EIEF NEWSLETTER: SPRING 2014

EIEFNews

EINAUDI INSTITUTE FOR ECONOMICS AND FINANCE

In this issue:

Luigi Guiso reports on research showing that intuitive decision makers tend to be more risk tolerant than deliberative ones, and that attitudes towards risk are not constant over time, but may change rather significantly after major events; in particular, data shows that risk aversion increased substantially after the financial crisis. These findings can be relevant for financial intermediaries in designing the best strategy to elicit the degree of risk aversion of their customers, as they are required to by the European Union Directive on financial instruments (MiFID).

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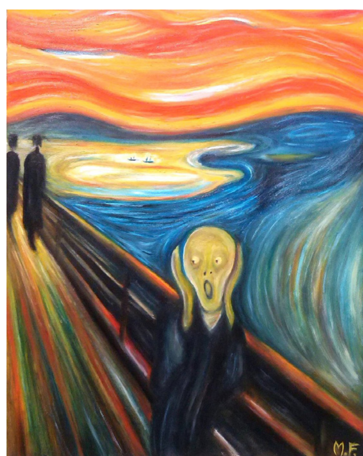
1. Risk aversion: from research to practice
by Luigi Guiso

Risk aversion is a key parameter for many, probably all, decisions that individuals make. This is certainly true for *all* financial decisions, which almost by definition involve time and uncertainty. Risk preferences are essential in understanding insurance demand; in deciding whether to embark in a fixed rate mortgage or in an adjustable rate one; in determining portfolio allocations; in driving the demand for risky assets. Indeed, it has been argued (by the Nobel prize winner Robert Merton) that differences across individual investors in portfolio allocations are all due to differences in their risk tolerance. At the aggregate level, the average level of investors risk tolerance is a key determinant of the size of the equity premium, and fluctuations in aggregate risk tolerance over time are necessary to explain the observed variation in the price of risk.
It is therefore not surprising that a lot of effort has been devoted by academics to studying and measuring people's attitudes towards risk. At the same time, financial intermediaries need to take into account, in their activities, the risk aversion of market participants, to the point that the MiFID (Market in Financial Instruments Directive) of the European Union requires that the intermediaries elicit the risk tolerance of their customers. The Axa Chair at EIEF has produced research, studying the determinants of risk attitudes and measuring them, both in laboratory settings and in large samples, which contributes to the academic debate and is also of practical relevance for practitioners. In the following paragraphs I quickly summarize two research projects and claim that the results we have obtained should be of interest for financial intermediaries in their compliance with the MiFID.

In one of them, on Risk attitudes and decision mode, carried out with Jeffrey Butler (EIEF) and Tullio Jappelli (University of Naples, Federico II), we collected data on risk attitudes and attitudes towards ambiguity (the latter concern situations where it is hard to attach a probability to an event – perhaps because the event is totally new – which people may wish to eschew over and above their aversion to quantifiable risk), both in a large sample of investors, using traditional survey methods with face to face interviews, and in smaller samples of participants in laboratory experiments. We also collected data on how people process information when making a decision. As often indicated in psychology literature, people can rely on two decision modes: they can process information in a deliberative way, going through a conscious process of reasoning whereby all possible alternatives are compared and only after this process is exhausted a decision is made by picking the best one (this is sometimes called system 1); this process is slow but careful. Alternatively people can process information quickly and decide intuitively by guessing what alternative is the best in that context (this is sometimes called system 2). Handling decisions intuitively is fast, but probably less accurate. Clearly we all possess and use both systems, but some individuals tend to be more intuitive and, on the contrary, some tend to be more deliberative than others. Is there a relationship between attitudes towards risk and ambiguity and the prevalent decision making mode? Our results show that these two aspects are related, as intuitive decision makers tend to be more risk tolerant and also more ambiguity tolerant (this shows up both when using

survey data and experimental data). Why is this so? One might suspect that intuitive decision makers are just reckless and mismanage risk. Actually the data suggests the opposite. For example, during the financial crisis, a greater proportion of intuitive investors closed their stock market positions before the crash that followed the collapse of Lehman Brothers.

