

INVESTOR SHORT-TERMISM AND MANAGERIAL MYOPIA: IRRATIONAL BEHAVIOUR OR HUMAN NATURE?

Prof PD Erasmus
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*INVESTOR SHORT-TERMISM AND MANAGERIAL MYOPIA:
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BEKENDSTELLING

Pierre Erasmus is op 19 Julie 1975 op Caledon gebore en het in die Rûens op die plaas Waboomskloof grootgeword. In 1989 verruil hy die Overberg vir die Paarl, waar hy as 'Boishaaier' sy hoërskoolloopbaan in 1993 aan die Hoër Jongenskool Paarl voltooi. In 1996 behaal hy die graad BCom (Wiskunde) aan die Universiteit Stellenbosch (US), gevolg deur 'n BCom-honneursgraad in Finansiële Rekeningkunde 'n jaar later. Alhoewel finansiële bestuur nie een van sy voorgraadse hoofvakke was nie, besluit hy om dit in sy honneursjaar as keusevak te neem. Min het hy geweet dat hierdie keuse tot 'n loopbaan in die akademie sou lei.

Ná sy honneursjaar was Pierre op pad na die Barossavallei in Australië om as assistent in die wynkelders van die bekende landgoed Yalumba te gaan werk, toe professor Izak Lambrechts hom 'n pos as junior lektor in die US se Departement Ondernemingsbestuur aanbied.

Nadat hy aanvanklik die aanbod van die hand gewys het, besluit hy tog om tydelik na Stellenbosch terug te keer om 'n magistergraad te voltooi. Dié tydelike terugkeer duur uiteindelik heelwat langer as die beplande twee jaar, en hy verwerf in 2001 sy MCom (Ondernemingsbestuur) met lof, gevolg deur 'n PhD in Ondernemingsbestuur in 2008. Op 1 Januarie 2013 word hy bevorder tot professor in die Departement Ondernemingsbestuur.

Gedurende sy akademiese loopbaan publiseer hy artikels in verskeie plaaslike en internasionale vaktydskrifte en lewer talle referate by nasionale sowel as internasionale kongresse. Hy is die mede-outeur van sewe handboeke oor finansiële bestuur. Pierre ontvang in 2009 die Rektorstoekenning vir Voortreflike Navorsing, en in 2010 ken die Nasionale Navorsingstigting 'n Y2-gradering aan hom toe.

Pierre is 'n passievolle dosent wat uitnemende onderrig aan studente wil bied om sodoende erkenning te gee aan die uitstekende onderwysers en dosente wat 'n impak op sy eie ontwikkeling gehad het. Hierdie strewe besorg hom sedert 2011 jaarliks 'n plek as finalis in *Die Burger* se topdosentkompetisie. Hy gee ook klas in finansiële bestuur aan die Universiteit van Utrecht (sedert 2007) en die Nyenrode-bestuursuniversiteit (2015) in Nederland, sowel as aan die Universiteit van Gotland (nou die Gotland-kampus van die Universiteit van Uppsala) in Swede (2011 en 2012). In samewerking met die ASISA Akademie verskaf hy boonop praktykgerigte opleiding in die finansiële en beleggingsbedryf.

Sy klasse konsentreer hoofsaaklik op finansiële beplanning en vooruitskatting, met bepaalde klem op die impak van kapitaalinvestering en die keuse van kapitaalstruktuur op finansiële waardasie. In sy navorsing ondersoek hy vraagstukke met betrekking tot die voortbrenging van volhoubare aandeelhouerswelvaart, met erkenning van die noodsaaklike rol wat korporatiewe sosiale verantwoordbaarheid daarin speel. As sulks het hy 'n renons in die blindelinge najaag van korttermyn finansiële prestasie by beleggers, en hoop hy om deur sy klasse en navorsing 'n beskeie bydrae tot meer verantwoordelike besluitneming te lewer.

INVESTOR SHORT-TERMISM AND MANAGERIAL MYOPIA: IRRATIONAL BEHAVIOUR OR HUMAN NATURE?

The qualities most useful to ourselves are, first of all, superior reasons and understanding, by which we are capable of discerning the remote consequences of all our actions; and, secondly, self-command, by which we are enabled to abstain from present pleasure or to endure present pain in order to obtain a greater pleasure in some future time.

Adam Smith, 1759

For most of these persons are, in fact, largely concerned, not with making superior long-term forecasts of the probable yield of an investment over its whole life, but with foreseeing changes in the conventional basis of valuation a short time ahead of the general public. They are concerned, not with what an investment is really worth to a man who buys it 'for keeps', but with what the market will value it at, under the influence of mass psychology, three months or a year hence.

John Milton Keynes, 1936

INTRODUCTION

The world seems to be moving faster and faster. Bombarded with an ever-expanding stream of new information and facing rapid technological change, we are experiencing intensified pressure to deliver immediate results. Nowhere is this more apparent than in capital markets. Investors harness sophisticated technology to gather, analyse and interpret information and react to new information almost instantaneously. Corporate managers' ability to churn out satisfactory returns to shareholders is under constant scrutiny. In the era of "quarterly capitalism" (Barton, 2011: 86; Millon, 2002: 890), time is indeed money – requiring measurement "in nanoseconds rather than milliseconds" (Budish, Cramton & Shim, 2015).

