Inflation 'felt' to be not so bad as a wage cut

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What would you prefer: a three per cent wage rise at five per cent inflation? Or a two per cent wage-cut with stable prices? Many people, faced with this choice, would take the first option, although the true purchasing power of their income sinks in both cases by exactly the same amount, namely two per cent. Researchers at Bonn University and thhe California Institute of Technology have now discovered the cerebro-physiological cause underlying this so-called "money illusion". This effect is of great practical relevance in that it explains, for instance, why financial policy and inflation can have a beneficial effect on employment and economic growth.

Many people view a rise in their income as a good thing, even when the increase is completely negated again by inflation. This effect is called the "money illusion", and many economists are of the opinion that it should not exist. After all, the true purchasing power of the income remains exactly the same. So, for a rational market activist it should be of absolutely no concern under these conditions whether his nominal income sinks or rises. However, laboratory experiments and field studies have repeatedly confirmed that this effect does indeed exist.

Professor Dr. Armin Falk and Dr. Bernd Weber of Bonn University have now approached this topic of the money illusion from a completely different angle. Falk is an economist and Weber a brain researcher - an unusual alliance. Both have been trying to discover which neuronal processes underlie economic decisions. For this purpose, they arranged for their test subjects to "play" economic situations while, at the same time, they monitored their brain processes.

Experiments in the Brain Scanner

A total of 24 subjects participated in the study which has just been published. Whilst recumbent in a scanner, they were called upon to solve simple problems. Success brought a financial reward. At the same time, as the experiment evolved, the fluctuations in the blood oxygen saturation of diverse areas of their brains were monitored. This reading indicates the degree of activity in the relevant area of the brain. The prize-money was not subsequently paid out in cash, but the successful test subjects were allowed to choose goods from a catalogue - including CDs, sun cream or computer accessories.

"We had now confronted our test subjects with two different situations", Falk explains. "In the first, they could only earn a relatively small amount of money, but the items in the catalogue were also comparatively cheap. In the second scenario, the wage was 50 per cent higher, but now all the items were 50 per cent more expensive. Thus, in both scenarios the participants could afford exactly the same goods with the money they had earned - the true purchasing power had remained exactly the same." The test subjects were perfectly aware of this, too - not only did they know both catalogues, but they had been explicitly informed at the start that the true value of the money they earned would always remain the same.

Despite this, an astonishing manifestation emerged: "In the low-wage scenario there was one particular area of the brain which was always significantly less active than in the high-wage scenario", declares Bernd Weber, focusing on the main result. "In this case, it was the so-called ventro-medial prefrontal cortex - the area which produces the sense of quasi elation associated with pleasurable experiences". Hence, on the one hand, the study confirmed that this money illusion really exists, and on the other, it revealed the cerebro-physiological processes involved.

An Explanation for the unpopular "Teuro"?

The results achieved by these scientists in Bonn demonstrate that as far as the brain is concerned money is represented as being "nominal", and not only "real". In other words: people like to be seduced by large numbers. This is of great practical relevance as the money illusion explains, for example, why the economy allows itself to be reflated by expansive financial policy. It also offers an explanation for why nominal wages rarely sink, whereas true wages, in contrast, fall in value in periods of inflation. Many economists also see the money illusion as an explanation for speculative bubbles, such as those in the property or shares markets. Armin Falk declares: "Even minor departures from rational behaviour, i.e. a "little money illusion" can have major economic consequences".

More information: Bernd Weber, Antonio Rangel, Matthias Wibral, Armin Falk: The medial prefrontal cortex exhibits money illusion; *PNAS* 2009

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