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NBER Household Finance Working Group
Small Grant Application
for the attention of Denis Healy

Nottingham, March 20, 2017

Application for an NBER Household Finance Working Group Small Grant

Dear Mr. Healy:

Please find the application for a small grant from the NBER Household Finance Working Group by Moritz Lukas and myself attached.

We enclose:

- Research Proposal
- Budget
- CVs

Please do not hesitate to contact us if you require further information.

Sincerely yours,



Research Proposal: Borrower Inattention and Price Sensitivity

Moritz Lukas
University of Hamburg

Jörg Weber
University of Nottingham

20 March 2017

A frequent finding in studies of household financial decision making is that inaction is common and individuals respond slowly to changing financial incentives – independent of whether the incentives change against or in favor of the household. Examples include portfolio rebalancing (Calvet et al., 2009) or investments in retirement savings plans (Madrian & Shea, 2001; Bilias et al., 2010). These inactions are common even when market conditions change often (e.g. stock market investments) or when feedback is frequent (e.g. credit card bills). One proposed explanation for inaction is that consumers pay limited attention to (changing) financial incentives (for example, Andersen et al., 2015). But 'inattention' is a behavioral bias that so far has attracted only limited research in the household finance and behavioral economics literature, particularly due to the difficulty in measuring inattention.

The main purpose of this grant application is to fund a survey that provides a step-change in an ongoing project that utilizes an existing lender-provided dataset we have obtained. As we will explain below, the existing data provides us with a unique opportunity to investigate the role of inattention in real consumer financial choice with substantial monetary stakes. A successful application allows us to develop, execute and report a survey in cooperation with the data-providing bank that significantly extends and complements the existing data. The survey respondents will ideally be drawn from (a subset of) consumers included in the existing data. This enhanced dataset provides us with the opportunity to answer questions that we are currently unable to address in the existing data – but also to answer questions the literature has been unable to address so far. Moreover, the combined data provides scope to develop targeted policy recommendations, and the grant would allow us to disseminate our results. We will now explain the existing data, the institutional setting, and the proposed survey in more detail.

The existing data is provided by a leading bank in Germany and includes *all* customers who opened a specific revolving loan product during the 60-month sample period (more than 75,000 customers). The data includes contract terms, monthly borrowing and repayments, and various borrower characteristics. During the sample period, the interest rate of the revolving loan increases relative to instalment loans that are also available to all of these customers. A unique institutional feature is that every customer in our sample can *switch* to the cheaper instalment loan or *transfer* the loan balance from the revolving loan to the cheaper instalment loan *at any time*, while still keeping the more flexible revolving credit line open and without committing to higher repayments.[1] Hence, a cost-minimizing borrower should switch or balance transfer to the instalment loan when its interest rate is lower. The interest spread between the revolving and the instalment loan increases over the sample period, gradually increasing the potential benefits of switching.

Switching or balance transfers involve no monetary costs, but require the borrower to actively engage in a decision. What renders the existing data uniquely suitable to investigate the impact of inattention on refinancing decisions is that it provides us with two measures of attention. First, borrowers have complete flexibility in their monthly repayments of the revolving loan, and we observe the frequency and amounts of all repayments. To make repayments, borrowers must log-in to their online accounts. This allows us to create a measure of attention based on the consumer's engagement with repayments in terms of frequency and variability, similar to Andersen et al. (2015). Borrowers with frequent adjustments, for example those who repay a different amount each month, requiring them to log-in at least once per month, are more likely to become aware of alternative credit products

1 These flexible conditions are available to *all* customers in our sample, but the bank offers this particular revolving loan product and the instalment loans only to affluent customers with nearly zero repayment risk. Interest rates are identical for all borrowers for a given loan type and independent of individual borrower characteristics and credit repayment risks. Customers can switch between revolving and instalment loans without any restrictions, and can open several instalment loans without further credit checks while *retaining* the revolving loan.

advertised on the lender's website than borrowers who repay constant amounts with standing orders or who do not repay at all during the same period. The second measure of attention is based on mailed advertisements the bank sent out to a random sample of borrowers during the sample period, promoting the cheaper instalment loan and making the information of the instalment loan salient (similar to the setting in Stango & Zinman, 2014). We can then measure borrower behavior following this small shock to information. Initial analysis of the lender-provided data indicates promising results and suggests that consumers are more likely to switch loan types if they frequently access their loan account to make repayments.