Surviving in such a fast-paced environment requires the ability to keep abreast of technological change, leading to significant changes in our behaviour. Advances in technological innovation not only influence how we behave, however, but may also have an impact on the way we think. Adapting to the challenges of the information revolution may have produced a neurological rewiring of our brain (Carr, 2011), resulting in a shortened attention span (Haldane & Davies, 2011: 1). The benefits associated with technological innovation therefore may have come at a cognitive cost.

Despite concerns regarding increased short-sighted behaviour by shareholders and corporate management being raised by the business community for some time, empirical evidence assessing the causes and the consequences of this change in behaviour remains limited (Dallas, 2012: 268; Bøhren, Priestley & Ødegaard, 2009: 3). Given our poor understanding of the role short-termism played during the global financial

crisis, I find myself sharing the concerns of those who feel that, if left unchecked, short-termism could severely disrupt long-term sustainable value creation (Davies, Haldane, Nielsen & Pezzini, 2014: 16; Dallas, 2012: 269; Rappaport, 2011: 5; Dobbs, 2009: 127).

In this inaugural address, I will discuss how short-termism impacts on corporate finance. I will start by providing an overview of short-termism by explaining how it influences our behaviour and the resulting impact on financial markets. Given the damaging consequences increased investor short-termism and managerial myopia could have on corporate performance and sustainability, I will then reflect on whether technological innovation and inappropriate incentives could have contributed to these two forms of short-termism. In conclusion, I will identify ways to reduce short-termism by referring to some of the problem areas I have identified.

SHORT-TERMISM: CONFLICT BETWEEN INSTANT GRATIFICATION AND SELF-CONTROL

Short-termism can be defined as a way of thinking or planning that is concentrated on short-term projects or objectives (that will yield immediate advantages or profits), at the expense of long-term security (Oxford Dictionaries, 2014). It therefore refers to a type of behaviour where short-term rewards are optimised with total disregard for subsequent long-term outcomes. In its extreme form, it entails selecting a suboptimal course of action that yields the best short-term results, even if this may prove to be destructive over the long term (Laverty, 1996: 826).

Short-termism is not a new phenomenon, but has been part of human nature since the earliest stages of our

development (Rappaport, 2011: 4). Early hunter-gatherer societies focused on their immediate requirements, and were able to satisfy their needs with small amounts of work. In this environment, characterised by scarce resources and infrequent opportunities, the human brain adapted to prioritise immediate rewards and costs and to disregard those that occur in the future (Roberts, 2014). Considering that the average life expectancy remained at a level of between 30 and 40 years from 100 000 BC until as recently as the 1800s, there was no real need to be saving for the long term (Clark, 2009: 94; Kremer, 1993).

The type of short-term behaviour exhibited by our early ancestors is associated with activity in the limbic (or midbrain dopamine) part of the brain (McClure, Laibson, Loewenstein & Cohen, 2004: 503). Our current environment, however, differs substantially from the one where this type of behaviour was essential for survival. The modern-day need for instant gratification is easily satisfied by an economy that specialises in delivering immediate rewards, while effortlessly deferring the associated costs (Roberts, 2014). Addiction is another remnant of our early behaviour. Drugs release dopamine, which stimulates the limbic part of the brain associated with instant reward. The craving for instant gratification triggers an accelerating self-destructive cycle that will continue towards total destruction unless some form of intervention takes place (Madden, Petry, Badger & Bickel, 1997; Becker & Mulligan, 1997: 729; Bickel, Odum & Madden, 1999; Petry, 2001; Vuchinich & Simpson, 1998).

Given our inherent bias towards the immediate and the certain even when a distant and less certain alternative is likely to be more valuable, we need to recognise the effect this could have on our behaviour when faced with difficult intertemporal decisions (Thaler & Shefrin, 1981: 392). This tendency to discount future outcomes more aggressively than near-term ones was discussed more than a century ago by economists like Marshall (1890) and Jevons (1871). Pigou (1920) described myopic discounting as a “defective telescopic faculty”. In addition to being myopic, discounting also appears to be inconsistent over time. As distant outcomes come closer to the present, we start to alter our preferences (Angeletos, Laibson, Repetto, Tobacman & Weinberg, 2001: 47; Laibson, 1997: 444), in what has been termed “hyperbolic discounting” (Ainslie & Haslam, 1992).

Short-termism holds profound implications for economic and financial systems. Instant gratification today comes at the expense of saving for the future. Under-saving, in turn, impacts negatively on long-run investment and economic growth. Short-termism could also manifest in over-borrowing: using credit to pay for current needs diminishes your future earnings and substitutes it with financial obligations. Similarly, the propensity to realise investments earlier rather than

later could result in over-trading (Haldane, 2010: 7). It is argued that financial innovation may have further contributed to declining savings rates by increasing liquidity and eliminating commitment opportunities (Laibson, 1997: 443).

