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Mind Matters

Beware of Action Man

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What do goalkeepers facing a penalty and investors have in common? The answer is that both are prone to action. They feel the need to do something. However, inaction is also a decision. There are times when holding cash is perfectly acceptable, but this remains an anathema to many fund mangers. Perhaps they would be well served to remember Samuelson's advice that "Investing should be dull. It shouldn't be exciting. Investing should be more like watching paint dry or watching grass grow".

- Imagine you are goalkeeper facing a penalty kick. You have no idea which way the penalty taker will choose to direct the kick. You effectively make your decision simultaneously with the kicker. Should you dive left, right, or stay where you are in the centre of the goal?

- Most professional goalkeepers tend to dive either left or right. Indeed diving in one or other direction is the preferred action in a staggering 94% of cases. However, this is not the optimal solution. If you look at the percentage of penalties saved then it becomes clear that the optimal strategy (assuming no change in the behaviour of the kickers) is to stay in the centre of the goal! Goalkeepers display a distinct action bias.

- Evidence from experimental markets suggests that investors display an action bias as well. For instance, an artificial market where fundamental value is easy to calculate and the resale of a share is prohibited, should display no trades above fundamental value. However, time and time again, such experiments reveal massive trading above fundamental value. This makes absolutely no sense. Since re-sale of the shares is outlawed, people can't be transacting in the hope of being able to exploit a greater fool. They are trading out of boredom – the action bias lives!

- Warren Buffett has talked in the past of investment being like a wonderful game of baseball, where there is no umpire calling balls or strikes. Essentially the investor can simply stand at the plate, and let as many pitches go past as they choose, waiting for the fat pitch to turn up in their sweet spot. However, as Seth Klarman notes, "Most institutional investors… feel compelled… to swing at almost every pitch and forego batting selectivity for frequency".

- The late great Bob Kirby once suggested that we should run 'Coffee Can Portfolios' in which investors would have to put stocks, and then not touch them – an idea he described as being passively active. However, Kirby noted this approach was unlikely to be widely adopted as "it might radically change the structure of our industry and might substantially diminish the number of souls able to sustain opulent life-styles through the money management profession." Sounds like a good idea to me!

Beware of Action Man, Or, What do goalkeepers and fund managers have in common

For those who may not know, Action Man was a kid's figurine of a soldier, popular when I was growing up many moons ago. He was the embodiment of macho values, although the impact upon me of coming home from school one day to find that my sister had kidnapped my Action Man and forced him to play happy families with her Cindy doll will have to wait for another weekly! But my childhood issues aside, would you want an action man running your portfolio?

Goalkeepers as Action Men

Although not normally the stars of the team when it comes to action, it transpires that when it comes to penalty kicks top goal keepers are action men. A recent study by Bar-Eli et al[1] reveals some fascinating patterns when it comes to trying to save penalties. In soccer (a sport I know essentially nothing about), when a penalty is awarded, the ball is placed 11 metres from the goal, and it is a simple contest between the goalkeeper and the kicker. The goalkeeper may not move from his line until the kick has occurred.

Given that in the average football match 2.5 goals are scored, a penalty (which has an 80% chance of resulting in a goal) can dramatically influence the result of the game. So unlike many psychological experiments the stakes are significant.

The authors examined penalty kicks from top leagues and championships worldwide. 311 such kicks were found. A panel of three independent judges was used to analyse the direction of the kick and the direction of movement by the goalkeeper. To avoid confusion, all directions (left or right) are relayed from the goalkeeper's perspective.

The table below shows the percentages of kick and dive combinations unveiled by Bar-Eli et al in their data. Very roughly speaking the kicks are equally distributed with around one third of the kicks aimed at the left, centre and right of the goal mouth. However, the keepers display a distinct action bias, they either dive left or right (94% of the time), hardly ever choosing to remain in the middle of their goal.