A second project is on Time varying risk aversion, and studies variation over time in risk aversion. More specifically, it focuses on the changes which occurred during the recent financial crisis. Though risk aversion is often thought to be a trait of individual preference, and as such it is supposed to be time invariant, this seems not to be the case. It is well known that young people are much less cautious than adults, suggesting a pattern of preferences towards risk that evolve during people's lives. What is more troubling than this slow-moving shift in preferences is the possibility that people's risk tolerance may change with the business cycle, or when the surrounding environment changes. To what extent does risk aversion vary over the business cycle and what are the drivers of the change? The financial crisis offers a unique opportunity to address these questions. In this project, carried out with Paola Sapienza (Northwestern University) and Luigi Zingales (University of Chicago), we have elicited measures of risk aversion from a panel of Italian investors in early 2007 (before the collapse of Lehman Brothers) and again in June 2009. We found that risk aversion increased dramatically, according to some measures by a factor of three. Therefore risk preferences, far from being a fixed trait, can vary and change rapidly and substantially. But what drives the change? One strand of literature in finance argues that individuals become more risk averse when they experience large financial losses – as certainly is the case during a financial crisis. However we do not find much support for this explanation in our data. While there is some evidence that people who had invested heavily in the stock market and incurred very large losses after the stock market crash of October 2008 became more risk averse, risk aversion increased substantially also for people that held no stocks or other risky assets in the Summer of 2008 and thus experienced no losses. Nor does the increase in risk aversion seem to be driven by that in background risk (such as the one arising from higher labor market risk), because risk aversion also went up for people who did not face any background risk. We conjecture, instead, that the change observed in risk aversion is related to a specific factor: fear. People reacted to the crisis by becoming more fearful, and fear automatically triggers more risk aversion. To support this conjecture we ran an experiment with a sample of students at Northwestern University. We asked half of the sample, randomly chosen, to watch a scary movie. We then elicited risk aversion of all participants, using the same questions that we had asked to the sample of investors. We found that people who had watched the movie were systematically more risk averse than those who had not been exposed to the movie. Most importantly, the difference in risk aversion between the two groups was sizeable, as sizeable was the increase in risk aversion during the financial crisis.



What are the implications of the previous results for financial intermediaries and to what extent can they be relevant in practice? A first field of application is the MiFID directive, which requires financial intermediaries to classify individual investors according to their risk tolerance in order to provide sound advice on their investment strategies. In attempting to comply with the MiFID requirement, financial intermediaries have followed several avenues. The most commonly used one requires investors to self-classify themselves according to their ability to tolerate risk (often

asking investors to choose one among 5 alternatives, ranging from "very high" to "very low" dislike of risk). Sometimes to help their choice investors are given some information about alternative risk/return combinations that can be attained with different levels of risk tolerance. To elicit the risk preferences of its customers an Italian financial intermediary recently proposed charts showing the performance, from January 2003 to July 2013, of four different portfolios which differ in their exposure to risk (in increasing order of riskiness: "safety", "balanced", "growth" and "dynamic"); an example is shown in the figure below. Riskier portfolios ("growth" and "dynamic") entail higher returns, but much higher volatility than safer ones. Arguably, the more investors dislike risk the more they should opt for "safety" portfolios, giving up some return but containing volatility. This is the trade-off one would like to measure, and it makes sense to obtain such a measure from investors' choices. But the procedure has some shortcomings, which our research can help overcome. Firstly, measuring risk aversion is sensitive to the elicitation strategy used. Hence, the financial intermediary should use more than one elicitation strategy and check whether the sorting of customers into risk categories is robust across them. Our findings about the link between decision mode and risk attitude can help design some of these strategies, taking advantage of questions meant to elicit the decision process agents tend to follow. For most investors the various strategies are likely to give the same answer; when this is not the case a supplementary inquiry may be needed. Secondly, the period chosen in the figure includes the 2008 financial crisis, characterized by a collapse in returns, whose entity was more pronounced the riskier the initial portfolio was, and also by spectacular returns for the riskier portfolios in the period before the financial crisis. Now, the exceptional returns were the consequence of a (likely) stock market bubble before the crisis and the dramatic crash thereafter the reflection of the bursting of the bubble. But bubbles and crashes are rare events. Would one elicit the same risk aversion if, instead of showing the portfolio performances over the last 10 years, they were shown over a different time-span? Could the observation of the crash in returns act like the scary movie of our experiment? To correct this possible distortion intermediaries would be better off asking people to express preferences over risk/return portfolio profiles computed over different periods and taking the average responses. In relation to this, since our findings show that risk aversion changes over time, particularly following traumatic events such as a financial crisis, financial intermediaries should elicit the risk tolerance of their customers periodically, certainly after major events.

Monthly performance of four different portfolios from January 2003 to July 2013

Indexes : January 2003 = 100

2. New people at EIEF

Domenico Giannone joined EIEF Faculty last February as a Research Affiliate. Last November, Domenico became an Associate Professor in Econometrics at LUISS Guido Carli in Rome after having previously been a Professor in Economics at the Université Libre de Bruxelles (ECARES) and an Economist in the Monetary Policy Research Division of the European Central Bank (ECB). Time series econometrics, forecasting, monetary policy, business cycles and growth are his general fields of research and he has also designed econometric models that are routinely used to support policy decision makers in many institutions including the Federal Reserve Board of Governors and the ECB. Furthermore, he is currently a Research Fellow at CEPR as well as a member of the Euro Area Business Cycle Dating Committee and associate editor of the Journal of Applied Econometrics, the International Journal of Forecasting and Empirical Economics. He is also co-founder of www.Now-Casting.com, a web-based forecasting company. During his stay at EIEF, Domenico will carry out a research project on "*Common Factors of the Wealth of Nations*", together with Michele Lenza (ECB) and Elias Papaioannou (London Business School).