Well-functioning capital markets are an important determinant of growth (Levine & Zervos, 1998: 537; Levine, 1997: 688). By their very nature, capital markets require patience – transferring savings today into investment tomorrow that will generate future growth (Haldane & Davies, 2011: 1). If short-termism disrupts the transfer of savings that occur on capital markets it would not only undermine economic growth, but also have a negative impact on the financial well-being of all the market participants (Rappaport, 2011: 5).

In developing countries like South Africa, the negative impact that short-termism has on the economy is amplified by some additional factors. To survive on limited means absorbs a large amount of cognitive energy, exaggerating short-term focused behaviour among the poor (Shah, Mullainathan & Shafir, 2012: 682). Some of the consequences of this myopic behaviour are insufficient saving for retirement and over-borrowing from micro lenders. This short-term behaviour also offers a partial explanation for the debt-trap observed in developing countries (Banerjee & Duflo, 2012). The increased tempo of technological innovation and an increasingly competitive global market has also widened the gap between winners and losers, encouraging companies to plan and operate over shorter time frames (Garcia, 2005).

The increased tempo of technological innovation not only resulted in a shortening of corporate planning and operating periods, but also led to a huge amount of information being generated, with almost 99 per cent of total information created over the last century (Haldane, 2015: 18). Although increasing technological innovation holds benefits, it is argued that our response to this information overload may come at a cognitive cost in the form of shortened attention spans (Carr, 2008). As a result we may be adopting shorter-term decision making, which holds important implications for growth, innovation and the development of skills (Hutton, 2015). Short-sighted behaviour can reduce creativity, reducing the development of intellectual capital (Urminsky & Zauberman, 2015). Impatience has also been shown to impact on educational achievement, translating into less favourable future income prospects (Mischel, 2014).

Up to this point, I have sketched a rather bleak picture depicting the problems associated with our inherent propensity for short-sighted behaviour. The resulting failure to make provision for sufficient long-term savings, reliance on the extensive use of credit, frequent trading and shorter decision-making timeframes represent an uncomfortably close resemblance to the self-destructive

cycle associated with addiction (O'Donoghue & Rabin, 2002). What I find even more disconcerting, however, is the realisation that this is not an entirely unfamiliar scenario, but one that corresponds to actual conditions we have been observing in our economic and financial systems for a considerable number of years. Should we interpret this as an indication that we have lost our ability to practise self-control?

Adam Smith (1759) describes the importance of self-command by referring to the benefits associated with delaying present pleasure to some future point in time. Patience is therefore not only a virtue, but enables us to overcome the limitations of our myopic behaviour in order to increase our welfare over the long term. This internal conflict we face when having to select between instant gratification and delayed rewards is reflected in the "double-self" principle (Haldane, 2010: 5), based on the work by psychologists and philosophers like Freud (1958) and Berlin (1969). In the field of behavioural finance, the influence of self-control on our approach towards intertemporal choices is explained by a similar distinction between a "farsighted planner" and a "myopic doer" (Thaler & Shefrin, 1981: 392).

Brain imaging technology suggests that self-control is associated with the pre-frontal cortex of the brain (Figner, Knoch, Johnson, Krosch, Lisanby, Fehr & Weber, 2010: 538; McClure *et al.*, 2004: 503). This is the part of the brain that has developed most recently, with evidence suggesting it formed more or less 30 000 to 50 000 years ago. The evolution of the pre-frontal cortex enabled patience to become one of our distinctive human characteristics. Increased self-control and greater patience in adults can also be linked to the development of the pre-frontal cortex with age (Haldane, 2010: 3).

Research indicates that a greater degree of self-control can be expected to have a positive impact on the development of economic and financial systems. Greater self-control should generate increased household savings that can be used to finance investment by companies. Capital accumulation by companies, in turn, should fuel future output, contributing to economic growth (Levine, 1997: 688; Levine & Renelt, 1992). Since the transfer of savings requires the intermediation provided by capital markets, self-control is also expected to enhance financial systems (Haldane, 2010: 4). By facilitating an efficient transfer of savings and increasing the rewards for delaying consumption, financial intermediaries can encourage saving and promote growth (Levine & Zervos, 1998: 537).

To understand why individuals would be prepared to place constraints on their future behaviour, Fisher (1930) explained intertemporal choice in terms of consumers' time preference for comparatively early income over comparatively remote, or deferred, income. The rate of time preference (or degree of impatience) reflects

a consumer's willingness to defer consumption today for future benefit (Haldane, 2015: 11). The rate of time preference depends on the size, distribution and probability of a consumer's income, as well as a number of personal characteristics. These characteristics include short-sightedness, poor self-control, the habit of spending freely, an emphasis on the shortness and uncertainty of life, selfishness and slavish following of the whims of fashion (Fisher, 1930). The more patient an individual is, the lower his or her rate of time preference would therefore be.

Most economic models assume permanent income and lifecycle preferences (Blackorby, Nissen, Primont & Russell, 1973: 239). When considering real-world behaviour, this assumption is not often satisfied, with evidence that time preferences change, among others, with age and social class (Thaler & Shefrin, 1981; Bishai, 2004), level of poverty (Lawrance, 1991: 54) and aggregate future consumption (Epstein & Hynes, 1983: 611). Risk preferences also change during losing streaks, adding to high-risk, short-term behaviour (Kahneman & Tversky, 1979: 289). It is important to note that incorporating a non-constant discount rate in discounted utility models will take the form of temporary myopia or impulsive behaviour (Strotz, 1955).

