RESEARCH NEWS

2010

The Research Division at Sveriges Riksbank

This newsletter describes the main activities and output of the Research Division at Sveriges Riksbank during 2010.

Staff at the Research Division

Johan Almenberg, visiting researcher (finance, financial literacy)

Mikael Carlsson, researcher (macroeconomics, econometrics, labor markets)

Ferre De Graeve, researcher (macro-finance, monetary policy, macroeconometrics, banking)

Daria Finocchiaro, researcher (monetary economics, applied macro)

Martin Flodén, visiting scholar (macroeconomics)

Paolo Giordani, (on leave) researcher (Bayesian econometrics, forecasting, monetary policy, exchange rates)

Karolina Holmberg, guest PhD student (financial frictions and business cycles)

Tor Jacobson, (on sabbatical) head of research (econometrics, banking and credit risk)

Thomas Jansson, researcher (household finance, credit risk, and financial markets and institutions)

Michael Koetter, visiting researcher (banking, financial stability)

Per Krusell, visiting scholar (macroeconomics)

Mats Levander, research assistant

Lena Löfgren, secretary

Virginia Queijo von Heideken, (on leave during 2010) researcher (monetary economics, credit markets, empirical macro)

Matias Quiroz, research assistant

Kasper Roszbach, deputy head of research (banking, credit risk, corporate governance)

Erik von Schedvin, (on leave) research assistant

Ulf Söderström, researcher (monetary policy, uncertainty, term structure of interest rates)

Mathias Trabandt, (on leave) researcher (monetary economics, public economics)

Mattias Villani, researcher (Bayesian analysis, econometrics, forecasting)

Karl Walentin, researcher (macroeconomics, financial economics, labor markets)

Andreas Westermark, researcher (macroeconomics, labor markets)

Changes in the Research Staff

Paolo Giordani is on a leave from the research division for a year since October 2010.

Tor Jacobson is spending the academic year 2010-2011 at the Einaudi Institute for Economics and Finance in Rome, working on empirical research projects in firm default modeling and banking.

Ingvar Strid left the research division at the beginning of 2010 to finish his PhD studies at Stockholm School of Economics. In October 2010, he started as an economist in the monetary policy department at Sveriges Riksbank.

Johan Almenberg is visiting the division from December 2010 until March 2011. Johan is on leave from the Ministry of Finance, and does research on financial literacy and its relation to economic outcomes. His current project is related to housing.

Michael Koetter will be visiting the research division from March to September 2011. He is on leave from his position as Associate Professor at University of Groningen. Michael's main research area is empirical banking, but he has also published papers in other areas, e.g. on technology and growth.

Mats Levander and Matias Quiroz joined the research division in January 2010 as research assistants. Both will take a part-time leave of absence in 2011 to pursue a PhD partially funded by a grant from Vinnova. Mats has studied Mathematical Statistics at the Royal Institute of Technology in Stockholm and Business Administration at Stockholm University. He will start the PhD program in Finance at Stockholm School of Economics in September 2011. His research area will be 'Financial frictions and their importance for household and corporate finance'.
Matias Quiroz obtained his M.Sc in Engineering Mathematics from Lund University 2009. Prior to joining the Riksbank he was a TA at the Mathematical Statistics department at Lund University. Starting in January 2011 he will be on leave part-time. Matias' PhD project will be supervised by Mattias Villani and the topic is flexible modelling for large microeconomic datasets.

During the year the division started a visiting scholar / consultants program to keep regular contact with specific academic researchers in Sweden. Currently **Martin Flodén** and **Per Krusell** from Stockholm University are spending a couple of days every month at the division as consultants.