While we believe that this unique institutional setting allows us to make novel and substantial contributions to the role of attention on consumer financial decision making, a successful grant application would allow us to substantially extend the scope of the project. We plan to conduct a survey to supplement the existing dataset. The combined dataset of survey and lender-provided data allows us 1) to provide validity to our measures of inattention and to develop survey proxies of inattention; 2) to develop a new concept of 'financial awareness' to explain borrower behavior; 3) scope to investigate borrower heterogeneity. These three objectives are currently not feasible with the lender-provided data, but would substantially enhance the project and have the potential to develop avenues for future research.[2] We will now describe the three individual objectives of the survey in more detail.

First, we want to focus on *measures of inattention* to validate our two measures and to develop new survey tools to measure inattention. We believe that this aspect is critical to the research on consumer inattention since, to our knowledge, existing empirical studies are unable to provide this additional test of the respective proxies used. As an example, we will ask borrowers whether they log-in to carry out transactions only (such as repayments of debt), to gather information (such as information on current interest rates), or both, similar to using log-in frequencies in Sicherman et al. (2016). Based on this validation, we want to develop a survey measure of attentiveness that can broadly proxy inattention. Our setting allows us to cross-validate this survey proxy with observed inattention. This survey measure could then be used in future (representative) surveys to proxy inattention.

Second, we strive to develop a *novel measure of "financial awareness"* as a new way to explain consumer behavior. While the measures of inattention above focus on specific elements of engagement with a particular financial product, the concept of financial awareness refers to consumers' attention to changing opportunities, for example their awareness with respect to market conditions, switching opportunities, or optimization strategies.[3] For instance, we can ask respondents whether (and if so, how) they regularly screen the market for cheaper alternatives (such as cheaper credit for refinancing), or only if their attention is drawn towards specific aspects (such as lower interest rates on alternative credit types). We see this as part of potential future projects that investigate the determinants and consequences of financial awareness in more detail.

Third, we intend to collect *demographic information and details on the financial position of borrowers* as this information is typically very limited in existing studies of attention, but is key for the development of effective policy measures. Although the existing dataset already includes some demographic and financial characteristics, for example income, age, marital status, children, and area of residence as well as further loans and financial products, the survey would enable us to collect more detailed information, such as details on income risk, income volatility, employment, and health. This would allow us to examine heterogeneity in attention and financial awareness.

We aim to complete the analysis of the existing data by end of June 2017. The survey could be developed and programmed such that it could be conducted in autumn 2017. This timeline would enable us to deliver a preliminary working paper by the end of December 2017.

2 We intent to make the survey component of the project publicly available for researchers, conditional on sufficient anonymization and cooperation of the data-providing bank.

3 Only little research exists discussing the concept of financial awareness (e.g. Guiso & Jappelli, 2005). Financial awareness is distinct from the concept of financial literacy that is often employed in the literature (see Lusardi & Mitchell, 2014). While financial literacy is typically related to the understanding of numerical tasks, financial awareness refers to consumers' attention to changing opportunities. These two are not necessarily substitutable: a consumer may be financially literate, but may exhibit low financial awareness, and vice versa.

Budget

The budget includes three components: 1) research visits between the Universities of Nottingham and Hamburg to facilitate the project; 2) conference and workshop participation to disseminate the results of the research; 3) the costing of the survey, including development and execution costs.

1. Research Visits
   - We aim to undertake 2 research visits in Nottingham and/or Hamburg to work jointly on the empirical analysis of the existing data, the development and analysis of the survey component, and the write-up of the working paper(s).
   - $500 per 3 to 4-day research visit (includes travel and accommodation).
   - Objective: 2 research visits in 2017-18 (1 in Hamburg, 1 in Nottingham).

   Total component cost: $1,000.

2. Conference and workshop participation
   - We aim to participate jointly at 4 workshops and/or conferences in 2017-18. Relevant workshops and conferences might focus on the following topics:
     - (Household) finance;
     - Consumer credit;
     - Consumer protection;
     - Applications to policy with relevant consumers.
   - $800 per conference and participating author (includes travel, accommodation and conference fees).
   - Goal: 4 conference visits in 2017-18.

   Total component cost: $6,400.

3. Survey
   - Travel to headquarters of bank: to plan and develop the survey, we expect to have two meetings at the participating bank: $250 for travel and accommodation per author.
   - Survey (based on previous experience with survey data providers):
     - Requirements:
       i) around 1,500 complete responses;
       ii) pre-selection of borrowers of consumer credit (as representative in demographic terms as possible);
       iii) completely customized questionnaire (i.e., no external requirements regarding question type and contents).
     - Survey cost: around $5 per respondent for 15 minutes of questionnaire length, i.e. a total survey cost of $7,500.