When presented with long-term decisions, we are therefore for all intents and purposes, in two minds – facing an internal conflict between the lower-level automatic responses of our brain that evolved in response to specific environments and our more recently developed general cognitive abilities that support abstract reasoning and long-term planning (McClure *et al.*, 2004: 506). To complicate this "internal struggle for self-command" (Schelling, 1984) even further, visceral factors can exert a significant impact on our behaviour (Loewenstein, 1996: 288). Visceral factors can result in impulsive behaviour that is detrimental to our self-interest (Rick & Loewenstein, 2008).

Three areas of behaviour that are influenced by visceral factors have specific consequences for economic behaviour (Loewenstein, 2000: 429). Firstly, bargaining behaviour appears to be influenced by emotions like anger, fear and embarrassment, and could cause us to act in ways that are detrimental to our own economic interests. Secondly, when facing decision making under risk and uncertainty, we appear to fear the known far more than the unknown. Finally, it is also argued that instinctive factors play an important role during intertemporal choice, and could amplify our already inherent bias towards extreme discounting of the future even further. Our immediate emotions at the time we make decisions may override our cognitive behaviour, even if we recognise the detrimental long-term consequences of our decision at the moment we are making the decision (Loewenstein & Prelec, 1992: 595).

Recognising the implications of this type of behaviour therefore becomes critical when making important, long-term decisions during periods characterised by increased levels of emotion.

One area where emotion fuels behaviour that seems to defy expectations is financial markets. Investor sentiment has been shown to distort market prices on financial markets, often resulting in deviations from fundamental values (De Long, Shleifer, Summers & Waldmann, 1990: 735). Conventional finance theory predicts that rational investors would respond to these deviations and force prices back to fundamental values through the process of arbitrage (Shleifer & Vishny, 1997: 35). Rational investors, however, often face limits to arbitrage in the form of high costs and risks associated with correcting sentimental mispricing. Research has shown that the 'irrational' behaviour resulting from investor sentiment often has a substantial and prolonged effect on prices (Barberis & Thaler, 2002: 2). Even though investors appear to comprehend that investor psychology could cause market prices to differ from fundamental values (Shiller, 1987: 1), conventional finance theory fails to reflect the impact that investor behaviour could have on asset prices (Barberis and Thaler, 2002: 3).

During periods of particularly strong investor sentiment, market prices sometimes move to unrealistic levels. If this situation persists for a substantial period of time, it could eventually result in a financial crisis (Baker & Wurgler, 2007: 129). Investor sentiment thus increases the probability of an occurrence of a financial crisis, such as the 2007–2009 global financial crisis (Zouaoui, Nouyrigat & Beer, 2011: 723). This crisis not only had a devastating impact on financial markets, but also caused severe damage to the world economy (Dallas, 2012: 268). In the aftermath of the crisis, recessions and negative investment sentiment caused an increase in the cost of external financing, resulting in limited investment and low employment (McLean & Zhao, 2014: 1377).

INVESTOR SHORT-TERMISM AND MANAGERIAL MYOPIA

Following the collapse of the technology bubble during the early 2000s, numerous studies revealed that increased speculative activity from 1998 to 2000 caused market prices to deviate substantially from fundamental values for a prolonged period of time (Malkiel, 2003; Lamont & Thaler, 2003; Ofek & Richardson, 2003). Even though the collapse of the technology bubble destroyed billions in shareholder value and resulted in the loss of more than 100 000 jobs, executives of the 25 largest technology companies that were suffering the most severe losses managed to accumulate \$3.3 billion from strategically timed sales of their share options (Bolton, Scheinkman & Xiong, 2006: 577).

A more alarming discovery, though, was that managerial short-termism could have been fuelled by the speculative motives of their current shareholders and amplified by incentives rewarding short-term share performance (Bolton *et al.*, 2006: 579). Existing shareholders, succumbing to their primitive need for immediate rewards, would be able to profit from over-optimistic future investors by inducing management behaviour that increases speculative activity in the market. Given the link between share-based compensation and earnings management (Jones & Wu, 2010: 1; Bergstresser & Philippon, 2006: 511; Peng & Roell, 2008: 141), this behaviour provides a strong incentive for earnings manipulation. The resulting mispricing of a company's shares also increases the risk of over-investment in inefficient projects that will become unsustainable once market prices return to appropriate levels (Polk & Sapienza, 2004: 2). Although these consequences of speculative activity could be mitigated by increased corporate governance, regulatory limits on short-term speculative activities may be required to prevent corporate failure (Bolton *et al.*, 2006: 598).