Research Projects

The following research projects were pursued during 2010:

Credit and Banking

An Empirical Test of the Bank Lending Channel (Karolina Holmberg)

This paper investigates the role played by bank lending in the propagation of shocks to the economy. Is there evidence that monetary policy shocks and other shocks affect the cost and availability of credit by more than what would be the case in a frictionless economy? A common problem in these kinds of studies is to disentangle shifts in the supply of credit from shifts in credit demand. In this study, the identification problem is handled by examining how firms substitute between different types of bank credits, credit with commitment contracts such as lines of credits and credits without commitments on behalf of the banks. In the event of a credit supply shock, banks are free to reduce the supply of loans not under commitment, but their possibilities to reduce the supply of loans under commitment are more limited. In this way, an increased use of loans under commitment can be seen as a way for firms to protect themselves from a credit contraction. The study is conducted using a large micro data set of Swedish public firms from 1997 to 2009. Preliminary results support that a contraction in the supply of credit occurs after monetary policy shocks as well as after negative shocks to banks' balance sheets.

Credit Ratings and Bank Monitoring Ability (Leonard Nakamura and Kasper Roszbach)

This paper uses credit rating data from two large Swedish banks to elicit evidence on banks' loan monitoring ability. Our tests reveal that banks' credit ratings indeed include valuable private information from monitoring, as theory suggests. However, our tests also reveal that publicly available information from a credit bureau is not efficiently impounded in the bank ratings. We investigate explanations for these findings and show that they are not due to the staggered timing of rating information updating and are unlikely to be due to the discrete nature of the ratings. We tentatively conclude that it has proved difficult to aggregate soft and hard information. The methods used in this paper represent a new basket of straightforward techniques that enable both financial institutions and regulators to assess the performance of credit rating systems In the meantime, risk analysis of the banks' portfolios should be based on both internal bank ratings and public credit bureau ratings.

Collateralization, Bank Loan Terms and Monitoring: Evidence from a Natural Experiment (Geraldo Cerqueiro, Steven Ongena and Kasper Roszbach)

This paper identifies the value of collateralization and its impact on borrower quality and bank monitoring exploiting a change in the Swedish company mortgage law as a unique natural experiment that exogenously and unambiguously reduced the value of company mortgages. Using a differences-in-differences approach, we study the impact on the entire business loan portfolio of a major Swedish bank. We find that collateral is valuable for the bank and that following a loss in collateral value higher interest rate are charged on business loans, that borrowers credit ratings deteriorate and that monitoring efforts of collateral and borrower are reduced.

Firm Default and Aggregate Fluctuations (Tor Jacobson, Jesper Lindé and Kasper Roszbach)

This paper studies the relationship between macroeconomic fluctuations and corporate defaults while conditioning on industry affiliation and an extensive set of firm-specific factors. Using a panel data set for virtually all incorporated Swedish businesses over 1990-2009, a period which includes a full-scale banking crisis, the paper finds strong evidence for a substantial and stable impact from aggregate fluctuations on business defaults. A standard logit model with financial ratios augmented with macroeconomic factors can account surprisingly well for the outburst in business defaults during the banking crisis, as well as the subsequent fluctuations in default frequencies. Moreover, the effects of macroeconomic variables differ across industries in an economically intuitive way. Out-of-sample evaluations show that our approach is superior to models that exclude macro information and standard well-fitting time-series models. Firm-specific factors are found to be useful in ranking firms relative riskiness, but that macroeconomic factors are necessary to understand fluctuations in the absolute risk level.

Taking the Twists into Account: Non-parametric Spline Functions for Non-linear Financial Ratios in Firm Default Modelling (Paolo Giordani, Tor Jacobson, Erik von Schedvin and Mattias Villani)

Financial ratios, derived from firms balance sheets, are since long extensively used for firm default predictions. However, the relationships between financial ratios and default are often highly non-linear, an aspect typically not accounted for. This paper studies the improvement in explanatory and predictive power offered by introducing non-parametric spline functions for financial ratios in a panel logit model for firm default. Based on an extremely large panel data set for virtually all incorporated Swedish businesses in 1990-2008, we find strong evidence for a substantial and stable improvement when non-linearities in financial ratios are taken into account.

