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Research report

March 2015

Show me the *money!*

The behavioural
science of reward



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Foreword

‘The time is ripe for a renewed look at how we design and apply reward strategies.’

Pay and reward hold a central place in any HR strategy. They can be a major lever, not just in recruitment and retention, but also in improving performance, shaping behaviours and supporting constructive employment relations.

The time is ripe for a renewed look at how we design and apply reward strategies. The challenging global climate has put pressure on pay budgets, but the requirement for reward to support organisational success is as pressing as ever. At the same time, there is a growing body of research from the behavioural sciences – in particular behavioural economics, cognitive neuroscience and psychology – that provides insights into human behaviour at work. This can give us a fuller, more nuanced understanding of what incentivises employees.

Increasing attention is being paid to the application of behavioural science to the field of management. Recent CIPD reports have been a part of this trend, exploring how insights from behavioural science can shed new light on learning and development. This report does the same for the area of reward.

We know we need to supplement theories of ‘rational’ behaviour and decision-making with insights into how people actually behave in practice. But how does this apply to the complex area of pay and reward? What does behavioural science tell us about our responses to different forms of incentive, and how might this translate in an employment setting to base pay, bonuses, pay rises and benefits?

The report forms part of an ongoing programme of research in which we are applying insights from behavioural science to different aspects of HR. Following this report, we will be taking a more in-depth view of executive pay, to explore the opportunities and challenges that exist in developing remuneration packages that encourage and sustain desirable CEO behaviour. Alongside this, we will also undertake research into the behavioural science of another key area of HR, how we recruit and select talent.

We believe the application of behavioural science insights to people management and development has the potential to be game changing. We hope you find this report enlightening and a useful addition to what has been called ‘brain savvy HR’ (Hills 2014).

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Executive summary

This report has two core aims: to give an overview of relevant research in behavioural science to all those who have a responsibility for, or an interest in, employee reward; and to identify how these can be applied to make pay and benefit practices more effective.

Behavioural science has a broad scope, encompassing psychology, cognitive neuroscience and behavioural economics. Historically, reward thinking has been built on the foundations of motivation theory, traditional economic theory and insights from occupational psychology, sociology, philosophy and other disciplines. More recent advances in behavioural science – in particular in behavioural economics and neuroscience – offer a range of original perspectives on the topic and can shed new light on some familiar organisational challenges.

For example, it can offer insights into how:

- our brains respond to the promise of rewards
- different rewards, for example tangible and intangible, financial and non-financial, influence our behaviour
- we perceive fairness in rewards and respond to injustices
- our cognitive biases affect our response to rewards and our choices
- decision-making shortcuts (heuristics) affect our behaviour in relation to rewards.

The report applies these ideas, and many others, to four aspects of reward.

Firstly, we look at **base pay, pay structures and the market.**

We explore the implications of individuals' subjective valuing of rewards, and their approach to equity, for the setting of pay rates. We examine how individuals estimate their own worth, and how they respond to the prospect of progression in pay scales (or barriers to it).

The evidence we review highlights a number of key points. We see that individuals have a subjective view of their own worth which varies over time, being affected by factors such as the wider economic climate and how they compare their own reward and skills to those of peers. As such, we suggest that systems for determining base pay will need to be dynamic and flexible in line with employees' expectations.

Another key finding regards the endowment bias, the tendency to overvalue our own skills in relation to others. This can play out in various ways, including, for example, the loss people at the top of pay scales perceive when they face barriers to pay progression. Having more flexibility in base pay structures can help counter such examples of endowment bias.

However, there is a balance to be struck. Evidence from behavioural science suggests that our need for fairness is deeply ingrained and we seek demonstrable rigour and transparency in determining pay and progression, both for procedural and distributive justice. Clearly, this challenge becomes greater the more that flexibility is built into the system.

'...systems for determining base pay will need to be dynamic and flexible in line with employees' expectations.'

‘...rewards with an individual element do satisfy a need for individual recognition...’

The second theme explored is **variable pay** and how individuals respond to incentives of various kinds. We consider the different effects on people’s behaviour of financial and non-financial incentives, deferred rewards and team or organisation-wide incentives.

We find that money has a powerful effect on behaviour, over and above those arising purely from its value, and including unintended and distorting effects. More generally, in certain contexts, tangible rewards run the risk of undermining intrinsic motivation (the desire to do a good job). They appear to work best in areas where little intrinsic motivation is present, and when the incentives support individuals’ need for autonomy and a sense of competence.

Incentive systems based on team or individual performance may build in dissatisfaction and diminishing returns, as we tend to compare our contributions more favourably than those of others. However, rewards with an individual element do satisfy a need for individual recognition, and the resulting impact on recruitment and retention of high-performers may outweigh these difficulties.

Deferred incentives, such as shares, also face disadvantages because we fail to fully value future rewards. This points to a need, where these are used, to communicate information about their value regularly.

Thirdly, we look at employee responses to **pensions and benefits** as rewards. We particularly focus on how cognitive biases and rules of thumb affect behaviour in relation to pensions. We also consider how people respond to choice in flexible benefits and the withdrawal of benefits.

Traditionally, there has been wide support for offering pension contributions above the required minimum, in particular because of the benefits seen in staff attraction and retention. Evidence from behavioural science suggests employees tend to significantly undervalue the employers’ contributions except in very late career, suggesting that, like deferred incentives, pensions don’t punch their weight as an element of reward. However, proactively and regularly communicating the value of pension contributions can help counter this.

Other benefits, such as healthcare, company cars or gym membership, can form an important and effective part of a reward strategy. Where there is an element of flexibility, they may additionally support diversity and autonomy, but employees may in fact perceive having to make a decision as a cost. Avoiding making a choice may lead to inertia, retaining a form of benefit that is no longer valued. There is thus a case for minimising the range of benefits offered and simplifying the process of selecting them.

It is also worth noting that the subjective value of a benefit to an individual can reduce over time, resulting in a perceived loss, as with the removal of a benefit. Such losses are experienced as greater than the original value of the benefit. We argue employers should refresh the benefits offered, try to avoid offering benefits that may need to be taken away and think carefully about whether removal is necessary.

Finally, we turn to **executive reward**. We look first at how cognitive biases affect executives’ responses to reward packages of different kinds and how this shapes their behaviour, for better or worse.

For example, executives tend to evaluate risk in reward and favour immediate gratification over the longer term. This can be used to explain short-termism and risky behaviours, but also raises concerns that attempts to address such behaviours could trigger adverse reactions from executives.

We then examine how the decisions of remuneration committees can themselves be influenced by biases and decision-making heuristics. The impact of reward is complex in respect to remuneration committees, as a non-executive director in one board might well be influenced by their experience as an executive in another organisation.

A practical recommendation is to support remuneration committees and other stakeholders to understand how their biases and instinctive responses shape reactions to remuneration deals. It is important to understand the neurological impact of poorly presented reward packages.

Ten key behavioural considerations for pay and reward professionals

- 1 Pay and reward decisions have an emotional or subjective component.
- 2 Individuals' preference and satisfaction levels in relation to reward are dynamic, not fixed. External events, for example a recession, can affect individuals' confidence, altering their satisfaction with current reward offers.
- 3 Pay and reward also has a social context, in that we value not only our individual need but make comparison with others. This may be deep-rooted in the functioning of the human brain.
- 4 The implications of pay and reward are highly complex, as individuals and organisations need to assess not only present but also future need.
- 5 Financial or similarly tangible incentives may 'crowd out' people's underlying (intrinsic) motivations.
- 6 Money may have distinctive and powerful effects on behaviour, more so than those engendered by other rewards of equivalent value.
- 7 The complexity of decisions around reward means that people use shortcuts (heuristics), which influence their decision-making.
- 8 Choices in benefits or pensions may be responded to as a cost rather than an opportunity, and should thus be limited and meaningful.
- 9 Deferred reward implies sacrificing immediate consumption for a future reward. We tend to undervalue the future reward, so employers need to counter this through education and communication.
- 10 Risk and uncertainty in reward (for example, in a performance-linked bonus) may reduce the subjective value that employees place on it and can affect their behavioural responses.

Questions for HR professionals to ask themselves

- *Are you dealing with jobs that rely on high levels of autonomy, mastery and purpose?* If so, it may be less appropriate to link pay directly with individual performance.
- *How important is collaborative behaviour in your organisation or department?* This can be encouraged by team-based reward and backed up by individual reward and/or recognition.
- *How much choice do you offer employees in their benefit packages?* Too much can be treated as a cost, so restrict the number of options to a few meaningful ones if possible.
- *When did you last refresh your organisation's benefit offering?* The value placed on a benefit by an employee can reduce over time.
- *How aware are your employees of the value of their pension contributions?* Raising understanding through financial education and communication increases the value people place on pensions.

Introduction

‘...there has been increasing interest in what the behavioural sciences have to offer for an understanding of people in organisations, and what the implications are for decision-makers’

This report is for all those people management and public policy professionals who have a role, or interest, in the design and implementation of pay and benefit systems in organisations. It provides an introduction to a body of research evidence from the emerging field of behavioural science – broadly encompassing psychology, cognitive neuroscience and behavioural economics – and explores how these findings may be applied to the field of organisational reward. Specifically, the report examines the potential contribution of behavioural science in four areas – base pay, variable pay, pensions and benefits and executive reward – in each case exploring what the behavioural perspective can offer reward professionals and identifying implications for practice. The report aims to broaden the evidence base that informs reward decisions and to offer reward strategists new insights, and an original perspective, on contemporary reward issues.

Context

These are interesting and challenging times for reward professionals. The difficult economic climate means that organisations often have less room for manoeuvre in designing their reward strategies. Yet the perennial challenges that HR professionals face in this field still remain – the need for the reward systems to:

- be aligned with the organisation’s strategy
- attract and retain the workforce required to deliver strategies
- encourage better performance, and shape attitudes and behaviours

- reward people in a way that does not create disaffection or dispute.

One of the reasons that the design of reward strategy requires high-level knowledge and expertise is that these imperatives do not always pull in the same direction. When we also consider the restricted budgets available to deliver them (not to mention increasing globalisation and the changing regulatory environment), we can see that the decisions, choices and trade-offs increase further in complexity.

HR professionals have been able to draw on a wealth of research and theory to inform their decisions – from disciplines such as economics and psychology. Recently, however, there has been increasing interest in what the behavioural sciences have to offer for an understanding of people in organisations, and what the implications are for decision-makers (Senior et al 2011, Becker et al 2011). The CIPD has taken a lead in exploring these insights (CIPD 2014), for instance in relation to the field of learning and development. ‘Behavioural’ thinking has been applied widely in other fields (for example financial services, FCA 2013; the study of house prices, Whittle et al 2014) and informs government thinking (the Behavioural Insight, or ‘nudge’, Unit) in relation to a range of policy measures, but has not yet received broad application to the field of organisational reward. This report takes a significant step in addressing that omission.

What is behavioural science and what can it offer?

The term behavioural science encompasses a broad range of disciplines and perspectives. The main strands that inform this report are psychology, organisational cognitive neuroscience (OCN) and behavioural economics.

These approaches offer a departure from the existing psychological and economic theories that underpin our understanding of how people behave in relation to organisational rewards.

For example, OCN offers to go beyond traditional theories of motivation by considering the role of neurophysiological processes as *'the fundamental drivers of individual, group and organisational phenomena'* (Healey and Hodgkinson 2014, p768). Experimental research has shown how the brain responds to the prospect and delivery of rewards, and how this response varies in relation to the form (for example, tangible/intangible) and timing of rewards. Further, research into the 'social brain' explores the distinctive and deep-seated way in which people respond to issues around justice, fairness and co-operation. The insights from this body of research offer new perspectives on issues of equity and justice, which lie at the heart of reward system design. The report will explore both of these aspects and consider their implications for reward strategy.

Behavioural economics provides a counterweight to more traditional views of rational economic decisions and behaviour. The dominant economic perspective on reward has been to consider how an organisation or its management seeks to alter the behaviour of the

employee by tapping into their rational (and thus predictable) desire for reward (an approach known as principal-agent theory). As we discuss later – and as all reward practitioners know – this does not always work out so straightforwardly. Behavioural economics has the potential to contribute significantly here, as it offers an appreciation of the subjective, affective (that is, emotional) side of people's behaviour in relation to the rewards that they desire and are (or are not) offered. Satisfaction¹ with reward is a key factor underpinning employees' behaviour in relation to them, for example whether it attracts or retains their services, or incentivises their performance.

To give a flavour of the report, two of the main behavioural phenomena that will be discussed below are cognitive biases and decision-making shortcuts (known as heuristics). These are psychological responses and information processes which affect our decision-making and levels of satisfaction and are considered by Pompian (2012) as the basis of our internal response to a situation.

For instance, our *cognitive biases* in relation to *confidence* have a considerable impact on how we value an offering, and how satisfied we are with it. If we are confident about our ability to command a greater reward elsewhere, we may be less satisfied with the level of reward we currently enjoy. Our level of confidence has a dual nature: at any one time we can be both under- and overconfident – not knowing whether or not our confidence levels are correct until the next time period. This means, in effect, that we are taking a gamble, the success of which is correlated to the external wider economic factor and thus likely to be a 'win'

See glossary page 40 for further definitions of terms

Box 1: Basic definitions

Cognitive psychology – studies mental processes, thinking, memory and perception.

Occupational psychology – applies psychology to recruitment, people management and learning and development.

Organisational cognitive neuroscience (OCN) – explores the relationship between the biology underlying mental processes and behaviour in organisations.

Behavioural economics – examines how psychological and social factors impact on economic decisions.

¹ We use the term 'satisfaction' in this sense throughout the report (except where the context indicates otherwise), that is, to refer to satisfaction with reward specifically, not more generally with the job, the organisation, and so on.

Box 2: Bias and heuristics

Cognitive biases – internal responses and reactions which can result in a different decision being made than would be externally rational.

Heuristics – these are the ‘rules of thumb’ that people acquire from experience that act as shortcuts to making decisions instead of making exhaustive evaluations of relevant information.

Box 3: How we assess the value of future rewards

Prospect theory – a theory that shows how individuals determine the perceived value of losses and gains. It states that people make decisions based on the potential value of gains and losses rather than what actually happens. The theory suggests, for example, that individuals tend to overweight subjectively the value of a loss compared with a gain. Quite simply, an individual who loses £5 and the next day finds £5 will not ‘break even’ psychologically.