Joint Distribution of Dives and Kicks

		Dive Direction			
		Left	Center	Right	Total
Kick Direction	Left	18.9%	0.3%	12.9%	32.2%
	Center	14.3%	3.5%	10.8%	28.7%
	Right	16.1%	2.4%	20.6%	39.2%
	Total	49.3%	6.3%	44.4%	100.0%

Source: Bar-Eli et al

However, in order to assess 'optimal' behaviour we need to know the success rate from the combinations of kicks and jumps. This is revealed in the table below. The best strategy is clearly when the goalkeeper stays in the centre of the goal he saves some 60% of the kicks aimed at the center, far higher than his saving rate when he dives either left or right. However,

[1] *Bar_eli, M, Azar, O, Ritov, I, Keidar-Levin, Y and Schein, G (2005) Action bias among elite soccer goalkeepers: The case of penalty kicks (available from http://mpra.ub.uni-muenchen.de/4477/)*

far from following this optimal strategy, goalkeepers stay in the centre just 6.3% of the time! The action bias displayed by the keepers is clearly a sub-optimal behavioural pattern[2].

Chances of Stopping a Penalty Kick

		Dive Direction			
		Left	Center	Right	Total
Kick Direction	Left	29.6%	0.0%	0.0%	17.4%
	Center	9.8%	60.0%	3.2%	13.4%
	Right	0.0%	0.0%	25.4%	13.4%
	Total	14.2%	33.3%	12.6%	14.7%

Source: Bar-Eli et al

The reason for this action bias seems to be that it is regarded as the norm. A goalkeeper at least feels like he is making an effort when he dives left or right, whereas standing in the centre and watching a goal scored to the left or the right of you would feel much worse. Bar-Eli et al confirm this by a questionnaire for top goalkeepers, which reveals this exact sentiment.

Investors and action bias

In order to introduce you to the evidence on an action bias amongst investors I must first introduce the field of laboratory experiments in economics, specifically experimental asset markets.

These are great contraptions for investigating how people behave in a financial market context – without any complicating factors. These markets are very simple – consisting of just one asset and cash. The asset is a share which pays out a dividend once per period. The dividend paid depends upon the state of the world (four possible states). Each state is equally weighted (i.e. there is a 25% probability of each state occurring in any given period).

The table below shows the payouts and the probabilities. From these it is easy to calculate the expected value (simply the payoffs multiplied by their probabilities then multiplied by the number of time periods remaining).

Probability and Payoffs in Experimental Asset Market

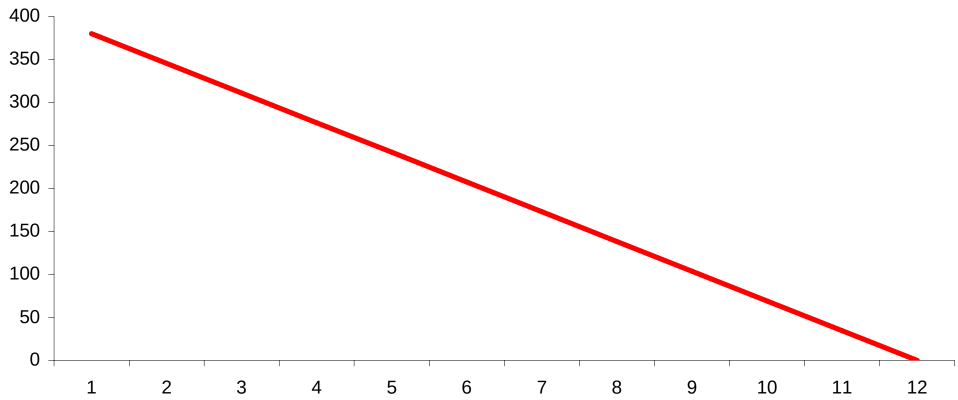
Probability	Payoff
0.25	57.5
0.25	37.5
0.25	27.5
0.25	17.5

Source: Lei et al (2001)

The chart below shows the fundamental value of such an asset. It clearly decreases over time by the amount of the expected dividend paid out in each period. Now you might think that this was a simple asset to trade. However, the evidence suggests otherwise.

