

Does the stock market affect private consumption?

Asger Lau Andersen - Niels Johannesen - Adam Sheridan

The University of Copenhagen and EPRU

Application for EPRN, December 2016

Project description

Slumps in the real economy are often preceded by large and sudden declines on the stock market and economic recoveries are typically accompanied by stock market booms. This project aims to explore whether there is a causal link from the performance of the stock market to the cycles in the real economy working through household consumption: if stock owners cut spending when they suffer losses and raise it when they make gains, then swings on the stock market amplify the cycles of the real economy through their effect on aggregate demand.

The key empirical challenge is to measure consumption and stock market gains precisely. In response to this challenge, we have started a unique collaboration with a major Danish retail bank ("the Bank"). Banks record every single purchase made by their customers and these records make it possible to obtain a precise measure of consumption by summing all of the purchases made by a given customer in a given period (Gelman et al., 2014). The Bank's customer files also contain information about transactions on securities accounts, which allows us to compute gains and losses from portfolios of stocks. Both spending and stock market gains can be measured at the monthly, weekly or even daily frequency.

The econometric model will estimate whether consumer spending in period t is affected by stock market (realized and unrealized) gains in period t , $t-1$, $t-2$ and so on, while controlling for other determinants of spending (e.g. labor income) and for common shocks (e.g. policy changes). We may think of the model as comparing the spending of two stock owners who have similar portfolios, but earn different returns. Under the plausible assumption that the two would have exhibited a similar trend in spending if they had realized the same return, the model identifies the causal effect of stock market gains on spending.

The main result summarizes how much of a dollar of stock market gains is channeled into private consumption. This is of immediate use for governments and central banks who attempt to manage aggregate demand in the face of volatile stock markets.

The project relates to a large literature that studies how consumption responds to wealth shocks. Part of this literature considers shocks to housing wealth (e.g. Mian, Rao and Sufi, 2013), while another part is devoted to stock market shocks. The evidence is mixed with some recent papers finding that stock market gains has a significant positive effect on consumption (Christelis et al, 2015) and others finding no effect (Paiella and Pistaferri, 2016).

The main advantage of our project relative to existing work is the data quality. The current standard in the literature is to rely on surveys for information about consumption, which is known to suffer from significant and sometimes systematic measurement error. Stock market income is typically measured as the change in the value of stock holdings between two waves of the survey, which conflates the effect of price changes (wealth shocks) and portfolio changes (not wealth shocks). Finally, the analysis of household surveys is limited to a few thousand survey respondents. By contrast, our analysis will draw on precise information about consumer spending and stock market income for hundreds of thousands of customers at the Bank, which greatly enhances the credibility of the estimated average effects and creates ample opportunity to explore heterogeneity across different types of stock owners.

Given the importance of the research question and the scope to push the research frontier significantly forward, we believe that the project will lead to a paper with a real chance of publication in a top-5 economics journals. We have completed much of the preliminary data work, for instance the construction of monthly individual-level spending measures from transaction-level data, and thus expect to have a draft paper by the end of 2017.

This is the first project in a broader research agenda aiming to leverage customer data from the Bank combined with information from government registers. The research agenda has already received financial support from two external sources. First, Adam Sheridan is funded by an industrial phd stipend from the Innovation Fund. Second, we have received a grant from the Carlsberg Foundation to finance data infrastructure, travelling and conference organization. The main constraint at this stage of the project is the scarce research time of the two senior researchers on the project, Asger Lau Andersen and Niels Johannesen. We therefore apply for 2 months of research time for each.

References

Christelis, D.,Georgarakos, D., Jappeli, T., 2015. "Wealth shocks, unemployment shocks and consumption in the wake of the Great Recession". *Journal of Monetary Economics* 72, p. 21-41.

Gelman, M., Kariv, S., Shapiro, M., Silverman, D., Tadelis, S., 2014. "Harnessing naturally occurring data to measure the response of spending to income". *Science* 345, 212-215.

Mian, A., Rao, K., Sufi, A., 2013. "Household balance sheets, consumption and the economic slump". *Quarterly Journal of Economics*, 1687-1726

Paiella, M., Pistaferri, L., 2016. "Decomposing the wealth effect of consumption". *Review of Economics and Statistics*, forthcoming.

