



postnote

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DELAYING GRATIFICATION

Evidence shows that people may be biased towards seeking short-term rewards at the expense of greater long-term benefits. Several factors influence how biased people are likely to be towards the present.

Understanding these could inform policies that encourage individuals to make important life choices that affect their own long-term interests. This note reviews evidence on the influence of time in decision-making, and looks at the implications for policy domains such as pensions, health and consumer affairs.

Background

Most people envisage achieving positive goals in the future (for example, maintaining a healthy weight and thereby reducing the risk of developing diseases such as diabetes), but find it difficult to act in accordance with these long-term goals (for example, having a balanced diet). Opting for immediate rewards at the expense of longer-term positive outcomes can impact negatively on a person's future. The economic and social costs of short-term thinking may also be significant (Box 1). Two concepts are central to understanding the role of time in decision-making: present bias and time inconsistency.

Time Inconsistency

Economic theories assume that people behave rationally and that their preferences will be consistent in time. Research however, suggests that people sacrifice positive long-term outcomes for immediate rewards. While most people would rather receive £100 in 18 months than £50 in 1 year, many opt for £50 today over £100 in 6 months.¹ Time-inconsistent preferences are evident in everyday decisions regarding health and finances.

Present Bias

By placing greater importance on immediate outcomes, people exhibit a bias to the present which applies to rewards and losses.

- **Rewards** available immediately are perceived to be more valuable than similar sized rewards arising after a delay. Delayed outcomes are devalued, so people often opt for small rewards in the short-term, at the expense of greater longer term returns.

- **Losses** in the short-term are often avoided, even if this leads to greater future costs. For example, although many parking offences incur reduced fines if paid immediately, many fail to take advantage of this and pay a higher tariff after delaying payment.

Box 1. Present Bias and the Financial Crisis

Two of the issues identified as contributing factors to the current credit crisis relate to present bias. First, many sub-prime mortgage clients were offered loans with very low initial 'teaser' interest rates. Present bias may have led them to underestimate the difficulty they would experience paying off their loan once the interest rate increased. Second, bonus structures in financial institutions often encouraged short-term gains on the stock market without due regard for longer-term risk to the institutions' solvency.

Several factors influence present bias. In general, people are less willing to wait to receive a reward if the reward is small, there is a long delay until its delivery, the delivery is uncertain or risky, or the framing of the reward draws attention to any associated costs. The degree to which individuals devalue delayed consequences varies. Some people do not devalue rewards greatly at all, and will forgo short-term gratification and wait to collect a large reward. Others show a strong present bias, and may have difficulty with self-control and impulsivity.

Some people are aware of their present bias and tendency to alter their preferences over time. They often use strategies to achieve their long-term goals, and overcome the inclination to avoid the necessary effort in the short-term. One example is the purchase of gym membership: by making a financial commitment upfront, people hope to motivate themselves to attend regularly in the future. Others are less aware of their present bias and time-inconsistent preferences, deciding that although they find it difficult to forgo 'rewards' in the present (for example, by smoking), they will be more capable of this in the future (and will quit smoking).

Vulnerable Groups

Some groups in society that are more likely to be biased towards the present than others include:

- people of low socioeconomic status;²
- people with drug abuse problems (including smoking);
- people with mental health problems.

These groups are often part of the populations targeted by the policy interventions to encourage long-term thinking which are discussed in this POSTnote.

Governments and Present Bias

Governments and policymakers can also be susceptible to present bias and time-inconsistent preferences. For example, the government has pledged to reduce carbon emissions by 80% by 2050. This advance commitment (Example 2, page 3) may force it to take serious action against climate change, notwithstanding the short-term electoral appeal of less rigorous policies. Campaigners against the 'nanny state' feel strongly that governments should avoid over-involvement in the affairs of individuals. However, some academics advocate 'libertarian paternalism', an approach that they argue protects, not coerces, those who are prone to make important life decisions that are not in their long-term interests, while leaving "rational" individuals alone. The examples outlined in this POSTnote adhere to this framework, focusing on policy to help those whose time-inconsistency leads them to, for example, under-save, overeat, or take out loans they cannot afford.

