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From saving goals to impulse buys – The neuroscientific explanations behind the society’s money management habits

Berlin, 19th January 2022 – New year, new saving goal? We got some valuable insights that will help! While at N26 our priority is to support and empower our customers at mastering their financial goals and decisions, we are aware of the fact that saving can be hard. In order to tackle this topic from a scientific perspective – and deliver grounded solutions – we have spoken with a true expert in the field: Professor Doctor Mira Fauth-Bühler, Neuroscientist and Professor for Neuroeconomics and Economic Psychology at FOM University of Economics and Management in Stuttgart, Germany. Fauth-Bühler explains what really happens in our brain when we make financial decisions, how we can rewire our brains to actually prefer saving over spending and why money and credit cards cause dopamine rushes. To complement the scientific approach we have analysed the [spending and saving habits](#) of over 60.000 N26 customers in Germany as well as 1,7 Million consumers in Europe and extracted some interesting real life learnings and insights.¹

German saving and spending habits

In 2021, German N26 users saved an average of 368,22 € per month, equaling 18 % of their monthly income². This makes them the biggest savers of our study (looking at absolute amounts saved) as they stashed aside 46 % more than the Spanish, over twice as much (124 %) as the Italians and over five times more (432 %) than the French. Looking at the share of savings of their monthly income, Germans come second following the Spanish, who save 23 % of their monthly income.

With 449,21 € and a whopping 1.026,18 € (19 % and 20 % of their income) Berlin and Munich residents save above the national average. Hamburgers on the other hand save 320,68 € per month (14 % of their income) which equals 13 % less than the rest of Germany. Hamburgers are also the only region that saved less (-22 %) in December 2021 than they did the December before, while the rest of the country saved 3 % more, Munich residents even 23 % more.

The favourite spending time of Germans is during the holiday season (+12 % in November and +16 % in December) as well as June (+6 %). Despite the fact that they spend the least in January (-13 %) and February (-14 %), Germans save the most during March (+39 %) and April (+25 %).

Why humans are not meant to save – but still do

While the discourse around saving and investing is not new and currently seems more relevant than ever, Professor Mira Fauth-Bühler points out that originally “Human brains are not made for [...] saving and investment” or “making clever financial decisions.” But due to evolutionary reasons, we have trained ourselves to this behaviour and our brains have developed accordingly. The result is a relatively young region behind our forehead called the “forebrain” functioning as our “control system”. According to the expert, the “control

¹ The study is based on N26’s analysis of the aggregated and anonymised spending data and saving data of over 60.000 German N26 customers, 40.000 French N26 customers, 10.000 Spanish N26 customers, 20.000 Italian N26 customers, and 1.7 Million N26 customers in Europe in the period of January to December 2021. “Spending data” is defined as money transfers going out of the survey’s participants’ main bank accounts, while “saving data” is defined as money saved in the survey’s participants’ Spaces as well as main accounts.

² This includes all money flowing into their accounts.

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system” – she compares it to a “CEO” – enables us to achieve long-term goals and overcome urges initiated by yet another part of the brain, the “reward system”. This region wants to achieve pleasurable incentives (rewards) in the short run and triggers strong impulses that drive our behaviour.

Why women are better with money

According to Fauth-Bühler, gender might also influence how easily we hit saving goals. Research found that humans with more x-Chromosome (described as the female chromosome) take less risks when investing and spending money.³ The reasons for this may be grounded in neurological conditions, as, according to Fauth-Bühler, persons biologically reported as females have been found to have a larger “control region” in their brains making them better at delaying gratification and resisting temptation. However, as the professor adds, any behaviour is always the result of genetics as well as societal and external influences, meaning that gender roles and conditioned behaviour continue to evolve and potentially even dissolve.

Men earn more, women save more

The spending and saving habits of N26’s global customers⁴ also show fascinating differences between users that are classified as males and females. Despite the fact that men in our study have a compelling average 30 % higher monthly income flow, females are the better savers in both the absolute amount they set aside as well as the share of income they save. While men put away only 16 % of their monthly incomes, women stash aside 22 %. With this, the average female saves 4% more despite having much lower financial inflow.

The “savings gap” is particularly visible at the age groups 18-34. Females 18-19 save 52,16 € (50 %) more than men at that age, while having roughly the same income. At 20-24 women stash aside 40,38 € (50 %) more than men, with 155,20 € (20 %) less monthly profits. Lastly, females 30-34 spared on average 75,96 € (32 %) more than their male counterparts, with a whopping 368,42 (26 %) less monthly income.⁵

The psychology of saving & responsible spending – Tips from Professor Mira Fauth-Bühler

1. Don’t shop when in a bad mood

Your control system will go offline when you are in a bad mood or stressed. Instead, the reward system will take over, demanding the instant gratification that will make you feel better in the short term. The outcome is often impulse purchases and questionable financial decisions.

2. Don’t shop when in a rush

Same applies to time pressure, the enemy of rational thinking. If we have no time to reflect on our behaviour and possible alternatives and consequences, the reward system takes over. As it is not only “designed” to maximise rewarding outcomes but also to initiate habit-like behaviours, it will compel you to take advantage of that super bargain time and again, even if you don’t even need “two t-shirts for the price of one”.