Budget

We apply for a total of **DKK 253.099** covering 2 months of research time for Asger Lau Andersen and Niels Johannesen including 20% overhead.

Salary, 2 months, Niels Johannesen	102.024
Salary, 2 months, Asger Lau Andersen	108.892
Overhead	42.183
Total	DKK 253.099

Contact:

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Personal details:

Born 10 December 1981 in Copenhagen, Denmark. Danish citizen, married, 2 children.

Current position:

2014-present: Assistant Professor, Department of Economics, University of Copenhagen

Previous employment:

2010-14: Head of Section / Adviser, Economics, Danmarks Nationalbank
2003-05: Student assistant, Danish Economic Council

Education:

PhD in economics, University of Copenhagen, 7 December 2010
Dissertation: "Essays in Political Economy: Budgets, Elections and Fiscal Policy."
Visiting Student Scholar at the University of California, Berkeley, August 2009 – June 2010.
MSc economics (cand.polit), University of Copenhagen, June 2007
Dissertation: "Fiscal Policy, Fiscal Transparency and the Business Cycle" (joint with Lasse H.W. Nielsen), Zeuthen Prize.
MSc in Economics, London School of Economics and Political Science, July 2006
Pass with distinction, Ely Devons Prize.
Dissertation: "Electoral Budget Cycles and Electoral Rules"
BSc in economics, University of Copenhagen, June 2004

Teaching:

Lecturer, Political Economics, MA course, fall 2014 and fall 2016
Lecturer, Business Economics, BA course, spring and fall 2015, spring 2016
Teaching assistant, Advanced Macroeconomics, MA course, fall 2007.
Teaching assistant, Macroeconomics 2, BA course, spring 2007 and spring 2008
Teaching assistant, Macroeconomics 1, BA course, fall 2004 and fall 2006.

Grants and Awards

Postdoctoral grant, Danish Council for Independent Research, 2015

Economic Policy Research Network grant (with Claus Thustrup Kreiner, Søren Leth-Pedersen, and Amalie Sofie Jensen), 2014

EliteForsk travel stipend, granted by the Danish Ministry of Science, Technology and Innovation to PhD students pursuing international studies, 2009

Zeuthen Prize, awarded by the Society of Social Economics for the best article based on a master's thesis submitted at the Department of Economics, University of Copenhagen during the academic year (joint with Lasse H.W. Nielsen), 2007

Ely Devons Prize, awarded for outstanding performance in the MSc Economics exams at the London School of Economics and Political Science, 2006

Mikael Kristiansen Award, awarded by "Annemarie og Erling Kristiansens Fond" to students pursuing graduate studies in economics at a British University, 2005

Fellow of The Sasakawa International Fellowship Fund, awarded to graduate students pursuing international studies in social sciences, law and humanities, 2005.

Publications in peer-reviewed journals

"Household debt and spending during the financial crisis: Evidence from Danish micro data" (with Charlotte Duus and Thais Lærkholm Jensen), *European Economic Review*, 89, 2016, 96-115.

"The impact of late budgets on state government borrowing costs" (with David Dreyer Lassen and Lasse Holbøll Westh Nielsen), *Journal of Public Economics*, 109, 2014, 27-35

"Exit polls and voter turnout" (with Thomas Jensen), *Journal of Theoretical Politics*, 26, 2014, 117-134

"Late Budgets" (with David Dreyer Lassen and Lasse Holbøll Westh Nielsen), *American Economic Journal: Economic Policy*, 4, 2012, 1-40

Other publications

"Household debt and consumption during the financial crisis" (with Charlotte Duus and Thais Lærkholm Jensen), Danmarks Nationalbank, *Monetary Review*, 2014, 1st quarter

"Danish Families in Mortgage Arrears" (with Charlotte Duus), Danmarks Nationalbank, *Monetary Review*, 2013, 3rd quarter, part 2

"Danish Families' Financial Robustness, Variable Rates and Deferred Amortisation" (with Anders Møller Christensen, Charlotte Duus and Ri Kaarup), Danmarks Nationalbank, *Monetary Review*, 2012, 4th quarter, part 2