3. The Strategic Forum 2013

On 1-2 July, EIEF hosted the first Strategic Forum on "*The measurement of the cost of long and deep recessions: beyond GDP*", promoted by the International Statistical Institute (ISI) and by the International Economic Association (IEA), co-organized with ISTAT and the Bank of Italy and sponsored by SAS. The aim of the event was to bring together statisticians, economists and other experts to propose and discuss new measurement and analytical frameworks and tools concerning the concept of well-being, to evaluate the effects of the economic crisis and to stimulate economic policy action.

The participants were top level economists and statisticians, national experts and key opinion leaders selected by invitation only. Among them there were: Joseph Stiglitz (President, IEA), Ignazio Visco (Governor, Bank of Italy), Enrico Giovannini (Member of the ISI Council), Marco Icardi (CEO, SAS), Angus Deaton (Princeton University), Anthony Atkinson (Nuffield College, Oxford) and Jean Paul Fitoussi (Science - Po, Paris).

More details on this event and the program are available here.

4. Conferences and other events

In 2013 EIEF hosted or organized, in co-operation with other institutions, several conferences and events. Some highlights are presented below, further information is available here or by clicking on the links below.

In June, EIEF hosted and organized the second edition of the Rome Junior Conference on Macroeconomics. The spirit of this event is to bring together junior "high-flier" macro economists from around the world, to discuss recent research in a friendly and highly interactive environment. Together with other presenters there were: Saki Bigio (Columbia University), Jean-Paul L'Huillier (EIEF), Ezra Oberfield (Federal Reserve Bank of Chicago) and Luigi Paciello (EIEF).

Always in June EIEF hosted the Fourth Carlo Giannini Ph.D. Workshop in Econometrics. Jointly organized with Associazione Carlo Giannini, the event gave the opportunity to Ph.D. students and post-doctoral researchers with a field of specialization in macro econometrics and time series econometrics to present their research in a highly qualified environment and to interact closely with leading Italian econometricians.

In July, EIEF hosted the 13th Doctoral Workshop in Economic Theory and Econometrics (MOOD 2013). This annual event is the result of the cooperation between three Italian research institutions – the Bank of Italy, Collegio Carlo Alberto and EIEF – which are present on the international job market for young economists. Financial support was also provided by the Royal Economic Society and by the journal LABOUR. The programme included eight sessions: Networks, Structural Modelling, Economic Theory, Trade, Finance, Political Economy, Labor Economics and Macroeconomics. The presenters, all Ph.D. students who were expected to be on the 2014 job market, provided a broad overview of the topics currently explored at the frontier of economic research. In turn, they received constructive feedback and criticism, useful at the work-in-progress stage of their research, from the highly qualified attendees, including visiting scholars with internationally renowned reputations.

In September, EIEF hosted the Workshop on Problems and Solutions for the Evaluation of Performance in the Public Administration organized by Andrea Ichino (University of Bologna), Giorgio Brunello (University of Padua) and Maria De Paola (University of Calabria). The aim of the event was to present the results of the PRIN 2009 Project, funded by the Italian Ministry of University and Research within the Universities of Bologna, Padua and Calabria. The papers were discussed by qualified experts of other Universities and of the Bank of Italy.

Always in September EIEF hosted the European Conference on Household Finance, co-organized with the Center of Excellence on Sustainable Architecture for Finance (SAFE) at Goethe University Frankfurt and the Swedish House of Finance (SHoF), with additional support from the Sloan Foundation. The Axa Chair at EIEF is one of the drivers behind this annual event that represents a unique opportunity to discuss state-of-the-art empirical research on household financial behaviour. The papers presented analysed the role of preferences in financial decisions, the relationship between financial literacy and fraud, the drivers of financial complexity, the market of mortgages and the effects of bankruptcy spillovers. Together with other speakers there were: Michael Halliassos (Goethe University Frankfurt), Tullio Jappelli (University of Naples, Federico II), Alessandro Previtero (University of Western Ontario), Paolo Sodini (Stockholm School of Economics) and Jeffrey Butler (EIEF).

Forthcoming Conferences and Workshops in 2014

On June 12-13, EIEF will host and organize the third edition of the *Rome Junior Conference on Macroeconomics*. A provisional list of invited speakers is available here.

On September 11-13, EIEF will host the third Workshop on *New Developments in Econometrics and Time Series* and a Workshop in honor of Marco Lippi on *Dynamic Factor Models and Structural VAR Analysis*. Both events are organized with the Bank of Italy and the Collaborative Research Center 823 "Statistical modelling of nonlinear dynamic processes". Further information is available here.