       The compensation of $5 per participant is comparable to a) the payments of private providers of consumer panels to survey participants and b) the payments to subjects in experimental laboratories; the compensation might either be paid out to each participant or aggregated and distributed as larger prizes of a lottery among all participants.

   Total component cost: $8,000

Total project cost: $15,400

References

Andersen, S., Campbell, J., Nielsen, K.M. & Ramadorai, T. (2015). 'Inattention and Inertia in Household Finance: Evidence from the Danish Mortgage Market'. *NBER Working Paper*, 21386. DOI: 10.3386/w21386.

Bilias, Y., Georgarakos, D. & Haliassos, M. (2010). 'Portfolio inertia and stock market fluctuations'. *Journal of Money, Credit and Banking*, 42(4):715–742. DOI: 10.1111/j.1538-4616.2010.00304.x.

Calvet, L.E., Campbell, J.Y. & Sodini, P. (2009). 'Measuring the Financial Sophistication of Households'. *American Economic Review*, 99(2):393–398. DOI: 10.1257/aer.99.2.393.

Guiso, L. & Jappelli, T. (2005). 'Awareness and Stock Market Participation'. *Review of Finance*, 9(4):537–567. DOI: 10.1007/s10679-005-5000-8.

Lusardi, A. & Mitchell, O.S. (2014). 'The Economic Importance of Financial Literacy: Theory and Evidence'. *Journal of Economic Literature*, 52(1):5–44. DOI: 10.1257/jel.52.1.5.

Madrian, B.C. & Shea, D.F. (2001). 'The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior'. *The Quarterly Journal of Economics*, 116(4):1149–1187. DOI: 10.1162/003355301753265543.

Sicherman, N., Loewenstein, G., Seppi, D.J. & Utkus, S.P. (2016). 'Financial Attention'. *Review of Financial Studies*, 29(4):863–897. DOI: 10.1093/rfs/hhv073.

Stango, V. & Zinman, J. (2014). 'Limited and Varying Consumer Attention: Evidence from Shocks to the Salience of Bank Overdraft Fees'. *Review of Financial Studies*, 27(4):990–1030. DOI: 10.1093/rfs/hhu008.

JÖRG WEBER

CURRICULUM VITÆ

CONTACT DETAILS

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CURRENT POSITION & AFFILIATION

01/2015–date *Postdoctoral Research Fellow at the University of Nottingham* (untenured)
School of Economics, Network for Integrated Behavioural Sciences (NIBS),
Centre for Decision Research and Experimental Economics (CeDEx).

RESEARCH INTERESTS

My interests lie at the intersection of applied behavioural economics and contemporary public policy concerns. In particular in household finance and financial decision making, using both microeconometric- and experimental methods. My research covers cognitive biases and (sub)optimal financial choice, consumer irrationality, and individual preferences and choice.

EDUCATION

10/2011–03/2015 *Ph. D Economics, University of Nottingham*
Thesis title: "Essays in Financial Literacy and Decision Making".
Supervisors: Professor Robin Cubitt and Dr John Gathergood.
Examiners: Professor Abigail Barr and Professor Michael Haliassos.

09/2010–09/2011 *M. Sc Behavioural Economics, University of Nottingham*, Distinction.

09/2006–06/2010 *B. A. (Honours) Economics, Edinburgh Napier University*, Distinction.

JOURNAL PUBLICATIONS

2017 Financial Literacy: A Barrier to Home Ownership for the Young? (with J. Gathergood). *Journal of Urban Economics*, 99, pp. 62–78.

2017 Financial Literacy, Present Bias and Alternative Mortgage Products (with J. Gathergood). *Journal of Banking & Finance*, in press.

2015 Credit Counseling: A Substitute for Consumer Financial Literacy? (with R. Disney & J. Gathergood). *Journal of Pension Economics and Finance*, 14(4), pp. 466–491.

2014 Self-Control, Financial Literacy and the Co-Holding Puzzle (with J. Gathergood). *Journal of Economic Behavior & Organization*, 107 (Part B), pp. 455–469.

WORKING PAPERS

2017 "How do individuals repay their debt? The Balance-Matching heuristic" (with N. Mahoney & J. Gathergood & N. Stewart.). *Available on request.*

2017 Learning, Liquidity and Credit Card Fees (with J. Gathergood, N. Stewart & H. Sakaguchi). *Available on request.*

2017 Relative Rank and Life Satisfaction: Evidence from US Households (with G.D.A. Brown & J. Gathergood. *Under review.*

MANUSCRIPTS IN PREPARATION

- "Assessing choice overload in a complex environment" (with C. Starmer & R. Cubitt).
- "Simplicity seeking: attitude to risk, not choice overload, predicts behaviour".
- "The certainty effect outside pairwise choice experiments" (with J. Schulz).