"The Wealth and Debt of Danish Families" (with Anders M. Christensen, Nick Fabrin Nielsen, Sigrid Alexandra Koob, Martin Oxbjerg and Ri Kaarup), Danmarks Nationalbank, *Monetary Review*, 2012, 2nd quarter, part 2

“Productivity Growth in Denmark” (with Morten Spange), Danmarks Nationalbank, *Monetary Review*, 2012, 1st quarter, part 2

“Potential Output in Denmark” (with Morten Hedegaard Rasmussen), Danmarks Nationalbank, *Monetary Review*, 3rd quarter, part 2

Presentations at conferences, seminars and workshops

Research seminar at Danmarks Nationalbank, 2016

Research seminar at Sveriges Riksbank, 2016

Household Debt in an International Perspective, conference, Korea Development Institute, 2015

Household Economics and Finance Network meeting, Copenhagen Business School, 2015

Workshop on household debt – a challenge for the future?, Danmarks Nationalbank, 2014

EPRN conference on new analyses of the Danish Economy, University of Copenhagen, 2014

Biennial meeting of the Danish Economic Society, Koldingfjord, 2014

Workshop on Nordic Housing Markets, Sveriges Riksbank, 2013

Workshop on Danish data on household borrowing, University of Copenhagen, 2013

Biennial meeting of the Danish Economic Society, Koldingfjord, 2012

Workshop on Stabilization Policies, University of Copenhagen, 2011

Annual Meeting of the Public Choice Society, Monterey, California, 2010

Public Finance Seminar, University of California, Berkeley, 2009

Seminar at University of Copenhagen, 2009

EPRN conference on Economic Policy in the Danish Welfare State, Uni. of Copenhagen, 2009

Nordic Symposium in Macroeconomics (NORMAC), Smögen, Sweden, 2009

WEST workshop on political economics, University of Copenhagen, 2009

Danish Public Choice Workshop, University of Aarhus, 2008

EPRU seminar, University of Copenhagen, 2008

Refereeing and other professional services

Refereeing: *Economica*, *International Journal of Consumer Studies*

Member of program committee for the 2015 meeting of the International Banking, Economics, and Finance Association.

CURRICULUM VITAE

NIELS JOHANNESSEN

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University of Copenhagen
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1353 Copenhagen, Denmark

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CURRENT POSITION

Associate Professor, Department of Economics, University of Copenhagen (12/2012 to present)

PREVIOUS ACADEMIC POSITIONS

Assistant Professor, Department of Economics, University of Copenhagen (07/2012 to 11/2012)

Postdoctoral Fellow, Department of Economics, University of Copenhagen (01/2010 to 06/2012)

Ph.D. Fellow, Department of Economics, University of Copenhagen (09/2006 – 12/2009)

EDUCATION

Ph.D. in Economics, University of Copenhagen (03/2010)

M.Sc. in Economics, University of Copenhagen (06/2004)

M.A. in European Economics, College of Europe, Bruges (06/2003)

B.A. in Economics, University of Copenhagen (06/2001)

OTHER EMPLOYMENT

Head of Section, Danish Ministry of Finance (02/2006 – 09/2006)

Tax Advisor, Price Waterhouse Coopers, Luxembourg (09/2004 – 12/2005)

PRIZES AND AWARDS

The Invisible Hand, 2015, Socialøkonomisk Samfund ("excellence in teaching")

Tietgen Prize, 2012, FUUH ("significant research effort within business economics")

Peggy and Richard Musgrave Prize 2010, IIPF Annual Congress ("best paper by scholar below age 40")

Zeuthen Prize 2004, University of Copenhagen ("best master thesis in economics")

ICAEW Prize 2003, College of Europe ("best master thesis in economics")

GRANTS

Carlsberg Foundation, Distinguished Associate Professor Fellowship, 2.392,000 DKK (2016)

Nordic Tax Research Council, 100.000 DKK (2015)

Danish Council for Independent Research, 4.046.947 DKK (2014)

Economic Policy Research Network 240.359 DKK (2013)

Nordic Tax Research Council, 80.000 DKK (2013)

Economic Policy Research Network 253.000 DKK (2012)