Policy Levers

A recent Cabinet Office discussion paper³ on personal responsibility and behaviour change highlights the importance of "helping people help themselves". Social marketing and public information campaigns are useful tools to educate the public and change certain attitudes, but some issues demand a greater degree of intervention to effect widespread behaviour change. Policy levers less coercive than legislation and regulation may be effective, with some interventions designed to promote long-term thinking. Examples of such policy levers are:

- using incentives to encourage healthy behaviours;
- committing to pension contribution increases in advance;
- protecting vulnerable consumers.

Some complex issues (see Box 2) demand multifaceted solutions, drawing on these and other strategies.

Example 1: Incentives and Health

Providing immediate rewards encourages behaviours that show other benefits only in the long-term. Financial and other incentives can be used to reduce present bias and encourage behaviour change in a wide range of areas. The discussion of incentives here is limited to health policy. A forthcoming report from the Organisation for Economic Co-operation and Development (OECD) will detail the cost-effectiveness of incentivising healthy behaviours.

Using Incentives to Encourage Healthy Behaviours

A recent World Health Organisation report⁵ acknowledges that although education and attitude change are essential for successful health promotion policies, they are seldom sufficient to motivate sustained behavioural changes. At a community and population level, providing incentives

Box 2. Motivating Pro-environmental Behaviours

Individuals' present bias is also relevant to climate change; people may be reluctant to change their behaviour until they see evidence of major environmental change. Public education and removing barriers to behaviour change will form an integral part of successful policy.⁴ The policy initiatives discussed in this POSTnote may offer some leverage; for example, the Department for Environment, Food and Rural Affairs acknowledges a role for incentives (Example 1) in encouraging sustainable consumption.

Not all policies need to appeal to individual self-interest, however; there is growing appreciation of the role that environmental citizenship may play in motivating pro-environmental behaviours. Different social groups are inclined to alter their lifestyles by different factors, and simultaneous interventions at the individual, household and community levels may be necessary to effect widespread change. There is a consensus that a commitment is needed by government to fund interdisciplinary research and pilot community projects to identify the most effective policies. Once some people change their lifestyles, there is evidence that the powerful influence of social norms may inspire others to emulate them. For example, people are far more likely to recycle if their neighbours do so.

may be an effective and efficient tool to achieve this. Most research on this topic (using modest financial incentives, vouchers or prizes) shows that this approach works best for preventative measures with very specific behavioural goals. Financial incentives have been successful for:

- increasing patient compliance (taking medications, or attending immunisation or prenatal care clinics);
- encouraging abstinence in chronic drug abusers.

US research has shown that drug users are more likely to remain in treatment programmes that offer extra financial rewards for staying drug-free. The National Treatment Agency (NTA) is running 14 incentive-based pilots in England. Most involve heroin addicts on methadone maintenance. They are offered vouchers (redeemable for goods, such as food and pharmacy items) for producing clean urine samples over a period of 12 weeks. The NTA will report on these interventions in summer 2009. Health incentive schemes usually offer rewards each time the desired behaviour is produced. The limited research conducted so far suggests that cheaper, lottery based systems for those who have complied may be equally effective.⁶ This is consistent with animal research that has shown that once rewards end, desired behaviours are most likely to persist if they have previously been rewarded only intermittently.

Complex Behaviours

Research on the effectiveness of incentive schemes in encouraging sustained change of complex behaviours is less positive. A recent review of incentive-based health programmes⁷ concludes that there is insufficient evidence to determine whether incentives increase the likelihood of significant lifestyle change. Tackling obesity, for example, requires more comprehensive behaviour change (diet and exercise) and may not be targeted effectively with incentives. Similarly, incentive-based smoking cessation programmes have produced mixed results, although two

new studies give reason to be optimistic (see Box 3 and endnote 8). As part of the Department of Health's 'Healthy Towns' programme, Manchester will trial a loyalty card format: when making healthy purchases at participating outlets, consumers will accrue 'points for life', redeemable for healthy activities (such as a session at the gym). Importantly, once operational, this scheme is intended to be entirely self-funding. Further research and pilot projects, drawing on insights from learning theory and behavioural economics, will determine the optimal structure of incentive schemes to avoid any unintended consequences, as well as identifying complementary programmes to facilitate long-term maintenance of behavioural changes.

