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FOR IMMEDIATE RELEASE

From saving goals to impulse buys – Professor Dr. Mira Fauth-Bühler and N26 look into the reasons behind our money management habits

Berlin, 18.01.2022 – 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. And boring. 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 economic psychology and neuroeconomics at <u>FOM University of Applied Sciences</u> for 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 analyzed the spending and saving habits of over 60.000 German N26 customers, 40.000 French N26 customers, 20.000 Italian customers, 10.000 Spanish customers, as well as 1,7 Million consumers all over Europe and extracted some interesting real life learnings and insights.¹

The Europeans' saving and spending habits

In 2021, German N26 users saved an average of $368,22 \in \text{per month}$, equaling 18 % of their monthly income². This makes them the biggest savers of N26's 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 69,24 \in saved on average per month (6 % of their monthly income) the French are the least save-savvy nation of the study.

When comparing the main cities of N26 residents of Barcelona and Madrid show exceptional saving habits with putting aside 21 % of their monthly income, closely followed by residents of Munich (20 %), Berlin (19 %) and Valencia (18 %). Locals in Hamburg (14 %), Rome (14 %), Milan (13 %) and Napoli (11 %) all save in the medium range. With 7 % the Lyoneses and Parisians save slightly above their national average, but are far behind the residents of the other metropolis examined in the study. This is only topped by citizens of Marseille, who save on average 2 % of their monthly income.

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 all over 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.

 $^{^{\}rm 2}$ This includes all money flowing into their accounts.

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 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.

Money, credit cards and the dopamine flushes

Originally, the brain's "reward system" was wired to fulfill basic human needs such as finding food and sexual partners or avoiding danger and pain. Nowadays, we are so conditioned to associating money and credit cards with a pleasurable outcome that, as the professor explains, they themselves became desirable rewards to us – turning money and credit cards into what psychologists call a "secondary reinforcer". In practice this means that dopamine bursts (dopamine is the brain's "reward" molecule, causing us to feel happy) are no longer caused only by achieving the actual desired stimulus but also by receiving money or owning a credit card with no spending limit. The credit card turns into a conditioned stimulus which we are so trained to associate with an enjoyable purchase, that the card itself induces us to want to purchase something.

Influences on our saving habits

Whether we stick to a previously established saving plan or give in to the urge to make an out of budget purchase depends on which system wins the battle. As Fauth-Bühler explains, this is influenced by different factors. Since we are wired to seek reward, instant gratification lies closer to our nature than waiting. However, if the incentive's value increases over time or is only accessible in the future while being very desirable, it might cover the cost of waiting. Fauth-Bühler points out: the more tangible and concrete the incentive, the easier for us to allow our "control system" to take over and delay gratification.

Furthermore, genetic influences and age also play a role. The older we get, the more we listen to our "control system". Neurologically, this is due to the fact that the "control system" is not even fully developed until we are in our mid-twenties.

Lastly, environmental factors such as one's social circle's saving behaviour or the discipline we were taught in our growing years affect the strength of our "control system" and connected decisions. The good thing: Research compares self-control with a muscle that can be trained and strengthened, even if genetics may not work in our favour.³

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

³ Study:"<u>Self-regulation and depletion of limited resources: does self-control resemble a muscle?</u>" Muraven M, Baumeister RF, published in March 2000

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chromosome) take less risks when investing and spending money.⁴ 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 European customers⁵ 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 \in (50 %) more than men at that age, while having roughly the same income. At 20-24 women stash aside 40,38 \in (50 %) more than men, with 155,20 \in (20 %) less monthly profits. Lastly, females 30-34 spared on average 75,96 \in (32 %) more than their male counterparts, with a whopping 368,42 (26 %) less monthly income.⁶

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.

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About Professor Mira Fauth-Bühler

Professor Dr. Mira Fauth-Bühler has been a full-time lecturer at the <u>FOM University of Applied Sciences</u> for Economics and Management in Stuttgart since September 2017. She was appointed professor for business psychology in December 2017.

⁴ Study: "<u>Investigating Gender Differences under Time Pressure in Financial Risk Taking</u>" <u>Xie</u> Z, <u>Page</u> L, <u>Hardy</u> B., published in December 2017

⁵ 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 all over 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.

⁶ For the future N26 aims to add more context and include data points of other genders besides male and female

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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 heaved the Wolfram-Keup Förderpreis and the DG-Suchtforschungspreis.