Temporal discounting – suggests that deferral of a reward will lead to a perceived reduction of its value. In addition, our perceived value of the same reward diminishes over time.

in a period of economic recovery or boom; this can result in increased confidence and increased upward pressure on reward.

Our level of ability to consider the future and make accurate assessments of future worth (**temporal discounting**) has considerable impact on our perception of the value of reward. Of particular importance for this report is the perception of the value of *deferred* rewards, be they pension contributions, share ownership schemes or delayed bonuses. For example, Kahneman and Tversky (1979) have shown how deferment often impacts detrimentally on the level of employees’ expectation – an aspect of **prospect theory** – suggesting that employees may find it difficult to be satisfied, for example, with pension contributions as a form of reward (though social norms and societal expectations may partly outweigh this difficulty).

In addition to considering a range of *cognitive biases* and their implications for reward management, we also consider the impact of *heuristics* – the shortcuts we use as laypeople when having to process large amounts of information or different choices. These simplifications in the face of complexity can lead to error or skew choices. For example, the Financial Conduct Authority Occasional Paper on behavioural economics and financial services (2013) demonstrates this in relation to people’s pension decisions. It highlights the difficulties that people have in making key decisions because they lack opportunities to learn about the various complex products available – and choosing requires trade-offs between present and future rewards – and the role of emotions (for example anxiety or regret).

Heuristics have also been shown to be employed by those who are responsible for designing reward systems, for example executive remuneration committees, with similar unexpected or undesirable effects such as groupthink, indicating why there are accusations of reward packages encouraging short-termism and profiteering by senior executives. The report will consider these and the impact of other *heuristics* in greater detail below.

Behavioural science: limitations and possibilities

Before embarking on the detail of the report, we offer a note of balance and perspective. An earlier CIPD report (2014, p5) commented that ‘*behavioural science offers no panacea*’, and we concur with that. As this report considers, cognitive neuroscience can have value in showing how rewards affect us at the deepest, sometimes unconscious level – and we are better informed for these insights; however, there are limits in extrapolating from this to complex social contexts in which organisational reward systems reside. As Healey and Hodgkinson (2014) note, there are difficulties with the idea that behaviour can be reduced to discrete neurological processes. Trying to explain complex social behaviour by observing particular activated regions of the brain has obvious limitations, as it tells us little about the nature of wider contextual factors, for example leader–staff relationships, or why teams function in certain ways. Also, research in this area relies upon experimental designs and is often carried out in laboratory-type settings. While these methodologies provide very useful insights – as the report discusses – there is a need for more research in contextually rich settings (CIPD 2014, Brink and Rankin 2013) such as organisations themselves as opposed to just experimental settings.

Behavioural economics adds a layer of subjectivity and perception to the economic models, and in doing so provides a richer understanding of people's behaviour in relation to organisational rewards than the traditional economic approaches that have underpinned reward thinking. At the very least it provides a new vocabulary and perspective on these issues, and some reinforcement from another discipline on what is already debated. As the report will show, in other areas, for example in relation to deferred rewards' (pensions, shares, and so on) decision-making and choice, it promises to offer genuinely new insights for the reward practitioner to consider. However, there will be those who question whether it offers anything genuinely new to our understanding. It is true that the behavioural approach highlights, for example, the potential deleterious consequences of financial incentives and the damaging effects of perceived inequities. However, some may argue that existing psychological and sociological approaches do this adequately already, and possibly draw on a richer and deeper understanding of human relations at work. But even here, behavioural science offers a new way of approaching and grasping familiar problems.

Others may question the ethics of using behavioural science in the reward field, citing associations with manipulation, subliminal messaging and the like (CIPD 2014). This is a wider debate that cannot be resolved here, but there is nothing in this report that provides an obvious toolkit for ethically dubious interventions. The ethical implications surely depend on the use to which the science is put. If behavioural science were to be used to help employees make better provision for their retirement, or to encourage senior executives to

behave sustainably (as we discuss below), the ethical assessment would surely be different.

Structure of the report

The report is organised around four aspects of reward strategy – *base pay, variable pay, pensions and benefits* and *executive reward* – there follows a section on each of these. These sections provide an overview of recent studies in behavioural science and consider their implications for organisations' reward strategies. In doing so they will address the key choices that HR strategists face in designing reward systems and their components – we call these the 'what', the 'how', the 'who' and the 'when':

- the what – the form of the reward and its size
- the how – the means of determining the reward
- the who – the recipient(s) of the reward – for example individual/team
- the when – whether the reward is immediate or deferred.

Each chapter concludes with a summary of key points and their implications, and the final section of the report draws together the key issues for practitioners to consider in drawing on the insights of behavioural science.

'Behavioural science offers a new way of approaching and grasping familiar problems.'

1 Salaries, pay structures and progression

‘...the perception of the base rate can have considerable behavioural implications; for instance, is base pay set to generate the minimum acceptable amount of productivity or is it to elicit the highest productivity?’

Setting base rates of pay presents a challenge to reward strategists. The core difficulty is that the need to align pay to the market often pulls in a different direction from the equally pressing need to ensure that pay differences within the organisation are transparent and perceived as fair (that is, people know, understand and accept the basis for pay differences). This may be called the flexibility/equity conundrum. At the flexible end of the spectrum are negotiated/determined ‘spot’ rates for individual members of staff (practised by about half the organisations in the CIPD reward management survey (2013a)), and purely market-based pay-setting (practised by around one-fifth). At the other end are grading systems supported by job evaluation (42.5%) and, less frequently now, collective bargaining (16.4%). It is tempting to draw a distinction between the ‘new’, individualised pay closely aligned to the market in the private sector, with a fading collectivised, internal equity-based model in the public sector. While this contains some truth, it represents a considerable oversimplification. For example, job evaluation remains alive and well in the commercial sector, and it supports market-based approaches more often than it operates as an alternative to them; and traditional narrow-grading systems are more common in manufacturing and production than they are in public services.

There are three aspects here that we wish to turn our ‘behavioural’ lens to – the market for salaries, pay structures and, finally, pay progression.

Pay and the market

In classical economic theory, pay should be determined at the intersection of supply and demand. However, the going market rate is difficult to determine for practitioners. Firstly, the increasing complexity of pay packages means it is harder to make base-rate comparisons, and in any case sources of reliable pay information are less readily available than they were – not least in a global market for skills. Secondly, the market is subject to ‘distortions’ such as minimum wages, tax policy, upward pressures (for example for living wages, and from trade unions) and government policy. Thirdly, organisations may not have complete flexibility in how they respond to the market. For example, the most commonly cited factor in setting pay rates in the CIPD survey was ability to pay. Also, as Perkins and White (2011) note, organisations may have less room for manoeuvre on base rates at present, given that their longer-term offering (career progression) may be less attractive to employees and prospective employees.

Traditional economic theory suggests a supply and demand mechanism towards labour pricing, which has a useful logical consistency. There is a level of reward that each individual is satisfied with; however, crucially, this is not necessarily determined by the supply and demand or a simple subsistence calculation. Internal subsistence calculations encompass everything that the individual wants and needs with a level of expectation of the future as well. This is difficult for an

employer to estimate as there is a considerable subjective component and, of course, it is specific to the individual: I may value free time far more or less than you; likewise, notwithstanding basic necessities, we tend to subjectively value the same reward differently. This makes setting pay rates very difficult and necessitates a behavioural consideration in its design.

Furthermore, an individual's perceived level of satisfaction with their reward is influenced by numerous external and internal factors. The former include the labour supply, necessary training and skill sets, the wider economic context and the tax regime, and these can overcome quite easily internal (behavioural) factors. For instance, an individual with a market-average level of reward may be quite satisfied with it in the context of a recession, but far less so within the context of a recovery or economic boom. The dynamic nature of individual satisfaction with reward predominantly relates to an individual's confidence in the future. For example, if an external factor reduces confidence in the future, an individual's satisfaction with their current reward should increase. This results in a change in individual outlook from seeking to increase their reward level to instead merely wishing to maintain it: consequently, they now value their current reward more. These external factors tend to have the largest effect – however, again, this is often subjective – economic downturns are worries for some, opportunities for others. They are often cyclical, unpredictable and systemic, and are often outside the control of the organisational reward strategist – but will nonetheless provide important contexts for the decisions that they make.

Internal factors include the tendency of individuals to

subjectively attribute a premium to their own skills – the **endowment bias**.

This suggests that in a time of shortage of labour supply, the base rate will effectively become the market rate plus acceptable premium. On the other hand, where there is a surplus of labour demand, one can expect the base rate to equal the market rate. However, the perception of the base rate can have considerable behavioural implications; for instance, is base pay set to generate the minimum acceptable amount of productivity or is it to elicit the highest productivity? Social norms and expectations will have a large impact here: for instance, a common strategy for new team members is to assess the productivity of co-workers and aim to equal that; further, over the long term an employee may equate reward with initial expectations and then not adapt or upskill. The current reward level rapidly becomes expected and potentially seen as something that is going to happen, regardless of productivity. Behavioural theory suggests that base pay needs to be a dynamic rather than static amount, with refreshing of productivity expectations.

Pay structures

Research in behavioural science (Tabibinia and Lieberman 2007) has shown that the perceived fairness of rewards is a very strong factor in people's response to them, and that it has deep roots in the development of the human brain. Not only does being the recipient of (perceived) unfairly distributed rewards produce a range of negative emotions, experimental work has shown that inequity aversion is so strong that people may pass up receipt of a reward themselves if the distribution of rewards in relation to others is perceived as unfair.

Box: 4 Do we overestimate our worth?

The **endowment bias** suggests that we will value our own skills above the market value.

‘...individuals who falsely attribute a premium to their own skills, or overestimate their own contribution to success, will feel a loss and unfairly treated if they don’t receive an increment...’

Behavioural science also suggests that our subjective value of our level of pay and reward is inherently linked to our perception of others and how they are rewarded for the same productivity. For instance, discovering a co-worker of the same level is rewarded more for the same activity tends to illicit considerable resentment. Furthermore, if this is combined with an **endowment bias** (Box 4), a situation of perceived unfairness is revealed. As noted above, individuals prone to the endowment bias attribute a premium above the market price to their own skills; therefore, if a group of employees doing the same job are all paid the same, most individuals who feel their own skills are superior will perceive an unfairness in treatment.

All of this has considerable implications for the design of pay structures. There is a trade-off here between transparency and procedural justice, on the one hand, and flexibility and responsiveness, on the other. As noted above this is reflected in a continuum of pay structures between individualised rates at one end and narrow-grading systems and pay spines at the other. Somewhere in between are broadband systems and job families, which offer an overarching structure but considerable flexibility for managers to progress people within them. The behavioural science reinforces the point that finding an appropriate place on this continuum is fraught with difficulties. For example, a recognition of our ‘social brains’, our apparently ‘hard-wired’ desire for fairness, tend towards structured grade systems, underpinned by job evaluation and limited (or zero) scope for management discretion in progression. On the other hand, an understanding of the endowment bias suggests that this may ‘build

in’ a sense of unfairness given the tendency of people to compare themselves with others.

Pay progression

Around a third of organisations (CIPD 2013a) are using *time-based progression systems*, where individuals progress up incremental scales to the top point of a grade – a system that has moved from being relatively uncontroversial to being very much under the political microscope. The behavioural consequences of such an approach, and of moving away from it, are certainly worth exploring.

Incremental systems can build a considerable level of expectation into an employee’s outlook; this expectation can have several implications for the pay and reward strategy of an organisation firm. A common scenario is an employee reaching the top of a pay scale. Increments which are seen as automatic can have little effect on the productivity of an employee as it may have already been calculated into the value of the reward package. The **endowment bias** suggests that individuals who falsely attribute a premium to their own skills, or overestimate their own contribution to success, will feel a loss and unfairly treated if they don’t receive an increment or are refused discretionary extensions at the top of the scale – particularly if other people gain an increment. Similarly, a failure to meet expectations of pay enhancements is in effect perceived as a reduction in reward. **Prospect theory** suggests this loss may take several increases in future reward to compensate for (because we over-weight subjectively the value of a loss) and will have considerable impact on morale. The recent example of the NHS in the UK, where staff were offered a pay rise or an increment, but not both, is a case in point.

Skills-based pay progression can also have several behavioural implications; for instance, how do we define skills in a universal way and how do employees subjectively value their own skills (say, compared with others in the organisation or others' experience)?

At one level, it is clear that certain skills derived from accredited training are easily recognised by employees and employers. However, the **endowment bias** comes into play again, potentially generating issues of perceived unfairness. For instance, while an employer easily identifies the objective cost of the skill (for example, a three-year degree), the subjective cost as perceived by the employee may be quite varied. Some employees will have undertaken their additional qualifications with employer support, some may not have done; some will have had additional stresses and obligations, undertaking laborious evening and weekend study, whereas some will have had the opportunity to study full-time. In short, the qualification may have had a far higher subjective cost for some than for others. Given this, rewarding the qualification in the same way for everybody can generate perceptions of unfairness.

In terms of skills-based pay progression generally, this could have expectation issues, as it forms one half of an implicit contract (the employee undertakes a qualification and the employer rewards), so if something stopped this, the perception of the contract is broken. Many study and training packages take considerable time and it is important to ensure the expectation aspect is met, as without it, the training (often expensive) is perceived by the employee as a cost to them (they put their time in and 'get nothing out of it'). This is in itself complicated, as the employee

is (often) receiving the reward twice, for example the qualification and time to undertake it. The qualification aspect of the pay (still a cost to the employer) could be ignored.

Within an organisation, recognising qualifications could become seen as divisive, with some staff able to access the qualification or training and others not. For example, is this penalising those employees with other (family) commitments unable to devote extra time for study? Training programmes are costly. There needs to be a way to decide who goes on them (issues of fairness); behaviourally, rejection of a person from or non-inclusion in a training programme they may have not intended (or want) to do can have a considerable negative effect, generating issues of perceived inequity. Alternatively, longer-standing employees offered training may feel an implied devaluation of their experience.

Hyperbolic discounting issues come in as training or qualifications are an immediate sacrifice for longer-term reward, similar (albeit to a lesser extent) issues to those around pensions, as a reward may arise but an employee may not be able to mentally value the longer-term gains from the training they are currently undertaking.

Progression may also be performance-based, and we discuss this in section 2.

Salaries – summary of key issues for reward practitioners to consider

- Behavioural theory suggests that base levels do not relate straightforwardly to supply and demand. Individuals have a subjective view of their own worth which varies over time, affected by external factors (for example the wider economic climate) and internal ones (how

they feel rewarded for their own skills, for example in relation to others). Individuals' expectations for appropriate base pay will thus be dynamic, and a behavioural approach suggests that systems for determining base pay will need to be dynamic and flexible in order to meet those.