OTHER PUBLICATIONS

2015 Impact assessment for Financial Education (with J. Nieboer). In: *Wired for Imprudence: Behavioural hurdles to financial capability and challenges for financial education.* London: Royal Society for the encouragement of Arts, Manufactures and Commerce.

SEMINARS & CONFERENCE PRESENTATIONS

2017 Invited speaker at the workshop on "Individual Decision Making and Choice Freedom", University of Rennes.

2016 Research in Behavioural Finance Conference 2016. Vrije University Amsterdam.
Consumer Choice in Mortgage Markets. Imperial College London & FCA, London.
ESA European meeting 2016. University of Bergen.
Invited speaker at the 'First Workshop on Behavioural Data Linking', LSE.
Invited seminar at the University of Hamburg, Chair of Behavioral Finance.
NIBS 2016 Conference: Assessing well-being when preferences are incoherent. UEA, UK.

2015 Society for Experimental Finance Conference. Radboud University Nijmegen.
Royal Economic Society Annual Conference. University of Manchester.

2014 Invited seminar at the University of Frankfurt, Chair of Finance and Economics.
Research in Behavioural Finance Conference 2014. Erasmus University Rotterdam.
SABE 2014 Conference: Stretching Behavioral Economics. Lake Tahoe, USA.
NIBS 2014 Conference: Household Financial Decision Making and Behaviour. University of Nottingham.

2013 PHF-SAVE Conference: Household Finances, Saving & Inequality. Deutsche Bundesbank.

2012 Spring Meeting of Young Economists 2012. University of Mannheim.

PROFESSIONAL ACTIVITIES

Refereeing Journal of Economic Behavior & Organization, Journal of Development Studies, International Review of Economics and Finance, Journal of Behavioral and Experimental Economics, Economic Notes.

2015–date Co-organiser of the weekly CeDEx seminar series, University of Nottingham.

TEACHING

University of Nottingham:

- Household Finance (PG Masters)
- Applied Econometrics with Stata & EViews (UG Level 3)
- Current Economic Issues (UG Level 1)
- How do Markets Work (UG Level 1)

RELEVANT WORK EXPERIENCE

06/2013–09/2013 *Behavioural Insights Team, Cabinet Office*, Westminster, London.
ESRC-funded policy placement.

07/2012–07/2013 *University of Nottingham, Graduate School*
Demonstrator for the 'Presentation Skills for Researchers' workshop.

06–08/2009	*DIW Berlin* (German Institute for Economic Research) Two-month internship in the department of Macro Analysis and Forecasting.
2007–2010	*SIC! Software GmbH*, Heilbronn, Germany Worked as a software analyst and in management during the summer.

WORKSHOP & SUMMER SCHOOL PARTICIPATION

2014 *Winter Workshop in Economic Theory*: University of Southampton.

2013 *ESSEXLab Experimental Workshop*: University of Essex.
Summer School on Experiments & Economics of Organisation, UEA, UK.

GRANTS & AWARDS

2016 *NIBS research grant* to investigate choice overload.

2013 *School of Economics Teaching Excellence Award* (University of Nottingham).
ESRC Internship Award for research fellowship at the Behavioural Insights Team.

2012 *School of Economics Best Presentation Award* (University of Nottingham).

2010 *ESRC 1+3 Studentship* for M. Sc and Ph. D studies (award number ES/I022821/1).
Edinburgh Napier University. Prizes won for graduating top of class, best undergraduate dissertation and extraordinary academic achievements.

SOFTWARE EXPERIENCE & OTHER SKILLS

Specific Skills	Extensive programming skills in Stata, LaTeX, PHP, mySQL.
IT Knowledge	Project development and software analyst experience. Extensive knowledge of computer hardware and software.
Languages	German (native speaker), English (fluent).

REFERENCES

Professor Chris Starmer
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Professor Michael Haliassos
Chair for Macroeconomics and Finance
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Professor Robin Cubitt
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University College London, University of Sussex
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20th March 2017

Moritz Lukas

Curriculum Vitae

Contact Details

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Current Position & Affiliation

08/15—date	Postdoctoral Research Fellow with Teaching Duties. Chair of Banking and Behavioral Finance, Business School, University of Hamburg.

Research Interests

Household Finance, Behavioral Finance, Financial Intermediation, Behavioral Economics.