[2] *It is of course only optimal for the goalkeeper to stay in the centre of his goal given the current distribution of kicks. If goalkeepers all started staying in the middle of their goals, then the kickers would start shooting left and right exclusively, altering the distribution*

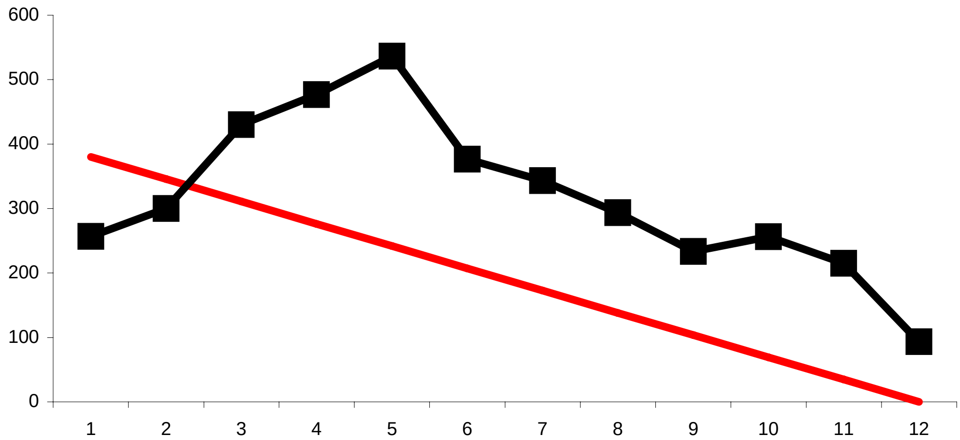
Fundamental value of stock in the experimental market



Source: Lei et al (2001)

The chart below shows a typical result from one of these asset markets. The asset starts off significantly undervalued, and then rises massively above fair value, before crashing back to fundamental value in the final periods.

The formation of a bubble in an experimental market



Source: Lei et al (2001)

This is nothing more than a simple bubble forming and bursting. Okay, so what has this got to do with action bias? Well the chart above comes from a particularly interesting version of the experimental asset market run by Lei, Noussair and Plott[3].

In this particular version of the game, once you had bought shares you were prohibited from re-selling them. This rules out the possibility of a greater fool theory driving the bubble. That is to say, because you can't resell the shares, there is no point in buying them above fair value in the hope you can sell them onto someone else for even more gain. In effect participants were simply trading out of boredom! So it appears that investors have a bias to action as well.

[3] *Lei, V, Moussair, C and Plott, C (2001) Nonspeculative bubbles in experimental asset markets: lack of common knowledge of rationality vs. actual irrationality, Econometrica, Vol 69*

Buffett on the fat pitch

The madness of this bias to action lies in direct contrast to Warren Buffett's advice to wait for the fat pitch. He likes to compare investing with baseball, except in investing there is no umpire calling balls and strikes. So the investor can stand at the plate and simply watch pitches go by him without ever being forced into a swing at a pitch. However, as Seth Klarman notes in his Margin of Safety "Most institutional investors…feel compelled to be fully invested at all times. They act as if an umpire were calling balls and strikes – mostly strikes – thereby forcing them to swing at almost every pitch and forego batting selectivity for frequency".

Bias to action particularly pronounced after poor performance

One final aspect of the bias to action is especially noteworthy – it tends to intensify after a loss (a period of poor performance in our world). Zeelenberg et al[4] illustrate the way in which an inaction bias switches to an action bias by using a loss frame.

Zeelenberg et al ask people to consider something like the following:

> Steenland and Straathof are both coaches of soccer teams. Steenland is the coach of Blue-Black, and Straathof is the coach of E.D.O. Both coaches lost the prior game with a score of 4–0. This Sunday Steenland decides to do something: he fields three new players. Straathof decides not to change his team. This time both teams lose with a score line of 3–0. Who feels more regret, coach Steenland or coach Straathof?

Participants saw this statement in one of three forms. Some saw it as presented above (i.e. framed in terms of a prior loss), others were simply given the second half of the above (i.e. no prior information), and the final group saw a version in which both coaches had won the previous week but lost this week.

