008	12/1/2008	800.03	816.21	2.02%
Shorted	12/1/2008	12/3/2008	816.21	870.74	-6.68%
Shorted	1/14/2009	1/26/2009	842.62	836.57	0.72%
Shorted	1/30/2009	2/3/2009	825.88	838.51	-1.53%
Shorted	2/19/2009	3/6/2009	778.94	683.38	12.27%
Bought	3/6/2009	6/16/2009	683.38	911.97	33.45%
Shorted	6/16/2009	6/25/2009	911.97	920.26	-0.91%
Bought	6/25/2009	10/26/2009	920.26	1066.95	15.94%
Shorted	10/26/2009	11/3/2009	1066.95	1045.41	2.02%
Bought	11/3/2009	12/4/2009	1045.41	1105.98	5.79%
Shorted	12/4/2009	12/23/2009	1105.98	1120.59	-1.32%
Shorted	1/21/2010	1/27/2010	1116.48	1097.5	1.70%
Bought	1/27/2010	2/5/2010	1097.5	1066.19	-2.85%
Cash	2/5/2010	2/9/2010	1066.19	1070.52	0.00%
Bought	2/9/2010	4/30/2010	1070.52	1186.68	10.85%
Shorted	4/30/2010	5/7/2010	1186.68	1110.88	6.39%
Bought	5/10/2010	5/18/2010	1159.73	1120.8	-3.36%
Cash	5/18/2010	5/21/2010	1120.8	1087.69	0.00%
Bought	5/21/2010	5/28/2010	1087.69	1089.41	0.16%
Shorted	5/28/2010	6/11/2010	1089.41	1091.6	-0.20%
Shorted	6/24/2010	7/2/2010	1073.69	1022.58	4.76%
Bought	7/7/2010	8/19/2010	1060.27	1075.63	1.45%
Shorted	8/19/2010	8/27/2010	1075.63	1064.59	1.03%
Bought	8/27/2010	3/7/2011	1064.59	1310.13	23.06%
Shorted	3/7/2011	3/21/2011	1310.13	1298.38	0.90%
Bought	3/21/2011	4/11/2011	1298.38	1324.46	2.01%
Shorted	4/11/2011	4/19/2011	1324.46	1312.62	0.89%
Shorted	5/5/2011	5/31/2011	1335.1	1345.2	-0.76%
Shorted	6/1/2011	6/9/2011	1314.55	1289	1.94%
Bought	6/9/2011	6/15/2011	1289	1265.42	-1.83%
Cash	6/15/2011	6/16/2011	1265.42	1267.64	0.00%
Bought	6/16/2011	8/2/2011	1267.64	1254.05	-1.07%
Shorted	8/2/2011	8/23/2011	1254.05	1162.35	7.31%
Bought	8/23/2011	9/2/2011	1162.35	1173.97	1.00%
Shorted	9/2/2011	9/6/2011	1173.97	1165.24	0.74%
Shorted	9/21/2011	10/4/2011	1166.76	1123.95	3.67%
Bought	10/4/2011	11/17/2011	1123.95	1216.13	8.20%
Shorted	11/17/2011	11/23/2011	1216.13	1161.79	4.47%
Bought	11/28/2011	12/14/2011	1192.55	1211.82	1.62%
Cash	12/14/2011	12/15/2011	1211.82	1215.75	0.00%
Shorted	12/15/2011	1/4/2012	1215.75	1277.3	-5.06%