- Having some flexibility built into base pay structures and paying more to those judged to be worth more may also counter the *endowment bias*, the tendency to overvalue our own skills in relation to others. Endowment bias also comes into play when people reach the top of an incremental pay scale, as people perceive a loss in relation to others – underlining the imperative for organisations to address the concern of employees in this position, or to design pay structures with fewer barriers.
- On the other hand, behavioural science suggests that our need for fairness is very deeply ingrained and fundamental to our way of experiencing and evaluating the world. This points to a need for demonstrable rigour and transparency in procedures for determining pay and progression, and in their outcomes – and of course this challenge becomes greater the more that flexibility is built into the system.

2 Variable pay

Box 5: Some familiar approaches to understanding the effect of incentives

Principal-agent theory – the interests of the ‘agent’ (for example an employee) differ from those of the ‘principal’ (for example the organisation). The principal acts, for example, by offering incentives, so that the agent behaves in line with the interests of the principal.

Expectancy theory – the thought that a person will perform a certain way to attain a reward that they value (provided they believe that their performance will lead to outcomes, and that this in turn will lead to the reward being provided).

The use of variable rewards – that is, those that are contingent on employee(s)’ performance, productivity and so on – has a long history. There is an equally long-standing debate about their effectiveness. In this section we seek to reinvigorate this debate by applying insights from behavioural science to some of the key issues at stake, and to offer some new perspectives for reward strategists.

The rationale for variable reward systems is commonly assumed to be to *motivate* employees to do something, for example to achieve higher productivity or performance. In other words, the promise of the contingent reward is seen to act as an *incentive* to ‘do well’. This will be our focus here, though we recognise that variable pay may serve other organisational agendas (Marsden 2004).

Variable pay finds its dominant theoretical basis in principal-agent theory. By making reward contingent on something (effort, output, and so on), the principal will mould the behaviour in the desired way. Psychological theories such as expectancy theory offer a different basis for the same underlying causal chain.

Given this relatively straightforward and intuitive premise, it might seem surprising that incentive schemes have such a controversial history. The jury is still out on whether the use of incentives in this way influences favourably on performance or productivity. On the one hand, there are large-scale reviews of the evidence (for example Gerhart and Fang 2014)

which report positively on the impact of variable reward. On the other hand, there is a wealth of evidence around the difficulties in designing incentive schemes that will survive their encounter with the ‘real world’ (Cox 2007), and many have been derailed by implementation problems, employee resistance or have had unintended and undesirable consequences – for example, rewarding short-term achievement at the expense of longer-term sustainability and citizenship behaviours (Osterloh 2014) (see *Behavioural responses to performance payments*, page 17).

Beyond the strategic decision around whether to offer variable rewards, reward specialists face a set of design choices, reflecting the key *what, how, who* and *when* issues that we identified above. Accordingly, decisions range over the form of reward (for example money, shares, praise and recognition), its basis (for example results, performance and competence), the focus (individual, teams, whole organisation) and the timing (immediate or deferred). The CIPD’s *Reward Management* survey report (2013a) confirms some trends in how those choices are perceived and exercised:

- in relation to *individualised* incentives, a historical trend away from payment by results systems towards performance-based bonuses or progression
- a trend towards systems with a *collective* (team or organisation-wide) element, though these remain less common than individualised approaches even

though they are perceived as more effective by practitioners

- a recent trend towards interest in the role of non-monetary rewards, and towards systems that incorporate more than one element (for example team *and* individual pay).

In the sections that follow we look at both the strategic and design issues in variable pay through the lens of behavioural science. We will examine the assumption that employees will respond rationally to the pursuit of a desired reward, and ask whether behavioural science insights can point us to an alternative, more realistic foundation. We will also see what new light behavioural science can shed on the main design choices in variable reward systems.

Reward, money and the brain

Research in experimental settings suggests that people are highly adaptive in the way that they weigh up efforts and reward. Not only do they put in more effort the greater the reward that is available, but they also seem to conserve energy so that it can be increased if needs be to attain the reward. This happens particularly in situations where a great deal of effort is required. This may not surprise keen observers of human nature, but some recent research findings may do.

The first is the finding that many of these responses to reward occur in the unconscious brain. A study by Pessiglione et al (2007) showed that even subliminal messages promising rewards for effort led to performance improvements. Research by Bijleveld et al (2012) shows that aspects of this adaptive effort-reward behaviour occur in the unconscious brain. So, some of our responses to reward seem to be quite primitive and we may not be conscious of them. However,

that is not to say that the conscious brain does not have a role. This seems to be one of reflection and regulation. For example, Bijleveld and colleagues showed that the conscious brain could 'over-ride' by suspending effort in the light of information about future reward environment. Zedelius et al (2014) showed that rewards and 'affective cues' (that is, positive stimuli but not actual rewards) were treated the same by the unconscious brain; people responded differently to them when the conscious brain could engage in reflection.

The second interesting finding comes from a different study by Zedelius and colleagues (2012). This showed that when people were promised reward for a later task, they started to perform better at intermediate tasks – even when those weren't subject to the reward. The design of the experiment was able to rule out the possibility that people were using the intermediate task as practice for the later one. This has potentially interesting implications. One of the concerns around providing task-based incentives is that they divert focus from other tasks (Osterloh 2014). But the suggestion here contradicts this. By rewarding pursuit of one task, it may increase effort put into other, unrelated ones.

So far we have looked at reward in general, but what about the neurological impact of money on the brain? Lea and Webley (2006, 2014) suggest that there are two ways of explaining why money can act as an incentive for us to do things. One is that we perceive it as a tool, something we can use in the future to acquire things that we desire – and we covet it accordingly. The other is that its effect on our brains is more like that of a drug, that is, like other drugs, it replicates the sensations

in the brain that other things offer. Lea and Webley (2006) argue that while money certainly affects us as a tool, it also does so as a drug. They point to research showing that money stimulates the areas of the brain associated with immediate gratification, not deferred gratification – as it might if it were solely a tool. Also, they note studies to show that people are drawn to the physical form of money – we estimate coins to be bigger than they are, and react with a sense of loss when the familiar physical form of money changes, even though its value remains the same.

There is evidence that rewards in the form of money stimulate our behaviour differently than rewards in other forms. For example, Lea and Webley also report that people manage virtual money less effectively than cash. DeVoe and Iyengar (2010) have shown that resources in non-monetary form can be deemed as fairly distributed, whereas the same resources in monetary form are not. DeVoe and House (2012) have shown that if people are encouraged to focus on their salary as an hourly rate (thus seeing time as money), they take less pleasure in spending time on leisure pursuits. Money, it seems, has an 'emotional charge' (Lea and Webley 2006), out of keeping with its purely economic function – which would explain why money is potentially such a strong incentive. This has some recent support from organisational research. Preslee et al (2013) found that in a case study organisation, employees' performance was enhanced more by cash incentives than by the award of redeemable 'points' of the same value.

Of course, there is a big leap to make in extrapolating from what happens inside people's brains to what happens in organisations, so

care is needed in teasing out the implications. What the research above seems to indicate is the potentially powerful, addictive and sometimes unconscious effects of rewards (particularly money), and that great care is needed in their deployment as incentives – a point reinforced by research we report below.

The impact of individual financial incentives

Whether financial incentives are effective in motivating people at work is one of the oldest debates in organisation studies. The early organisational psychologists (for example Herzberg) offered cautionary notes, reinforced by thinkers such as Pfeffer, Pink, and Deci and Ryan, and by management research of incentive schemes in various contexts. The thought that non-financial rewards might be more effective is particularly attractive in the current context of restricted pay budgets. However, the use of financial incentives shows no sign of abating and two very recent reviews of the research evidence (Garbers and Konradt 2014, Gerhart and Fang 2014) give support for their effectiveness. We cannot resolve that debate here, but explore one important contemporary theme from a behavioural perspective.

Principal-agent theory (Box 5) suggests that financial incentives will allow organisations to shape employee behaviour, as employees will respond rationally to the prospect of attaining the reward. A behavioural perspective offers a very different conclusion (Weibel et al 2010) – essentially that the presence of the financial incentive risks ‘crowding out’ the other reasons employees have for performing well – their *intrinsic motivation*.

This idea is prominent in the work of Daniel Pink (2010). Incentives are seen as control devices, and

thus generate a sense of loss of autonomy, signal lack of trust by the employer, and that work is an undesirable activity. Their effects are also prone to ‘wear off’, leading to increased investment to maintain the same motivational effect – and if they are instead withdrawn, the evidence is that people ‘forget’ the other things that motivated them in the first place. This is not to say that financial incentives have no role to play – even by this view, they may have short-term benefits, and where there is little intrinsic motivation to be crowded out in the first place (for example in routine tasks), they may be a viable longer-term option. It is also worth noting that while financial incentives for performance (as opposed to for task completion, for example) may undermine a sense of autonomy, this may be counter-balanced by satisfying people’s equally pressing need for a sense of competence – thus reducing the crowding-out effect (Moller and Deci 2014).

There is a good deal of research outside the employment setting that demonstrates the crowding-out effect. Gneezy et al (2011) examined the use of financial incentives for ‘pro-social’ behaviour, for example school attendance and performance, or giving blood. In one famous study, where parents were financially penalised for the children’s lateness, lateness actually increased (see, for example, Ariely 2008). In the parents’ minds attendance had become a transaction, and this had crowded out the motivations of reputation and relationship-building. Research on blood donations suggests that when people are offered financial incentives to donate, the incentive shifts from the social to a monetary one and people are less likely to do it. In particular, money crowds out the altruistic motivation. People wanted to be seen as being selfless citizens and the incentive system removed

this. In one study, where donors were given the option to give the money to charity, donation levels returned to normal. This reinforces a point made by David Rock – that monetary incentives are only likely to work if they are congruent with people’s social needs. It also resonates strongly with the idea that symbolic rewards (of notional value, for example an award or certificate, a box of chocolates or bunch of flowers) differ in the effect for monetary ones. Symbolic rewards are congruent with people’s intrinsic motivation and signal that the organisation recognises this but doesn’t seek to control it (Frey et al 2013).

A broad-ranging review of research by Weibel et al (2010) provides strong evidence of this crowding-out effect in public administration. In a recent study (2013), Frey and colleagues examined this in the context of the UK public sector. Here, the ‘thing’ at risk of being crowded out may be a specific public service motivation. This, it is argued by some, attracts and retains workers, and underpins discretionary effort, despite (arguably) relatively low pay. Not only may financial incentives undermine this in the ways explored above, but it may be difficult to operationalise effectively due to the complexity of the tasks and difficulties in measuring outputs. Indeed, Frey et al quote some unintended effects of the attempts to do this – for example, ambulance drivers prioritising nearby cases to help meet response time targets. Another effect may be that the extrinsic reward system may diminish the attraction of those intrinsically motivated to these roles in the first place (Osterloh 2014).

Another setting where intrinsic motivation may be key, and at risk, is work where emotional labour is required. In a recent study, Grandey

and colleagues (2013) found that financial rewards had only a weak effect on employees' satisfaction where 'deep' emotional engagement (modifying feelings to generate appropriate expressions) was required, though it had a stronger one where 'surface' emotional labour was required (for example simply displaying appropriate expression). This deep/surface distinction might be one that underlies the difference between care work (for example, nursing) and service work (for example, retail work). The study reinforces the idea that financial incentives may have less purchase where other motivations are paramount – though there was no evidence of a crowding-out effect.

The idea of crowding out suggests that individual financial incentives should be considered with a good degree of caution. However, even proponents do not suggest that they should never be used. Also, it is possible that the benefits of financial incentives may outweigh the detriments caused by the crowding out. Perhaps the clearest inference to draw from behavioural science is that they would tend to work better in routine, easily defined tasks where other motivations may be absent – and, if so, should be performance-based rather than participation- or completion-based – and less well in complex settings where potentially stronger intrinsic motivations may be at play, and indeed at risk.

Behavioural responses to performance payments: implications for system design?

Here we pick up a theme raised in the introduction around the need to supplement agency theory, and its assumptions of rational actors, with evidence of how people actually behave in relation to rewards. Osterloh (2014) noted five behavioural effects to consider in relation to performance payments:

- **crowding out** – (see Box 6)
- **self-selection effects** – extrinsically rather than intrinsically motivated people are attracted to work in the organisation
- **multi-tasking effect** – the diversion of effort towards easy-to-measure (and reward) tasks
- **self-serving bias** – an unconscious bias which leads to people interpreting situations in ways favourable to them; it is susceptible to influence by rewards, and leads to people doing more of the rewarded things than may be desirable
- **gaming the system** – which leads to manipulation of targets.

Osterloh quotes research evidence of each of these effects impacting negatively on performance in healthcare settings.

Larkin and colleagues (2012) suggest two other psychological insights into behaviour that should be considered in relation to performance pay. The first is the tendency for people to overestimate their abilities in relation to others, particularly in familiar tasks (such as those undertaken at work) – **overconfidence bias**. A consequence of this is that overconfident individuals (most of us, it appears!) will be drawn to settings with performance-based pay, and then find themselves disillusioned when the rewards don't match their perception of their own performance – leading to a range of negative employment consequences. This may be particularly acute when people compare their rewards with others. This leads to the second issue, the observation that in the absence of objective indicators of performance, employees will compare themselves with others – **social comparison theory** – and make assessment of the equity of the reward system in relation to these comparisons.

Box 6: Crowding out

This phenomenon occurs when the presence of extrinsic motivation (for example financial incentive) diminishes the *intrinsic motivation* employees have for performing well – their wish to 'do a good job'.

Box: 7: How we rate ourselves in relation to others

Overconfidence bias –

confidence (or lack of) is a key factor in our decision-making. Overconfidence is associated with high risk-taking.

Social comparison theory

– our tendency to compare ourselves with others when other indicators of performance are not available.

This opens the door to a range of negative emotions about the appropriateness of rewards to different individuals, and possibly to destructive behaviours such as reduced effort, sabotaging others' efforts and so on. The authors of the study see two implications for payment system design. First, that pay-for-the-job systems (that is, where pay rates relate to the size and complexity of the role), and a general flattening of pay differentials, will tend to produce fewer of these effects than pay-for-performance systems (that is, where pay rates are at least partly dependent on contribution). Individuals may still feel underpaid, but it is not perceived as an individual slight. Secondly, team-based pay may help to overcome these behavioural distortions, but only where performance is relatively homogenous within teams, and where people can observe the performance of teammates.