During the period preceding the most recent financial crisis, investors and corporate management by and large ignored repeated appeals from the business community expressing concern over short-termism (Dallas, 2012: 268). These concerns were based on a number of trends consistent with increasing levels of short-termism that were observed over the last three decades. Stock markets (including the JSE) experienced an expansion in the volume of equity trading (Pozen, 2014: 3), an increase in stock turnover (Krehmeyer, Orsagh & Schacht, 2006: 11) and shorter holding periods of investors (Allaire & Firsirotu, 2007: 3) during this period. The average tenure of chief executive officers (CEOs) also showed a marked decline over time (Favaro, Karlsson & Nielson, 2015: 9; Karlsson, Neilson & Webster, 2008: 2). Companies also reduced their spending on research and development (R&D) (Roychowdhury, 2006: 337).

Reports released by the Aspen Institute (2009: 2) warn that short-term behaviour is not limited to a few investors or intermediaries, but is a system-wide problem involving corporate management, boards, investment advisers, providers of capital, and government. The CFA Centre for Financial Market Integrity and the Business Roundtable Institute for Corporate Ethics also acknowledge the significance of short-termism in a 2006 report, referring to an excessive focus on short-term quarterly earnings at the expense of long-term strategy, fundamentals, and conventional approaches to value creation by some corporate managers, investors, and analysts. The CFA report also summarises recommendations on solving short-termism obtained from various stakeholder groups (Krehmeyer *et al.*, 2006: 4).

Along a similar vein, a perspectives paper published by the Global Network of Director Institutes (2014) suggests that managers of large listed companies exhibit imbalanced decision making, favouring short-term objectives, and recommends that the focus should shift towards long-term issues to ensure future sustainability. Management's behaviour is ascribed to investors' demands for short-term results, as well as compensation incentives that favour short-term performance.

A series of high-profile business scandals (such as Enron and WorldCom) provided additional evidence that share-based incentives were indeed motivating management to resort to earnings management (Fisch, 2006: 673; Healy & Palepu, 2003: 3; Rappaport, 2005: 69). It becomes clear that the problems associated with inappropriate incentives were identified and reported extensively towards the mid-2000s. Investors, however, continued to reward management for achieving short-term results rather than long-term value creation (Rappaport, 2011: 6), allowing short-termism to proliferate.

The devastating impact of short-term oriented behaviour on financial markets was reaffirmed during the 2007–2009 global financial crisis (Roberts, 2014), causing market volatility to escalate and endangering the stability of financial institutions (Duruigbo, 2011: 541). Unless decisive action is taken to diminish short-termism on financial markets, financial stability and economic activity will remain under threat (Davies *et al.*, 2014: 16; Dallas, 2012: 269).

Investor short-termism and managerial myopia represent two distinct but interconnected dimensions of financial market short-termism (Moore & Walker-Arnott, 2014: 423). Short-termism is predominately observed at investor level in financial markets, with several studies suggesting that shareholders may overvalue short-term performance and pressure management to inflate performance measures or adjust strategies even if it may be harmful for the company over the long term (Jackson & Petraki, 2011: 12). This behaviour undermines the ability of companies to create stable employment and sustainable value (Duruigbo, 2011: 580).

There is a strong, ubiquitous perception that investors (shareholders) are increasingly focused on the short-term (Marston & Craven, 1998: 233). Those that hold this view claim that investors base their expectations about firms and investment decision making on short-term performance measures (Latham & Braun, 2010: 368). Testing the nature of the interaction between management and shareholders, however, is difficult (Frentrop, 2012: 7) and despite repeated calls to substantiate predominantly anecdotal evidence of financial market short-termism with more formal results, empirical evidence remains limited (Davies *et al.*, 2014: 16).

Applying a basic forward-looking asset-pricing framework, Miles (1993) developed a quantitative model that directly tests for short-termism by comparing the implicit discount rates investors used to discount expected future cash flows occurring at different points in time. Results from this study provided quantitative evidence that United Kingdom (UK) investors applied excessive discounting of future cash flows (Miles, 1993: 1394). Subsequent studies based on modified versions of this model reported similar results for UK and United States (US) companies (Chou & Guo, 2004: 115; Davies *et al.*, 2014: 21). It also emerges that UK and US markets appear to be more susceptible to short-termism compared to other countries (Black & Fraser, 2002: 136). All these results seem to justify claims that investors place too much weight on current profits and dividends (Marsh, 1992: 446–452) and disproportionately discount longer-term cash flows (Bushee, 2001: 211).

When considering investor short-termism, an important distinction between speculative trading and earnings-based investment could be made (Moore & Walker-Arnott, 2014: 424). Speculative trading refers to an extreme form of investor short-termism where holding periods are usually less than one day (sometimes even measured in seconds or milliseconds). These high-frequency trades are performed on the basis of anticipated changes in market attitudes towards a company's shares, and bear little relation to its financial performance. The main disadvantage of high-frequency trading is increased stock market volatility. In contrast, earnings-based investment focuses exclusively on a company's actual or expected earnings and would have an impact on earnings management.

Pressure from shareholders demanding earnings is transferred to corporate management through financial markets, where the failure to deliver will result in the depreciation of the company's share price (Groot, 1998: 215; Jensen, 2005: 5). As a result, corporate management is under pressure to deliver positive and stable financial performance on a constant basis. Academic research and surveys (Marston & Craven, 1998; Graham, Harvey & Rajgopal, 2005; Haldane & Davies, 2011) have indicated that corporate executives perceive investors and the stock market as being short-term oriented.