Always in September, EIEF, the Center of Excellence on Sustainable Architecture for Finance (SAFE) at Goethe University Frankfurt, HEC Paris and the Swedish House of Finance (SHoF) will organize the fifth edition of the *European Conference on Household Finance*, hosted by the Stockholm School of Economics. The submission deadline is April 30, 2014. For more details, see the Call for papers.

On October 2-3, EIEF will host the 10th Annual Central Bank Workshop on the *Microstructure of Financial Markets*. Confirmed keynote speakers include Terrence Hendershott (University of California, Berkeley) and Dimitri Vayanos (London School of Economics). The submission deadline is June 1, 2014. For more details, see the Call for papers.

The forum "Idee per la Crescita"

The forum *Idee per la Crescita* was launched by Università Bocconi and EIEF at the end of 2012 to contribute to the formulation of a sustainable long-term growth strategy for Italy. Further information on the forum is available here.

In Spring 2013 *Idee per la Crescita* produced a First Report, which was discussed among policy makers, academics and top-managers in the private and public sector and was published in three e-books. The first offers an overview of the Italian long-term growth problems; the second illustrates a concrete proposal to reform the Italian education system and the third presents some proposals to reform the Italian credit market and facilitate credit supply. The executive summary of the Report is available here.

In September 2013 *Idee per la Crescita* and *Action Institute* organized a workshop "How to Improve Credit Access for SME through a proposal of 'credit enhancement'", hosted by EIEF. The proposal aims to guarantee loans for the SME by taking advantage of the European structural funds.

Idee per la Crescita then organized three more meetings, held at Università Bocconi, which focused on the limited diffusion of broadband networks in Italy, on the project to create a digital network within the Public Administration and on the need to improve the quality of management in the Italian public sector. Further information is available here.

5. Visitors

Winter 2013/Spring 2014

George Alessandria
Federal Reserve Bank, Philadelphia

Fernando Alvarez
University of Chicago

Luca Anderlini
Georgetown University

Joshua Angrist
MIT

Sandro Brusco
Stony Brook University

Dan Cao
Georgetown University

Robert S. Chirinko
University of Illinois at Chicago

Nicolas Coeurdacier
Sciences Po - Paris

Francesco Decarolis
Boston University

Francesco Drago
University of Naples, Federico II

John Duffy
University of Pittsburgh

Andy Ellul
Kelley School of Business , Indiana University

Raquel Fernandez
New York University

Leo Ferraris
Universidad Carlos III de Madrid

Roberto Galbiati
Sciences Po - Paris

Andrea Galeotti
University of Essex

Alessandro Gavazza
New York University

Paola Giuliano
University of California, Los Angeles

Mikhail Golosov
Princeton University

Pierre-Olivier Gourinchas
University of California, Berkeley

Carmine Guerriero
University of Amsterdam

Tarek Hassan
Chicago Booth School of Business

Helios Herrera
Hec Montréal

Richard Hornbeck
Harvard University

Joseph Kaboski
University of Notre Dame

Jennifer La 'O
Chicago Booth School of Business

Neale Mahoney
Chicago Booth School of Business

Anna Maria Mayda
Georgetown University

Guido Menzio
University of Pennsylvania

Emi Nakamura
Columbia University

Alessandro Previtero
Richard Ivey Business School
University of Western Ontario

Giorgio E. Primiceri
Northwestern University

Nancy Qian
Yale University

Vincenzo Quadrini
University of Southern California

Valerie Ramey
University of California, San Diego.

Enrichetta Ravina
Columbia University

Howard Rosenthal
New York University

Mayam Saeedi
Ohio State University

Ali Shourideh
Wharton School at the
University of Pennsylvania

Giancarlo Spagnolo
Stockholm School of Economics

Jon Steinsson
Columbia University

Frank Vella
Georgetown University

Alessandra Voena
University of Chicago

Pierre Yared
Columbia University

William Zame
University of California, Los Angeles

Further information on 2014 Visiting Program is available here.

6. Graduate Program

A broad description of the EIEF Graduate Program was presented in the first issue of this Newsletter. The following paragraphs, therefore, will simply provide a quick update on the courses offered in the academic year 2013-14. The program began with review classes in Micro, Macro, Econometrics and Finance. These classes, held in September-October 2013, before the start of the regular courses, are meant to be a quick refresher on topics that should be largely familiar and also as a self-assessment tool, helping students to identify those areas of their background training that need to be worked on.

Following these review courses, the topics covered in the Fall 2013 session were: Empirical Industrial Organization, Theory of Money, Latent Variables Models, Topics in Macroeconometrics, Corporate Finance, Theoretical and Empirical Asset Pricing.