Hartmann and Slapnicar (2012) pick up these themes of 'transparency' and 'perceived equity' and link it to the idea of crowding out of intrinsic motivation by performance bonuses that we discussed above. Justice theory suggests that people are interested in not only the outcomes of decisions (for example around pay), that is, **distributive justice**, but also the process by which decisions are reached – **procedural justice**. However, it is not clear which consideration is most important in relation to work issues. Hartmann and Slapnicar show that in relation to pay and motivation this depends on pay transparency – people knowing each other's pay. Managers who do know each other's pay were found to have their intrinsic motivation diminished (crowded out) by receiving a high bonus. More generally it was found that where transparency about pay levels in an organisation is high,

people will focus on the fairness or otherwise of the outcomes (that is, distributive justice). Where transparency is low, people will focus on the justice of the decision procedures. Thus, *'procedural justice is a better predictor of intrinsic motivation when transparency is low, and ... distributive justice is a better predictor of intrinsic motivation when it is high'* (p4283). The conclusion is that organisations need to consider pay transparency in conjunction with other issues when designing performance pay systems.

Non-financial incentives

There has been increasing interest in the use of non-financial incentives in organisations. These include a range of things, for example certificates of achievement, team days/nights out, or holiday vouchers. An attraction to organisations in difficult economic times is that they may be cheaper to offer as incentives than cash, but there is also a broader attraction in that they may avoid some of the powerful (and potentially distorting) effects of money (discussed above). Nevertheless, they remain extrinsic rewards and thus do not provide a route of escape from the risk of 'crowding out' intrinsic motivation. The behavioural science suggests that their effects may be vulnerable to the subjective valuing of reward, even more so than of cash payments. While money will vary in its relative value to different individuals at different times, it will always have a value; however, people will attach very different values to, for example, an afternoon's paint-balling or a trip to a theme park. Offering a range or menu of non-financial rewards (people can choose the abseiling or meal out) as incentives might be an answer to this, but as we discuss in relation to flexible benefits below, choice can be perceived as a cost in itself – potentially devaluing the incentive.

One currently popular way of utilising non-financial incentives is through **gamification** – framing work activities as games and offering rewards for success in the form of, for example, points, virtual prizes, progression up a leader board; or gifts or other tangible prizes (in some cases, cash). Incorporating principles of game design, in particular incorporating the addition of ‘achievements’, can encourage and elicit many of the intended behaviours of traditional (cash) rewards such as high motivation and engagement. For instance, activities such as the completion of levels (or missions in the gaming parlance), winning medals (or titles, for example ‘Seller of the Month’) and a visual measure of progress within careers (such as training certificates to collect in a booklet).

This has the twin goal of recognising and rewarding achievement and building in an element of fun into the workplace. Brain science suggests that the frequent feedback and recognition provided by gamification should provide positive reinforcement for the desired behaviour: *‘every time an individual successfully achieves a challenge the brain secretes a neurotransmitter called dopamine. This results in pleasure in a desire to repeat the activity’* (Pflug and Jara 2014, p52).

Gamification is increasingly common – the chances are you already participate in achievement games in many areas of your life. You may, for instance, collect loyalty points or stamps and are rewarded for this collection (brand loyalty) with a tenth free coffee. If you leave online reviews, you receive medals (and status), progressing to ‘champion’ online reviewer, thus encouraging more reviews from an individual, and as these statuses are simple titles

based on the achievement, the process can be long term. More complex game play can be used to effectively deliver mandatory training: Microsoft’s Ribbon Hero 2 rewards a player by levelling up as they learn Office tasks, for example changing font or using extra features. However, as we note below, there is some criticism of games potentially having a short-term effect only, or even eliciting negative behaviours such as cheating or short-termism.

From a behavioural viewpoint, gaming taps into several of the biases identified through the report; for instance, it can produce the immediate reward required for an employee to appreciate their pension and counter the **myopia** (and temporal discounting) process. For instance, an individual receiving a level up for employer pension contributions may not be as prone to **hyperbolic discounting** (below, see Box 8 and Figure 2) and undervaluing this aspect of reward. However, an oft-overlooked aspect of gaming is the build-up of **confidence** it can generate; in many games a player is rewarded for minimal effort in order to encourage participation (say, mandatory training).

This is not dissimilar to the initial stage of the Minsky Instability Hypothesis (1986). Minsky demonstrates that (economic) decisions tend towards a sequence of cautious to reckless, with the near sure-win of the cautious decisions creating confidence which builds to overconfidence through continued success, leading to reckless decision-making.

Conversely, gamification systems are another means of offering extrinsic rewards, so potentially are subject to the concerns around **crowding out** intrinsic motivation, and marginal decline in utility.

Furthermore, the psychology of individual difference cautions that not everyone will be motivated to the same degree by competition (either with themselves or others), or perform better if they associate work with fun – indeed, for some, these may become de-motivators (there may be generational or cultural differences at play here). Given these concerns, Pflug and Jara suggest that, to be successful, gamification needs to work with intrinsic motivation rather than against it. In other words, games would need to be designed to build in scope for autonomy and control, and *‘allow the player to create intrinsic value, from learning the simple enjoyment of the challenges ... the focus should be on people doing what they already want to do’* (2014, p52). Here, the rewards act as a trigger to stimulate and maintain engagement, or to initiate a change of behaviour – suggesting that the effects, while potentially beneficial, may in most cases be limited to the shorter or medium term.

Collective rewards

Finally, we look at two types of variable pay that are not focused on the individual employee – team-based pay and profit-sharing schemes.

Team-based pay

The possible advantages of team-based over individual incentives is that they will foster positive behaviours, such as co-operation, knowledge-sharing and the willingness of the team to ‘manage itself’. However, research has shown that they raise particular issues around equity and justice. These sorts of feelings are potentially strong in team-based settings, where one’s rewards may be dependent on the work of others.

Behavioural science shows that not only is our sense of fairness in the distribution of rewards

Box 8: Our failure to recognise or fully appreciate *future* rewards

Hyperbolic discounting

– suggests a tendency to undervalue distant future rewards and then suddenly increase their subjective worth as they get closer.

Myopia bias – suggests that the majority of people find it difficult to identify with future reward and to value it appropriately in their current view.

extremely strong and deep-rooted (see above), but also that people will compare themselves with others in team settings in distinctive ways. Individuals will tend to overvalue internally their contribution to any successful project and can potentially feel unfairly treated when receiving an equal share of any additional reward. In situations of collective underperformance, individuals tend to underestimate their contribution to any unsuccessful outcome, and thus, when reflecting on pay levels, feel that others are being unfairly rewarded for a perceived greater share of failure.

This may lead to motivational loss amongst high-performers and inhibit the very co-operative behaviours that are trying to be encouraged (Garbers and Konradt 2014). Nonetheless, these authors found, in a review of studies of individual and team-based reward incentives, that both produced positive results. However, in respect of team-based systems, those where individual performance was also rewarded fared better, that is, those where different individual contributions were recognised – suggesting a behavioural bias towards equitable rewards over equal ones. They also noted that the effects were stronger in smaller teams, probably as a result of the greater visibility of effort and performance of other team members, and thus less scope for feelings of injustice. Indeed, Gerhart and Fang (2014) suggest, on the basis of their review of the research evidence, that if individual incentives are retained in team settings with the potential risk of this diminishing collaborative behaviours, this may still be a smaller risk than that of driving away high-flyers because their individual contribution can be recognised and rewarded better elsewhere.

Profit-based pay systems

Profit-based pay systems, whether *cash-* or *share-*based, offer a number of potential benefits to organisations. The chief psychological and behavioural ones are the promise of increased identification with, and commitment to, organisational goals amongst employees, and a sense of 'fair-dealing' from the company – which may result in enhanced performance and citizenship behaviours. Some research on profit-sharing (Coyle-Shapiro et al 2002, McCarthy and Polcic 2012) has suggested that for these schemes to be successful, trust in management is key. Without the perception that the scheme is a genuine attempt to share the benefits of enterprise, and – in the case of share schemes – distribute ownership and involvement, the desired behavioural outcomes may not ensue. A second issue is the behavioural impact of cash-based profit schemes and share-based ones. Chiu and Tsai (2007) offer evidence that while share-based schemes increase organisational citizenship behaviour, cash-based ones don't – hypothesising that the key differentiator here is the aspect of ownership in the former case.

However, when considered from a behavioural perspective, offering shares with a time-release component as a form of incentive has three potential drawbacks:

- the short-term incentive around the sale point
- the failure to attribute full value to a future reward – associated with **hyperbolic discounting** and **myopia bias**
- the uncertainty of return.

The short-term incentive around the sale point of the share could lead to the opposite of the desired behaviour. The intention

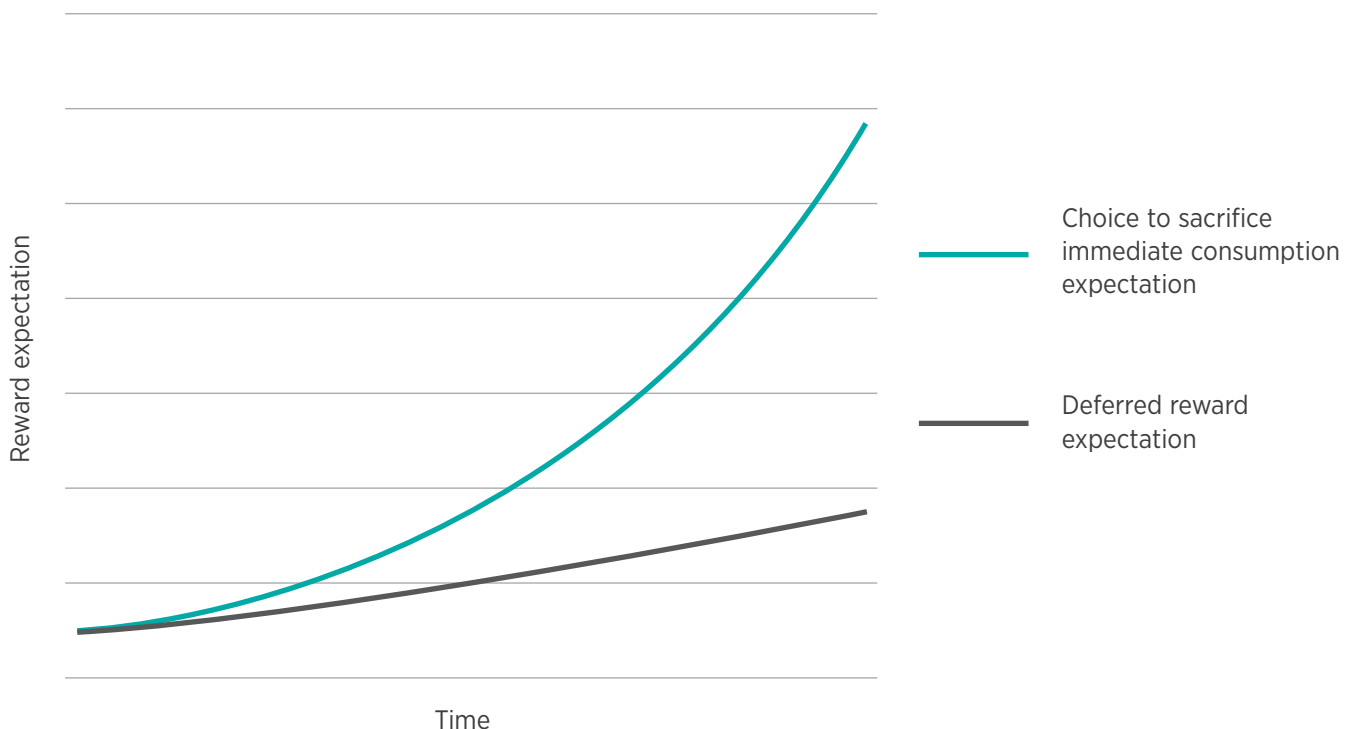
of deferred payment, for example over a five-year period, could be to reward long-term sustainable productivity. For example, in the case of financial services organisations, this could act as a counter to a perceived short-term risk incentive of immediate performance-related bonuses. However, if the idea of deferred share payment is considered as a loss from the employee's perspective – that is, the immediate consumption or satisfaction from the reward is sacrificed for consumption in a given time period – **prospect theory** (see Box 3, above) suggests that a return on sale greater than the expected growth in share value over time is required to compensate the employee. As such, a deferred share reward scheme could lead to productivity associated with the lower perceived value of the reward as well as potentially encouraging the non-desired short-term-oriented behaviour around the time of sale.

For instance, Eckles and Volkman Wise (2011) and Odean (1998) suggest a considerable gain is required to offset the loss, and Chiu and Wu (2011) demonstrate that the gain needs to be roughly double to offset the loss. A simple conceptual example shows that where individuals face a discrete win/lose payoff (50/50), a reward of double is required to make the gamble acceptable to the majority: simply given, in a simple coin toss, where if you lose you have to pay £100, the resulting gain from a win needs to be approximately £200 to make the gamble appealing. Therefore, if the delayed consumption or sacrificed immediate consumption is considered a loss, it will require above-average stock market returns to compensate for this loss, potentially creating an incentive for short-term risk-taking behaviour to increase the stock price at the time of sale. The consequences of individuals taking action to correct a perceived loss and counter the loss aversion bias can be considerable,

potentially leading to a significant increase in risk-taking to attempt to replace the loss.

Given a market rate of 4% for a five-year risk-free bond, an individual would expect to be compensated for their choice of sacrificing immediate consumption for five years by a function of initial sacrifice compounded at 4% per annum for five years. Consequently, a £10,000 sacrifice can be considered as $£10,000 \times (1.04)^5 = £12,167$, hence a return of £2,167. If that choice is removed and we consider this sacrifice to be a perceived loss, prospect theory suggests this rate of return needs to be doubled, resulting in an expected return of £4,693, far in excess of most stock price rises and thus an unrealistic expectation.² Over time, the divergence between required return to compensate for a forced loss of immediate consumption and the required return to compensate for a choice of loss of immediate consumption can be seen as in Figure 1.

Figure 1: No jam tomorrow? Prospect theory in practice



² $£10,000 \times (1.08)^5 = £14,693$

‘The current perception of stock market success may be limited, increasing the tendency to undervalue a future reward.’