Education

08/2011—07/2015	PhD in Finance, University of Hamburg. Thesis title: „Household Borrowing and Behavioral Finance“. Supervisor: Professor Markus Nöth.
04/2004—03/2009	Diploma in Business Administration (equivalent to M.Sc.), University of Münster, Germany.
08/2006—12/2008	M.Sc. in Economics and Business Administration, Norwegian School of Economics, Bergen, Norway.

Research Papers

Mortgage Lending: Bank Competition and Customer Behavior (with M. Nöth).
Revise and resubmit, Journal of Banking & Finance.

On Measuring the Exponential Growth Bias (with C. Königsheim and M. Nöth).
Revise and resubmit, Journal of Economic Behavior & Organization.

Estimating Interest Rate Elasticities in Consumer Credit.
Revise and resubmit, Economics Letters.

Maturity Choice and Reference Points (with M. Nöth).
Submitted.

Financial Literacy, Risk Preferences, and the Demand for Digital Financial Services (with C. Königsheim and M. Nöth).
Submitted.

Over the Top? Overpricing and Advertising Effectiveness (with V. Mollica, M. Nöth and S. Trück).
Submitted.

Should I Stop Or Should I Go? New Evidence on the Labor Supply of Taxi Drivers in New York City (with C. Königsheim and M. Nöth).

What Makes Children Save (More)? Evidence from an Experiment with Elementary School Pupils (with M. Nöth).

Commitment and Borrower Heterogeneity: Evidence from Revolving Consumer Credit (with M. Nöth).

Relative Prices and Product Substitution: Evidence from Shocks to Consumer Credit Interest Rates.

All That Glitters is Not Gold: Asymmetric Effects of Investor Attention in the Stock Market (with K. Gödker).

Measuring Financial Literacy: Within-Subject Stability and Cross-Context Validity (with C. Königsheim and K. Gödker).

Seminar and Conference Presentations

2017 International Meeting on Experimental and Behavioral Social Sciences (IMEBESS), Barcelona (paper accepted).

Experimental Finance, Nice (paper accepted).

2016 Financial Intermediation Research Society (FIRS), Lisbon.

German Finance Association (DGF), Bonn.

German Economic Association (VfS), Augsburg.

Centre for Decision Research and Experimental Economics (CeDEx) Seminar, Nottingham.

Real Estate Markets and Capital Markets (ReCapNet) Conference, Centre for European Economic Research (ZEW), Mannheim.

Banking Research Workshop, Münster.

Economic Science Association (ESA), Bergen.

Experimental Finance, Mannheim.

European Real Estate Society (ERES), Full Paper Section, Regensburg.*

2015 Experimental Finance, Nijmegen.

Maastricht Behavioral and Experimental Economics Symposium (MBEES), Maastricht.*

Banking Research Workshop, Münster.

2014 German Finance Association (DGF), Karlsruhe.

Research in Behavioral Finance Conference (RBFC), Rotterdam.*

Banking Research Workshop, Münster.

Seminar of the Centre for Financial Risk, Macquarie University, Sydney.

* presentation by coauthor

Discussions

2016 German Finance Association (DGF), Bonn.

2014 German Finance Association (DGF), Karlsruhe.

Teaching

Behavioral Finance (Graduate)

Decision Behavior (Graduate)

Derivatives: Theory and Applications (Undergraduate)

Private Banking (Undergraduate)

Work Experience

04/2009—04/2011	**McKinsey & Company, Inc., Germany** Management Consultant, Financial Institutions Group.
08/2007—10/2007	**McKinsey & Company, Inc., Germany** Internship, Financial Institutions Group.
02/2006—04/2006	**Ernst & Young AG, Germany** Internship, Assurance and Advisory Business Services.
08/2005—10/2005	**Linde AG, Germany** Internship, Strategic Marketing Department.
01/2004—2/2004	**Linde AG, Germany** Internship, Finance Department.

Grants and Awards

2015	Best Paper Award, Banking Research Workshop, Münster (awarded by Professor Sascha Steffen and Professor Andreas Pfingsten).
	Award for PhD thesis (awarded by Finanzplatz Hamburg, a Hamburg-based financial network).
2014	Supervision of winning team of Postbank Finance Award (most highly endowed German finance award for students).
2013	American Finance Association (AFA) Travel Grant.
2009	Award for Diploma Degree (Ranked First Out of 179), awarded by University of Münster.
2005	Award for Pre-Diploma Degree, awarded by University of Münster.
2006—2009	Scholar of German National Academic Foundation (Studienstiftung des deutschen Volkes).

References

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