

Loss Aversion and Incentive Design

Of the few dozen business books critiqued in *Academic Research in Action* thus far in 2022, *The Voltage Effect* by University of Chicago economist John A. List counts among the most insightful. List comes from the hard-nosed “Chicago School,” that includes Milton Friedman. Friedman’s free market theories underpinned economic policy under Ronald Reagan and Margaret Thatcher.¹

On page 133 of *The Voltage Effect*, List states two important truths about incentives:

- *“Motivating people in the service of a common goal hinges on one thing only: you have to get the incentives right.”*
- *“If we get incentives right, character becomes largely irrelevant.”²*

One of the reasons I follow List’s work is his pragmatic attitude toward tangible incentives.³ While it may sometimes seem more fashionable to emphasize intrinsic motivation over extrinsic, List appreciates the importance of both in driving business results. Well-designed incentives, according to List, motivate the behaviors and decisions you seek, often regardless of a person’s traits or character. List and many others have argued that extrinsic rewards, applied carefully, ethically, and fairly, build rather than erode intrinsic motivation. Moreover, they scale, and they don’t have to cost a lot.⁴

The Power of Loss Aversion

List advises that in designing your incentives, remember that most people dislike losing something they have approximately twice as much as they enjoy gaining something they don’t. Behavioral economists call this **loss aversion**.⁵ With this in mind, incentive and reward designers might consider encouraging behaviors or goal-achievement by granting rewards *before* the hoped-for behavior/goal rather than after, on threat of revoking the reward should the behavior not materialize or the goal not be achieved.

This counterintuitive approach works in List’s and many others’ experiments, because in addition to loss aversion, it taps the **endowment effect**. Behavioral economists have learned that once a person owns a thing – even something trivial like a coffee mug – they place greater value on it than its market worth.⁶ It also links with **Prospect Theory**, the phenomena in which most people avoid risks with a potential upside but accept risks when hoping to avoid an equivalent loss.⁷

List and his collaborators have found that in field experiments where workers have several months to achieve a goal, those promised a reward at the end for doing so do not perform as well as others who receive the reward upfront, knowing they must give it back if they don't meet their goal. For example, when teachers in poor districts of Chicago were given a contingent \$4,000 bonus upfront with the promise of \$4,000 more should their students achieve test score goals about six months later, their outcomes were dramatically better than for teachers who were promised an \$8,000 reward at the end of the period. Importantly, performance improvements among the loss aversion group continued for years afterward.⁸

Admittedly, penalty-based incentives sound harsh. Consider a revealing experiment conducted by professors Lynn Hannan, Vicky Hoffman, and Donald Moser in 2005. Sixty-eight MBA students were randomly selected into one of two conditions. The first received \$20 at the outset with the potential to earn a bonus of \$10 should they meet a work threshold set out in the experiment (bonus group). The other group (the loss aversion, or penalty group) received \$30 upfront but would have to give back \$10 at the end of the experiment should they fail to meet the same threshold. The great majority in both groups felt the bonus condition was fairer and preferable to the penalty-based incentive. Those in the bonus group performed better than expected due to their desire to repay a generosity (the 'reciprocity effect'), yet the loss-aversion group outperformed the bonus group significantly overall.⁹

The authors conclude: *"Employees choose more effort under penalty contracts, so offering a bonus contract gives up the benefit of this increased effort. Consequently, it is no longer clear that offering a bonus contract maximizes firm profit."*

Penalty-type incentives may still feel wrong, even manipulative, to many. Indeed, even though a significant body of research finds penalty-rewards more effective than bonus rewards, Hannan, Hoffman, and Moser admit their suspicion that other reasons must influence leaders' decisions not to use penalty-based incentives. The authors speculate that while employees may work harder to avoid a penalty than receive a future reward, they might subsequently retaliate through actions harmful to the firm. This could include stealing, exerting less effort after the incentive period, or even quitting their job.¹⁰

In sum then, penalty-rewards based on loss-aversion theory may cause people to work harder than for traditional after-the-fact rewards, but is the difference worth risking the regard in which employees may hold the company and its leaders, and/or the potential for retaliation? I suspect for most, the answer is no, which may explain the rarity of penalty-based incentives in the real world.