The uncertainty of any return quite simply means that we have further difficulties in valuing it from our current perspective; furthermore, the UK investor psyche has experienced a recent financial crisis. Individuals have a tendency to overestimate the likelihood of unlikely events re-occurring – **cumulative prospect theory** – an extension of prospect theory, where individuals are more likely to purchase a lottery ticket if they know someone who wins or are even in the same area where a winning ticket is bought. Of course, the proximity of the event doesn’t change the chances of its reoccurrence (unfortunately you are no more likely to win the lottery if someone who shops where you do has!); however, there is a perception of increased likelihood as people tend to pay attention to recent events. Given this, the current perception of stock market success may be limited, increasing the tendency to undervalue a future reward and querying the perceived value of a deferred reward.

Variable pay – summary of key issues for reward practitioners to consider

- **Money** may have powerful effects on behaviour, over and above those arising purely from its value. Cash incentives can be very powerful, but potentially particularly prone to unintended and distorting effects.
- Any incentives in the form of **tangible rewards** run the risk of undermining intrinsic motivation. However, this will depend on the type of task and the design of the system. They may work best in areas where little intrinsic motivation is present anyway, and in other cases where the incentives work ‘with the grain’, that is, supporting individuals’ need for autonomy and a sense of competence.
- **Performance-based incentive systems** (team or individual) are prone to the effects of *overconfidence bias* and *social comparison theory* – our tendencies to favourably compare our contribution and achievements with those of others. Accordingly they may build in dissatisfaction and diminishing returns. On the other hand, rewards with an individual element (purely, or in combination with team-based incentives) do satisfy a need for individual recognition, and the resulting impact on recruitment and retention of high-performers may outweigh these difficulties.
- **Deferred incentives**, such as rewards in the form of shares, are prone to *temporal discounting* effects – our failure to fully value future rewards. This points to a need, where these are used, to communicate regularly information about value and prospects.

3 Pensions and benefits

There has been increasing interest in the place of benefits within reward strategies. Benefits may be broadly defined as those aspects of remuneration that do not take the form of cash payments. This would include share schemes (discussed in sections 2 and 4) and pensions. We now turn to the latter of these, pensions, which are the most commonly offered benefit (90% of organisations offer it to some or all employees, according to the CIPD *Reward Management* survey report), before moving on to other benefits, such as healthcare or company cars.

Pensions

As pension contributions often represent the largest component of reward apart from pay, organisations' decisions around pensions are very significant ones. These decisions are made in the context of wider social and economic pressures, and far-reaching public policy changes. In the UK, the ageing population, pressures on public finances and pension funds, and lack of planning for retirement among the population, has led to a 'pensions crisis'.³ The UK Government's response has been to raise state pension ages, take measures to facilitate people working longer, reduce benefits and increase contributions in public sector schemes, and introduce auto-enrolment, where employees will be enrolled by default into a scheme offered by or through their employer (at the time of writing more than 4 million employees have enrolled).

Organisations have historically played a more central role in pension provision in the UK than in many other countries where state pension provision is much more generous. The tradition here has been for people to save for retirement through their employer, with the employer making a contribution. That employers have been willing to contribute to their employees' retirement plans before it became a legal requirement indicates they perceived HR benefits from doing so, such as helping employees transition out of the organisation. However, prior to auto-enrolment there was a decline in the number of organisations offering pensions as a benefit, and a retreat from offering the more generous forms of provision.⁴ Although this was undoubtedly related to cost issues, it does call into question whether organisations remain convinced of the HR advantages arising from pension provision. The response to auto-enrolment suggests a mixed picture – many employers are contributing more than they need to, but of the smaller firms yet to start auto-enrolling, considerable numbers anticipate freezing salaries and cutting headcount to 'pay' for it.

So what are the potential HR advantages of offering an occupational pension, or offering one more generous than the minimum requirement? Generally, three kinds of benefits have been suggested:

- recruitment benefits
- retention benefits
- engagement and commitment benefits.

Box: 9 How traditional economic theories account for pension behaviour

Institutional theory – suggests that employers will seek to appear as an attractive employer – for example by offering a good pension – to enhance their position in the labour market.

Transaction cost economics – suggests that rational employees will trade off the benefits of sacrificing salary in early career for the benefits of a pension in later life.

See also **principal-agent theory** (Box 5).

Box 10: Naïve diversification

This is another heuristic whereby investors (when given a wider choice of funds offered in their plan) will tend to spread their funds more thinly – whereas if they were either able to choose amongst a smaller range or had the experience of making the same choice over again, they would be more discerning.

It is rather like a newcomer to an organisation, when faced with the extensive choice of canapés at the executive dinners, will insist upon 'having a little bit of each', whereas a veteran of such events learns which ones to avoid and which to load their plate with.

³ According to the DWP (2014), 11.9 million people in the UK are under-saving for retirement.

⁴ The proportion of employees with workplace pensions declined from 1997–2012 from 55% to 45% and the proportion in a defined benefit scheme from 46% to 28%.

Box 11: Is it safer doing nothing?

Omission/commission bias

– the psychological tendency to consider action more important/dangerous than inaction, for instance employees will generally not deliberately falsify their expenses (action) but are more likely not to report an overpayment in their pay (inaction).

Aversion to regret – suggests that where choices are available, an individual may sidestep them and seek an alternative reward to avoid the feeling of ‘missing out’ by making a wrong choice.

Box 12: Defining the substitution and income effects

The **substitution effect** occurs when an *‘increase in the marginal net wage causes one to consume less leisure and instead work longer’* (Adam and Phillips 2013, p48). In other words, when the reward for putting in some extra work time outweighs the loss of leisure time to the point that the price of leisure time increases – an extra hour in bed becomes less attractive than gaining an hour on one’s shift. Conversely, for the **income effect**, an increase in net wage means that the worker has more to spend, so will want to have an extra hour shopping rather than working.

The recruitment benefits are seen to arise from the attractiveness of ‘free money’ in the form of employer contributions and in pensions attracting the ‘right’ kind of workers (that is, those taking a long-term view and likely to stay with the organisation). There is some evidence for the former point, but evidence on the latter suggests that this depends very much on the age of the worker, and that young workers may be less attracted by the long-term deferral of reward (de Thierry et al 2014). Evidence for retention effects is stronger (Taylor 2009), as an employee’s length of service increases so too, in pension terms, do the marginal costs of quitting the firm. Pensions, through early retirement benefits, can also be used to manage retirement and thus offer flexibility to employers.

Research evidence to support the view that occupational pensions increase commitment, engagement and even productivity does not offer clear support. One reason may be the move from defined benefit to defined contribution benefits. This could indicate a shift from a relational contract to a more transactional one – from a signal that the employer is ‘looking after’ the long-term welfare of its workers to a signal that it is seeking to tie the worker to the company and ensure minimum performance standards (Luchak and Pohler 2010, de Thierry et al 2014).

Historically employer and employee attitudes and behaviour in relation to pensions have been approached through ‘traditional’ economic theories. For example, **principal-agent theory** (Box 5) is used to account for the ‘tie and control’ effects of a pension, **institutional theory** for the recruitment and retention benefits, and **transaction cost economics** for the willingness of workers to sacrifice pay. We

now consider whether and how behavioural theory can contribute to an understanding of pensions and their role in reward strategies.

The requirement for people to take more responsibility for their pension provision implies that people will need to take rational decisions in relation to savings and investment – and also that providing more information about pension provision will enable such decisions. This rationality is seen as being unrealistic in practice (Bodie and Prast 2012, Weyman et al 2012).

These authors suggest that **cognitive biases** mean that better availability of information alone will not encourage more informed decision-making. The sheer complexity of choice in pension plans causes people to avoid taking a proactive approach to managing their provision, making pension investment choices through **‘naïve diversification’** (Benartzi and Thaler 2001).

Indeed, many prefer not to invest because of the **omission bias** and because of the paralysing **aversion to regret** that they anticipate experiencing if they were to take the wrong option – they will choose not to choose (Bodie and Prast 2012). People feel more comfortable with ‘not bothering’ than making a choice and losing out (**omission/commission bias**).

How people make decisions on pensions

A problem of pension decision-making is that people only have one life and cannot easily rectify decisions made years, if not decades, before – and tend not to respond themselves (as would be rational) when they see disasters befalling others, such as in the Worldcom and Enron *causes célèbres* (Choi et al 2005). Evidence suggests that

younger, inexperienced investors and older investors demonstrate a less sophisticated approach to making decisions about their financial planning, which highlights significant challenges when making decisions about pension provision. For example, problems arise when retirees roll over their (heavily regulated with employer-managed) 401(k) plans into plans where there is a lighter touch on regulation and the retiree herself has to take more responsibility (Agarwal et al 2009). Traditional economic theory suggests that providing a matching contribution by the employer (or making a more generous match) will increase participation through a substitution effect. However, those contributing above the match threshold might react by decreasing their own contributions because of the income effect.

To save or not to save?

The substitution effect and the income effect

The key issue facing changes in government provision of pensions is whether this will encourage further participation. If extra support from the Government (for example pension credits) increases the reward for saving – substitution effect – increased provision will increase the marginal incentive to save for retirement instead of spending the money now. Conversely, increased government provision could be interpreted as requiring less personal provision – therefore decreasing saving (income effect). The interaction of these two effects can differ from individual to individual – if they have no private savings, any pension credit would not make them better off so the income effect would be minimal yet the substitution effect would increase their saving. Conversely, those not eligible for pension credit might feel that while there is no income effect, the substitution effect means they might either leave saving unchanged or save

less (Brewer and Emmerson 2003). However, recent research indicates a very complex picture because of the assumptions of rationality and the effects of unexpected life changes upon savings (Fehr and Uhde 2014). Other examples would be tax relief on pension contributions or the new, flat-rate state pension – as people now know what they're going to get from the state and know that they will be better off than someone who has not saved through a company pension. The same could also result in the income effect.

Weyman et al (2012) argue that a mental models approach – one that looks at how the 'mental models' or the (often incomplete and partial) maps that shape how people think about and make sense of their world – is required in order to communicate messages on pension issues. They emphasise how the ways in which pension choices are presented can have a major influence upon what decisions are actually made. Here framing a choice as a positive or negative response comes into play. For instance, framing early retirement as a loss (of future income) rather than as a gain (more leisure time) can encourage people to withhold drawing down from their pension. However, they acknowledge that this reframing can have side effects (that is, in terms of marginalising those who have to take early retirement). Recent research by Skipton Building Society reveals how the framing of retirement is vital to encourage a proactive approach to making pension arrangements.

As noted in earlier sections, there are concerns that vital choices are detrimentally framed by decision-making shortcuts, known as **heuristics** (see Box 2, above), such as the tendency to infer competence of fund managers through investigating a limited time period or sample – a **representativeness heuristic** – or simply using whatever information

'...the ways in which pension choices are presented can have a major influence upon what decisions are actually made.'

‘The best alternative for pensions is to ensure a mandatory system giving employees “limited, meaningful choice”.’

is to hand – an **availability heuristic** (Blake et al 2008). However, recent research carried out in Australia (Gerrans and Yap 2014) has queried whether investors are as naïve as has been made out – with limited evidence found of framing effects.

In the light of this evidence, it is perhaps not surprising that removing or reducing the element of choice has been a common public policy response. Recent governmental experience reveals the importance of pension providers understanding these behavioural heuristics in managing changes in pension systems. For instance, Considine’s (2012) review of major retrenchment of the Irish pension system refers to the role of priming the electorate through the media in minimising negative responses. Bodie and Prast (2012) suggest that, because the behavioural biases help complicate even the most straightforward of decisions, the best alternative is to ensure a mandatory system giving employees ‘*limited, meaningful choice*’ over choosing retirement age, minimum target income and ambition income. Auto-enrolment has been shown to increase participation rates. In the US the

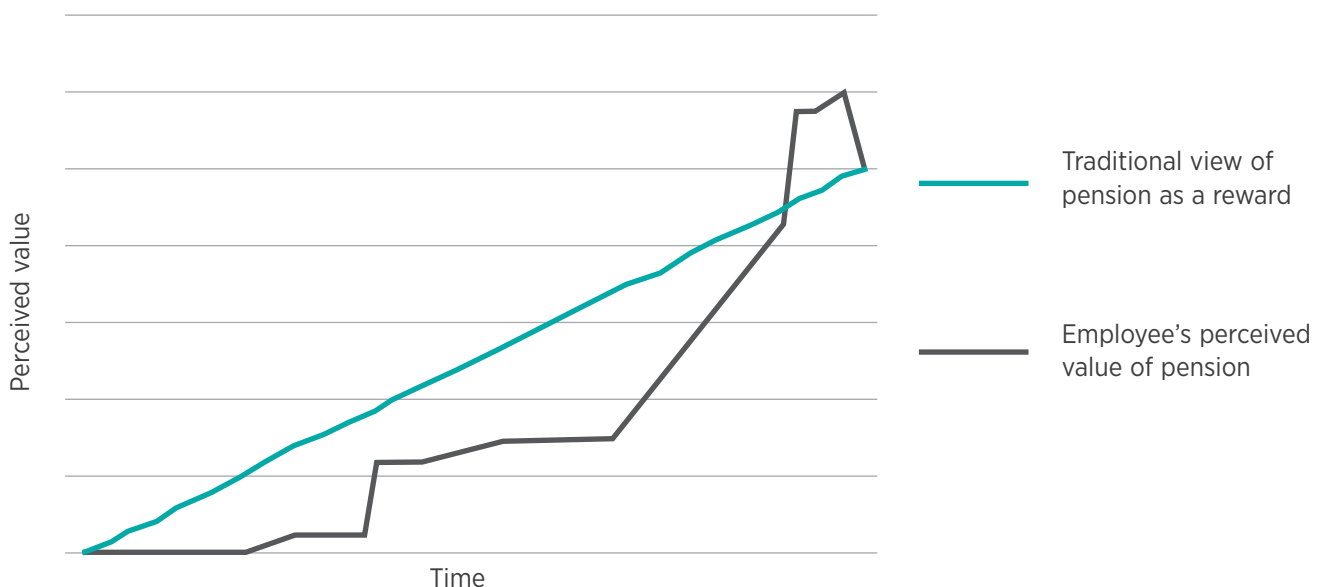
emphasis has been upon employer-sponsored 401(k) plans, whereas in other countries such as the UK there has been mandatory enrolment with an opt-out, that is, auto-enrolment. Pension decision-making is complex and so automatic enrolment simplifies the decision. Choi et al (2005) suggest that few people opt out of automatically enrolled savings plans in the US. However, even enrolling employees quickly into a pension has been shown to improve take-up of schemes where there is an element of choice.