There is substantial support for the idea that management and investor orientations are reinforced by interaction with each other in such a way that these orientations ultimately lead to the shortening of time horizons (Bolton *et al.*, 2006: 580). The resulting short-termist behaviour could be intensified by financial market participants, such as institutional investors, who mediate the interaction between these two parties. Short-termism therefore reflects the complex interaction between the incentives and preferences of investors, financial market intermediaries and corporate managers

in what has been termed the double-agency problem (Frentrop, 2012: 45).

The investment industry is often criticised for operating over relatively short periods of time (Clearfield, 2005: 118), resulting in shorter holding periods and increased trading volumes. Fund managers are usually evaluated and compensated based on monthly or quarterly returns (Kay, 2012: 41), and these short-term incentives could contribute to increased pressure on corporate management to deliver short-term results. Based on their large shareholding in a company, institutional investors also have the power to exert pressure on the company in an attempt to profit from influencing the share price over the short term, even if this comes at the expense of other stakeholders in the firm (Lipton & Rosenblum, 2003: 78). The size of their shareholding, however, also allows institutional investors to perform a monitoring role that could reduce short-sighted corporate behaviour and improve corporate governance (Chen, Harford & Li, 2007: 279).

The extent to which institutional investors have contributed to investor short-termism is not entirely clear. Evidence that short-termist investors, such as financial institutions, destroy firm value has been reported (Bøhren *et al.*, 2009: 2), with a positive relationship observed between the ownership period and the amount of value destroyed. The presence of short-term institutional investors has also been associated with a higher agency cost of debt (Kim, Mantecon & Songa, 2015: 25). Speculative short-term institutional investors could also support takeover transactions even if it is at the expense of long-term shareholders or has a negative impact on the economy (Lipton, 1979: 112).

There appears to be evidence, however, that institutional investors in general are not short-sighted (Bushee, 2004; 2001; 1998). Institutional investors are heterogeneous, reflecting different investment behaviours. Only one group of institutional investors, classified as transient investors, is characterised by short-term preferences (Bushee, 2004: 31). These investors pursue short-term profits through high rates of turnover. They invest on the basis of technical factors such as momentum trading, rather than company fundamentals (Rappaport, 2005: 66). These investors provide limited monitoring of companies' long-term performance.

The majority of the damaging effects of short-termism originate from the behaviour of transient institutional investors (Pozen, 2014: 4). A company is more likely to cut R&D expenses to meet short-term earnings targets (Bushee, 2004: 307), reflect accrual errors and publish financial restatements (Burns, Kedia & Lipson, 2010: 443) and experience material weaknesses in internal controls (Tang & Xu, 2010: 93) if a transient investor becomes a dominant shareholder.

Management myopia refers to the situation where corporate management, acting to improve its own position or in response to investor pressure, concentrate on achieving short-term profitability without regard for the long-term sustainability of the firm (Duruigbo, 2011: 531). The current form of managerial short-termism is considered to be a product of structural changes caused by management compensation practices that developed from the agency theory. Short-term employment contracts, share-based compensation and the pursuit of high share prices by means of high-risk strategies form the basis of this compensation system (Sappideen, 2011: 412), and it is argued that the short-term nature of these management compensation practices explains increased myopic behaviour by corporate managers.

Independent management myopia refers to short-termist behaviour intended to provide personal benefits at the expense of the company (Lavery, 2004: 832). During takeover transactions, for instance, a company's management may exhibit myopic behaviour to ensure its own positions are safeguarded, even if it is achieved at the expense of the company's shareholders and other stakeholders (Lipton 1979: 112). Corporate managers also appear to favour projects that deliver quick results since they enhance their reputation (Narayanan, 1985: 1469) and are perceived to offer a greater degree of safety (Hirshleifer & Thakor, 1992: 437). This behaviour could be amplified by managerial mobility (Rumelt, 1987). A manager could be rewarded for the returns generated by short-term projects and then exit the company before the long-term negative impact of his decision becomes evident. By ascribing the short-term results to superior management abilities, such a manager would also improve his reputation and demand in the labour market (Campbell & Marino, 1994: 855).

The compensation periods of many corporate managers are very short, with average pay durations of 1.18 years until senior corporate managers are entitled to receive their incentives. Managers with shorter pay durations appear more likely to get involved in myopic investment behaviour, and this behaviour intensifies if a company's shares are overvalued (Radhakrishnan, Milbourn, Song and Thakor, 2010). It could benefit a company with poor corporate governance practices or overvalued shares to increase the pay duration of its corporate managers to reduce potential myopic behaviour. Performance-based management remuneration is furthermore most effective if a large shareholder monitors management's performance (Daines, Nair & Kornhauser, 2005: 18). The presence of large foreign institutional investors in countries with weak investor protection also appears to reduce corporate earnings management substantially (Lel, 2013).

