

Losing Trades; Part II

This paper continues to look into the behavior of traders when it comes to losses.

I will be citing two professors that are experts in this field.

Peter J. Locke is from the Finance Department, School of Business and Public Management, *The George Washington University*, Washington DC.

Steven C. Mann is from the *M.J. Neeley School of Business*, Texas Christian University. Fort Worth, Texas.

Locke and Mann (L&M) have written some fantastic studies on the behavior of the financial market. Their papers have centered on price and trader behavior. Today, I'll continue part I of this paper, *Losing Trades*, and delve into the findings of a 1999 study by Locke and Mann titled, *Do Professional Traders Exhibit Loss Realization Aversion?*

L&M expand on *prospect theory*^[1] (Kahneman and Tversky 1979)^[2] and the *disposition effect*^[3]. L&M call their theory, *Loss Realization Aversion*.

Allow me to move sideways for a few sentences and explain something about *White Papers*. White papers are simply scientific studies written on a specific subject. A White Paper begins with an *abstract* (summary of the paper). The White Papers I've been reading about trader's behavior, concerning losses, all state a very simple concept, in the abstract. In essence they say traders *hold losing trades longer than winning trades and the average position size for losing trades are larger than for winners*. The previous sentence is almost verbatim from L&M's paper, but this is the gist of what all the papers say.

It doesn't matter what type of trader the papers are covering, professional or not. They all exhibit the same behavior. *You* are a professional trader, so you are not immune.

L&M write, "Relatively successful traders are less prone to sit on losing trades."^[4] That statement is simple enough. Yet, it's appears it's extremely complicated to the professional trader.

And, the professional trader has some great stories to back up their reasons for holding on to losers. For example, "*I've had big losses but you're ignoring my big winners.*" That statement is arguable. Show me the data! Well, the data states something different.

L&M write, "...consider trades with absolute revenues over \$100 for the Deutsche mark. While the mean loss is slightly larger than the mean gain (\$227 compared to \$225), the percentage of large losses (14.5%) exceeds the percentage of large gains (11.8%)."^[5]

L&M state that you lose. Large losses are bigger than large gains by just under 3%. Multiply that number by your position limit and probability states you lose. There can be no argument. That's why casinos have all of your money. They have probability on their side, all the time.

Let's move back towards the main topic. That topic is, *professional traders are generally the same as non-professionals in that they hold losers longer than winners.*

L&M write, "Comparing gains to losses, the results are striking: professional traders as a group hold losses significantly longer than gains. Panel A shows that overall, losses are held substantially longer than gains for all four commodities [that they studied]. Median and average holding times for losses range from 35% to 133% longer than counterpart holding times for gains."^[6]

They go on to say, "...we were concerned that gains and losses might be treated differently depending on the size of the absolute revenue. We tested for differences in holding times by revenue magnitude using the revenue categories developed for table 3 [see table(s) at end of paper]. These results are reported in Panel B of table 4, which provides overwhelming evidence that gains are realized more quickly than losses regardless of the magnitude of the absolute gain....Clearly, the professional traders in our sample appear to exhibit the characteristics of loss realization aversion as a group - in that they hold losing trades longer than winning trades."^[7]

Lastly, they write, "Table 5 provides results of tests for differences between prior opportunities to exit trades at gains versus losses by reporting mean and median potential exit minutes for gains compared with losses. The results clearly show that traders, on average, pass up more opportunities to exit losing trades at a loss than they do winning trades at a gain. The first two columns of Table 5 report mean and median potential exit minutes for gains and losses. For all four pits, trades that eventually result in a loss are preceded by significantly more prior opportunities to realize that loss than similar gainful opportunities for their counterpart winning trades."^[8]

If I've gotten the point across that traders hold losers longer than winners, then my job is done. Part III will discuss what successful professional traders do to be successful.

Endnotes

[1] “Prospect theory modifies expected utility theory in two areas, and leads to predictions that are consistent with investor loss realization aversion. First, investor utility is assumed to be a function of gains and losses relative to a benchmark, rather than a function of absolute wealth. Second, while standard utility functions are concave on both sides of a wealth point, prospect theory assumes utility functions that are concave for gains and convex for losses (but steeper so that overall risk aversion is attained). The prediction of a disposition effect relies on these two wrinkles to expected utility theory.” -- *Do Professional Traders Exhibit Loss Realization Aversion?* Locke and Mann, p3.

[2] *Prospect theory: an analysis of decision under risk*, Kahneman, D. and A. Tversky, 1979.

[3] “...the disposition effect, based on the prospect theory of Kahneman and Tversky (1979), as an explanation for the perceived anecdotal evidence at that time of investor reluctance to realize losses. The disposition effect arises when investors focus on a reference point for their position from which gains and losses are calculated, rather than following a portfolio choice model. Agents are alleged to use a form of “frame reference” - evaluating opportunities to close existing positions as either gains or losses, measured against the reference point.” -- *Do Professional Traders Exhibit Loss Realization Aversion?* Locke and Mann, p3.

[4] *ibid* p2.

[5] *ibid* pp12-13.

[6] *ibid* p13.

[7] *ibid* p13-14

[8] *ibid* p15.

Tables and further reading suggestions follow below...