Do people value pensions as a reward?

Under a traditional approach, individuals are expected to value future rewards as a rational and linear function of their final value over time (Pompian 2012). However, empirical evidence from behavioural economics (Leece 2004) suggests that people’s internal calculation of the future value of deferred rewards (for example a pension) tend to follow a **hyperbolic discounting** curve (see Box 8), as shown in Figure 2.

Figure 2 shows the traditional view of the value of an employer’s

Figure 2: Employee perceptions of the value of their pension contribution over their career



pension contribution compared with the empirically observed value. It can be seen that in the early stages of an individual's career, the perceived value of the pension from the employee perspective is far below the traditional view of pension as a reward. This view continues (though the difference reduces) throughout much of the employee's career, in essence the view of the employee is for a more immediate reward and less deferred. However, towards the end of a career, the **myopia bias** (see Box 8) is countered through proximity of retirement and the employee's perceived value of an employer pension contribution accretes to higher than the employer contribution. In essence, for the majority of a career an employee feels that the employee pension component of their reward is too high, although towards the end of their career they feel it is too low. For instance, the average 25-year-old employee would probably prefer to have the extra cash now (for example because her focus is on buying her first home) rather than her employer putting it into a pension pot – however, come her late fifties, she'll be lamenting why her employer didn't put more into her pot when she was 25.

The above example finds its basis in much of the behavioural literature and is extrapolated from empirical data. We notice an initial jump in perceived value early on in the career and correlate this with life events, for instance purchase of the first property where the term of a mortgage can provide an initial counter to the myopia bias and produce a greater long-term view in an individual. We then note a plateau leading to a further rise in perceived value correlating with entering the lifecycle stages (such as getting married or having children) where the notion of retirement is less distant.

This curve tells us a lot about the value of a pension as a reward. It suggests that organisations overpay (in terms of contributions) in relation to reward as valued by their employees. Viewed from this *perspective alone*, it does not appear to be a particularly efficient form of reward from an organisation's point of view. The curve also helps explain the research finding that pensions function poorly as a recruitment tool, and better as a retention tool, particularly in later career. We will consider the implications of this for practice at the end of this section.

Benefits

Even excluding pensions (above), benefits take a wide variety of forms. Wright (2004) identified four categories:

- personal security and health (for example health insurance)
- job status and seniority (for example company car)
- family friendly (for example flexible working hours, childcare vouchers)
- lifestyle/goodwill (for example subsidised staff restaurant).

Historically, the provision of benefits was driven by government requirements (for example holiday entitlements) and then by the fact that some of them were tax-efficient (for example company cars, pensions). More recently the focus has been on their strategic role (CIPD 2013b) and as part of the 'total reward' offered to employees. The CIPD *Reward Management* survey (2013a) indicated that the most common proportion of pay budget spent on benefits was 10%, suggesting that it is not a hugely significant element of the reward package in most organisations, but the survey also detected a desire to increase this. There has also been a move towards offering flexible benefits (cafeteria benefits) and voluntary benefits (discounts, or

salary sacrifice), though in both cases these have fallen back from a peak a couple of years ago and remain a minority pursuit (20%), or organisations offer flexible benefits – concentrated in larger organisations in the private sector (CIPD 2013a).

Before looking at the insights from behavioural science, we note that there are a number of existing explanations as to why organisations might use benefits as part of reward strategy. One thought is that benefits may be used to compensate for low pay – however, the evidence is that it is high-paying organisations that tend to offer better benefits. A second is that benefits are an efficient way to substitute for cash (for example, a company car also helps people get around, and organisations may be able to secure benefits at a discount). Either way, the idea that benefits might be a 'cheaper' way to 'pay' just as well, may well have some purchase in times of austerity, and may underlie the current thinking reported in the CIPD survey. Other approaches have departed from the idea that benefits should be seen as a cost-saving mechanism. **Institutional theory** (Box 9, above) suggests that offering good benefits (for example Google) may present a 'professional' image which may help with recruitment and retention. **Efficiency wage theory** and some psychological theories suggest that by offering benefits employers may engender goodwill and subsequent productivity gains. This line of argument may also underpin the interest in offering flexible and voluntary benefits, where the element of choice itself may be perceived as a benefit or may serve to meet needs for procedural justice.

How benefits are valued

A behavioural perspective shows that the value of benefits to an employee is far more subjective than the simple pound/pence calculation. If we consider the

‘The perceived cost of the removal of the benefit far outweighs the monetary cost to the employee.’

removal of a benefit (thus a loss), we can see an example of a valuation decision. For example, an employee has £20 per month deducted to use the company gym which would cost the employee £40 per month to purchase similar gym use outside the company. The initial thought is that the removal of this benefit costs the employee £20 per month plus £20 for the removal of the deduction (£40 for the gym membership). However, it is unlikely that the connection between the extra £20 of pay contributing to the £40 gym cost will be made, thus from an employee’s perspective the £40 is an extra cost caused by the removal of the benefit. **Prospect theory** (see Box 3, above) suggests the perceived amount of loss will be greater than the monetary value, and subjectively the £40 cost may be felt as greater than the monetary cost. Then if we include the perceived costs of finding the gym, trying a new option, and so on, the subjective premium added to the cost becomes clearer. In short, the perceived cost of the removal of the benefit far outweighs the monetary cost to the employee.

Turning to non-tangible benefits, for instance family-friendly policies, a behavioural perspective highlights the fact that their absence may be considered a loss. This will be particularly prevalent where individuals can compare with other organisations and judge that their organisation is depriving them of a reward. Likewise, if existing benefits, for example the ability to work at home, are removed, this may be perceived as a considerable loss, particularly if these are viewed as a norm in the industry or sector. The withdrawal of non-tangible benefits can be quite significant for the individual if the benefit has become an expectation, so factored into the individual’s assessment

of the (subjective) value of their reward package. If the removal of the benefit is considered a loss, a proportionally greater amount of extra reward is required to compensate (prospect theory). Unfortunately, non-tangible benefits are subjectively valued by the individual; for instance, working from home may be far more subjectively valuable to employees depending on their travelling distance or mode of transport, thus it is difficult or impossible to accurately compensate for its removal.

Flexible benefits – how people react to choice

In relation to flexible benefits, one of the more striking behavioural aspects is how we react to choice. Traditionally choice is seen as an attractive aspect of a reward package; however, our **aversion to regret** – that is, the fear of a feeling of loss from making the wrong choice – often acts as an extra cost. In many scenarios the choice of different benefits can result in inertia, where individuals stick to their initial short-term benefit choice for the long term, not gaining the potential benefit of their flexible reward package and feeling devalued. The flexibility aspect also requires an individual to anticipate future need, increasing the complexity of the choice and increasing the likelihood of errors.

Furthermore, choice of benefit would (potentially) force people into **‘System 2’** deliberative thinking (Kahneman 2011), whereas their day-to-day use of the benefit would predominantly be in the instinctive **‘System 1’**.

This means that the flexible benefit option could be considered from the perspective of what the individual thinks they should have rather than what they want. For instance, a gym membership is a popular benefit option; as

many of us know from New Year's resolutions, the idea of 'getting healthy' is attractive and something the majority of people consider a worthwhile aim, thus the option is likely to be taken out as the system 2 thinker, more aware of the future self, sees value. However, most people tend to conduct day-to-day activities in system 1, that is, the mindset much more prone to biases – in the case of this gym example, the **self-control bias**. We can see how someone who takes a gym membership could potentially not use this benefit and get zero value from an employer contribution. This could furthermore be seen as a loss, as in effect the employee has paid for something they will not use, with the employer being a reminder of this loss and thus associated with it.

Pensions and benefits: summary of key issues for reward practitioners to consider

- Traditional approaches offer reasons why offering **pension contributions** above the required minimum as a reward may make good business sense and offer specific HR benefits (in retention more so than recruitment). Evidence from behavioural science offers some significant notes of caution, and pointers as to how to make this effective. Employees will typically significantly undervalue the employers' contributions except in very late career (hyperbolic discounting), suggesting that they don't *punch their weight* as an element of reward. This points to a need for organisations to proactively and regularly communicate the

value of pension contributions as part of the reward package. Messages need to be tailored to groups of employees dependent on their position in the lifecycle.

- **Benefits** can form an important and effective part of a reward strategy – and, where there is an element of flexibility, may meet important agendas around diversity, involvement and autonomy. Behavioural science evidence suggests that there are two issues in particular that need to be considered in relation to their design:
 - Where there is a choice of benefits, as in a flexible benefit scheme, the choice may in fact be perceived as a cost by an employee, and the avoidance of this may lead to inertia – retaining a form of benefit that is no longer of value. Reducing the range of benefits offered, and simplifying the process of choice, may be important in countering this.
 - The subjective value of a benefit to an individual may reduce over time resulting in a loss, in the same way as the removal of a benefit. Behavioural science suggests that these losses are experienced as being greater than the original perceived value of the benefit – with potentially significant effects on satisfaction with reward. This points to a need for organisations to 'refresh' the benefits offered, to be careful, where possible, to avoid offering benefits that may need to be taken away, and to think carefully about whether removal is necessary.

Box 13: 'Thinking fast and slow'

System 1 thinking – our everyday, autopilot mental processes – think of driving, a complex task which becomes instinctive and routine.

System 2 thinking – a more conscious thought process, triggered when making infrequent or important decisions – think of driving in poor weather conditions.

4 Executive reward/compensation

Box: 14 Traditional approaches to understanding executive pay

Principal-agent (see Box 5, above) – in executive pay this emphasises the effective monitoring of the rational market between executive talent (agent) and their employers (in effect the shareholders, who are the principal).

Managerial power – this view of rent extraction takes a somewhat cynical view that the executive market is loaded in favour of star performers, who can charge what they want for their talents.

The financial crisis has put the issue of executive pay under the spotlight, bringing to prominence the concern that executive compensation arrangements may have contributed to excessive risk-taking. This sits alongside a longer-standing concern around the increase in the remuneration of executives relative to other employees. In this section we look at the issue of executive pay from a behavioural perspective.

Again, we will look at the *what*, *how*, *who* and *when* issues:

- *what and how* – the form of executive reward (for example bonuses, options, praise and recognition), its basis (for example performance, competence)
- *who* – the focus (individual versus sustainable organisational performance)
- *when* – the timing (immediate or deferred).

We will also cast a ‘behavioural eye’ over some of the responses to ‘crisis’ – pay multiples, clawbacks and more diverse boards.

The 2014 CIPD report on executive reward suggested the behavioural perspective as being one way to understand the subjective value that executives place upon incentives. The financial crisis has provoked sharp disagreements: some felt that the incentivisation of CEOs and key executive talent encouraged excessive risk-taking in particular industries, notably the financial sector. Conversely, others (for example Kaplan 2008) challenge the assumption that this sector was more extravagant than the

market in general, highlighting the complexities of the relationship between reward and behaviour. Both **principal-agent** and **managerial power** thinking provide partial views of what is a complex picture.

Behavioural theory has begun to explore why structural changes to corporate governance may not provide the solutions for rebooting the executive performance relationship. The spate of minor rebellions by the ‘shareholder spring’ in the UK in 2012 reflected wider concerns that the traditional corporate governance mechanisms, driven by the (bounded) rationality of principal-agent theory, were no longer functioning. Despite variations between national corporate governance models, the same accusations arose that executive compensation was creating an unsustainable situation. The use of ‘say on pay’ in the UK model, for instance, could be said to provide a more rigorous oversight of executive performance and reward than a US system with its greater power base of CEOs and chairmen (often the same). However, the experience of the Royal Bank of Scotland, amongst others, shows how the assumption that future conditions will be similar to present (**normalcy bias**), or **optimism and overconfidence** (see Box 19, below) can potentially creep into any system. We should not forget that there is general acknowledgement by companies in their compensation strategies that they do not wish to repeat the mistakes of the past and are aware that they need to encompass sustainable strategies and address the needs of all stakeholders.

Behavioural science suggests that we need to rely less upon economic-based modelling (for example through Black-Scholes option-pricing) and instead address the executive's own subjective appreciation of value. It also helps grasp the significance of time in executive compensation, helping to unpick why executives may or may not be incentivised through the promise of substantial future reward. As we have seen in earlier sections, behavioural science offers insights into how people discount future reward (**temporal discounting**), the variation in discounting rates (for example **hyperbolic discounting**) and their marginal utility, and explores the effect of decision shortcuts (**heuristics**). Irrespective of time, the ways in which executives value reward are shaped by factors such as **herd effect** or **anchoring**. Behavioural science can also help explain the actions of executive and remuneration committees, by looking at the group biases and heuristics that come into play. We will explore each of these themes below.

Executives' attitudes to reward

Neuroscience is exploring how particular forms of behaviour are shaped by configurations of neurological functioning (Healey and Hodgkinson 2014). The dopaminergic regions of the brain's reward centres hardwire them for 'functional impulsivity' (Lawrence et al 2008), which is a necessary part of risk-seeking behaviour – an important requirement for senior management (up to a point, arguably). An interesting question is how reward arrangements play on this tendency. As noted above, the role of developments in compensation in causing the financial crisis is not completely clear as there were many developments in business and government that contributed to the events of 2007–08. However, Cai et al (2010)

note the rise of bonuses compared with pay, suggesting a possible switching of emphasis towards short-term profitability. However, Conyon et al (2010) indicate that there is a strong relationship between European banking sector bonuses and shareholder returns, querying whether there was a pronounced 'bonus culture' in that sector. Nevertheless, there remains a strong suspicion that the behavioural responses by executives and remuneration committees have played an important role in excessive risk-taking. Recent international research into executive remuneration has suggested a 'ratchet effect' in remuneration because of the effects of benchmarking (Sheehan 2012), whereby consultants are asked by remuneration committees about 'the market', the latter feeling pressured not to pay below median. Similarly, in turn, those who pay these consultants, often being executives themselves, become concerned with how their 'score' compares with their peers (Pepper et al 2013).

Faulkender et al (2010) suggest that there is mixed evidence that executives are extracting excessive rents. However, it is acknowledged that executives can engage in manipulative activities – through the timing of disclosures or accounting restatements, for example – enabling them to buy vesting options and then sell the shares at inflated prices. Ironically, Belinfanti (2012) warns that judgements of the effectiveness of schemes are determined by the outcome rather than quality of the decision process, meaning that there is scope for unscrupulous executives to manipulate data. The key issue for decision-makers, both organisational and governmental, is to be aware that the implementation of changes to reward structures can lead to sub-optimal behaviour. Gregg et al (2012) suggest that the

Box 15: Wildebeests and lemmings? The herd effect

We know how large groups of animals move together in concert: providing both an efficient way of navigation (following the leaders) as well as safety (lions tend to catch only those wildebeest unable to stay within the herd). However, herd behaviour can discourage warnings for the herd to change direction if the herd is headed towards a cliff (as lemmings supposedly do). Similarly, in reward we see this double-edged nature of herd behaviour.