The courses offered in the Spring 2014 session include Behavioral Economics, Fluctuations in a Monetary Economy, Macroeconomic Policy, Topics in VAR Modelling, Econometrics of DSGE Models, Bayesian Econometrics, Nonparametric Methods, Household Finance, Market Microstructure and Banking.

Further information on these courses is available here.

7. Grants

In Fall 2012 EIEF invited applications to obtain funding for eight new, one-year research projects, carried out by young researchers based in an Italian institution. In March 2013 EIEF awarded eight new grants to:

William ADDESSI (University of Sassari)
"Relative Preference and Productivity Shifts and Sectoral Dynamics"

Marianna BELLOC (University of Rome, "La Sapienza")
"Persistent Religious Beliefs and Institutional Change: Historical Evidence from Natural Experiments"

Leonardo BONCINELLI (University of Pisa)
"Persuasion with Elaboration Costs"

Paolo BUONANNO (University of Bergamo)
"Mafia and Voting Behaviour: Theoretical and Empirical Insights from Sicilian Elections"

Marina DI GIACOMO (University of Torino)
"Taxation, Capital Structure and the Growth of New Firms"

Loriana PELIZZON (University of Venice, "Ca' Foscari")
"The Microstructure of the Euro-Zone Crisis: A Study of the European Sovereign Bond Market"

Paolo PINOTTI (Università Bocconi)
"The Political Consequences of Organized Crime: Theory and Empirical Evidence"

Matteo PLONER (University of Trento)
"The Role of Legitimate Beliefs in Guilt Aversion: An Experiment"

In Fall 2013 EIEF invited again applications to fund eight new research projects. 46 proposals were received. The process of selection is still under way. The list of awarded grants will be published on the EIEF website.

8. Seminars

As in previous years, EIEF has organized an intense program of seminars. The Institute offers two weekly seminars (in economics and in applied/empirical economics and econometrics) and less regular series of lunch seminars and special lectures.

Regarding **economics**, together with other presenters there were: **Kiminori Matsuyama** (Northwestern University), **Robert Barro** (Harvard University), **Francesco Squintani** (University of Warwick), **Ignacio Palacios-Huerta** (London School of Economics), **Florin Bilbiie** (Paris School of Economics), **Ricardo Lagos** (New York University), **Randall Wright** (Wisconsin School of Business), **Neil Wallace** (Pennsylvania State University), **Lars Ljungqvist** (Stockholm School of Economics), **Mirko Wiederholt** (Goethe University, Frankfurt), **Valerie Ramey** (University of California, San Diego), **Francesco Bianchi** (Duke University), **Tony Smith** (Yale University), **Jeremy Greenwood** (University of Pennsylvania), **Matthieu Parenti** (Université Catholique de Louvain).

Regarding **econometrics**, together with other presenters there were: **Sandra Black** (University of Texas, Austin), **Ruben Durante** (Sciences Po - Paris), **Carlos J. Serrano** (Universitat Pompeu Fabra), **Iourii Manovskii** (University of Pennsylvania), **Seda Ertac** (Koc University), **Yuya Takahashi** (University of Mannheim), **Jerome Adda** (EUI), **Yann Algan** (Sciences Po - Paris), **Magne Mogstad** (University College, London), **Michael Waterson** (University of Warwick), **Mar Reguart** (Stanford University) **Martin Dufwenberg** (Università Bocconi), **Salvatore Navarro** (University of Western Ontario).

Further information on past and forthcoming seminars is available here.

CONSOB-EIEF Seminars

The CONSOB-EIEF Seminars on Financial Regulation, launched in Spring 2012, continued successfully last year.

In 2013 four more seminars were organized and given by **Denis Gromb** (INSEAD), **Daniel Ferreira** (London School of Economics), **Thierry Foucault** (HEC Paris) and **Roman Kozhan** (Warwick Business School, University of Warwick) The papers are available here.

The audience mainly consisted of economists from CONSOB, the Ministry of Economics and Finance and from commercial banks, as well as graduate students specialized in Finance.

Three more seminars are planned for the upcoming year 2014. More details will be available here.

9. Latest Working Papers

Highlights of some recent EIEF Working Papers are presented below. The full list is available here.

WP 2013/29

Franco Peracchi, together with Roger Koenker and Samantha Leorato, in: "Distributional vs. Quantile Regression" analyse two alternative approaches to estimating the conditional distribution of a scalar random variable Y, given a random vector X, when the available data is a sample from the joint distribution of (Y,X). The former, distributional regression (DR), is based on the direct estimation of the conditional distribution function of Y given X; the latter, quantile regression (QR), is based on the direct estimation of the conditional quantile function of Y given X. Indirect estimates of the conditional quantile function and of the conditional distribution function can then be obtained by inverting the direct estimates obtained from either approach. The paper explores the link between the two approaches and provides novel evidence on their relative performance, both asymptotically and in finite samples.