181.48%

Table 3: 20DMF Trades using the "new" short rule 1

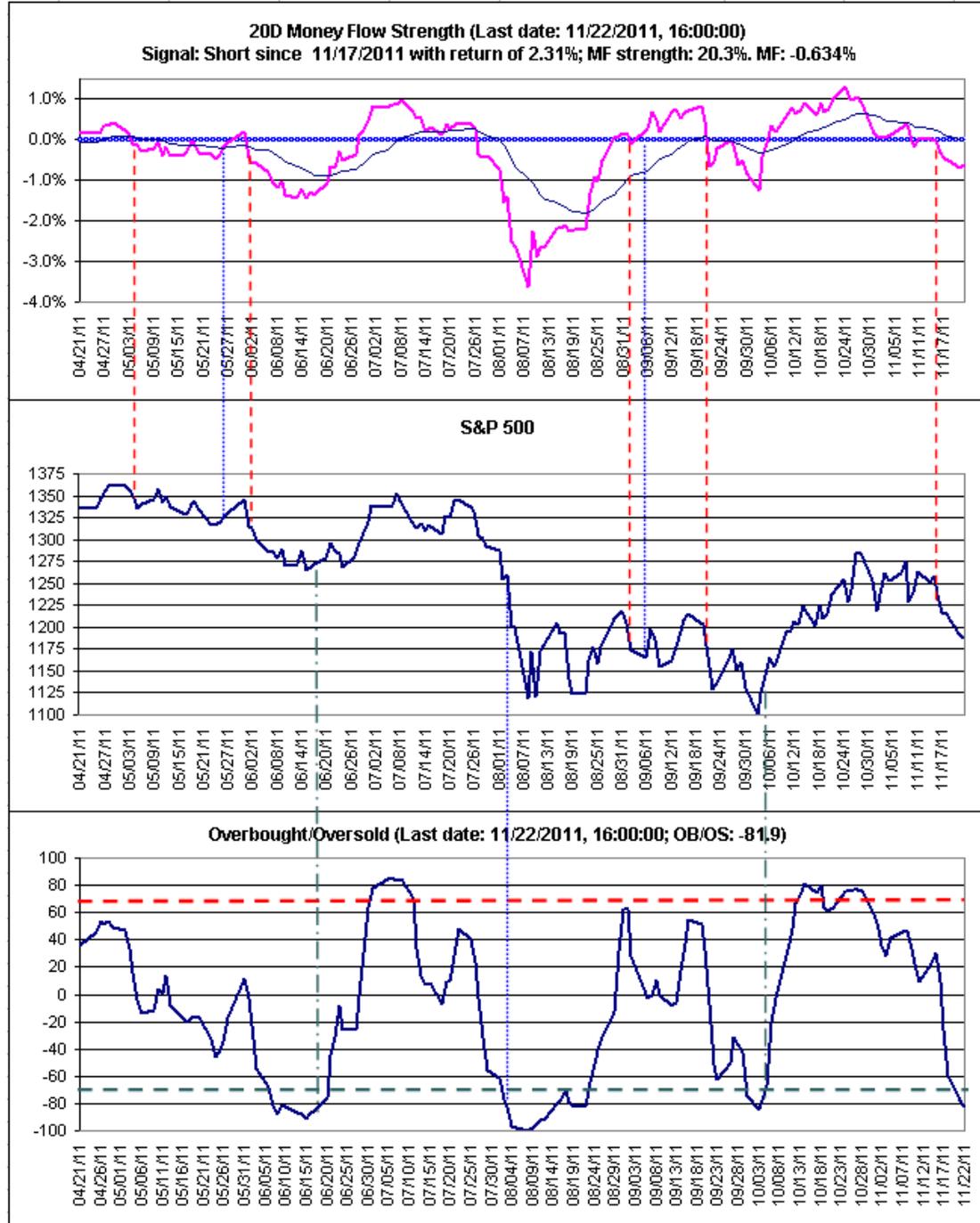
The 20DMF November 22, 2011

Introduction

The 20DMF indicator has undergone several modifications as we have introduced new ideas and an expanded set of rules.

The summary of past evolutions (until November 14, 2010) can be found in the PDF link below.

http://www.effectivevolume.eu/content/Reports/20DMF_Evolution_Nov_14_2010.pdf



The 20DMF trading rules as of Spring 2011

- Go short when the 20DMF breaks below zero, but only when this signal is confirmed by the average TEV extension of the four inversed ETFs (SKF, TWM, SDS, QID). This figure must be higher than 4%.
 - Cover your short when the 20DMF pierces above the zero line.
 - Go long when there is a reversal of the signal in the oversold region of the overbought/oversold boundaries panel, i.e. below the OS cutoff of -70. A directional change of the signal is enough. A directional change is defined as an OS level three points higher than the previous day AND above the -90 level. The MF must also be positive; if it weren't it would mean that price had increased but that money failed to move back in.
- In brief, the time to go long is when these three conditions are in force: there's been a direction change in the OB/OS signal AND the OB/OS level is between -70 and -90 AND MF strength is positive.

Fail Safe rules added in Spring 2011

- If the OB/OS issues a buy signal, then moves above the OB/OS limit, but subsequently falls back below that level, then upon falling back the 20DMF reverts to cash until a buy signal is issued anew.
- When the OB/OS issues a buy signal but then falls below the -90 level, the 20DMF also reverts to cash in order to avoid "waterfall" effects due to the high correlation of the markets.
- Short 20DMF signals are covered when the OB/OS falls below the -90 level, a level from which statistics show that bounces are launched, unless there is an outright crash.

Reasons for the fail safe rules

In early 2011, we developed the IWM trading robot. During the first months of our tests - before going live - we noticed that it sometimes failed to perform well, especially when the 20DMF was on the wrong side of the market for too long.