Nordic Tax Research Council, 140.000 DKK (2012)

French Embassy in Denmark, 22.350 DKK (2012)

Danish Council for Independent Research, 1.273.491 DKK (2010)

PUBLISHED AND FORTHCOMING PAPERS

“Petro Rents, Political Institutions and Hidden Wealth: Evidence from Offshore Bank Accounts”

(with Jørgen Juel Andersen, David Dreyer Lassen and Elena Paltseva)

Journal of the European Economic Association, forthcoming

“Taxing the Financially Integrated Multinational Firm”

Journal of Public Economic Theory 18(4), 2016, p. 487-510

The Power of Financial Transparency: An event-study of country-by-country reporting standards”

(with Dan Larsen)

Economics Letters 145, 2016, p. 120-122

“Tax Avoidance with Cross-border Hybrid Instruments”

Journal of Public Economics 112, 2014, p. 40-52

“Tax evasion and Swiss Bank Deposits”

Journal of Public Economics 111, 2014, p. 46-62

“The End of Bank Secrecy? An Evaluation of the G20 Tax Haven Crackdown”

(with Gabriel Zucman)

American Economic Journal: Economic Policy 6(1), 2014, p. 65-91

“Optimal Fiscal Barriers to International Economic Integration in the Presence of Tax Havens”

Journal of Public Economics 96(3-4), 2012, p. 400-416

“Imperfect Tax Competition for Profits, Asymmetric Equilibria and Beneficial Tax Havens”

Journal of International Economics 81, 2010, p. 253-264

ACTIVE WORKING PAPERS

“The Consumption Effects of the 2007-2008 Banking Crisis: Evidence from Households in Denmark”

(with Thais Lærkholm Jensen)

Revised-and-resubmitted to the *American Economic Review*

“Can Taxes Tame the Banks? Evidence from European Bank Levies”

(with Michael Devereux and John Vella)

Revision requested by the *Review of Financial Studies*

“At your service! The role of tax havens in international trade with services”

(with Shafik Hebous)

Revision requested by the *Journal of Public Economics*

“The Run for Safety: Financial Fragility and Deposit Insurance”

(with Rajkamal Iyer, Thais Lærkholm Jensen and Adam Sheridan)

“Are less developed countries more exposed to multinational tax avoidance? Method and evidence from micro-data”

(with Thomas Tørsløv and Ludvig Wier)

RESEARCH VISITS

University of Michigan, Ann Arbor (spring semester, 01/2015 – 06/2015)
University of Munich, Center for Economic Studies (two weeks, 02/2012 – 03/2012)
University of , Centre for Business Taxation (four weeks, 09/2011 – 10/2011)
University of California, Berkeley (academic year, 08/2007 – 06/2008)

SERVICE TO THE RESEARCH COMMUNITY

Member of Editorial Board, Danish Journal of Economics (04/16 to present)
Member of Program Committee, National Tax Association, Annual Conference, Baltimore, (11/16)
Co-organiser, Workshop on Public Economics and Public Policy, Copenhagen (1/13)

EXPERT COMMITTEES

Member of the Danish Expert Committee on Tax Law (“Skattelovsudvalget”) (10/16 to present)

REVIEWING FOR ACADEMIC JOURNALS

Accounting and Business Research; American Economic Journal: Economic Policy; American Economic Review; American Political Science Review; B.E. Journal of Theoretical Economics; Danish Journal of Economics; Economic Journal; Economics Bulletin; European Financial Management; Finanzarchiv; Fiscal Studies; International Tax and Public Finance (×4); Journal of Development Economics; Journal of the European Economic Association; Journal of International Economics (×2); Journal of International Trade & Economic Development; Journal of Money, Credit and Banking; Journal of Public Economic Theory; Journal of Public Economics (×16); Journal of Public Policy; Regulation and Governance; Review of Development Economics; Scandinavian Journal of Economics (×4); World Development

SUPERVISION

Supervision of M.Sc. theses, University of Copenhagen (×11)
Supervision of M.Sc. theses, University of Aarhus (×1)
Supervision of B.A. theses, University of Copenhagen (×11)