WP 2013/28

Luigi Paciello and Andrea Pozzi, together with Nicholas Trachter, in: Price Setting with Customer Retention", set up a model where customers face frictions when changing their supplier. Firms are interested in retaining customers and this affects their pricing strategies. Scanner data of a large US retailer provides novel empirical evidence of sluggishness in the customer base; then the same database is used to estimate the model. The introduction of customer retention is shown to deliver pro-cyclical markups in response not only to idiosyncratic shocks, a feature well documented in the data, but also to aggregate ones (both technology and government spending). The implications are quantitatively relevant: customer base concerns reduce business cycle fluctuations of output by 30% compared to a setting where firms are not interested in retaining costumers.

WP 2013/27

Luigi Guiso, together with Paola Sapienza e Luigi Zingales, in: "The Value of Corporate Culture", investigate whether corporate culture – a set of principles and values shared by all the employees of a firm - is correlated with its performance. In carrying out this analysis how culture is measured is the first issue to be faced. To this end the authors use a novel data base created by the Great Place to Work® Institute, which conducts extensive surveys on the employees of more than 1,000 US firms. The advantage of this data base is to measure directly how values, in particular the integrity of management, are perceived by employees. It is shown that the level of perceived integrity is positively correlated with the performance of the firm, in terms of productivity, profitability and better industrial relations.

WP 2013/26

Luigi Guiso, together with Andreas Fagereng and Charles Gottlieb, in: "Asset Market Participation and Portfolio Choice over the Life-Cycle", study the life-cycle pattern of investors' portfolio using error-free data on a large random sample of Norwegian households' investments drawn from the Tax Registry. The data suggests a double adjustment as people age: a rebalancing of portfolio away from stocks as they approach retirement and stock market exit after retirement. No available life-cycle portfolio model can generate these stylized facts. However, the authors show that, by incorporating a small per period participation cost and a small probability of a large loss when investing in stocks (a "disaster" event), standard models are able to replicate the aforementioned stylized facts.

10. Recently published papers

Forthcoming

"Debt Deleveraging and The Exchange Rate", Pierpaolo Benigno (with F. Romei), **Journal of International Economics.**

"Monetary Policy, Doubts and Asset Prices", Pierpaolo Benigno and Luigi Paciello, **Journal of Monetary Economics**.

"Trust, Values and False Consensus", Jeffrey V. Butler and Luigi Guiso (with P. Giuliano), **International Economic Review**.

"The Role of Intuition and Reasoning in Driving Aversion to Risk and Ambiguity", Jeffrey V. Butler and Luigi Guiso (with T. Jappelli), **Theory and Decision**.

"The Value of Corporate Culture", Luigi Guiso (with Sapienza, P., and L. Zingales), **Journal of Financial Economics.**

"Matching Firms, Managers and Incentives", Luigi Guiso (with Bandiera, O., Prat, A., and R. Sadun), **Journal of Labor Economics**.

"Building Reputation for Contract Renewal: Implications for Performance Dynamics and Contract Duration", Elisabetta Iossa (with P. Rey), **Journal of the European Economic Association**.

"Corporate Control and Executive Selection", Francesco Lippi and Fabiano Schivardi, **Quantitative Economics**.

"Dynamic Factor Models with Infinite-Dimensional Factor Spaces: One-Sided Representations", Marco Lippi (with Forni, M., Hallin, M., and P. Zaffaroni), **Journal of Econometrics.**

"Systemic Risk, Sovereign Yields and Bank Exposures in the Euro Crisis", Marco Pagano (with Battistini, N., and S. Simonelli), **Economic Policy.**

"Multiple-Bank Lending, Creditor Rights, and Information Sharing", Marco Pagano (with Bennardo, A., and S. Piccolo), **Review of Finance.**

"Trading Networks and Liquidity Provision", Eleonora Patacchini (with Cohen-Cole, E., and A. Kirilenko), **Journal of Financial Economics.**

"Using panel data for partial identication of human immunodeficiency virus prevalence when infection status is missing not at random", Franco Peracchi (with Arpino, B., and E. De Cao) **Journal of the Royal Statistical Society - Series A**.

2014

"Trust, Truth, Status and Identity: An Experimental Inquiry", Jeffrey V. Butler, **The B.E. Journal of Theoretical Economics**, 2014, Volume 14, Issue 1, pages 1-46.

"Persistent Liquidity Effects and Long Run Money Demand", Francesco Lippi (with F. Alvarez), **American Economic Journal: Macroeconomics**, 2014, Volume 6, Issue 2, pages 1-39.

"Price Setting with Menu Cost for Multiproduct Firms", Francesco Lippi (with F. Alvarez), **Econometrica**, 2014, Volume 82, Issue 1, pages 89-135.

