Report on DNB Research programme 2012

In 2012 the DNB Research programme had 5 themes:

- 1. Monetary strategy and price stability
- 2. Financial stability and macro-prudential supervision
- 3. Micro-prudential supervision and conduct of financial institutions
- 4. Financial literacy and behaviour of households and companies
- 5. Modelling and forecasting

All projects are available at: http://www.dnb.nl/en/binaries/Research%20Programme%202012_tcm47-267811.pdf. Appendix 1 provides an overview of the status of the projects included in the 2012 DNB research programme.

Table 1 summarizes the progress made on individual projects. In 2012 8 (out of 75) projects were stopped for various reasons, mostly lack of sufficient results. Compared to previous years an increasing number of projects have not been finished, which is most likely in part a reflection of our ambition of an increased involvement of researchers in policy-oriented work. In 2013 33 projects of the Research programme 2012 will be continued.

Table 1. Overview of the status of the projects in 2012 DNB research programme

Theme:		Published as WP	,	Will be continued	Stopped:
	of projects:	or under review:	published:	in 2013:	
1.	9		2	5	2
2.	20	6	3	10	1
3.	24	7	6	9	2
4.	13	4	2	6	1
5.	8	3		3	2
Other	1	1			
Total	75	21	13	33	8

In 2012, DNB has published a new-Keynesian DSGE model tailored to the Netherlands (DNB Working Paper 345 by Pierre Lafourcade and Joris de Wind). It is a multivariate unobserved components model in which three major stochastic trends in the data are identified—trends in general-purpose technology, investment-specific technology, and labor supply—which are modeled formally in the theoretical set-up. The next steps will be to develop this model further so that it may be used for forecasting purposes and to introduce a financial friction into the model in order to capture the interaction between the real and financial sectors.

For forecasting purposes, extensive use is made of DELFI – our macro model of the Dutch economy (see http://www.dnb.nl/en/publications/dnb-publications/economische-ramingen/index.jsp).

DELFI has also been used extensively in 2012 for other policy purposes than forecasting:

- Long-term scenarios for the development of mortgage debt of Dutch households;
- Development of a stress scenario for the Dutch banking sector;
- Analysis of fiscal multipliers in DELFI (publication in Dutch periodical ESB);
- Analysis of scenario for expected structural growth in the medium term (until 2019);
- Quantification of the consequences of the so-called Spring agreement between the government and some political parties;
- Simulations of the consequences of the introduction of the bank tax;
- Analysis of the in-sample explanatory power of DELFI;
- For the ECB an update has been made of the so-called Common Scenarios for the Netherlands.

In 2012 we have collaborated with the Communication Department of DNB to develop an application on our website enabling the public to use DELFI to work out the effect of changes in economic policy or in the (international) economic environment on the economy of the Netherlands. In the mean time, this tool has become available (see http://www.delfispoorboekjes.dnb.nl?strLanguage=EN).

In 2012 an Occasional Study by Federica Teppa (DNB) and Corrie Vis (CentERdata) has been published on the DNB Household Survey (DHS). This study is http://www.dnb.nl/binaries/DNB OS 1004 BIN WEB tcm46-277691.pdf. The study provides an extensive overview of DHS and its use, both for scientific and policy purposes. The DNB Household Survey is a longitudinal database of economic and psychological aspects of financial behaviour of Dutch households run at CentERdata, Tilburg University and sponsored by De Nederlandsche Bank. Started in 1993, the survey is a very rich and valuable database for both academic research and policyoriented studies. Its flexibility in collecting the data on a wide range of topics together with limited associated costs makes the DHS a very powerful instrument for empirical analysis. Several DNB scientific contributions in 2012 are based on DHS, but DHS has also been used extensively for more policy-oriented work. For instance, in 2012 confidence in the financial sector was analysed using DHS (see http://www.dnb.nl/en/news/news-and-archive/dnbulletin-2012/dnb274509.jsp). Likewise, the publication by Carin van der Cruijsen and Maarten van Rooij about optimism among respondents about their own home in ESB attracted a lot of media attention.

In 2012 31 DNB working papers have been published. Working papers can be downloaded at: http://www.dnb.nl/publicatie/publicaties-dnb/dnb-working-papers-reeks/dnb-working-papers/index.jsp.