Box 16: Think of the first thing I told you ... anchoring

This is a cognitive bias wherein our thoughts and opinions relating to a decision are shaped by previously given information about that situation. A skilled estate agent will tell you how sought after this property is, or how there has been extensive refurbishment, before showing a potential buyer around because decision-making will be anchored to that first piece of information – often irrespective of how true that information is.

Box 17: A bird in the hand? The endowment effect

Unlike traditional economic theory, behavioural science suggests that people are loss-averse – they tend to place subjectively a higher value upon what they own. In this, one's *willingness to accept* a price in order to sell something is much higher than one's willingness to pay for the same thing – whether coffee mugs or tickets to a sporting event, once we've acquired them we are loathe to part with them without attracting a premium. Similarly, in executive pay, this wish not to lose options can concentrate executive minds upon the longer-term riskiness of their policies.

key mechanism through which remuneration contributed to the crisis in the financial sector was not so much the relationship between pay and stock market performance but through incentivising executives to maximise the asset base of their firm. Consequently, pay for performance schemes should be perceived '*merely as a heuristic for judging behaviour, not as a substitute for good behaviour*' (Belinfanti 2012, p137) – the map should not become the territory. However, a behavioural stance explains how this 'reification' takes place as concerns for maintaining bonus levels predominate and organisational bonus pools are increased despite troubled organisational performance and are justified in terms of being seen as attracting and retaining talent – as happened at (for example) Barclays Bank.

Attempts to ensure that executives take a longer-term perspective on non-equity incentives are reflected in, for example, the Walker Review (2009) recommendation that half of the value of executive incentive payments should only be vested between three and five years. Behavioural science indicates support for this strategy. For instance, Brink and Rankin's (2013) empirical studies note the importance of the **endowment effect** upon subjects' behavioural reactions.

Belinfanti recommends that compensation design should actively draw upon this effect through clawbacks, restricted stock options or escrow accounts, which means that, although executives cannot spend it at this time, the thought of potentially forgoing this wealth discourages risky decision-making. This seems to be mirrored in recent practice, as the recent Grant Thornton report (December 2014) has noted that three out

of four FTSE350 remuneration committees have instituted clawback provision for LTIPS. However, it is also noticeable that none actually exercised this option.

Issues around reward in the form of equity

As Martin et al (2013) point out, the key question that has been at the forefront for decision-makers on executive reward is to what extent does equity-based pay lead to excessive risk-taking – or does it actually discourage risk-taking?

Agency theorists talk of executive perceptions of stock options in terms of pure gambles providing only gain outcomes. In other words, they had asymmetric risk properties with the emphasis very much upon the upside rather than downside (the 'heads they win, tails they don't lose much' idea). Conversely, **behavioural agency theory** has spoken of how the perceived value of previously awarded stock options created risk-bearing for executives (that is, that these constituted wealth at risk), hence their perception was of a pure gamble with loss outcomes for that 'at risk' wealth. This means that, subjectively, executives would perceive that there is a lot to lose if the coin were to come down 'tails'. Behavioural agency theory uses the idea that certainty is preferred to a gamble (Kahneman and Tversky 1979), so risk-averse executives would prefer to protect their endowed compensation rather than expose it through risky future strategies.

Martin et al (2013) argue that there is a mixed gamble associated with stock options – namely that prospective wealth encourages further risk-taking, while accumulated wealth diminishes risk-taking. Factors that influence whether risk-taking is encouraged or not include the vulnerability of

CEOs (that is, a run of poor results can diminish the counterweighting effect of risk-bearing upon risk-taking). Similarly, they note how the extent that executives feel they have protected their accumulated wealth influences their behaviour. The more hedging taken, the stronger the prospective wealth effect, leading to greater risk-taking – there was evidence that the opposite was occurring as well. Consequently, Martin et al (2013) reinforce the calls by managerial power theorists that regulation needs to take account of the impact of hedging activities upon executive behaviour.

However, Martin et al's (2013) analysis of a 'mixed gamble' has been applied only to stock options and needs to be extended to other compensation forms such as long-term bonuses and restricted stock. The established notion that heavier emphasis upon equity-based compensation by certain firms caused excessive risk-taking and poor performance is not borne out in all research. For instance, Erkens et al (2012) explored more than thirty countries and found that those firms relying upon non-equity incentives (for example bonuses) made riskier decisions.

Decisions about the structure and level of executive reward

The problems of legislating for executive compensation are reflected in the IRS Code Section 162(m), which limited the tax-deductible size of non-performance-based compensation. However, this had the effect of pushing companies towards less efficient compensation models: reflected in the increased use of retention bonuses paid to key executives irrespective of the actual performance of the organisation and, most importantly, their portfolios. There

is evidence that after 1999, and the introduction of the Gramm-Leach-Bliley Act, there was a change in the incentive structure of financial firms that saw the sensitivity of their top management compensation packages become much higher than that in non-financial firms. This raises concerns that attempts to encourage more ethical, pro-social behaviour ended up by encouraging anti-social behaviour – a **crowding-out** effect. Belinfanti (2012) refers to Greg Smith's⁵ parting shot from Goldman Sachs that the 'toxic and destructive' environment suggests an over-emphasis upon short-term financial targets still remains, and indicates that more consideration is needed of the deleterious effects of extrinsic motivators **crowding out** longer-term goals. Interestingly, Belinfanti (2012) suggests that crowding-out effects can be ameliorated by including non-financial metrics, noting Eccles et al's (2012) research indicating how those firms explicitly addressed 'sustainability' exceeded those who did not.

The difficulties in ascertaining the precise relationship between pay and performance is exemplified by Gregg et al's (2012) review. Some scholars (for example Jensen and Murphy 1990) argue that it has become less strong, and others the opposite (for example Benito and Conyon 1999). Gregg et al themselves found that there was little increase in sensitivity between executive pay and company performance. Worryingly, they found that there was evidence of a one-sided risk model which meant that pay-performance elasticity was high when stock returns were also high but less so in more adverse circumstances: *'there is a stronger relationship between executive cash pay and company performance for exceptional outperformance but not*

18 Crowding-out: a reminder

When the presence of extrinsic motivation (for example financial incentive) diminishes the intrinsic motivation employees have for performing well – their wish to 'do a good job'.

⁵ Greg Smith was an executive director who left Goldman Sachs in March 2012, complaining about the emphasis upon mis-selling products to massive 'elephant' clients – particularly lucrative clients who can be exploited for the biggest profit for Goldman Sachs.

Box 19: Shortcuts in group/team decision-making: collective heuristics

Behavioural science focuses upon how emotional, sometimes irrational, humans make decisions based on 'rules of thumb' – **heuristics**. While these are related to individual behaviours, the effects of being a part of a social group (for example a management team or even managers in a particular industry) can be communally influenced into ways of thinking and behaviour that we might not have thought or done on our own.

The most famous collective heuristic is **groupthink** – whereby the pressure to conform to a group decision overrides individual behaviour, but there are other heuristics such as **in-group favouritism**, whereby members tend to favour the views of people from their own group, or **false consensus**, wherein people with opposing views are screened out.

unusual underperformance' (2012, pp117–18).

Group behaviours and executive reward

The issue of executive remuneration has centred on the extent to which compensation has incentivised the 'wrong' sort of behaviour – short-term profit privileged over longer-term sustainable corporate performance – is now approached from a different angle. Here we look at the ability of remuneration or compensation committees to effectively devise packages that both incentivise yet also discourage (excessive) risk-taking, and to monitor their implementation. Much of **behavioural agency** theorising tends to emphasise the individual agent rather than the top team, which is more the remit of other theories, such as the upper echelons theory (Hambrick and Mason 1984) wherein it is the top management team that is the focus.⁶ However, collective heuristics, such as **groupthink**, are just as important for understanding the emotional and cognitive drivers of decision-makers.

The High Pay Commission report identified the failure of remuneration or compensation committees' models, finding that they were *'a closed shop, made up largely of current and recently retired executives. This model has failed, leading to spiralling pay. We believe that greater engagement with employees may help restrain executive pay and help mitigate negative impacts on morale as well as encourage a greater engagement with the workforce'* (2011, p13). In the United States, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and the Financial Crisis Inquiry Commission have brought forth recommendations and legislation to address governance issues. These include compensation-related aspects such as increased

disclosure, votes on aspects of remuneration packages, bringing in shareholder voice as well as addressing the independence of remuneration or compensation committees and their consultants. Similarly, in Australia, the 2011 Corporations Amendment (Improving Accountability on Director and Executive Remuneration) Bill deliberately puts in processes to trigger board re-elections if sufficient 'no' votes are received.

Behavioural research into boards and corporate governance has identified how board members manage complexity in decision-making through mental structures (routines) that enable them to filter uncertainty and complexity (Rindova 1999). The dangers of this are that as decision routines become embedded in the organisational memory, they lead to inappropriate solutions being provided for problem situations. There has been a growing number of governance studies examining effective board practices through behavioural processes and dynamics in and around the boardroom (Van Ees et al 2009). Several of these studies have applied various aspects of organisational learning theorising in board effectiveness and/or top management team behaviours. This more critical perspective resonates with the contention that activities associated with setting remuneration levels are not an objective, highly structured process, but a subjective negotiation of meanings, which are often divergent in character (compare Devers et al 2007, Pye 2004).

Managerial power theory has lamented over the dominant role of US CEOs and largely passive friendly boards (Bebchuck and Fried 2004). Behavioural theory

⁶ Upper echelons theory emphasises how executives' personal mental models and partial views of situations come to shape organisational strategies. In short, organisations become reflections of their top executives.

helps explore this further using concepts such as **in-group favouritism** (see Box 20) or false consensus. Behavioural theorists have recently found CEOs able to capture a larger portion of firm wealth relative to shareholders when board diligence in controlling opportunism declines and CEO power increases – reinforcing allegations that CEO pay violates norms of distributive and procedural justice. Recent research into pay multiples in South Korea (where public listed companies have had to provide detailed information for years) suggest that simple multiples are insufficiently nuanced because of the effects of firm-size bargaining power of executives. However, they do reveal that excess pay multiples can have a deleterious effect on future firm performance through investors' perceptions of employee morale and the ability to attract executive and employee talent – pertinent for Western economies bringing in stronger rules on CEO transparency. However, they acknowledge that countries without the same strongly collectivist Korean culture may not reveal the same behavioural response.

Groupthink is an important heuristic to be aware of in terms of both executives themselves and the remuneration committees who decide upon 'inappropriate' packages. Arguably, the emphasis upon the independence of non-executives since the problems of the early twenty-first century has attempted to address this (see Hempel and Higgs reports). The Nyburg Commission's (2011) report into the Irish financial crash pointed towards widespread groupthink in that country's banking sector – a 'disaster myopia'. Similarly, groupthink is highlighted by the Financial Reporting Council as particularly significant in

contributing to the financial crisis because of a lack of challenge to executives from the board (FRC 2014). The lack of challenge is important for combating groupthink, but also the prevalence of **optimism** and **overconfidence heuristics** has been highlighted by some as an important driver in executive (mis-)behaviour through reward structures. For instance, the (reported) aggressive expansionism of Fred Goodwin at the Royal Bank of Scotland or the (alleged) 'Bobtimism' culture that underlay (and undermined) the reign of Bob Diamond at Barclays Bank. Chen et al (2011), when applying **prospect theory** (from Devers et al 2007) on the UK banking crisis, note that executives focus upon particular reference points when making evaluations of riskiness in their strategic decision-making. When stock options are high they take the increased stock values as their reference point, seeking to engage in more risk-taking – conversely, when organisational performance and stock portfolios are under water, executives will become unduly risk-averse.

Herd behaviour occurs through social learning, and economic theories of information cascades mean that it is optimal for individuals to follow those who have gone before them, rather than act on their own information. In addition, by following others in this manner, people seek to avoid a negative reputation, even though they may ignore their own information. This reveals why trends emerge and why late adopters seemingly act 'irrationally' in their decisions, although it is perfectly rational to them as this is an efficient use of information. Boyson (2010) suggests that the risk-avoidance influence of herding behaviour can paradoxically cause excessive risk-taking because of the need to stay with the

Box 20: Optimism and overconfidence

These are behavioural biases stemming from people's tendencies to overestimate their own abilities and to affect particular favourable outcomes. In executive reward, these influence how much an individual thinks they can get elsewhere and thus how much they should get currently.

Box 21: Who's in and who's out? In-group favouritism and out-group homogeneity

There is a recognised group phenomenon whereby members favour the views of those whom they perceive to share a common identity – a reference group or the ‘in crowd’ – known as **in-group favouritism**. Furthermore, the ‘in crowd’ members tend not only to place less reliance upon the opinions of those not in the ‘in crowd’, but also to overlook the differences between those outsiders (**out-group homogeneity**). For instance, macho cultures in organisations encourage the perception that women are generally unable to cope with the necessary long hours and aggressive behaviour.

herd when it is moving in a risky direction, and this can infect an industry from the top down. For instance, Regling and Watson (2010) blamed poor remuneration policies for encouraging the asset bubble in the Irish economy, but noted that this was not simply a case of paying top bankers excessively large bonuses, but also the incentivisation of middle management to make unsustainable loans.

Of course, herd behaviour involves both the executives and those who make decisions about their remuneration. The tension between the need to retain ‘talent’ while ensuring executives are not exploiting the company places pressure upon the effective structuring of compensation. It requires firms’ remuneration packages to remain competitive while not leaving the safety of the ‘herd’ by being an outlier. Morgan Stanley has recently relaxed its deferral rate of 80% of its cash bonuses down to 50% because of concerns over talent retention (*New York Times*, 5 December 2014). Although this original higher rate was in keeping with its attempt to demonstrate their discipline upon executive pay, through deferrals and clawbacks they are falling back into the safety of the ‘herd’.

