

Behavioural economics

What monkeys can teach us about money

In experiments, monkeys make some 'financial' decisions which are remarkably similar to those made by humans.



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On a island off the coast of Puerto Rico, a fascinating simian experiment has taken place. The results could give us a deeper understanding of behavioural economics, the psychology of risk and may explain why our economies suffer from periodic financial crises.

It involved six Capuchin monkeys named after James Bond characters.

Researchers trained the monkeys to exchange small metal tokens for food. They were put in a makeshift tiny market where experimenters would offer different foods at different prices.

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One of those trading with monkeys was Laurie Santos, a professor of cognitive science and psychology at Yale University. “We could use that set up to really ask, do the monkeys pay attention to things like price - are they trying to maximise their monkey token dollar?” she explains.

“What we found surprising was, with very little training, the monkeys shopped at experimenters who gave them food more cheaply. So if they got twice as much food for one token with an experimenter, the monkeys shopped there more often.”

The monkeys also displayed other human-like traits such as opportunism. They tried to grab any tokens that were left lying around while the scientists were not paying attention. Primates engaging in some monkey business no doubt. Nevertheless, it also showed that the monkeys considered the tokens as valuable items.



Are monkeys high rollers? Risk versus reward experiments show most people will gamble and go for the riskier choice. Surprisingly, so do some monkeys (Credit: Alamy)

However, it is the monkeys' attitude to risk that might hold the most intriguing lessons for us humans.

The researchers introduced an element of choice into their experiment. They could trade with one of two people. One would give them two pieces of food, grapes in this case, for their token, every time they traded. It was a no-lose, safe option.

But the other gave them either one grape or three grapes, in exchange for their token. The second deal carried more risk as half the time it was one grape, the other half three.



Most people will go for the safe option - they take the \$2000. That is also what monkeys do

Translated into human terms, look at it like this: You have a choice, you could get a guaranteed \$2000 or have a 50% chance of getting \$1000 and a 50% chance of \$3000.

To gamble or not to gamble - which option would you choose?

Most people will go for the safe option - they take the \$2000. That is also what monkeys do.

So far so good. Apes and monkeys are, after all, our nearest animal relatives. We share a common evolutionary history. However, once the experiment was adjusted so that the monkeys had the same options but from a different starting point, something fascinating happened.

Professor Laurie Santos explains “So the monkeys come in and it looks like both experimenters [are] kind of holding three [grapes] so this monkey brain is probably thinking ‘oh there’s a chance to get three.’ One guy is safe, he does the same thing every time...the monkey trades with this guy [and] he’s holding three but he takes one away and gives the monkeys two so it’s kind of a sure loss - a small loss but a sure one,” says Santos. “The second guy is risky - sometimes he gives the monkeys all three but sometimes he takes two away and only gives the monkeys one.”

Again, let’s look at that another way: You start with \$3000, now you have a choice. Either you take a guaranteed loss of \$1000 leaving you with only \$2000 or you gamble. If you gamble half the time, you will lose \$2000 leaving you with just \$1000 but half the time you will not lose anything. What would you do?

Most people will gamble and go for the riskier choice. Surprisingly, so do the monkeys. The thought of losing out is so painful that they will risk a bigger loss just for a chance of no loss.

When stocks and shares crash or house prices collapse, you might expect people to become more cautious. In fact, they take more risks. People will hold onto stock that is losing value, speculating the price will rise again, because we can't bear the thought of having less than we have now. This is **loss aversion**.



Many people would like to save, but the act of taking money out of your paycheck and putting it into a savings account can feel like a loss - Santos

So, if loss aversion is hardwired into us, what can we do about it?

Well Professor Santos says that sometimes it makes sense to find cunning ways to nudge people into behaviour contrary to our destructive instincts.

One example is saving.

“Many people would like to save, but the act of taking money out of your paycheck and putting it into a savings account can feel like a loss,” she says. To offset this, academics have come up with programmes that take this into account and take your savings away from the income raises that you get later in life so it never really feels like a loss.”

Economists **Richard Thaler** (of **Nudge Theory** fame) and Shlomo Benartzi came up with the **Save More Tomorrow** (SMarT) scheme. This a simple but clever way of nudging employees to save towards retirement which operates in four steps.

Firstly, employees are encouraged to sign up to the programme well in advance of it actually starting – so no immediate financial consequences. Then, the actual pension contributions don't start until you get your next pay-rise, so the employee doesn't feel like they are losing out on the wage they currently get. The contributions increase over time, with each pay-rise, until the pot reaches a pre-set maximum. Lastly, employees can opt out at any time. This final step works on the basis that humans have a tendency towards **status-quo bias**. In other words, doing nothing is easier than doing something.

The decisions humans make about money often seem irrational and can lead to price bubbles and market crashes. Sometimes we just make bad decisions that don't make sense.

So, perhaps what Professor Santos and her monkeynomics underlines is that there may be some evolutionary quirks of nature that are still difficult to erase.

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