TEACHING

International Taxation (Ph.D. level) University of Uppsala (2015)
Public Economics (Ph.D. level) University of Copenhagen (2014)
International Taxation (Ph.D. level), CES Munich (2012)
Tax Policy (M.Sc. level), University of Copenhagen (2012, 2013, 2014, 2015, 2016)
Public Economics - essay class (M.Sc. level) University of Copenhagen (2013, 2014, 2016)
Banking Economics - essay class (M.Sc. level) University of Copenhagen (2014)
The Global Firm (M.A. level), Copenhagen Business School (2011, 2012)
Business Economics (B.A. level) University of Copenhagen (2013, 2014, 2016)

CONFERENCE AND SEMINAR PRESENTATIONS

University of Munich, invited seminar (6/2017)
National Tax Association, Annual Congress, Baltimore (11/2016)
University of Mannheim, Matax Conference (10/2016)
Oxford University, Summer Symposium on Business Taxation, invited speaker (06/2016)
Economic Policy Research Network, University of Copenhagen, invited speaker (06/2016)
Research Center of the European Commission, Milan, invited seminar (5/2016)
CEPR Workshop on Household Finance, Imperial College, invited speaker, London (5/2016)

University of Lisbon, invited seminar (4/2016)
Hertie School of Governance, Berlin, BAMS, invited seminar (3/2016)
Bank of Italy, Rome, Conference on wealth inequality, invited speaker (12/2015)
Danish Central Bank, Copenhagen, invited seminar (10/2015)
Pompeu Fabra University, Barcelona, invited seminar (10/2015)
University of Mannheim, Matax Conference (10/2015)
Norwegian Tax Forum, Bergen, invited key note speaker (09/2015)
Economic Policy Research Unit Seminar, University of Copenhagen (09/2015)
World Bank, Conference on wealth inequality, invited speaker (04/2015)
University of Michigan, invited seminar (04/2015)
World Bank, invited seminar (01/2015)
Norwegian Business School, Oslo, invited seminar (11/2014)
University of Münster, invited seminar (11/2014)
University of Helsinki, VATT, invited seminar (08/2014)
University of Tübingen, Conference on Taxation and Multinational firms, invited speaker, 06/2014)
Max Planck Institute, Munich, Conference on Tax Havens, invited speaker, (01/2014)
Danish Economic Society, Biannual Congress, invited plenary speaker (01/2014)
University of Luxembourg, invited seminar (11/2013)
Danish Central Bank, Copenhagen, invited seminar (11/2013)
Economic Policy Research Unit Seminar, University of Copenhagen (10/ 2013)
Oxford University, Summer Symposium on Business Taxation (06/2013)
Goethe University Frankfurt, invited seminar (05/2013)
ETPF/CEPS, Conference on Financial Sector Taxation, Brussels, invited speaker (05/2013)
Oxford University, Faculty of Law, invited speaker (04/2013)
CESifo, Conference on Public Economics, Munich (04/2013)
Danish Institute for International Studies, Copenhagen, invited discussion, (02/2013)
University of Helsinki, VATT, invited seminar (01/2013)
Nordic Council, Copenhagen, invited speaker (01/2013)
Offshore Alert, London, Conference on Tax Havens, invited speaker (11/2012)
Norwegian School of Economics, Bergen, Conference on Financial Secrecy, invited speaker (11/2012)
Free University, Berlin, Conference on Fiscal Federalism, invited discussion, (10/2012)
International Institute of Public Finance (IIPF), Annual Congress, Dresden (08/2012)
Oxford University, Summer Symposium on Business Taxation (06/2012)
Zeuthen Workshop, University of Copenhagen (05/2012)
European University Institute, Florence, Conference on Global Governance, invited speaker (05/2012)
University of Tilburg, CentER, invited seminar (04/2012)
Max Planck Institute, Munich, invited seminar (02/2012)
Norwegian Business School, Oslo, invited seminar (01/2012)
Economic Policy Research Unit Seminar, University of Copenhagen (12/2011)
Danish Central Bank, Copenhagen, invited seminar (10/2011)
Oxford University, Centre for the Analysis of Resource Rich Economies, invited seminar (10/2011)
Oxford University, Summer Symposium on Business Taxation (07/2011)
Danish Ministry of Taxation, invited speaker (06/2011)
University of Uppsala, Center for Fiscal Studies, invited seminar (06/2011)
Nordic Tax Research Council, Annual Congress, Copenhagen, invited speaker (05/2011)
Economic Policy Research Unit Seminar, University of Copenhagen (03/2011)