"Exogenous Information, Endogenous Information, and Optimal Monetary Policy",

Luigi Paciello (with M. Wiederholt), **Review of Economic Studies**, 2014, Volume 81, Issue 1, pages 356-388.

2013

"Second-Order Approximation of Dynamic Models with Time-Varying Risk", Pierpaolo Benigno (with Benigno, G., and S. Nisticò), **Journal of Economic Dynamics and Control**, 2013, Volume 37, Issue 7, pages 1231-1247.

"The Determinants of Attitudes toward Strategic Default on Mortgages", Luigi Guiso (with Sapienza, P., and L. Zingales), **Journal of Finance**, 2013, Volume 68, Issue 4, pages 1473-1515.

"Pension Wealth Uncertainty", Luigi Guiso (with Jappelli, T., and M. Padula), **Journal of Risk and Insurance**, 2013, Volume 80, Issue 4, pages 1057-1085.

"Credit within the Firm", Luigi Guiso, Luigi Pistaferri and Fabiano Schivardi, **Review of Economic Studies**, 2013, Volume 80, Issue 1, pages 211-247.

"News, Noise, and Fluctuations: An Empirical Exploration", Jean-Paul L'Huillier (with Blanchard, O., and G. Lorenzoni), **American Economic Review**, 2013, Volume 103, Issue 7, pages 3045-3070.

"The demand of liquid assets with uncertain lumpy expenditures", Francesco Lippi (with F. Alvarez), **Journal of Monetary Economics**, 2013, Volume 60, Issue 7, pages 753-770.

"Factor models in high-dimensional time series. A time-domain approach", Marco Lippi (with M. Hallin), **Stochastic Processes and their Applications**, 2013, Volume 123, Issue 7, pages 2678-2695.

"A variable addition test for exogeneity in structural threshold models", Daniele Massacci, **Economics Letters**, 2013, Volume 120, Issue 1, pages 5-9.

"A switching model with flexible threshold variable: With an application to nonlinear dynamics in stock returns", Daniele Massacci, **Economics Letters**, 2013, Volume 119, Issue 2, pages 199-203.

"Short-Selling Bans around the World: Evidence from 2007-09 Crisis", Marco Pagano (with A. Beber), **Journal of Finance**, 2013, Volume 68, Issue 1, pages 343-381.

"The heterogeneous thresholds ordered response model: identification and inference", Franco Peracchi (with C. Rossetti), **Journal of the Royal Statistical Society - Series A**, 2013, Volume 176, Issue 3, pages 703-722.

"Heterogeneous Labor Skills, the Median Voter and Labor Taxes", Facundo Piguillem (with A. Schneider), **Review of Economic Dynamics**, 2013, Volume 16, Issue 2, pages 332-349.

"E-commerce as a stockpiling technology: Implications for consumer savings", Andrea Pozzi, **International Journal of Industrial Organization**, 2013, Volume 31, Issue 6, pages 677-689.

"The effect of Internet distribution on brick-and-mortar sales", Andrea Pozzi, **RAND Journal of Economics**, 2013, Volume 44, Issue 3, pages 569-583.

"Does Idiosyncratic Business Risk Matter

for Growth?", Fabiano Schivardi (with C. Michelacci), **Journal of the European Economic Association**, 2013, Volume 11, Issue 2, pages 343-368.

"The Distortive Effects of Antitrust Fines Based on Revenue", Giancarlo Spagnolo (with Bageri, V., and Y. Katsoulacos), **Economic Journal**, 2013, Volume 123, Issue 572, pages F545-F557.

"Competition Policy and Productivity Growth: An Empirical Assessment", Giancarlo Spagnolo (with Buccirossi, P., Ciari, L., Duso, T., and C. Vitale), **Review of Economics and Statistics**, 2013, Volume 95, Issue 4, pages 1324-1336.

2012

"International Portfolio Allocation under Model Uncertainty", Pierpaolo Benigno (with S. Nisticò), **American Economic Journal: Macroeconomics**, 2012, Volume 4, Issue 1, pages 144-189.

"Linear-Quadratic Approximation of Optimal Policy Problems", Pierpaolo Benigno (with M. Woodford), **Journal of Economic Theory**, 2012, Volume 147, Issue 1, pages 1-42.

"Risk, Monetary Policy and The Exchange Rate", Pierpaolo Benigno (with Benigno, G., and S. Nisticò) in D. Acemoglu and M. Woodford, eds., **NBER Macroeconomics Annual 2011**, University of Chicago Press, 2012.

"Durable Consumption and Asset Management with Transaction and Observation Costs", Luigi Guiso and Francesco Lippi (with F. Alvarez), **American Economic Review**, 2012, Volume 102, Issue 5, pages 2272-2300.

