

Losing Trades; Part III

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. *Locke and Mann (L&M)*.

Part III will specifically look into the behaviors of successful traders. Most information herein is based on a paper L&M wrote titled, *Do Professional Traders Exhibit Loss Realization Aversion?*

L&M's paper states in essence that traders *hold losing trades longer than winning trades and the average position size for losing trades are larger than for winners.*

So what do successful traders do to avoid this situation? They get out of their losers.

*Defining Success*¹

"To determine whether success is related to discipline, we first tackle the problem of formulating a working definition of success. Intuitively, trading revenue ought to be directly related to trading success. However, the amount of risk undertaken in order to achieve short-term revenue is certainly vital to long-run survival.

"To accommodate this sampling problem, we utilize two related measures of success. The first measure is total income for the six-month sample period. The second measure, which we label 'risk-adjusted performance', or RAP, measures a trader's daily "return" on a measure related to the economic capital required by traders to cover potential losses undertaken in order to trade the position. The RAP measure gives low rankings to traders who may have been successful in terms of income, but exposed themselves to relatively higher risk in the process of generating the income.

"We estimate a measure related to a trader's economically required capital by considering the trader's marked-to-market position for each minute of each day that the trader trades. We define the maximum exposure for each trader each day as the absolute value of the trader's maximum loss exposure (negative mark-to-market) each day. In some cases this may be the largest loss taken by a trader, but more generally will represent the largest potential loss. We define an *ex post* value at risk (VaR) measure as the 95th percentile daily maximum exposure for the trader. If a trader trades for one hundred days, we take the trader's fifth largest potential loss over the hundred days as the *ex post* VaR.

¹ *Do Professional Traders Exhibit Loss Realization Aversion?* Locke and Mann, p21.

“Given our VaR estimates related to trading capital requirements, we define the RAP as the average daily income divided by the VaR. [Table 7 reports distributional statistics for RAP rankings](#). From this table, it is clear that traders with similar average trading incomes vary widely in the amount of risk they take in order to earn the income.

“The first two columns report median incomes and median 95th percentile potential losses for the traders within each quartile. The median trader in the highest RAP-ranked quartile for the Deutsche mark earned a daily average of \$1,101, and the 95th percentile potential loss for traders in the highest ranked Deutsche mark group was \$3,398. The last column of Table 7 provides the RAP for the median trader in the highest-ranked Deutsche mark group has an RAP of 0.359.

“A natural interpretation of the RAP ratio is the relationship of income to potential loss. In this sense, traders with a RAP of 0.20 risk at least 5 times their average daily trading income around once every 20 days. From this table it appears that lower-ranked traders expose themselves to much more risk for a given level of income. For example, the median traders in the second and third ranked Deutsche mark groups have RAPs of 0.142 and 0.058, respectively, which indicates that these traders risk about seven times and seventeen times respectively, their mean daily income every twenty days.”²

So, what does all of this mean? Unsuccessful traders expose themselves to more risk to generate income. Overtime this equation (income potential to loss) states that you will either blow out, or never move to the next level.

Said concisely, L&M state, “...median traders in the second- and third-ranked Deutsche mark groups have RAPs of 0.142 and 0.058, respectively, which indicates that these traders risk about seven times and seventeen times respectively, their mean daily income every twenty days.”³

Let’s look at this from a different perspective. L&M write, “As Table 8 and the figures show, profitability remains relatively constant across holding times for higher ranked traders, in marked contrast to the lowest ranked traders. For example, the lowest RAP quartile for Dmark traders earns \$8.63 per contract on average for trades held less than 1-minute, but lose \$11.52 on average for trades held longer than 10 minutes. In contrast, Deutsche mark traders in the highest RAP quartile have comparable revenue per contract of \$8.44 and a positive \$14.87 respectively.”⁴

“If relative discipline is defined as the relative absence of loss realization aversion, or a relative propensity to quickly take losses, then the evidence in this section is consistent with the notion that relative discipline is related to success. The least successful traders seem particularly prone to the disposition effect.”⁵

² *ibid* pp21-22

³ *ibid* pp21-22

⁴ *ibid* p24

⁵ *ibid* p24

*Summary and Conclusion*⁶

“In this paper we provide evidence that professional futures floor traders appear to be subject to the disposition effect. These traders as a group hold losing trades longer on average than gains. As previous research documenting loss realization aversion focuses in small retail customers and experimental subjects, these findings – that professional traders, whose livelihood depends on their success, also exhibit the disposition effect- provide evidence that behavioral attributes are pervasive in the population.”⁷

“Examination of differences in trading activity and subsequent trader success shows that the least successful traders appear to exhibit most strongly the characteristics described as less disciplined. Specifically, while traders at every success level on average hold losses longer than gains, the least successful traders hold losses the longest while the most successful traders hold losses for the shortest time. Thus there is evidence that trading success is negatively related to the degree of loss realization aversion.”⁸

Locke & Mann

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[Do Professional Traders Exhibit Loss Realization Aversion](#) (pdf file of the original paper.)

The Disposition Effect

“...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.

⁶ ibid p27

⁷ ibid p27

⁸ ibid p28

Table 7

Table 7. Risk-adjusted performance (RAP) distributions.