Danish Economic Council, invited seminar (03/2011)
Max Planck Institute, Munich, Conference on Tax Havens, invited discussion, (02/2011)
Nordic Workshop on Tax Policy and Public Economics, Copenhagen (01/2011)
Copenhagen Business School, Department of Economics, invited seminar (09/2010)
Economic Policy Research Unit Seminar, University of Copenhagen (09/2010)
International Institute of Public Finance (IIPF), Annual Congress, Uppsala (08/2010)
Economic Policy Research Network, University of Copenhagen, invited speaker (06/2010)
Oxford University, Centre for Business Taxation, invited seminar (05/2010)
Association of Public Economic Theory (APET), Annual Congress, Galway (06/2009)
Economic Policy Research Unit Seminar, University of Copenhagen (03/2009)
Graduate Student Seminar, University of Copenhagen (02/2009)
Danish Central Bank, Copenhagen, invited seminar (12/2008)
Copenhagen Economics, Copenhagen, invited seminar (12/2008)
Danish Graduate Program in Economics, Annual Workshop, University of Copenhagen (11/2008)
Graduate Student Seminar, University of Copenhagen (11/2008)
Zeuthen Workshop, University of Copenhagen (11/2008)
Nordic Workshop on Tax Policy and Public Economics, Uppsala (10/2008)
Economic Policy Research Unit Seminar, University of Copenhagen (10/2008)
European Doctoral Group in Economics, Annual Meeting, Copenhagen (09/2008)
Graduate Student Seminar, University of California, Berkeley (04/2008)
Summer School on Fiscal Federalism, IEB Barcelona (06/2007)
Graduate Student Seminar, University of Copenhagen (05/2007)

Adam Sheridan | CV

Academic office: Department of Economics, University of Copenhagen

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Industry office: Risk Analytics, Danske Bank

Girostrøget 1, Building F, DK-2630 Taastrup

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Education

University of Copenhagen and Danske Bank

Industrial PhD in Economics/Finance

2015–18

Thesis: "The Nexus of Consumer Behaviour and Bank Policy"

Supervisors: Niels Johannesen (main), Asger Lau Andersen (second)

Copenhagen Business School

MSc in Advanced Economics and Finance, GPA: 11.8/12

2015

Thesis: "Deposit Insurance, Moral Hazard and the Bank-Lending Channel"

Supervisor: Steffen Andersen

University of Bristol

BSc in Economics, First Class Honours

2013

Research Interests

Empirical topics in banking and financial economics, with particular interest in household finance and corporate finance.

Working Papers

"The Run for Safety: Financial Fragility and Deposit Insurance" (with Rajkamal Iyer, Thais Jensen and Niels Johannesen). *Submitted*.

○ Presented at: Danish Graduate Programme in Economics (DGPE), Annual workshop, 2015

Experience

Research and Teaching.....

Department of Economics, University of Copenhagen

Research Assistant

Spring/Summer 2015

Centre for Market and Public Organisation, University of Bristol

Research Economist

Summer 2013

Self-Employed

Private Undergraduate Economics Tutor

Summer 2012

Professional.....

TransferWise

Banking and Business Development Intern

Summer 2014

The British Society for Rheumatology

Clerical Assistant

2009–10

Awards and Honours

Innovation Fund Denmark

Industrial PhD funding

2015–18

References

Associate Professor Niels Johannesen, niels.johannesen@econ.ku.dk, +45 3532 4415

Assistant Professor Asger Lau Andersen, asger.lau.anderson@econ.ku.dk, +45 3533 3133

Miscellanea

Computer Skills.....

Stata, R, MATLAB, Microsoft Office, LaTeX, SQL, Hadoop ecosystem (learning), Tableau

Languages.....

English (native), Danish (basic)

Nationality.....

British citizen, DOB: 13/07/1991