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The meerkat effect: Personality and market returns affect investors' portfolio monitoring behaviour



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ABSTRACT

Karlsson, Loewenstein and Seppi (2009) found that, following market downswings, investors are less likely to login to monitor their retirement portfolios. They concluded that, rather like (apocryphal) ostriches sticking their heads in the sand, investors avoid unpleasant information by reducing portfolio monitoring in response to news of negative market movement. We apply generalised non-linear mixed effects models to test for this selective information monitoring at an individual level in a new sample of active online investors. We see different behaviour in this new sample. We find that investors increase their portfolio monitoring following both positive and daily negative market returns, behaving more like hyper-vigilant meerkats than head-in-the-sand ostriches. This pattern persists for logins not resulting in trades and weekend logins when markets are closed. Moreover, an investor personality trait – neuroticism – moderates the pattern of portfolio monitoring suggesting that market – driven variation in portfolio monitoring is attributable to psychological factors.

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1. Introduction

A standard assumption of the economics of information is that we should place value on information to the extent that it serves as input to decisions that enable us to obtain desired outcomes. However, recent studies have suggested that we can also value information for its own sake, and derive positive and negative utility directly from information. Loewenstein (2006) discusses cases where individuals seek out or avoid additional information conditional on their expectations of how such information will make them feel, independent of its informational value. For example, in the medical domain Loewenstein et al. (2003) describe how people choose not to book an appointment to see a doctor in order to avoid receiving potentially threatening information about their medical condition even if such information could potentially provide information that would improve the quality of their health and wellbeing. Recent studies in neuroscience (Berns et al., 2006) show that regions of the brain that are activated during the experience of a painful electric shock are also activated in individuals anticipating

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the impending painful experience. The brain activation increases as the time of the shock approaches – behaviour consistent with the notion that the information that one is going to receive an electric shock is, like the shock itself, a source of misery. Indeed, thinking about the shock was so unpleasant that subjects in this study preferred more pain – a higher voltage shock – in order to reduce the time they spent dreading the impending shock.

As well as avoiding negative information people may seek out and relish positive information. Ehrlich et al. (1957) found that owners who recently purchased cars were more attentive to advertisements for the model which they bought compared to the other models they had considered buying. Similarly, Brock and Balloun (1967) found that smokers made more effort to listen to pro-smoking messages than non-smokers, and non-smokers made more effort to listen to a message affirming the link between smoking and lung cancer than smokers. The evidence indicates that, for both positive and negative information, people seek out or avoid information contingent on their expectation of its hedonic impact.

A recent study by Karlsson et al. (2009) has found evidence that people selectively seek out and avoid information in a behavioural finance context. Given that the hedonic disutility of attending to bad news may outweigh its informational benefits, Karlsson et al. (2009) built a model that brings together information acquisition and hedonic utility of information. The model predicts that individuals rapidly seek out definitive information given positive news and avoid information in the face of adverse news or in other words, that they will have asymmetric preferences for the timing and resolution of uncertainty.

In their study Karlsson et al. (2009) explored two datasets. The first dataset from the Swedish Premium Pension Authority represented Swedish citizens' investments in equity and interest-bearing funds for their pensions aggregated across all clients. The second dataset, provided by Vanguard Group, one of the largest investment management companies, aggregated American investors who primarily had personal 401(k) plans – retirement savings plans that can be invested into various funds. In both datasets the authors found that investors selectively attended to information, as shown by portfolio monitoring increasing with rising markets. Karlsson et al. (2009) reported evidence that investors check the value of their portfolios more frequently following positive market movements. In the US dataset prior averaged market return¹ of 1% increased the daily mean number of logins by 5–6% and in the Swedish dataset by 1%.

Borrowing from an earlier study by Galai and Sade (2006), Karlsson et al. (2009) termed this pattern of information monitoring the *ostrich effect*. Galai and Sade's (2006) identification of the ostrich effect stems from their finding that the return on liquid assets was greater than that on equally risky illiquid assets and that this difference in returns was higher in periods of greater uncertainty. Galai and Sade (2006) attributed this observation to investors' willingness to pay a premium for the "bliss of ignorance" (p. 2758). Under a standard economic account people should demand a higher return for the illiquid assets, all other things being equal. The finding of the opposite pattern suggests that both because information about losses is particularly painful, and because information about the performance of illiquid assets is less accessible, investors are more willing to hold illiquid assets. Accordingly, Galai and Sade (2006) attributed investors' preference for illiquid assets over equally risky liquid assets to the avoidance of potentially negative or uncertain information.

More recently, using the same dataset as Karlsson et al. (2009), Sicherman et al. (2013) have extended the analysis of Vanguard clients' (mostly 401k) accounts over the 2007–2008 period to an individual account-level introducing a nonlinear function (cf. Karlsson et al., 2009, who used a linear function) to relate market returns to logins to examine possible differences between the effect of positive and negative returns. Sicherman et al. (2013) confirmed the ostrich effect reporting a significant negative coefficient on a "down Dow" dummy variable which indicated whether the Dow index went down on the previous day. However, they found no corresponding increase in monitoring when the Dow increased; in fact monitoring slightly decreased across the range of positive returns. They confirmed the ostrich effect for negative market returns at both an aggregate and individual level; although many individual accounts had too few logins to enable detection of any effect, about 14% of their sample showed a significant return/login relation and, of these, 79% of investors showed the ostrich effect, while 21% were "anti" ostriches as they had the opposite response to the market returns (increasing logins given negative market returns). Moreover, consistent with the view that the ostrich effect has a psychological basis, Sicherman et al. (2013) find that ostrich behaviour is a relatively stable personal characteristic over time; individuals who displayed ostrich behaviour in 2007 were more likely to display ostrich behaviour in 2008.

In this study we test the effects of market returns on individual investors' portfolio monitoring decisions in a new data set. Our data set is from 617 UK private individuals investing in equities from 2004 to 2009, and contrasts with the Vanguard and Swedish Premium Pension Authority investors allocating into pension funds in 2007–2008. We consider the effects of positive and negative daily market returns separately over a 6 year time period. To preview our results, like Karlsson et al. (2009) and Sicherman et al. (2013), we find that login behaviour depends on market returns, but in our data the dependency is quite different. Rather than the ostrich effect pattern, where people login less after recent negative market returns, we find what we term a *meerkat effect* in which people login *more*, not less, in response to recent negative returns – *as well as* to positive returns.

In attempting to understand why login behaviour should vary as a function of market returns we assume that investor logins may be motivated by different intentions. They may login to trade or merely for portfolio information. Regardless of a trader's intentions both of these kinds of login could result in a trade – or not. In our modelling as well as considering

¹ Karlsson et al. (2009) define prior averaged market returns as the log change in the index relative to the average index level over the previous 4 days.

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