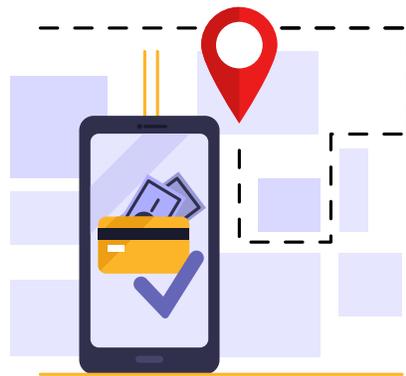
Yet behavioral economists often place loss aversion among their 'biggest hits' when it comes to powerful nudges. Given the above, is there no place for loss-aversion in the reward designer's toolkit? Despite the risks, I believe the power of loss aversion can be safely harnessed by skillful reward designers, and that its use as a motivational lever is particularly important in the new, post-Covid world of work.

How Reward Designers Can Leverage the Loss Aversion Bias Safely

Simply offering employees the choice of bonus versus penalty-type rewards might work. In 2020, professors Vicky Hoffman and Donald Moser collaborated with George Gonzalez to follow-up their 2005 experiment with MBA students (described above). In the 2020 experiments, actual employees were given a choice between bonus and penalty incentives. Choice alone eliminated the advantages in effort conveyed by penalty incentives. Interestingly, though only a small minority chose penalty incentives, they did so consistently in the experiments because they felt they performed better 'under fire.'¹¹

Whether people who choose to be motivated by loss aversion tactics are magnanimous or resentful in circumstances where they must return their reward remains an open question. Despite potential performance gains, it may still not be worth the risk to offer employees a choice between bonus and penalty rewards. The power of loss aversion is known and established, thus even among those who choose such incentives, there can only be greater disappointment when things don't work out than for those who choose traditional (bonus) rewards.

Another approach might prove more powerful, however. When you think about loss aversion, you might think about how people keep gambling new money in an attempt to regain money lost, or to hold on to bad stocks, hoping they'll return to what they bought them for. But loss aversion relates to things other than money, stocks, and other tangible assets.



People also go to great lengths to avoid losing social standing. Social standing causes people to tip (and tip more generously), for example, when their server or dinner companion is watching. Just 30% of Uber riders tip, and only 1% always tip.¹² This represents a remarkable contrast with taxi riders, of whom 90% tip.¹³ Why? On the Uber app, you tip later, after you've left the car. You lose no social standing by not tipping.¹⁴

In *The Voltage Effect*, List describes a field experiment in which Virgin Airlines attempted to encourage pilots to do things that would save fuel. To accomplish this, Virgin needed to change ingrained habits. The researchers sent one of three messages to pilots:

1. The first group received information about their fuel consumption.
2. The second group received information about their fuel consumption, but with a note asking them to achieve fuel efficiency goals.
3. The third group got the data, the note, and the promise of a small donation to charity in their name if they improved.

Each group received the implied message that Virgin was trying to do things differently, but there was no threat of punishment. The researchers learned that pilots picked up on the implied message and wanted to be seen to contribute. They changed their habits no matter which letter they received, as did pilots who were not part of the experiment (the control group) who nonetheless heard about the effort and wanted to participate. In the seven-month experiment, Virgin saved almost \$6 million in fuel costs.

- Pilots who received the data with the note performed the best.
- Donations to charity had no effect.
- Subsequent pilot satisfaction survey results showed significant improvements overall.

Similarly, when utility companies try to encourage customers to use less power, most traditional incentives including variable rates, cash rewards, etc., fail. Utilities often succeed, however, by sending customers reports comparing their energy use to their neighbors.¹⁵ Loss or gain of social face and status proves a strong motivator and one that incentives designers might leverage in encouraging the behaviors they seek.

Loss aversion is a useful tool in the incentive designer's toolkit, but might best be applied gently, to nudge desired behaviors through implied gain or loss of social standing rather than to threaten the loss of a tangible reward. Now especially – where employees may work outside the office as much or more as within it – behavioral nudges using loss aversion might guide employees to collaborate, share knowledge, recognize the contributions of peers, and practice inclusiveness.

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