Pit (# of traders)	mean daily income for the median trader within the quartile (\$)	95th percentile potential loss for the median trader within the quartile (\$)	RAP for the median trader within the quartile
Deutsche mark (109)			
lowest quartile RAP	(205.09)	4,523.38	(0.050)
below median RAP	518.57	9,231.49	0.058
above median RAP	472.06	3,223.28	0.142
highest quartile RAP	1,100.50	3,398.11	0.359
Swiss franc (86)			
lowest quartile RAP	(240.07)	5,148.33	(0.019)
below median RAP	300.69	7,752.35	0.043
above median RAP	1,048.57	6,609.09	0.151
highest quartile RAP	1,518.79	3,593.09	0.401
Live cattle (97)			
lowest quartile RAP	(68.65)	2,355.45	(0.023)
below median RAP	336.51	3,447.36	0.090
above median RAP	372.68	2,002.80	0.165
highest quartile RAP	559.93	1,334.18	0.381
Pork bellies (35)			
lowest quartile RAP	33.30	5,780.00	0.018
below median RAP	1,212.45	5,798.79	0.147
above median RAP	750.26	2,995.61	0.259
highest quartile RAP	549.51	1,014.52	0.548

Note: RAP is trader mean daily income divided by the trader's 95th percentile potential loss. The 95th percentile potential loss is found by finding the largest negative marking to market on each day the trader traded in the sample. Then the 95th percentile of the distribution of these daily statistics is the 95th percentile potential loss.

Table 8

Table 8. Income and holding times across trader success rankings

holding time: t (minutes)	<u>Quartiles defined by RAP ranking</u>				holding time (minutes)	<u>Quartiles defined by Income ranking</u>			
	highest RAP traders	above median traders	below median traders	lowest RAP traders		highest income traders	above median traders	below median traders	lowest income traders
	mean revenue per contract (\$)					mean revenue per contract (\$)			
Deutsche mark									
$t < 1$	8.44	9.26	5.19	8.63	$t < 1$	7.91	8.64	4.03	8.73
$1 \leq t < 2$	9.17	11.08	7.36	6.99	$1 \leq t < 2$	9.26	9.83	6.69	6.90
$2 \leq t < 3$	8.02	9.02	5.84	8.33	$2 \leq t < 3$	8.01	7.50	5.80	8.45
$3 \leq t < 5$	6.78	6.75	5.66	7.13	$3 \leq t < 5$	6.71	6.28	4.97	6.31
$5 \leq t < 10$	4.90	4.68	3.56	5.57	$5 \leq t < 10$	5.01	3.36	0.15	4.49
$10 \leq t$	14.87	5.14	5.94	(11.52)	$10 \leq t$	9.11	4.35	19.42	(19.45)
Swiss franc									
$t < 1$	13.67	12.36	10.70	18.52	$t < 1$	12.67	13.54	13.96	19.14
$1 \leq t < 2$	14.30	14.75	20.91	14.38	$1 \leq t < 2$	14.04	18.13	15.02	13.59
$2 \leq t < 3$	12.08	10.40	22.05	17.87	$2 \leq t < 3$	10.96	16.44	16.37	16.44
$3 \leq t < 5$	12.52	11.99	21.09	7.38	$3 \leq t < 5$	12.61	14.87	9.01	7.93
$5 \leq t < 10$	7.49	7.71	13.69	8.28	$5 \leq t < 10$	8.15	10.44	3.86	7.40
$10 \leq t$	7.87	7.59	5.19	(15.99)	$10 \leq t$	11.78	(0.40)	(1.21)	(18.04)
Live cattle									
$t < 1$	5.09	6.74	6.32	6.19	$t < 1$	5.79	5.65	5.92	6.46
$1 \leq t < 2$	7.05	10.11	11.02	10.00	$1 \leq t < 2$	8.39	9.75	8.20	9.11
$2 \leq t < 3$	7.87	8.42	11.84	6.26	$2 \leq t < 3$	8.80	8.70	7.71	4.46
$3 \leq t < 5$	6.79	10.38	11.34	5.60	$3 \leq t < 5$	8.74	8.87	4.52	7.51
$5 \leq t < 10$	7.97	9.00	10.48	7.52	$5 \leq t < 10$	9.00	7.81	7.97	8.29
$10 \leq t$	12.39	6.25	5.84	0.78	$10 \leq t$	8.09	3.55	5.12	0.95
Pork bellies									
$t < 1$	17.24	17.72	16.25	15.93	$t < 1$	16.04	17.83	19.16	13.03
$1 \leq t < 2$	24.45	31.22	30.99	33.09	$1 \leq t < 2$	31.73	25.39	42.62	8.96
$2 \leq t < 3$	24.32	26.78	27.56	18.15	$2 \leq t < 3$	24.92	25.59	25.27	21.88
$3 \leq t < 5$	26.31	24.05	33.57	35.73	$3 \leq t < 5$	29.46	24.33	44.38	22.61
$5 \leq t < 10$	23.16	23.96	28.00	33.83	$5 \leq t < 10$	23.29	21.08	48.24	23.19
$10 \leq t$	20.41	18.12	17.68	(4.26)	$10 \leq t$	17.24	17.19	9.11	(2.61)

Note: The table reports the mean gain per contract for trades, sorted by holding times, for traders grouped by their rank based on success. The first five columns report mean gains for trader ranks based on total income for the six-month sample period; the second five columns report mean gains for trader ranks based on risk-adjusted income (mean daily income divided by ex-post 95th percentile Value-at-Risk).

Further Reading

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