Box 3. Smoking Cessation and Pregnancy.

In 2007, NHS Tayside ran a pilot programme in community pharmacies in Dundee to encourage pregnant women to quit smoking. They were offered free nicotine replacement therapy, one-to-one support and a £12.50 retail voucher for every week they did not smoke. Of the 55 women enrolled, 27 did not smoke until the programme ended three months after the birth. Those who did not mostly dropped out in the first 3 weeks. The programme's success may partly be due to factors other than overcoming present bias. As well as providing an incentive not to smoke, the vouchers were a significant boost to participants' discretionary income, thus offering a socially acceptable excuse not to smoke in communities for which smoking is a social norm. A larger scheme for deprived communities in Dundee is under way.

Example 2: Saving for Retirement

Taking advantage of individuals' long-term intentions to save more for their future may inform policy to tackle the current pensions crisis. The ageing population of the UK and other developed countries present challenges for pensions policy. In 2002, approximately 3.4 people were of working age per pensioner. This will fall to just above 2.5 people by 2030. This reduction may lead to the government-backed state pension scheme becoming unsustainable. Although the state pension can be supplemented by privately administered pension schemes, contributions to such schemes have fallen to a low level. The shift from defined benefit to defined contribution pension plans has increased employees' responsibility for their retirement savings. Seven million people of working age were estimated to be under-saving for retirement in 2006, and many will be unable to sustain retirement income above the level of the national minimum wage. Although many developed countries face similar challenges, the UK situation may be of particular concern. Compared with an OECD average of 59%, the average UK worker relying on state pension schemes in 2050 will receive a total pension of only 31% of their retirement salary,⁹ reinforcing the need for private saving.

Proposed Pension Reforms for 2012

Reforms under the Pensions Act 2008 will address under-saving and other concerns. From 2012, all employers must offer eligible employees a private sector workplace pension scheme, unless they are enrolled in a qualifying scheme. Employees and employers will make mandatory minimum contributions of 3% and 4%,

respectively, with tax relief bringing the total contribution to 8%. Eligible employees will be enrolled automatically in such schemes, but will retain the right to opt out at any stage. This should increase saving by overcoming people's inertia when joining contributory pension plans.

Saving More than the Minimum

It is unlikely that a minimum combined contribution of 8% will be sufficient to solve pension under-saving totally. Some UK private sector unions have called for an increase in total contributions to at least 15%. Although a widespread increase in employer contributions is likely to require further legislation, other possibilities exist to encourage employees to increase their personal contributions above the minimum.

Save More Tomorrow

People routinely express a long-term preference both to retire with adequate savings, and to save more in the future in order to be able to do so. That more people do not make adequate financial preparations for retirement may be partly due to present bias. Declining trust in state and private pension schemes increases the perceived uncertainty of such investments, which may exacerbate present bias. Save More Tomorrow™ (SMarT) is a scheme designed to capitalise on individuals' long-term financial preferences to encourage them to increase their pensions contributions. The plan gives employees the option of allocating a percentage of future salary increases towards their retirement savings. Companies using SMarT plans have seen positive results (Box 4).¹⁰

In 2005, the Department for Work and Pensions (DWP) commissioned a study of UK pensions schemes similar to the SMarT plan. Legal and General's Pensions Increase Pledge (PiP), offered to match a large group of employees' initial contribution of 1% of their gross salary, and to match annual increases of 1% up to a maximum of 5%. The DWP will analyse the results from two such schemes and report later this year. Since these studies cap contributions to just above the mandatory personal minimum from 2012, the research will not address whether pre-agreed increases in contributions will help people to save more once pension reforms occur.

Box 4. SMarT: Increasing Pension Contributions

The Save More Tomorrow (SMarT) plan has four basic components. Employees are given the option, in advance of a pay rise, of increasing their future pension contributions; contribution increases begin with the first pay cheque following a pay rise; contribution rates then continue to increase with each pay rise up to a preset maximum; employees can opt out at any time. SMarT was implemented in a US company in 1998. Of 315 eligible employees, 78% opted to join the plan, and to increase their pensions contributions by 3% for every annual pay rise of between 3.25 and 3.5%. Despite involving a commitment of most of their pay rises in the near future, the programme was highly successful. Across a period of 4 pay rises, 80% remained in the plan and increased their pensions contributions from 3.5% to 13.6%, on average. The second and third implementations of SMarT in 2001 and 2002 were similarly successful.