"The Market for Lawyers and Quality Layers in Legal Services", Elisabetta Iossa (with B. Jullien), **RAND Journal of Economics**, 2012, Volume 43, Issue 4, pages 677-704.

"Risk Allocation and the Costs and Benefits of Public – Private Partnership", Elisabetta Iossa (with D. Martimort), **RAND Journal of Economics**, 2012, Volume 43, Issue 3, pages 442-474.

"Vertical Integration and Costly Demand Information in Network Industries", Elisabetta Iossa (with F. Stroffolini), **Review of Industrial Organization**, 2012, Volume 40, Issue 4, pages 249-271.

"Did the U.S. Consumer Overreact? A Test of Rational Expectations", Jean-Paul L'Huillier, **Economics Letters**, 2012, Volume 112, Issue 2, pages 207- 209.

Oil and the macroeconomy: A quantitative structural analysis", Francesco Lippi (with A. Nobili), **Journal of the European Economic Association**, 2012, Volume 10, Issue 5, pages 1059-1083.

"Infinite-Dimensional Autoregressive Systems and the Generalized Dynamic Factor Model", Marco Lippi, **Journal de la Société Française de Statistique**, 2012, Volume 153, Issue 1, pages 71-81.

"A simple test for linearity against exponential smooth transition models with endogenous variables", Daniele Massacci, **Economics Letters**, 2012, Volume 117, Issue 3, pages 851-856.

"Monetary Policy and Price Responsiveness to Aggregate Shocks under Rational Inattention", Luigi Paciello, **Journal of Money, Credit and Banking**,

2012, Volume 44, Issue 7, pages 1375-1399.

"*Finance and Employment*", Marco Pagano (with G. Pica), **Economic Policy**, 2012, Volume 27, Issue 69, pages 5-55.

"*Corporate Fraud, Governance and Auditing*", Marco Pagano (with G. Immordino), **Review of Corporate Finance Studies**, 2012, Volume 1, Issue 1, pages 109-133.

"*Securitization, Transparency and Liquidity*", Marco Pagano (with P. Volpin), **Review of Financial Studies**, 2012, Volume 25, Issue 8, pages 2417-2453.

"*Juvenile Deliquency and Conformism*", Eleonora Patacchini (with Y. Zenou), **Journal of Law, Economics & Organization**, 2012, Volume 28, Issue 1, pages 1-31.

"*Ethnic Networks and Economic Outcomes*", Eleonora Patacchini (with Y. Zenou), **Regional Science & Urban Economics**, 2012, Volume 42, Issue 6, pages 938-949.

"*Organized Crime Networks: an Application of Network Analysis Tecniques to the American Mafia*", Eleonora Patacchini (with G. Mastrobuoni), **Review of Network Economics**, 2012, Volume 11, Issue 3, Article 10.

"*Urban Crime and Ethnicity*", Eleonora Patacchini (with Y. Zenou), **Review of Network Economics**, 2012, Volume 11, Issue 3, Article 11.

"*Asymptotically Efficient Estimation of the Conditional Expected Shortfall*", Franco Peracchi (with Leorato, S., and A.V. Tanase), **Computational Statistics and Data Analysis**, 2012, Volume 56, Issue 4, pages 768-784.

"*Heterogeneity in health responses and anchoring vignettes*", Franco Peracchi (with C. Rossetti), **Empirical Economics**, 2012, Volume 42, Issue 2, pages 513-538.

"*Aging, cognitive abilities and retirement*", Franco Peracchi (with F. Mazzonna), **European Economic Review**, 2012, Volume 56, Issue 4, pages 691-710.

"*Estimating Engel curves under unit and item nonresponse*", Franco Peracchi (with G. De Luca), **Journal of Applied Econometrics**, 2012, Volume 27, Issue 7, pages 1076-1099.

"*A generalized missing-indicator approach to regression with imputed covariates*", Franco Peracchi (with Dardanoni,V., and S. Modica), **Stata Journal**, 2012, Volume 12, Number 4, Article 2.

"*Shopping Cost and Brand Exploration in Online Grocery*", Andrea Pozzi, **American Economic Journal: Microeconomics**, 2012, Volume 4, Issue 3, pages 96-120.

"*Reputation, competition, and entry in procurement*", Giancarlo Spagnolo, **International Journal of Industrial Organization**, 2012, Volume 30, Issue 3, pages 291-296.

"*Fines, Leniency and Rewards in Antitrust*", Giancarlo Spagnolo (with Bigoni, M., Fridolfsson, S., and C. Le Coq), **RAND Journal of Economics**, 2012, Volume 43, Issue 2, pages 368-390.

Commodity Money with Frequent Search", Nicholas Trachter (with E. Oberfield), **Journal of Economic Theory**, 2012, Volume 147, Issue 6, pages 2332-2356.