

Research Report

Smoking Hot Portfolios? Self-Control and Investor Decisions

INDIVIDUALS WITH LOWER SELF-CONTROL OFTEN FAIL IN STICKING TO THEIR PLANS WHEN FACING STRONG TEMPTATIONS. ARE THEY ALSO PRONE TO EXHIBIT INVESTMENT BIASES AND SHOW A MORE IMPULSIVE TRADING BEHAVIOR WHILE FORFEITING POTENTIAL PERFORMANCE IN A FINANCIAL CONTEXT? WE USE CIGARETTE ADDICTION, IDENTIFIED THROUGH CHECKING ACCOUNT TRANSACTIONS, AS A PROXY FOR LOW SELF-CONTROL AND COMPARE THE INVESTMENT BEHAVIOR OF SMOKERS TO THAT OF NON-SMOKERS TO ADDRESS THIS QUESTION EMPIRICALLY.

Charline Uhr

Steffen Meyer

Andreas Hackethal

Introduction

Using drugs, smoking cigarettes, or eating unhealthy food are the most prominent examples of habits usually explained by a disability to resist, often labeled as a self-control failure. Self-control is defined as the individual ability to break bad habits and overcome first impulses, and to control one's emotions and performance whereas self-control failure results in individuals acting in a non-optimal way. The self-control failure, which might be the major social pathology of the present, appears in helplessness against individual's impulses and is even more likely to take place in the absence of standards, monitoring, or the capacity to alter the self. Higher self-control predicts positive out-

comes, beneficially affects individuals' ability to resist temptations in the long-term, and, therefore, presents a stable and powerful aspect of personality (Baumeister et al., 1994).

In addition to the behavioral life-cycle hypothesis with individuals facing an ongoing conflict between the planner, caring about the long run, and the doer, caring about the current situation, self-control is a necessary resource for financial decision making (Shefrin and Thaler, 1988). Although attributes related to self-control are essential determinants of decision making, we still know surprisingly little about the impact of self-control and its failure on household finance and investor behavior.

While it is relatively easy to see the self-control failure when counting calories or trying not to smoke, the self-control issue for an investor is more a sum of "should nots" in the face of critical financial decisions. A straight-forward, yet under-researched conjecture to make would be that investors with low self-control are more prone to engage in investment mistakes: they over-spend – which results in under-saving and over-indebtedness – and they forfeit usual wealth accumulation.

Measuring Low Self-Control

As no empirical study outside the experimental lab so far has investigated whether securities trading decisions can be empirically linked to self-control, we introduce the individual's decision to smoke as an indicator of low self-control. We infer smoking from their account transactions of tobacco product purchases. This is possible because of a specific tobacco tax law in Germany. Cigarettes of the same brand and quantity are obliged to have the same price across all retail outlets. In addition, prices are set at ten-cent increments. Thus, prices are set at EUR 5.50, EUR 8.40, or EUR 9.20, for example, while retail prices are typically set just below the next ten cent mark, leading to prices such as EUR 5.49, EUR 8.95 or EUR 9.99. This allows one to identify smokers relatively clearly and to, then, measure the impact of low self-control on individual investor's decisions using their trading records. We end up using the trading records of clearly identified smokers (N = 5,370) and non-smokers (N = 14,001) and analyze their trading behavior, portfolio allocation, and performance between 2012 and 2018. The data on private investors originate from a German

online brokerage and includes information on every single trade that took place during that period. Comparing the data to federal statistics reveals that the socio-demographic data is comparable to the average German stock market participant.

Empirical Findings

We run cross-sectional or pooled cross-sectional regressions to test the differences between investors in trading behavior, asset allocation, and portfolio performance with (smokers) and without (non-smokers) self-control issues. Smokers are prone to trade more and they also trade in large lots. Against the background of this result, we also find that lacking self-control is positively related with portfolio turnover. In fact, the turnover of smokers is higher compared to non-smokers. The magnitudes for smokers and male investors are about the same sizes. This indicates that self-control as proxied by smoking as well as over-confidence as proxied by being male have about the same impact on trading volume. Whereas smokers are found to trade more, they somewhat surprisingly are better diversified, hold a lower stock share, have no significant preferences for lottery stocks, and achieve higher returns. Does that mean that smoking is hazardous to their health but not so much to their wealth? In fact, the answer is: no. Smokers being better off in terms of decisions requiring self-control tends to be a direct result of their significantly higher demand for delegation on financial decision making. Smoking strongly and significantly predicts investors taking on financial advice and/or maintaining a higher