Example 3: Responsible Lending

The UK government strategy 'A Fair Deal for All' emphasises the importance of consumer empowerment and protection. There is a fine balance between ensuring that consumers' decisions reflect their preferences and imposing proscriptive consumer regulation. Some groups may be particularly vulnerable in an increasingly complex global marketplace. A Financial Services Authority (FSA) survey found that consumers with low levels of financial literacy are often exposed to the most complex products.

Several socioeconomic and psychological factors are widely accepted as characteristic of vulnerable consumers. These include people on a low-income, of low literacy and those with a disability. Evidence indicates that groups with low socioeconomic status show a high degree of present bias, in addition to low financial literacy. Therefore, the primary consumer products considered here are financial services, particularly those offering alternative sources of credit.

Pay-Day Lending

Low-income households are often unable to obtain credit from mainstream financial institutions. Credit exclusion can arise due to a history of credit defaults, employment in an increasingly flexible labour market, or failure to demonstrate the ability to repay. Thus, low-income households often turn to alternative sources of credit, such as those offered by pay-day loan companies. High interest rates are a central feature of the alternative credit market, ostensibly to offset the risk to the lender. The companies' products often demand a high degree of financial sophistication to appreciate that the underlying annual percentage rate (APR) of interest can be up to 400%. Markers of "extortionate credit" identified in a study of this practice include:

- high cost of credit (interest rates, fees and charges);
- terms and conditions of agreements (dual interest rates, with reduced rates ending at the first default);
- sales practices (failure to check ability of the borrower to repay, equity lending);
- lack of transparency (hidden costs, concealed terms and conditions);
- third party involvement in applications (encouragement of irresponsible lending, fees for consultation only).

High and/or dual interest rates are of particular relevance to consumers' present bias. Even assuming that people considering a pay-day loan appreciate the APR, they are also likely to exhibit a higher degree of present bias than their more credit-worthy peers. Despite the high interest costs incurred in the long-term, the potential of immediate credit can be particularly alluring.

Once a customer defaults on repayments, many pay-day loan companies offer a rollover facility that incurs even higher interest rates than the initial package. Research indicates that some individuals eventually take out multiple pay-day loans from multiple lenders in an attempt to pay them off. Moreover, over 90% of pay-day loan customers take out more than 5 loans a year. Rather than providing a convenient source of credit, pay-

day loans can lead to serial indebtedness. A project on irresponsible lending at the Office of Fair Trading (OFT), currently at consultation stage, will address behaviour and practices employed by mainstream and alternative credit providers. Guidance on basic standards of lending practice is expected to be published in 2009.

Sale-and-Rent-Back

According to the FSA, the failure of many mortgage brokers to adhere to responsible lending practices is in part responsible for the difficulties experienced by those who have taken out unaffordable mortgages. For many such customers, the situation has worsened because of the recession and falling house prices. Unregulated companies offer sale-and-rent-back contracts to those struggling to meet their repayments: homeowners sell their properties at a discounted price but have the option to remain in their home as a tenant. However, both the terms of the tenancy and the heavily discounted sale prices may disadvantage vulnerable homeowners who are focused on current debts and may fail to evaluate the long term implications of the transaction. Several have been evicted after only short periods. The OFT has recommended that the FSA introduces statutory regulation of the sale-and-rent-back sector.¹¹

Overview

Policy makers seeking to promote behaviour change have several options, ranging from policies that preserve individual freedoms to those that constrain choice. There is a growing appreciation that policy is more likely to be successful if it is designed to take account of new understanding of people and their behavioural biases. Several policy levers can promote behaviours consistent with individuals' and society's long-term interests:

- providing immediate incentives to encourage behaviours that produce mainly delayed benefits;
- encouraging people to make future choices in advance;
- regulating to prevent exploitation of present bias in vulnerable consumers.

Endnotes

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