Monetary Policy and Price Setting

Stylized (Arte)facts on Sectoral Inflation (Ferre De Graeve and Karl Walentin)

Research on disaggregate price indices has found that sectoral shocks generate the bulk of sectoral inflation variance, but no persistence. Aggregate shocks, by contrast, are the root of sectoral inflation persistence, but have negligible relative variance. We argue that these findings are largely an artefact of using factor models to characterize inflation. Sectoral inflation series are subject to particular features such as sales and item substitutions. In factor models, these blow up the variance of sectoral shocks, while reducing their persistence. Controlling for such effects, we find that inflation variance is driven by both aggregate and sectoral shocks. Sectoral shocks, too, generate substantial inflation persistence. Both contrast sharply with earlier evidence from factor models. However, it aligns well with recent micro evidence. These results have implications for the validation of foundations of price stickiness, and provide quantitative inputs for calibrating models with sectoral heterogeneity.

Monetary Policy and Financial Innovation (Daria Finocchiaro and Caterina Mendicino)

The purpose of this project is to study the role of monetary policy in a model with an explicit role for debt and equity financing. First, we investigate how the degree of access to different sources of external financing affects both welfare and the transmission mechanism of monetary policy. Then, we study optimal monetary policy in the presence of shocks generated in the financial sector.

Monetary Policy in a small open economy with a preference for robustness (Richard Dennis, Kai Leitemo and Ulf Söderström)

We study the effects of model uncertainty on monetary policy in a small-open-economy model estimated on Australian data. Compared to the closed economy, the presence of open-economy transmission channels and shocks not only produces new trade-offs for monetary policy, but also introduces additional sources of specification errors. We find that price markup shocks in the domestic and import sector are important contributors to volatility in the model, and that price-setting in the domestic and import sectors is particularly vulnerable to model misspecification. On the other hand, deviations from the interest rate parity condition do not contribute much to overall volatility, nor is the parity condition especially vulnerable to misspecification. Our results suggest that it may be more important for central banks in small open economies to understand the nature of price setting and the effects of exchange rate movements on the economy than the determination of the exchange rate itself.

The output gap, the labor wedge, and the dynamic behavior of hours (Luca Sala, Ulf Söderström and Antonella Trigari)

We use a standard quantitative business cycle model with nominal price and wage rigidities to estimate two measures of economic inefficiency in recent U.S. data: the output gap (the gap between the actual and efficient levels of output) and the labor wedge (the wedge between households' marginal rate of substitution and firms' marginal product of labor). We show that these two measures are closely related, suggesting that most inefficiencies in output are due to the inefficient allocation of labor. However, the estimates are sensitive to the structural interpretation of shocks to the labor market, which is ambiguous in the model. Finally, we show that movements in hours worked are essentially exogenous, directly driven by labor market shocks, whereas wage rigidities generate a markup of the real wage over the marginal rate of substitution that is acyclical. We conclude that the model fails in two important respects: it does not give clear guidance concerning the efficiency of business cycle fluctuations, and it provides an unsatisfactory explanation of labor market and business cycle dynamics.

The dynamic behavior of the real exchange rate in sticky price models: A comment (Jens Iversen and Ulf Söderström)

Recent work by Steinsson (American Economic Review, 2008) has suggested that real disturbances in a model with sticky prices are able to generate volatility and persistence in the real exchange rate that is similar to that observed for a number of countries. We show that this result is not robust to

reasonable changes in the structure of the model or in the calibration of key parameters. Our results cast doubt on whether sticky price models with real disturbances are the key to understanding the behavior of real exchange rates.

Monetary policy with unanchored expectations (Ulf Söderström, David Vestin and Andreas Westermark)

We analyze a situation where private expectations deviate from the forecasts made by the central bank, and study the consequences for central bank "nowcasts" and forecasts, and for monetary policy in general. In particular, we are interested in the following issues: (i) How do different perceptions of private agents' expectation formation process affect the central bank's estimates of the current state (its "nowcast")? What errors can the central bank make in its nowcasting by misspecifying the expectation formation of private agents? (ii) How do private expectations and central bank forecasts respond to shocks? How do differences in expectations evolve over time? How should a forecast take into account the expectation formation process of private agents? (iii) What can a central bank do to better anchor private expectations? What policy is robust to different models of expectation formation? Does it help if the central bank publishes its forecasts (even if these are imperfect)?