Rost and Osterloh (2009) discuss how, in the Swiss banking industry during the recent financial market crisis, those companies with heterogeneous boards performed better than those with more homogeneous boards. The importance of diversity in counterbalancing groupthink by the ‘male, pale and stale’ boards is acknowledged by pressure groups *‘we invest in to focus on real diversity on their boards – diversity of perspective, experience and skills as well as gender. These are key*

ingredients in supporting board effectiveness and reducing dangers of group-think’ (avivainvestors.com), a perspective adopted in the Corporate Governance Code that highlights the importance of diversity in terms of race, gender and background (FRC 2014). Gender has been briefly acknowledged in the CIPD executive reward report (2014). However, the behavioural literature does indicate a linkage between attitudes to risk and gender. One study has suggested that in normal conditions men with financial expertise make quicker and more accurate decisions than non-experts, and than women, yet male experts are more likely to incorrectly estimate the probability of non-typical events (Rost and Osterloh 2009). Caution is required in generalising from a single study.

Increasing diversity on boards can be said to address optimism bias and other collective heuristics such as groupthink. However, behavioural heuristics such as **in-group favouritism** and **out-group homogeneity** could arise as cliques within remuneration committees. Not all principals frame risk issues in the same way; some have more influence in decision-making over others: comparing a founder’s (more risk-averse?) reactions as opposed to external shareholders. Allcock and Filatotchev (2010) suggest in their research that founders of IPOs retain a heavy influence upon compensation decisions – resisting the linking of executive rewards with incentive schemes. Similarly, the possible principal-agent view of increased monitoring through more non-executives on the board is not borne out in terms of reducing the pay of the highest director (Gregg et al 2012). Adams’ (2009) suggestion that the US banks that received bailout money had boards that were more independent than

other banks means that we should not assume that changing board composition ensures improved performance by executives. For her, it could be that the lack of specialist knowledge of those independent board members is more problematic than drawing non-executives from the same small pool of talent.

Recent research by Hou et al (2014) of Standard & Poor's 500 firms from 1998 to 2005 indicated that there were definite 'seasons' in CEO tenure that reflect the benefits to shareholders of forms of compensation – generally that, over time, benefits to shareholders from performance-based compensation (that is, options and bonuses) decline while non-performance-based pay (that is, salary) increases. Their concern is that remuneration committees should not simply follow generic normative 'best practices' alone in determining CEO pay packages but should consider more holistically the fit between CEO characteristics and organisational goals. Faulkender et al (2010) suggest that compensation could be adjusted to take into account not simply returns to equity, but the payoffs that are received by other stakeholders such as bondholders, depositors, and so on; thereby compensation is more closely tied to the value of the firm as a whole, rather than simply the equity slice. Government policy is attempting to encourage optimal behaviours via changes in policy – for instance, the September 2014 version of the UK Corporate Governance Code explicitly emphasises the need for boards *'to ensure that executive remuneration is aligned to the long-term success of the company and demonstrate this more clearly to shareholders'*. However, while a laudable principle, it assumes a rationality, whereas the behavioural science view warns us as to how senior executives can respond in seemingly irrational ways

when their reward packages are modified because of the importance of anchoring to bonuses as a reference point.

One final note of caution is that often research in this area is based upon particular designs. Recent research into the behavioural responses into clawbacks (Brink and Rankin 2013) recommends that future research looks at 'contextually rich' settings – that is, rather than merely relying upon experimental designs with students, there is scope for studying the effects of participants having exerted meaningful levels of effort into realistic scenarios. Undoubtedly, given the insights generated by looking at mental models, behavioural research draws upon ideas of cognitive learning – how existing mental models influence decision-making (Rindova 1999). A cognitive learning perspective highlights how executives and those who decide their pay develop their critical reflective skills (see Rowe and Liu 2010). In this way, they could be encouraged to re-evaluate routines that may be obsolete in the face of changing situations. These could otherwise result in undesirable solutions that fail to incentivise executives towards the attainment of critical success factors central to the organisation's business strategy (Elkjaer 2004, Van Ees et al 2009).

Executive reward: summary of key issues for reward practitioners to consider

- There is a tendency for executives to make evaluations about risk in reward and favour immediate gratification over longer-term rewards. This can be used to explain short-termism and risky behaviours – but also raises concerns that attempts to address such behaviours could trigger adverse reactions from executives.
- The impact of reward is

complex in respect to the wider environment and remuneration committees. These actors are themselves exposed to behavioural science biases (both as decision-makers and also in their other roles because they wear other 'hats'). A non-executive director in one board might well be influenced by their experience as an executive in another organisation.

- A practical recommendation is to support remuneration committees and other actors to understand how their own deep-seated responses influence their actions and reactions to the shaping of remuneration packages. We have shown above how the impact of headline bonus and pay levels can trigger emotional responses in shareholder pressure groups and so on. Understanding the neurological impact of poorly presented reward packages is important.
- There is also a case for helping the players in executive reward decisions to develop their critical reflective skills in order to re-evaluate heuristics that may become obsolete in a rapidly changing environment.

Conclusions

‘...rewards for performance are always going to struggle to keep up with people’s perception of their own value or contribution.’

Reward has always had an important role in attracting and retaining employees, securing their engagement and enhancing their performance – hence its central place in any HR strategy. Our review of the behavioural literature reinforces the point that making reward systems fit for these purposes is no easy task. In terms of attraction and retention, we have emphasised the difficulties of setting appropriate levels of reward given the subjectivities around how rewards are valued. It appears that organisations are always likely to find it difficult to meet the reward expectations of employees, partly because of a tendency for people to overvalue their skills (endowment bias) and partly because preferences are highly individualised. Going by this evidence, the appropriate response would seem to be a flexible and dynamic system that reflects the diverse and changing needs of the talent pool.

On the other hand, the behavioural approach offers some possible restrictions in the ‘toolbox’ of reward interventions that might help achieve this. The behavioural ‘costs’ associated with benefits, particularly having to make choices on them, the perceptual discounting of deferred rewards, and the diminishing returns associated with incentives suggest that these may not be able to play the role that is usually ascribed to them in this context.

Furthermore, a high degree of flexibility around base pay has its own difficulties. Behavioural science insights, both from

cognitive neuroscience and economics, stress the importance of perceived equity and transparency (in process and outcome) in reward systems. More structured and predictable systems – for example pay-for-the-job grading systems with incremental scales and flattened differentials – may have the advantage here. There may be further advantages of this approach in the context of an ageing workforce. In this context, service-related rewards, coupled with flexible retirement options, may help to retain staff. However, the analysis above also warns of the behavioural consequences. There are risks to productivity in setting perceived social norms of underachievement and an additional risk of building in a sense of loss arising from reaching the top of scales or not having expectations of future progression met.

This leads to the issue of employee engagement or motivation. The behavioural approach reinforces the great capacity for financial rewards to disengage people, particularly when they are in the form of incentives. This is already known – for example the disconnect between pay and performance can be a demotivating factor – as with the Civil Service ‘say, stay and strive’ model (Alfes et al 2010). The **endowment bias** is an important factor, as rewards for performance are always going to struggle to keep up with people’s perception of their own value or contribution. But the importance of equitable rewards for the encouragement of an engaged workforce discussed in

previous CIPD research is possibly even greater. The behavioural science research (in relation to **overconfidence effects** and **social comparison theory**) reinforces our understanding of the difficulties of offering incentives that are perceived to be equitable and just. It also warns us that even if this can be achieved, financial incentives have the capacity to crowd out intrinsic motivators which may be at the core of engagement. On the other hand, this needs to be set against the recent research evidence for the effectiveness of financial incentives. Reward strategists face a trade-off between the leveraging effect of incentives and their potential ‘side effects’ – trade-offs that will vary with circumstances (for example type of work, level, individual/team output, sector).

Given these difficulties, a greater role for non-financial and intangible rewards (recognition, praise, awards) may be more attractive. Aside from the significant advantage of being relatively cheap, they seem to avoid many of the pitfalls that behavioural science alerts us to in relation to more traditional reward forms. Certainly they would seem to meet the needs of Generation Y workers, with their preference for feedback and autonomy over control and direction. In terms of achieving this in practice, the behavioural approach should perhaps have the last word. Re-engineering our reward systems in this way, from the tangible to the intangible, is likely to run up against a range of behavioural obstacles – in relation to social norms, prospect theory, regret aversion, endowment biases, temporal trade-offs and herd behaviours (to name a few), as well as more traditional contractual, employment relations and transaction cost considerations.

This report represents a first attempt to apply the insights from behavioural science to the broad field of organisational reward. There is now a need for focused research on the implications of behavioural science in relation to specific reward topics. As this happens, and the application of behavioural science to the reward field develops, it is anticipated that more specific detailed guidance for practitioners will emerge. This report has provided a foundation for that endeavour. In addition it has provided practitioners with an introduction to the field, its theories and terminology. It is our hope that, in doing so, it has broadened the perspective of reward professionals as they approach familiar problems, has offered some genuinely new insights and possibilities, and has provided some pointers towards practical interventions.

‘Reward strategists face a trade-off between the leveraging effect of incentives and their potential “side effects” – trade-offs that will vary with circumstances.’

Glossary of terms

This glossary identifies key terms from the report and defines them as in the context of the report. Behavioural biases, heuristics and terms often have multiple nuances and meanings dependent on the context, and the descriptions below should only be considered as guidance for the term with regard to reward.

Anchoring – a behavioural tendency to fixate on a belief or perceived fact in making decisions, for example ‘house prices will always go up’, which can have a strong impact on decision-making. Furthermore, an individual anchored to a particular belief may have trouble moving away from the notion, despite evidence to the contrary.

Auto-enrolment – automatic process of an employee having to choose not to save (opt out) rather than having to choose to save (opt in) for a pension.

Availability heuristic – when having to make a complex choice, relying on readily available information.

Aversion to regret – reluctance (or refusal) to make a choice due to the fear of getting it wrong.

Behavioural economics – examines how psychological and social factors impact on economic decisions.

Behavioural science – the psychological and physiological determinants and affectors of decision-making, value and satisfaction.

Cognitive biases – internal responses and reactions within the decision-making process which can result in the decision made being different from the externally rational outcome. For instance, our level of confidence can result in different decisions even if everything else is the same – for example a simple coin toss gamble may be accepted if one is confident; the same gamble (with the same odds) may be rejected by the same individual if their confidence is low.

Cognitive psychology – studies mental processes, thinking, memory and perception.

Confidence – a key factor in our decision-making; low confidence is associated with too cautious underperforming decisions; overconfidence is associated with too high risk-taking.

Crowding-out – where one outcome or decision psychologically dominates, for instance issues of fairness in pay may prevent an employee recognising other benefits.

Cumulative prospect theory – a development of prospect theory, demonstrating people tend to subjectively overweight the probability of extreme events, but underweight the probability of common or average events.

Distributive justice – in this context, a concern with the fairness of outcome of reward decisions, that is, ‘who gets what’.

Efficiency wage theory – suggests that organisations have an interest in having efficient employment contracts, and may pay a premium to achieve this.

Endowment bias – suggests that we will value our own skills above the market value.

Expectancy theory – the thought that a person will perform a certain way to attain a reward that they value (provided they believe that their performance will lead to outcomes, and that this in turn will lead to the reward being provided).

Experimental research – rigorous research (here, to assess decision-making), using experimental subjects in a controlled setting.

Gamification – framing work activities as games and offering rewards for success.

Herd effect – a tendency to copy others or reported trends; this can be particularly visible in investment decisions where what others are doing provides a signal in an uncertain decision scenario.

Heuristics – shortcuts we take to arrive at decisions in a complex and uncertain world. Traditional economic theory suggests that individuals will consider all the available information to make the best decision; however, this in practice may be impossible and processing shortcuts, for example rules of thumb or consulting friends and family for their advice, may be used.

Hyperbolic discounting – empirically we tend to value distant future events lowly and they suddenly increase their subjective worth to us as they get closer. If we consider a pension, the subjective value of a pension plan will be low throughout most of an employee's career, suddenly rising towards the end of their career as retirement approaches. This sudden rise suggests a hyperbolic valuing of distant reward.

Institutional theory – suggests that employers will seek to appear as an attractive employer – for example by offering a good pension – to enhance their position in the labour market.

Managerial power – the view that the executive market is loaded in favour of star performers, who can charge what they want for their talents.

Myopia bias – individuals tend to be focused on the present and immediate consumption rather than the near or far future. For instance, individuals choosing an immediate pay rise over a training course or qualification which would generate future higher pay.

Occupational psychology (also called industrial and organisational or work psychology) – applies psychology to recruitment, people management and learning processes to support employee attitudes, behaviours, performance and well-being.

Omission/commission bias – the psychological tendency to consider action more important/dangerous than inaction, for instance employees will generally not deliberately falsify their expenses (action) but are more likely not to report an overpayment in their pay (inaction).

Optimism bias – quite simply a belief that everything will be fine in the future; this can have considerable implications in pay and reward, particularly when people are deciding if they need to plan for retirement, and so on.

Organisational cognitive neuroscience (OCN) – explores the relationship between the biology underlying mental processes and behaviour in organisations.

Overconfidence bias – see **confidence** above.

Principal-agent theory – the interests of the 'agent' (for example an employee) differ from those of the 'principal' (for example the organisation). The principal acts, for example, by offering incentives, so that the agent behaves in line with the interests of the principal.

Procedural justice – in this context, a concern with the fairness of the process for reward decision-making.

Prospect theory – here used to determine the perceived value of losses and gains. The theory suggests that individuals tend to subjectively overweight the value of a loss.

Representativeness heuristic – we tend to compare or make judgements today based on previous similar comparisons or experience of grouping.

Self-attribution bias – an individual believing a successful outcome is due to their skill, even when the outcome is simply chance. For instance when gambling, successful individuals can attribute statistical flukes to their skill (or system).

Self-control bias – as many individuals have a preference for immediate consumption, individuals may struggle to sacrifice an immediate gain or consumption for future reward.

Self-serving bias – similar to **self-attribution bias**, but with greater emphasis on success being due to an individual's talents, but failure is due to external factors.

Social comparison theory – our tendency to compare ourselves with others when other indicators of performance are not available.

Subjectively value – internally value with a measure specific to the individual.

System 1 thinking – our everyday, auto-pilot mental processes. Think of driving, a complex task which becomes instinctive and routine.

System 2 thinking – a more conscious thought process, triggered when making infrequent or important decisions. Think of driving in poor weather conditions.

Temporal discounting – a less precise form of hyperbolic discounting, simply our tendency to prioritise the short term over the long.

Transaction cost economics – suggests that rational employees will trade off the benefits of sacrificing salary in early career for the benefits of a pension in later life.

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