Management myopia resulting from investor pressure usually takes the form of earnings management. Based on earnings estimates that management provides,

investment analysts who monitor a particular company determine earnings targets. Failure to meet these targets usually results in an immediate decline in a company's share price, in many cases dropping by a substantial margin (Millon, 2002: 892). As a result, corporate managers believe that capital market behaviour is influenced by a company's ability to meet earnings expectations rather than its ability to generate the earnings itself (Fuller & Jensen, 2002: 41).

Opposition against the "earnings-per-share mentality" (Millon, 2002: 892) adopted by many corporate managers has been voiced by leading finance academics for more than a decade. Shiller (2002) points out that managers should avoid maximising short-term share prices at the expense of real, fundamental corporate value, and refers to the negative impact their short-term focus has on financial performance and employment, while Fuller and Jensen (2002: 45) call on management to show the courage to confront capital markets by rejecting unreasonable demands for short-term earnings at the expense of long-term value.

Earnings management is achieved through accounting earnings or real earnings management (Dallas, 2012: 278). Accounting earnings management entails either directly manipulating the figures in financial statements, or using off-balance sheet transactions to conceal the fundamental value of a company (Nelson, Elliott & Tarpley, 2003: 17). Real earnings management is an attempt to increase earnings by temporarily increasing sales or delaying discretionary expenses such as R&D, maintenance or marketing (Roychowdhury, 2006: 336). Selecting projects that yield immediate results over more profitable long-term projects, such as selling a division with great future prospects, is another example of real earnings management.

It seems that management has become more adept at finding ways to achieve short-term temporary earnings increases in response to stricter regulation (Koh, Matsumoto & Rajgopal, 2008: 1091). By focusing on less tangible discretionary expenses, management attempts to conceal its myopic behaviour from capital markets (Cohen, Dey & Lys, 2008: 770; Stein, 1989: 659). Information about managers' myopic behaviour is reflected by the time horizons they emphasise in their communication with the market (Brochet, Loumioti & Serafeim, 2015). The time horizons they use are linked to capital market pressures and the terms of their short-term compensation incentives, and also reveal information about accounting earnings and real earnings management activities within the company.

Although both accounting earnings and real earnings management have a negative impact on future financial performance, real earnings management practices result in greater long-term damage (Mizik, 2010: 594). Reduced real investment in order to boost short-term earnings and cash distributions to shareholders comes at the

expense of innovation and future growth opportunities (Lazonick, 2014: 48). Evidence has been provided that real earnings management activities can be reduced by the presence of sophisticated shareholders, such as large institutional investors (Roychowdhury, 2006: 335).

Empirical evidence of managerial short-termism is provided by the influence that capital markets have on companies' R&D investments. It was found that management adjusts its investment in R&D in reaction to changes in the company's market value (Latham & Braun, 2010: 368). If necessary, management would also limit other forms of revenue investment to guarantee short-term accounting profits that meet earnings expectations (Grinyer, Russell & Collison, 1998: 13). Short-termist managerial behaviour is therefore confirmed by corporate managers' attempts to ensure that reported profits will correspond to a certain level.

A survey among corporate managers in Sweden revealed that they perceive lower levels of pressure from capital markets than reported in the US. Consequently, Swedish companies focused on market growth and political uncertainty when evaluating long-term investments, ensuring a longer-term corporate perspective (Segelod, 2000: 243). In contrast to the case in the US, managerial myopia is not considered to be a significant factor during investment decision-making by Swedish corporate managers.

When conducting capital budgeting, a degree of managerial short-termism is often incorporated in the financial assessment criteria applied. Managers frequently use a discount rate much higher than the company's actual cost of capital to evaluate projects (Meier & Tarhan, 2007: 3). In addition, they may impose relatively short payback-period thresholds (Arnold & Hatzopoulos, 2000: 618). Fortunately, the impact of imposing such short-termist thresholds appears to be limited, as represented by a small amount of value loss relative to optimal decision making (Dobbs, 2009: 117).

Based on a UK study it is clear that management is willing to sacrifice long-term shareholder value to meet earnings expectations or to smooth reported earnings (Graham *et al.*, 2005: 4). Managers considered earnings (or earnings per share) as the most important metric observed by investors. The quarterly earnings for the same quarter of the previous year was indicated as the most important earnings benchmark, and management believed that achieving this benchmark would increase the company's share price over the short run. The majority of managers were willing to decrease discretionary spending and implement other forms of real earnings management. But, most alarmingly, more than 80 per cent of the respondents confessed that they would sacrifice investment in positive net present value projects that are expected to pay off in the long run to avoid missing quarterly earnings targets.

REDUCING SHORT-TERMISM

The interaction between investor and management behaviour observed during periods of speculative activity (Bolton *et al.*, 2006) highlights two important aspects. Firstly, investor short-termism contributed to the implementation of incentives that favoured short-term behaviour. Secondly, managerial myopia stemmed from changes in behaviour caused by these incentives. Even though the implementation of inappropriate incentives resulted in value-destructive behaviour, it also demonstrated that incentives are indeed able to influence behaviour (Rappaport, 2011: 7). Consequently, adjusting incentives that will induce changes in behaviour may prove to be more effective than trying to restrain behaviour directly.