DSGE Models for Monetary Policy Analysis (Lawrence Christiano, Mathias Trabandt and Karl Walentin)

Monetary DSGE models are widely used because they fit the data well and they can be used to address important monetary policy questions. We provide a selective review of these developments. Policy analysis with DSGE models requires using data to assign numerical values to model parameters. The chapter describes and implements Bayesian moment matching and impulse response matching procedures for this purpose.

Housing

Household Indebtedness and the Macroeconomy (Daria Finocchiaro, Martin Flodén and Virginia Queijo von Heideken)

The aim of this paper is to identify and quantify the different mechanisms that could explain the observed increase in households' debt in the last 20 years in many industrialized economies. Some of the potential factors cited in the literature determining households' indebtedness are changes in credit markets, the "Great Moderation" and increasing earnings inequality. We develop a model with housing markets and volatile asset prices where we can quantify the contributions of these factors.

Housing Demand in an Overlapping Generation Model (Peter Englund, Todd Sinai and Thomas Jansson)

In this paper we use an overlapping generation model to the study the impact of bequests motives on households' housing decisions. By estimating the correlations between housing costs of parents and grown-up children, we get individual estimates of the effective house price risk and investment horizon, which we then use to estimate households' optimal investments in owner-occupied housing.

Housing and the Composition of the Financial Portfolio (Thomas Jansson)

This paper studies the impact of real estate on financial portfolio composition, treating household investments in owner-occupied housing as exogenously given by the consumption demand. Since local macroeconomic shocks tend to hit both households and firms within a certain geographical area in a similar way via asset prices and labor income, it is plausible to assume that home prices are more highly correlated with returns on local stocks than on global stocks. Under these assumptions, I show in a theoretical model that, when the exogenous consumption demand for housing increases, households optimally respond by increasing their exposure to global stocks and reducing their exposure to local stocks. The empirical results indicate that Swedish households that are highly exposed to the local owner-occupied housing market significantly reduce their exposure to directly owned local (domestic) stocks and increase their exposure to globally diversified equity mutual funds.

Housing Collateral and the Monetary Transmission Mechanism (Karl Walentin)

In this paper our main aim is to quantify the role that housing collateral plays for the monetary transmission mechanism. Furthermore, we want to explore the implications of the increase in the loan-to-value (LTV) ratio, in the last two decades. The implications of changing LTV is additionally interesting due to recent discussions regarding regulations setting a legal maximum LTV. We set up a DSGE model with production of goods and housing. Households can only borrow by using their houses as collateral. The structure of the model closely follows Iacoviello and Neri (American Economic Journal: Macroeconomics, 2010). To be able to perform quantitatively relevant exercises we estimate the model using Bayesian methods on Swedish data. We quantify the reinforcement of the monetary transmission mechanism that housing used as collateral for loans implies. This mechanism functions through the effects of the interest rate on house prices. This component of the monetary transmission mechanism becomes stronger the higher the LTV is. A change in the maximum LTV from 85% to 95% implies that the effect of a monetary policy shock is increased by 4% for inflation, 8% for GDP and 24% for consumption. We conclude that to properly understand the monetary transmission mechanism we need to take into account the effects of housing related collateral constraints and their changing nature over time.

Labor Income and Equity Holdings

Hedging Labor Income Risk (Sebastien Betermier, Christine Parlour, Thomas Jansson and Johan Walden)

We investigate the relation between households' labor income risk, labor productivity and financial investment decisions. We find that both labor income risk and labor productivity affect investment decisions, consistent with the idea that households hedge human capital risk in stock markets. In our study, we use a detailed Swedish panel data set on employment and portfolio holdings, and relate changes in labor income risk and labor productivity to changes in portfolio holdings for households that switched industries between 1999 and 2002. A household going from an industry with low wage volatility to one with high volatility will ceteris paribus decrease its portfolio share of risky assets by up to 35%, or USD 15,575. Similarly, a household that switches from a low labor productivity industry to one with high labor productivity decreases its risky asset share by up to 30%. The results are economically significant.