The chart below shows the percentage of respondents specifying which coach would experience more regret. If the teams had won last week, then 90% of the respondents thought the coach making changes would feel more regret when the team lost this week (this in the well known inaction or omission bias). However, look what happens when the situation is presented as the teams losing both weeks (as written above). Now the coach not taking any action was thought to be feeling more regret by nearly 70% of respondents – thus when dealing with losses the urge to reach for an action bias is exceptionally high.

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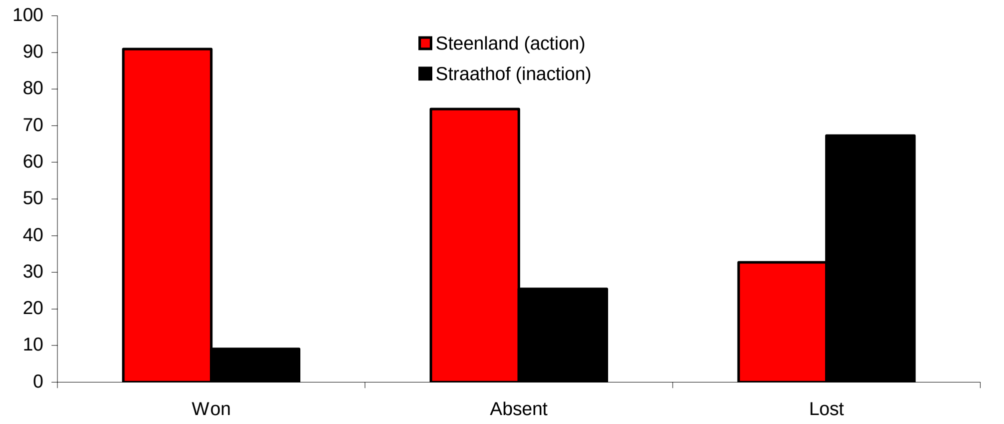
4 *Zeelenberg, M Van Den Bos, K, Van Dijk, E and Pieters, R (2002) The Inaction Effect in the Psychology of Regret, Journal of Personality and Social Psychology, Vol 62*

% of respondents saying the coach would feel more regret



Source: Zeelenberg et al (2002)

Conclusions

The psychological and experimental evidence seems to strongly suggest that investors are prone to an action bias. After all, they are engaged in 'active' management, but perhaps they would do well to remember that inaction is also a decision. As Paul Samuelson once opined "Investing should be dull. It shouldn't be exciting. Investing should be more like watching paint dry or watching grass grow. If you want excitement, take $800 and go to Las Vegas, although it is not easy to get rich in Las Vegas, at Churchill Downs, or at the local Merrill Lynch office."

The legendary Bob Kirby once wrote of the 'Coffee Can Portfolio'[5] in which investors would have to put stocks and then not touch them – an idea he described as being passively active. As Kirby noted.

> I suspect the notion is not likely to be popular among investment managers, because, if widely adopted, it might radically change the structure of our industry and might substantially diminish the number of souls able to sustain opulent life-styles through the money management profession.
>
> The Coffee Can Portfolio concept harkens back to the Old West, when people put their valuable possessions in a coffee can and kept it under the mattress. That coffee can involved no transaction costs, administrative costs, or any other costs. The success of the program depended entirely on the wisdom and foresight used to select the objects to be placed in the coffee can to begin with…
>
> What kind of results would good money managers produce without all that activity? The answer lies in another question. Are we traders, or are we really investors? Most good money managers are probably investors deep down inside. But quotrons and news services, and computers that churn out daily investment results make them act like traders. They start with sound research that identifies attractive companies in promising industries on a longer-term horizon. Then, they trade those stocks two or three times a year based on month-to-month news developments and rumours of all shapes and sizes.

[5] *Kirby, R (1984) The Coffee Can Portfolio, The Journal of Portfolio Management, Fall 1984*

Perhaps Blaise Pascal put it best when he said “All men's miseries derive from not being able to sit in a quiet room alone.”