Table 4. Holding times

Panel A: Holding times for trades with nonzero revenues: gains versus losses

Pit:	median trade holding time		average trade holding time		t-stat	Wilcoxon
	gain	loss	gain	loss		
Deutsche mark	2.00	3.60	9.77	13.18	-29.9	-55.9
Swiss franc	2.00	4.33	10.12	14.93	-36.7	-68.7
Live cattle	6.00	12.00	20.42	28.13	-35.5	-46.9
Pork bellies	9.00	21.00	25.51	36.91	-27.2	-36.4

Panel B: Holding times for trades: gains versus losses by size of revenue per contract

Pit	absolute per contract trade revenue (\$y)	median trade holding time		average trade holding time		t-stat	Wilcoxon
		gains	losses	gains	losses		
Deutsche mark							
	y > 100	13.20	18.00	35.52	40.62	-8.6	-15.6
	50 < y ≤ 100	5.00	6.72	12.68	15.26	-9.8	-20.4
	25 < y ≤ 50	2.34	4.00	7.38	9.60	-12.8	-23.6
	10 < y ≤ 25	1.00	1.00	3.58	5.02	-17.0	-28.2
	0 < y ≤ 10	1.57	2.03	5.66	7.03	-7.4	-10.6
	y = 0	0.00		1.88			
Swiss franc							
	y > 100	11.00	16.48	28.96	34.13	-11.2	-25.0
	50 < y ≤ 100	3.50	6.00	9.96	13.65	-15.3	-27.5
	25 < y ≤ 50	2.00	3.00	6.06	9.08	-17.1	-30.5
	10 < y ≤ 25	1.00	1.00	3.34	5.36	-18.1	-30.3
	0 < y ≤ 10	1.70	2.45	6.25	7.56	-5.4	-9.1
	y = 0	0.00		1.78			
Live cattle							
	y > 100	50.18	57.23	59.28	65.69	-5.9	-6.7
	50 < y ≤ 100	20.00	29.88	34.44	43.14	-13.9	-16.0
	25 < y ≤ 50	8.67	14.79	20.81	28.57	-18.3	-23.1
	10 < y ≤ 25	4.00	8.67	14.11	20.88	-19.3	-27.2
	0 < y ≤ 10	1.00	4.00	9.47	13.73	-15.9	-24.7
	y = 0	0.00		3.12			
Pork bellies							
	y > 100	30.81	48.80	45.28	59.85	-14.5	-16.8
	50 < y ≤ 100	12.00	24.00	25.98	37.38	-14.4	-18.5
	25 < y ≤ 50	5.50	14.22	17.71	28.72	-14.7	-20.7
	10 < y ≤ 25	2.00	9.09	14.03	22.09	-10.9	-19.0
	0 < y ≤ 10	4.00	9.00	16.60	22.66	-6.1	-9.3
	y = 0	0.00		4.18			

Note: The table reports trade holding times. The holding time for a position increases by one minute at the start of each minute. As a trader adds to a position, the average hold time for each contract in the position is reduced to reflect the shorter holding time of the newest contracts. As positions are reduced but not eliminated, the hold time of the remaining position increases since additional time has passed. Intraminute trades have a hold time of zero, and do not change the average holding times of previously existing positions.

Table 5. Comparison of exit possibilities for gains & losses.

Trade sign	number of trades	number of prior opportunities to exit trade at gain or loss		average position size during potential exit minutes: gain vs. loss		average absolute mark-to-market during potential exit minutes: gain vs. loss	
		mean	median	mean	median	mean	median
Deutsche mark							
Positive	115,903	17.3	4.0	11.4	5.2	\$1,264	\$157
Negative	84,983	22.2	6.0	13.5	6.0	\$1,499	\$203
		<i>t-test</i>	-26.1	<i>t-test</i>	-21.3	<i>t-test</i>	-3.2
		<i>Wilcoxon</i>	-48.1	<i>Wilcoxon</i>	-22.4	<i>Wilcoxon</i>	-34.1
Swiss franc							
Positive	94,281	17.8	4.0	9.51	4.8	\$1,187	\$195
Negative	68,118	25.3	7.0	11.72	5.0	\$1,800	\$272
		<i>t-stat.....</i>	-35.14		-24.3		-10.2
		<i>Wilcoxon....</i>	-55.57		-22.4		-37.5
Live cattle							
Positive	59,955	29.4	10.0	16.1	8.7	\$1,019	\$220
Negative	40,338	37.0	17.0	19.1	10.0	\$1,143	\$297
		<i>t-stat.....</i>	-26.5		-17.4		-3.7
		<i>Wilcoxon....</i>	-37.1		-22.3		-27.4
Pork bellies							
Positive	20,973	32.4	13.0	6.8	4.0	\$624	\$210
Negative	13,760	40.0	22.0	7.7	4.7	\$708	\$248
		<i>t-stat.....</i>	-15.5		-8.8		-4.4
		<i>Wilcoxon....</i>	-21.8		-11.2		-9.0

Note: The table provides statistics comparing intra-trade activity for winning versus losing trades. All trades held at least one minute that resulted in a gain or a loss are included (intra-minute trades and trades with zero profit are excluded). The first set of statistics report the mean and median number of prior opportunities to exit trades with the same result as the eventual result (i.e., a gain or a loss). The second set of statistics report mean and median position sizes during those potential opportunities to exit the trade with the same result. Finally, the last set of results provide the mean and median maximum mark-to-market (negative for losses, positive for gain, in absolute value) during those potential opportunities to exit the trade at a loss or gain, respectively.

Further Reading

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