Earnings Inequality and the Equity Premium (Karl Walentin)

In this paper, we document a 75 percent increase in stockholders' share of aggregate labor income in the U.S. from 1962 to 2000 using data from Survey of Consumer Finances. Our decomposition of the increase in stockholders' share of aggregate labor income documents that one half is due to the equi-proportional increase in participation and one quarter each is due to the non-proportional part of the changes in stockmarket participation and changes in the income distribution, respectively. The change due to the labor income distribution is driven entirely by the increase in the share of labor income accounted for by the top labor income decile. Using a simple model with limited stockmarket participation, we present a mechanism for how the increase in stockholders' share of aggregate labor income has affected the *ex ante* equity premium (i.e. the discount rate applied to equity). The mechanism works through the composition of income of stockholders. The resulting decrease in the equity premium is 44 percent, which roughly coincides with the historical change in the post-1951 equity premium implied by the simple dividend growth model in Fama and French (Journal of Finance, 2002).

Labor Market

Labor Market Distortions and Optimal Inflation (Mikael Carlsson and Andreas Westermark)

Most central banks today target an inflation rate of two percent, wheras the current monetary models prescribes an (Ramsey) optimal steady state inflation rate that is sligthly negative. This reflects a trade off between, on the one hand, a motive for pushing the opportunity cost of holding money towards zero by setting nominal interest rates to zero (the Friedman rule) and, on the other hand, the

desire of price stability in the presence of nominal rigidities. In this project we study how far adding labor-market search frictions and staggered wage barganing can take us in understanding the inflation target choice of most central banks.

The Optimal Inflation Target under Downward Nominal Wage Rigidity (Mikael Carlsson and Andreas Westermark)

The starting point for this project is the empirical observation that nominal wages almost never falls. To study the effect on downward nominal wage rigidity on the optimal (Ramsey) steady state inflation rate and the dynamics around steady state, we develop a general equilibrium model where this rigidity is a rational outcome, stemming from that the wage bargaining parties face asymmetric conflict-costs in the bargaining problem in the spirit of Holden (see Holden, 1994, European Economic Review and Carlsson och Westermark, 2008, B.E. Journal of Macroeconomics, Advances).

Wage Adjustments and Productivity Shocks (Mikael Carlsson, Julian Messina and Oskar Nordström-Skans)

Differences in wages paid between firms are a large and growing part of the overall wage dispersion in many countries (Lazear and Shaw, 2009, University of Chicago Press). From the extensive literature building on Abowd, Kramarz, and Margolis (1999) Econometrica, it is by now an established fact that some firms pay higher wages than others, even to identical workers. In parallel, a large literature has established an empirical association between wages and firm level profits. Yet, surprisingly little is known regarding the deep determinants of these persistent differences. In this project, we aim to study how individual wage growth is affected by firm/sector specific TFP driven variation in labor productivity using matched employer-employee data.

Firms, Shocks and Wages (Mikael Carlsson, Julian Messina and Oskar Nordström-Skans)

In this project, we aim to extend the analysis in the project discussed above (Wage Adjustment and Productivity Shocks) by identifying and studying the effects of a richer set of structural firm-level disturbances by applying structural VAR methods to the matched employer-employee data.

Productivity, Efficiency and Labor Reallocation (Mikael Carlsson and Susanto Basu)

Building on the empirical observation that some firms pay higher wages than others, even to identical workers (Abowd, Kramarz, and Margolis, 1999, Econometrica, AKM) we study how reallocation of identical workers (constructed using the methods devoloped by AKM) between firms with different productivity affect aggregate productivity and output using a matched employer-employee dataset covering the Swedish private sector between 1996 and 2004.

Evaluating Microfoundations for Aggregate Price Rigidities: Evidence from Matched Firm-level Data on Product Prices and Unit Labor Cost (Mikael Carlsson and Oskar Nordström-Skans)

In this project, we study the empirical relationship between price-setting and unit labor cost (which can be shown to be a measure of marginal cost under standard assumptions) on the firm level using using matched employer-employee data. The idea here is to test the empirical relevance for different proposed microfoundations for price-setting used in competing models of the business cycle, as well as, collecting stylized facts useful for model building.