It is generally agreed that the most effective way to reduce short-termism would be to incorporate longer time horizons in the compensation packages of corporate managers. Management incentives should reward long-term value creation rather than short-term performance (Pozen, 2014: 2; Rappaport, 2011: 91; Barton, 2011: 86; Aspen Institute, 2007: 4). Comprehensive disclosure of incentive holding periods (Walker, 2010: 472) and including qualitative criteria as part of management performance appraisal (Global Network of Director Institutes, 2014) could also encourage a more long-term orientation.

Combined with longer-term incentives, management should furthermore be persuaded to adopt a corporate culture focused on achieving sustainable long-term value creation (Rappaport, 2011: 127; Global Network of Director Institutes, 2014). Increased investment in activities that contribute to long-term value, such as R&D and infrastructure development, will generate long-term benefits that outweigh the negative impact they may have on short-term share price performance. Management should be assisted to overcome its independent myopia and enabled to disregard shareholder pressure when facing these long-term investments (Duruigbo, 2011: 583).

By improving board structures and governance practices, underlying agency problems that contribute to short-termism could be alleviated (Walker, 2010: 472). Companies also need to overcome problems associated with dispersed and disengaged shareholding. Corporate boards should be strengthened to allow a primary focus on long-run value creation that will benefit all major stakeholders, empower long-term shareholders and ignore pressure from shareholders that are only concerned with short-term profits (Barton, 2011: 86). Reducing the governance influence of institutional investors would undermine corporate accountability, and should be avoided even though it is often advocated as a way to limit inappropriate intervention by institutional shareholders (Pozen, 2014: 2).

Implementing firm-specific measures of long-term value to evaluate performance and linking it to incentives should ensure that management is encouraged to and rewarded for creating sustainable corporate value. To extend the corporate focus on long-term value creation to its shareholders, the same measures should also be employed to communicate long-term objectives and strategies to investors, fund managers and analysts (Aspen Institute, 2007: 3). Short-term earnings guidance (such as public projections of quarterly earnings) should be discouraged or supplemented with more meaningful disclosure (Pozen, 2014: 2). Corporate financial reporting should incorporate reporting practices that relate short-term performance with long-term objectives and strategies, reflect significant uncertainty by replacing a single valuation with a range of estimated values and clearly distinguishing between cash flow and accruals (Rappaport, 2011: 155). Ensuring greater transparency in investor disclosure and encouraging investment behaviour consistent with the company's long-term focus on value creation are necessary to address underlying causes of short-termism, such as market myopia (Aspen Institute, 2009: 5; Global Network of Director Institutes, 2014).

To address investor short-termism directly, a number of measures aimed at discouraging excessive share trading could be considered. Increasing capital gains tax, implementing securities transaction tax and volume-based excise tax could compel short-term investors to extend their holding periods. Companies could also adopt minimum holding periods or time-based vesting by offering increased shareholder participation rights in exchange (Aspen Institute, 2009: 3), or distribute loyalty dividends to long-term shareholders (Duruigbo, 2011: 583). The ability of these measures to affect significant changes in investor behaviour is, however, limited (Pozen, 2014: 2; Stiglitz, 1989: 101; Summers & Summers, 1989: 261, Mahoney, 1995: 713).

Alternatively, the time horizons of investment managers' compensation packages could be increased to improve the alignment between the interests of financial intermediaries and their investors (Rappaport, 2011: 181; Pozen, 2014: 2). Similar to corporate managers, long-term oriented fund managers should be rewarded for long-term value creation rather than short-term performance (Aspen Institute, 2009: 3), thus reducing the potential impact of the double-agency problem (Frentrop, 2014: 56).

CONCLUSION

Our human nature is reflected in our behaviour. As a result, we face the constant conflict between our primitive propensity for short-termism and our more evolved ability to practise self-control. During this battle, carefully considered cognitive decisions are regularly defeated by emotionally charged irrational behaviour. All too often we have to confess that our behaviour is indeed “predictably irrational” (Ariely, 2009).

The business environment has changed dramatically over the last two centuries and the pace of technological innovation is continuing to accelerate. Our failure to acknowledge the impact that our human nature has on our financial behaviour has contributed to increasing instability and worldwide economic turmoil.

When faced with financial decisions, we need to be aware that although we do have the cognitive abilities to recognise and overcome the negative impact of short-termism, our emotions may sometimes prevent us from moving “beyond greed and fear”, as stated by Shefrin (2002).

Finance and economics have attracted the collective blame for the 2007–2009 global financial crisis – those in finance charged with causing the crisis and those in economics blamed for failing to predict it (Buttonwood, 2015). As academics in these fields, we have to ensure that we address the problems identified during the crisis and provide relevant solutions for them.

I want to conclude by borrowing a guiding sentiment for researchers from Loewenstein (1996: 289). Substituting his references to decision theory with finance theory manages to summarise my view on the journey we as finance researchers will have to embark on:

The dismaying consequence of finance theories' lack of general appeal is a widespread tendency for those in the humanities and in the general public to fall back on outmoded theoretical models. The task of finance researchers, as I see it, is to try to breathe more life into finance models without losing the rigor and structure that are the main existing strengths of the perspective. Incorporating the influence of our human behaviour, I propose, is a step in that direction.

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