³ Study: “[Investigating Gender Differences under Time Pressure in Financial Risk Taking](#)” Xie Z, Page L, Hardy B., published in December 2017

⁴ The study is based on N26’s analysis of the aggregated and anonymised spending data and saving data of over 1.7 Million N26 consumers in Europe in the period of January to December 2021. “Spending data” is defined as money transfers going out of the survey’s participants’ main bank accounts, while “saving data” is defined as money saved in the survey’s participants’ Spaces as well as main accounts.

⁵ For the future N26 aims to add more context and include data points of other genders besides male and female

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3. **Be aware of your spending**

Research shows that we spend more when using payment methods that allow us to easily detach from the amount we are spending. As credit cards and other virtual payment devices become commonplace, ensuring we always stay aware of the amount spent as it happens (e.g. with technologies like N26's instant notifications) can help give the “control system” the feedback it needs to recognize the financial impact of each purchase.

4. **Take control over your environment**

Try to identify the triggers that cause you to spend in an impulsive manner and avoid them. When shopping online, don't autosave credit card details and other information that speed up the process of buying. The more obstacles, the more time for the sensible control system to step in and reevaluate the intended purchase.

5. **Use digital saving tools**

Define your long term financial goal and make use of digital automated saving tools where the saving act is automated (e.g. N26 Rules for Spaces regularly transfers a certain amount to a N26 savings account, while N26 round-ups automatically round up purchases to the nearest Euro and move the surplus into a savings Space). This establishes a habit-driven saving behaviour, which is guided by the “reward system” and, due to its automation, requires less effort. Active saving decisions on the other hand are guided by our “control system” and “decision system” and need more willpower. Establishing a saving habit thus relieves the pressure from our conscious “control system” and “decision system”, saving energy for other tasks in our lives and relieving us from the hassle, pressure or pain that often come along with active saving decisions.

6. **Start small**

Break your saving goals up into smaller milestones and formulate them as specific as you can. Accomplish the easier achievable ones first, e.g. at the start of the year. This will lead to instant gratification and, due to a process of positive reinforcement (neurobiologically reflected in a dopamine burst), we are more likely to repeat the behaviour that resulted in that success. Thus, the bigger and more long-term financial goals are easier achievable later in the year and once we have hit the smaller goals.

7. **Don't strangle yourself**

Don't set too many goals at once or unrealistic goals. After all, the amount of self-control our brain can exercise is limited. Trying to control too many impulses at once increases the risk of failure – leading to a possible blowout purchase that one could regret later.

8. **Feed the reward system**

Help your brain to pursue those less exciting long-term goals by rewarding yourself for hitting intermediate goals in the short-run. Intermittent, unexpected rewards (such as saving bonuses from your bank) work best for our brain. By doing so we satisfy our reward system while keeping the long-term saving goals in focus.

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About N26

N26 GmbH (“N26”) is building the first mobile banking platform the world loves to use. Valentin Stalf and Maximilian Tayenthal founded N26 in 2013 and launched the initial product in early 2015. Today N26 has more than 7 million customers in 25 markets. The company employs more than 1,500 employees across 10 office locations: Amsterdam, Berlin, Barcelona, Belgrade, Madrid, Milan, Paris, Vienna, New York and São Paulo. With a full European banking license, state-of-the-art technology and no branch network, N26 has redesigned banking for the 21st century and is available on Android, iOS and desktop. N26 has raised close to \$1.8 billion from the world’s most established investors, including Third Point Ventures, Coatue Management LLC, Dragoneer Investment Group, Insight Venture Partners, GIC, Tencent, Allianz X, Peter Thiel’s Valar Ventures, Li Ka-Shing’s Horizons Ventures, Earlybird Venture Capital, Greyhound Capital, Battery Ventures, in addition to members of the Zalando management board, and Redalpine Ventures. N26 currently operates in: Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and the U.S., where it operates via its wholly-owned subsidiary, N26 Inc., based in New York. Banking services in the U.S. are offered by N26 Inc. in partnership with Axos Bank®, Member FDIC (Certificate 35546). For more information about N26, please visit n26.com.

About Professor Mira Fauth-Bühler

Professor Dr. Mira Fauth-Bühler has been a full-time lecturer at the [FOM University of Applied Sciences](#) for Economics and Management in Stuttgart since September 2017. She was appointed professor for business psychology in December 2017. Prof. Dr. Fauth-Bühler graduated in 2003 with a degree in psychology (Dipl.-Psych.) from the Eberhard Karls University Tübingen (grade: 1.0) and a Master’s degree (M. Sc.) from the Graduate School of Neural and Behavioral Sciences, International Max Planck Research School, Eberhard Karls Universität Tübingen (grade: 1.0). In 2008 she completed her doctoral studies in Neural & Behavioral Sciences (Dr. rer. nat.) with the overall rating “magna cum laude”.

Practical experience was gained by Prof. Dr. Fauth-Bühler from 2003 to 2007 as a research associate at the Central Institute of Mental Health in Mannheim, University of Heidelberg and the University Medical Center Hamburg-Eppendorf. From 2007 to 2008 she was a postdoctoral fellow at the University of Cambridge and at King’s College in London. From 2008 to 2017, Prof. Dr. Fauth-Bühler headed the gambling addiction working group at the Central Institute of Mental Health, University of Heidelberg. She has published numerous international peer-review articles (google scholar h-index: 40). For her work in the field of addiction research, Prof. Dr. Fauth-Bühler has received several awards and in particular received the Wolfram-Keup Förderpreis and the DG-Suchtforschungspreis.