Involuntary Unemployment and the Business Cycle (Lawrence Christiano, Mathias Trabandt and Karl Walentin)

We propose a monetary model in which the unemployed satisfy the official US definition of unemployment: they are people without jobs who are (i) currently making concrete efforts to find work and (ii) willing and able to work. In addition, our model has the property that people searching for jobs are better off if they find a job than if they do not (i.e., unemployment is `involuntary'). We integrate our model of involuntary unemployment into the simple New Keynesian framework with no capital. We then integrate the model into a medium sized DSGE model and show that the

resulting model does as well as existing models at accounting for the response of standard macroeconomic variables to monetary policy shocks and two technology shocks. In addition, the model does well at accounting for the response of the labor force and unemployment rate to the three shocks. Finally, we explore the welfare cost of business cycles in our model, i.e. taking into account the heterogeneity implied by imperfect insurance to unemployment risk.

Labor Market Institutions, Unemployment and Wage Setting (Vesna Corbo and Andreas Westermark)

The project aims at empirically evaluating the effect of different labor market institutions on wage setting behavior and unemployment in a standard DSGE model incorporating firm-specific labor and bargaining between the firm and the workers with staggered wage and price contracts. Moreover, the relationship between labor market institutions and wage setting and unemployment will also be studied using reduced form IV methods that is standard in the literature to investigate whether general equilibrium DSGE models performs better than reduced form methods.

Bayesian Econometrics

Generalized Smooth Mixtures (Mattias Villani, Robert Kohn and David Nott)

This project proposes a general class of models and a unified Bayesian inference methodology for flexibly estimating the density of a response variable conditional on a possibly high-dimensional set of covariates. Our model is a finite mixture of component models with covariate-dependent mixing weights. The component densities can belong to any parametric family, with each model parameter being a deterministic function of covariates though a link function. This means that the response variable can be for example continuous, binary, categorical, a count or a proportion. Our MCMC methodology allows for Bayesian variable selection among the covariates in the mixture components and in the mixing weights. We use simulated and several real data sets to illustrate the methodology. In particular, in one of the applications we model firm's leverage decisions and show that a smooth mixture of Beta densities dramatically outperforms existing models in out-of-sample forecasting.

Regression Density Estimation with Variational Methods and Stochastic Approximation (David Nott, S. L. Tan, Robert Kohn and Mattias Villani)

This project develops fast computational methods for analyzing the Smooth Adaptive Gaussian Mixture (SAGM) model in Villani, Kohn and Giordani (Journal of Econometrics, 2009). The proposed method uses variational approximation methods from the machine learning field to construct a first approximation which is subsequently refined by the stochastic approximation optimization method. The approximation is shown to be very fast and accurate. These advantages are particularly compelling for time series data where repeated re-fitting for prediction in model choice and diagnostics and in rolling window computations is very common. We illustrate the method on a model used for forecasting the distribution of the SP500 stock return index.

Modeling Conditional Densities using Finite Smooth Mixtures (Feng Li, Mattias Villani and Robert Kohn)

This is a book chapter (in Mixture Estimation and Applications, Mengersen, K.L., Robert, C. P. and Titterington, D.M. eds, Wiley.) that surveys recent work on smooth mixture models. The chapter focuses on the modeling of skewed regression or time series data. We introduce smooth mixtures of gamma and log-normal models along with efficient MCMC methods to estimate these models. One of the applications models households' electricity expenditures.

Recent Publications

Altig, David, Lawrence Christiano, Martin Eichenbaum and Jesper Lindé, "Firm-Specific Capital, Nominal Rigidities and the Business Cycle", forthcoming in *Review of Economic Dynamics*.

Carlsson, Mikael and Andreas Westermark, "The New Keynesian Phillips Curve and Staggered Price and Wage Determination in a Model with Firm-Specific Labor", forthcoming in *Journal of Economic Dynamics and Control*.