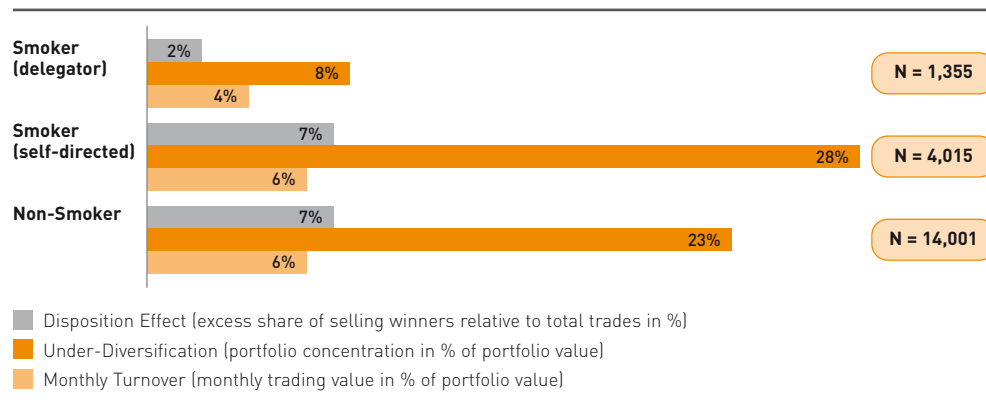


Figure 1: Investment Biases and Monthly Portfolio Turnover for Smokers and Non-Smokers

fund share. When we account for these factors and run the same regression for smokers with and without delegation, we find that self-directed smokers tend to overtrade more. The monthly turnover for self-directed smokers is higher compared to non-smokers or delegating smokers (Figure 1). Self-directed smokers are also less diversified, exhibit more investment biases, and show lower returns. Untreated self-control issues lead to a significantly lower propensity for gambling, an increase in volatility, and a general higher risk-aversion. This lower demand for lottery stocks and higher risk-aversion is in line with findings of Strömbäck et al. (2017), who show that investors with a lack in self-control may become aware of their respective predisposition and are anxious about self-control failures affecting their financial wealth.

Our findings show that smokers, as examples of investors with lower self-control, seem to be aware of their predispositions and are,

hence, more likely to deploy pre-commitment devices and, thus, delegate their financial decision making to a professional financial advisor or fund manager. While individuals normally prefer several options and follow the more-is-more thought, constraining the own choice and remaining with fewer opportunities might be sensible if the individual benefits from fewer options. This might happen if fewer choices improve the ability to resist by excluding otherwise desirable choices and/or by avoiding an overload of options. For example, smokers are willing to use costly contracts as a pre-commitment device and pay monthly deposits into a savings account which returns the money after six months if they successfully quit and donates the money accumulated in the savings account to a charity if they fail (Giné et al., 2010). Smokers often pre-commit in several ways helping them to overcome unwanted consequences of limited self-control in their investments and to sometimes even overcompensate the negative

consequences of lacking self-control by delegating decisions.

We also find evidence for a habit of pre-committing by smokers when analyzing their saving plans. Low self-control investors have a significantly higher probability to use saving plans (7.5%) but experience difficulties sticking to them.

A widely discussed topic in psychological research about self-control strength is self-control depletion, where self-control is seen as a limited resource resembling a muscle (Muraven and Baumeister, 2000). We analyze the consequences of self-control depletion caused by investors trying to stop smoking and find no significant effect (disposition effect) or even a significant negative effect (trading activity) for quitting smokers. Obviously, trading does not represent an easy-to-reach substitute drug like eating over as we do not find any particularly interesting differences compared to regular smokers. Trading is rather being avoided the way smoking is avoided too.

Conclusion

This article shows that a lack in self-control also affects human's financial well-being. Smokers who self-direct their investments trade more frequently, exhibit more biases, and achieve lower portfolio returns. We also find that smokers, some of which might be aware of their own self-control failure, have a higher propensity than non-smokers to delegate decision making to professional advisors and fund managers instead of acting on their own. First applied in ancient time by Homer's Ulysses, who ordered to be tied to the ship's mast to avoid being lured to

death by drowning due to the singing of the sirens, we also find that such pre-commitment strategies work successfully for today's investors. Instead of self-directing, they strongly tie themselves to a professional advisor or fund manager and, therefore, participate in financial markets without taking the risk to jump into the wild sea of investment mistakes.

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