Indeed, since the 20DMF is a market direction model, it does not include any hard stop. Hence, when it was faulty, it continued sending a wrong market direction signal to the IWM Robot. Since the IWM Robot uses the 20DMF market direction to select its statistical tables from which to evaluate the edges of a specific trade, in the early development stages, the IWM Robot was too often stopped out of a trade, especially for long trades. For this reasons, we introduced "fail safe" mechanisms into the 20DMF.

Finally, in order to adapt the 20DMF tool to increasing market correlation, we also lowered the OB/OS level from -65 down to -70. Indeed, in a highly correlated market, oversold market conditions develop more quickly than in lightly correlated markets.

As we can see by comparing Table 1 with Table 2, this set of new rules had a **negative** impact on the return of the 20DMF. For example, on 8/27/2010, the old rules - of November 2010 - produced a compounded return of 297.17%, while for the same date the new rules produced a significantly lower return of 239.35%.

The new set of fail safe rules forces the 20DMF to turn to cash whenever the market moves in a different direction from the original signal. If these rules have a negative impact on those who trade only the 20DMF, they have beneficial impact on the IWM Robot.

Indeed, the IWM Robot users will remember that when the 20DMF is in cash, the IWM Robot is free to search into both its long and short trade statistical tables before deciding whether it is better to keep or close the current position. As a matter of fact, the new set of rules organizes a transfer of decision power from the 20DMF to the IWM Robot, because the IWM Robot monitors a larger set of elements, such as the volatility, the price trend and the IWM ETF.

Shorted	4/28/2010	5/10/2010	1191.36	1159.73	2.65%	313.41%
Bought	5/10/2010	6/24/2010	1159.73	1073.69	-7.42%	282.74%
Shorted	6/24/2010	7/7/2010	1073.69	1060.27	1.25%	287.52%
Bought	7/7/2010	8/19/2010	1060.27	1075.63	1.45%	293.14%
Shorted	8/19/2010	8/27/2010	1075.63	1064.59	1.03%	297.17%
Bought	8/27/2010	11/12/2010	1064.59	1199.21	12.65%	347.40%

Table 1: Compounded returns calculated with the November 2010 version of the 20DMF without the fail safe mechanisms

Shorted	4/30/2010	5/7/2010	1186.68	1110.88	6.39%	225.75%
Bought	5/10/2010	5/18/2010	1159.73	1120.8	-3.36%	214.82%
Cash	5/18/2010	5/21/2010	1120.8	1087.69	0.00%	214.82%
Bought	5/21/2010	5/28/2010	1087.69	1089.41	0.16%	215.31%
Shorted	5/28/2010	6/10/2010	1089.41	1086.84	0.24%	216.06%
Shorted	6/24/2010	7/2/2010	1073.69	1022.58	4.76%	231.10%
Bought	7/7/2010	8/19/2010	1060.27	1075.63	1.45%	235.90%
Shorted	8/19/2010	8/27/2010	1075.63	1064.59	1.03%	239.35%
Bought	8/27/2010	3/7/2011	1064.59	1310.13	23.06%	317.61%

Table 2: Compounded returns calculated with the November 2011 version of the 20DMF which includes the fail safe mechanisms

Below is a complete list of the 20DMF generated Market direction calls up to November 21, 2011

	Start date	End date	Start Price	End Price	Profit/loss	Cumulated
Shorted	7/25/2007	8/1/2007	1517.91	1465.81	3.43%	3.43%
Bought	8/1/2007	8/3/2007	1465.81	1433.06	-2.23%	1.12%
Cash	8/3/2007	8/6/2007	1433.06	1467.67	0.00%	1.12%
Bought	8/6/2007	8/15/2007	1467.67	1406.7	-4.15%	-3.08%
Cash	8/15/2007	8/20/2007	1406.7	1445.55	0.00%	-3.08%
Bought	8/20/2007	11/7/2007	1445.55	1475.62	2.08%	-1.06%
Shorted	11/7/2007	11/29/2007	1475.62	1469.72	0.40%	-0.67%
Shorted	12/17/2007	12/24/2007	1445.9	1496.45	-3.50%	-4.14%
Shorted	12/27/2007	1/22/2008	1476.26	1310.5	11.23%	6.62%
Bought	1/22/2008	4/30/2008	1310.5	1385.59	5.73%	12.73%
Shorted	4/30/2008	5/6/2008	1385.59	1418.26	-2.36%	10.07%
Shorted	5/7/2008	5/12/2008	1392.57	1403.58	-0.79%	9.20%
Shorted	5/21/2008	6/5/2008	1390.71	1404.05	-0.96%	8.16%
Shorted	6/6/2008	7/8/2008	1360.68	1273.7	6.39%	15.07%
Bought	7/8/2008	7/24/2008	1273.7	1252.54	-1.66%	13.16%
Shorted	7/24/2008	7/29/2008	1252.54	1263.2	-0.85%	12.20%
Shorted	9/4/2008	9/16/2008	1232.6	1213.59	1.54%	13.93%
Shorted	9/17/2008	9/18/2008	1156.39	1206.51	-4.33%	8.99%
Shorted	9/22/2008	10/9/2008	1207.09	909.92	24.62%	35.82%
Bought	10/10/2008	10/16/2008	899.22	946.43	5.25%	42.95%
Cash	10/16/2008	10/17/2008	946.43	940.55	0.00%	42.95%
Bought	10/17/2008	10/21/2008	940.55	955.05	1.54%	45.15%
Shorted	10/21/2008	10/28/2008	955.05	940.51	1.52%	47.36%
Shorted	11/12/2008	11/13/2008	852.3	911.29	-6.92%	37.16%
Shorted	11/14/2008	11/20/2008	873.29	752.44	13.84%	56.15%
Bought	11/21/2008	12/1/2008	800.03	816.21	2.02%	59.30%
Shorted	12/1/2008	12/2/2008	816.21	848.81	-3.99%	52.94%
Shorted	1/14/2009	1/23/2009	842.62	831.95	1.27%	54.88%