Christiano, Lawrence, Mathias Trabandt and Karl Walentin, "DSGE Models for Monetary Policy Analysis", in Handbook of Monetary Economics, Vol 3A, 2010, edited by B.M. Friedman and M. Woodford.

De Graeve, Ferre, Maarten Dossche, Marina Emiris, Henri Sneessens and Raf Wouters, "Risk Premiums and Macroeconomic Dynamics in a Heterogeneous Agent Model", *Journal of Economic Dynamics and Control,* Vol. 34, pages 1680–1699, 2010.

Giordani, Paolo and George Bulkley, "Structural Breaks, Parameter Uncertainty and Term Structure Puzzles", forthcoming in *Journal of Financial Economics*.

Li, Feng, Mattias Villani and Robert Kohn, "Modeling Conditional Densities using Finite Smooth Mixtures", in Mixture Estimation and Applications, edited by K.L. Mengersen, C. P. Robert and D.M. Titterington, Wiley.

Walentin, Karl, "Earnings Inequality and the Equity Premium", *B.E. Journal of Macroeconomics*, Vol. 10: Iss. 1 (Contributions), Article 36, 2010.

Wegmann, Bertil and Mattias Villani, "Bayesian Inference in Second Price Common Value Auctions", forthcoming in *Journal of Business and Economics Statistics*.

Working Papers

The working papers are available online. The editor of the working paper series is Mikael Carlsson, Ph. +46-8-7870433.

No. 236, by Ferre De Graeve, Maarten Dossche, Marina Emiris, Henri Sneessens and Raf Wouters "Risk Premiums and Macroeconomic Dynamics in a Heterogeneous Agent Model"

No. 237, by Mikael Apel, Carl Andreas Claussen and Petra Lennartsdotter , "Picking the Brains of MPC Members"

No. 238, by Lawrence J. Christiano, Mathias Trabandt and Karl Walentin, "Involuntary Unemployment and the Business Cycle"

No. 239, by Karl Walentin and Peter Sellin, "Housing collateral and the monetary transmission mechanism"

No. 240, by Carl Andreas Claussen and Øistein Røisland, "The Discursive Dilemma in Monetary Policy"

No. 241, by Vasco Cúrdia and Daria Finocchiaro, "Monetary Regime Change and Business Cycles"

No. 242, by Bertil Wegmann and Mattias Villani, "Bayesian Inference in Structural Second-Price common Value Auctions"

No. 243, by Daria Finocchiaro, "Equilibrium asset prices and the wealth distribution with inattentive consumers"

No. 244, by Ferre De Graeve and Alexei Karas, "Identifying VARs through Heterogeneity: An Application to Bank Runs"

No. 245, by Feng Li, Mattias Villani and Robert Kohn, "Modeling Conditional Densities Using Finite Smooth Mixtures"

No. 246, by Luca Sala, Ulf Söderström and Antonella Trigari, "The Output Gap, the Labor Wedge, and the Dynamic Behavior of Hours"

No. 247, by Michael K. Andersson, Stefan Palmqvist, and Daniel F. Waggoner, "Density-Conditional Forecasts in Dynamic Multivariate Models"

Other Research Activities

Book and database publication

As part of the ongoing project 'Historical Monetary Statistics of Sweden 1668-2008' the book "Historical Monetary and Financial Statistics for Sweden: Exchange Rates, Prices, and Wages, 1277-2008" by the editors Rodney Edvinsson, Tor Jacobson and Daniel Waldenström, was published in April 2010. In conjunction with the publication a seminar with the main findings was held at the Riksbank. Both the book and the data is available online at the Riksbank website. A second volume is planned to be published in 2012 and will, amongst other things, present a newly constructed historical house price index from the 1880s to the present day.

Conference

The Labor Market and the Macroeconomy (September 2010)

The aim of the workshop was to discuss the implications of labor market frictions, institutions and policies for macroeconomic outcomes and the design of monetary policy. Two topics for the research papers presented were macro models of unemployment and empirical micro evidence on the relationship between wages on one hand and productivity and the business cycle on the other. Some key participants at the conference were Susanto Basu, Robert E. Hall, Julio J. Rotemberg and Frank Smets.

For detailed information regarding our conferences, see www.riksbank.com/research/conferences.

External Computing Cluster

Monetary policy and financial stability analysis are making increasing use of computationally demanding models and methods. There is a clear trend in computational science in the use of computer clusters with many parallel computing cores. The research division and the IT department performed a public procurement process to buy external computing services. The Gothenburg-based firm GridCore won the procurement and will host a Linux cluster which is exclusively dedicated to the Riksbank. The cluster will initially have 72 computing cores available for parallel computing, with an option to buy extra computing power. The software on the cluster is currently Matlab, C/C++, Fortran and Dynare.

Internship program

As every year the research division had a number of PhD students as summer interns. This year's interns where Tobias Laun (Stockholm School of Economics), Andrea Tortora (Bocconi University), Martin Strieborny (University of Michigan-Ann Arbor) and Federico Nucera (Bocconi University).

Mini-course

In the late spring the Research Division organized a mini-course on numerical methods. The course was taught by professor Wouter den Haan, from University of Amsterdam, and it mostly focused on how to solve models with heterogeneous agents and incomplete markets.

Heterogeneous agents models are an important pillar of modern macroeconomics and finance. Over the last years considerable progress has been made in this area, yet a common problem with this kind of models is numerical tractability. This course aimed at teaching two building blocks of numerical methods, namely function approximation and numerical integration. Moreover, it taught how to solve and simulate models with incomplete markets and aggregate uncertainty and how to use Dynare in this framework.

Reading Group

Since September 2007 the Research Division has been organizing a reading group. The purpose of this reading group is to read and discuss research frontier papers across all fields of economics and econometrics. For questions regarding the reading group please contact Daria Finocchiaro, Ph. +46-8-787 0432.

Research Seminars

The Research Division organizes weekly research seminars, mainly by invited international visitors. During 2010 we had almost 50 such seminars. The seminars normally take place on Tuesdays at 1 pm and attendance is open to Riksbank employees as well as to all academics. See www.riksbank.com/seminars for listings of scheduled and historical seminars.

Teaching

Mikael Carlsson and Andreas Westermark taught a graduate course on Macroeconomic Theory at Uppsala University. Andreas Westermark also taught a graduate course in Monetary Economics in Uppsala. Kasper Roszbach gave guest lectures at Stockholm University and the University of Groningen, in Corporate Finance courses. Mattias Villani had a master course on Statistical Methods at Department of Statistics, Stockholm University. Several researchers are advisors for PhD students at various Swedish universities.

Upcoming Conferences in 2011

Monetary Policy in an Era of Fiscal Stress (June 16–17, 2011)
Sveriges Riksbank and SNS (the Swedish Centre for Business and Policy Studies) will organize a research conference and a policy forum on the topic "Monetary Policy in an Era of Fiscal Stress". The aim is to discuss recent research on the interaction between monetary and fiscal policy in times of fiscal stress and uncertainty. The policy forum will feature a panel discussion of related policy issues, with panelists from the academic, political, and business community.

Day-Ahead Conference on Financial Markets Research (August 17, 2011)
The European System of Central Banks will organize a Day-Ahead Conference on Financial Markets Research, hosted and sponsored by Sveriges Riksbank. If successful, the intention is to have this one-day conference take place every year ahead of either the annual EFA or the EEA-ESEM meetings. The main objective of the conference is to create an opportunity for central bank research economists to interact and have a conference outlet for high-quality research that is oriented towards banking, finance and macro-finance topics with a high degree of policy relevance.

Beliefs and Business Cycles (September 8-9, 2011)
Sveriges Riksbank will host a workshop on the topic "Beliefs and Business Cycles". The aim of the workshop is to discuss new research on the importance of information frictions for macroeconomic fluctuations. Specific topics will include information and sentiments as sources of aggregate movements and heterogeneity in information, beliefs and expectations.

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