Shorted	1/30/2009	2/3/2009	825.88	838.51	-1.53%	52.51%
Shorted	2/19/2009	3/6/2009	778.94	683.38	12.27%	71.22%
Bought	3/6/2009	6/16/2009	683.38	911.97	33.45%	128.49%
Shorted	6/16/2009	6/25/2009	911.97	920.26	-0.91%	126.41%
Bought	6/25/2009	10/26/2009	920.26	1066.95	15.94%	162.51%
Shorted	10/26/2009	11/3/2009	1066.95	1045.41	2.02%	167.81%
Bought	11/3/2009	12/4/2009	1045.41	1105.98	5.79%	183.32%
Shorted	12/4/2009	12/23/2009	1105.98	1120.59	-1.32%	179.58%
Shorted	1/21/2010	1/27/2010	1116.48	1097.5	1.70%	184.33%
Bought	1/27/2010	2/5/2010	1097.5	1066.19	-2.85%	176.22%
Cash	2/5/2010	2/9/2010	1066.19	1070.52	0.00%	176.22%
Bought	2/9/2010	4/30/2010	1070.52	1186.68	10.85%	206.19%
Shorted	4/30/2010	5/7/2010	1186.68	1110.88	6.39%	225.75%
Bought	5/10/2010	5/18/2010	1159.73	1120.8	-3.36%	214.82%
Cash	5/18/2010	5/21/2010	1120.8	1087.69	0.00%	214.82%
Bought	5/21/2010	5/28/2010	1087.69	1089.41	0.16%	215.31%
Shorted	5/28/2010	6/10/2010	1089.41	1086.84	0.24%	216.06%
Shorted	6/24/2010	7/2/2010	1073.69	1022.58	4.76%	231.10%
Bought	7/7/2010	8/19/2010	1060.27	1075.63	1.45%	235.90%
Shorted	8/19/2010	8/27/2010	1075.63	1064.59	1.03%	239.35%
Bought	8/27/2010	3/7/2011	1064.59	1310.13	23.06%	317.61%
Shorted	3/7/2011	3/21/2011	1310.13	1298.38	0.90%	321.36%
Bought	3/21/2011	4/11/2011	1298.38	1324.46	2.01%	329.82%
Shorted	4/11/2011	4/19/2011	1324.46	1312.62	0.89%	333.67%
Shorted	5/5/2011	5/31/2011	1335.1	1345.2	-0.76%	330.39%
Shorted	6/1/2011	6/9/2011	1314.55	1289	1.94%	338.75%
Bought	6/9/2011	6/15/2011	1289	1265.42	-1.83%	330.72%
Cash	6/15/2011	6/16/2011	1265.42	1267.64	0.00%	330.72%
Bought	6/16/2011	8/2/2011	1267.64	1254.05	-1.07%	326.11%
Shorted	8/2/2011	8/3/2011	1254.05	1260.34	-0.50%	323.97%
Bought	8/15/2011	9/2/2011	1204.49	1173.97	-2.53%	313.23%
Shorted	9/2/2011	9/6/2011	1173.97	1165.24	0.74%	316.30%
Shorted	9/21/2011	10/4/2011	1166.76	1123.95	3.67%	331.57%
Bought	10/4/2011	11/17/2011	1123.95	1216.13	8.20%	366.97%
Shorted	11/17/2011	11/21/2011	1216.13	1192.98	1.90%	375.86%