Appendix 1 provides an overview. DNB Working papers are also included in SSRN, which has increased the number of downloads substantially; see:

 $\underline{http://papers.ssrn.com/sol3/JELJOUR_Results.cfm?form_name=journalbrowse\&journal_id=1934271.$

Table 2 provides an overview of publications in international journals, while table 3 summarizes the number of books and contributions to books. Substantial progress has been made to realise our ambition to increase the quality and quantity of scientific contributions. Especially the increase in the number of publications/acceptances in A-rated journals is noteworthy.

Table 2. Journal publications by DNB staff in 2009-2012

	A journals	B journals	C journals	Others
2009	3	15	4	4
2010	3	19	2	11
2011	4	16	9	31
2012	3 (2)	19 (12)	9 (8)	11 (8)
Forthcoming ²	6 (5)	18 (14)	7 (4)	13 (9)

In parentheses the number of publications by staff of Economic Policy and Research is shown.

² Measured at end of January 2012 (includes papers already published in 2013).

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¹ Includes one publication in journal that has A-status on TI list.

Table 3. Books and contributions in books by DNB staff in 2010-2012

	Books (monographs and edited volumes) by publishers on DNB list	Other books	Contributions in books by publishers on DNB list	Other contributions
2010	1		7	1
2011	1		2	2
2012	2 (2)		4 (4)	6 (2)
Forthcoming	2(1)		1(1)	

In parentheses the number of publications by staff of Economic Policy and Research is shown.

In 2012 the DNB Visiting Scholar Programme was again very successful. We were able to attract a number of excellent scholars who gave seminars and/or policy lectures and interacted with DNB staff. Table 4 gives an overview of the visiting scholars who visited DNB in 2012.

Table 4. Visiting scholars 2012

Sergio Schmuckler	The World Bank
Maria Soledad Martinez Peria	The World Bank
William Roberds	Fed Kansas
Pat McGuire	BIS Basel
Sebnem Kalemli-Ozcan	Houston University
Rodney Garratt	University of California

In 2012 the following conferences and workshop were organised:

- 1. Financial Infrastructures Research Conference 2012: Payments and Plumbing of Financial Markets: is there a common ground?, 19-20 April 2012. The workshop was organized by De Nederlandsche Bank and Tilburg University.
- 2. Conference on Post-Crisis Banking, 28-29 June 2012.

 The conference was organised by DNB, the European Banking Center at Tilburg University, and the University of Kansas School of Business. Conference papers will be considered for publication in a special issue of the *Journal of Money, Credit and Banking*, edited by Thorsten Beck (EBC), Jakob de Haan (DNB) and Robert DeYoung (JMCB).
- 3. Household Finances and Behaviour in Times of Crisis, 25-26 October 2012 (Annual Conference).
- 4. Workshop on Corporate Governance of Financial Institutions, 8-9 November 2012. The conference was organised by DNB and the University of Groningen (Corporate Governance Insights Center, Faculty of Economics and Business).

Details about these conferences are available at: http://www.dnb.nl/en/onderzoek-2/test-conferences/index.jsp.

In 2012 there were 31 seminars by external speakers (partly in collaboration with CIFRA) and 28 seminars by internal speakers. All seminars are announced at the website of DNB and are frequently attended by DNB policy makers and external visitors. In 2013 the collaboration with CIFRA will be continued, which will enable us to attract some excellent speakers in the field of financial economics.

Interaction between the financial and real sectors

In 2013, a high-priority theme will be the interaction between the financial and the real sectors. Also in the past this issue has received substantial attention, as exemplified by the publications between 2010 until now as listed below.

- Wholesale bank funding, capital requirements and credit rationing, by Itai Agur, *Journal of Financial Stability*, forthcoming.
- Assessing macro-financial linkages: A model comparison exercise, by Rafael Gerke, Magnus Jonsson, Martin Kliem, Marcin Kolasa, Pierre Lafourcade, Alberto Locarno, Krzysztof Makarski and Peter McAdam, *Economic Modelling*, forthcoming.
- Multinational banks and the global financial crisis: Weathering the perfect storm? by Ralph de Haas and Iman van Lelyveld, *Journal of Money, Credit and Banking*, forthcoming.
- Running for the exit? International bank lending during a financial crisis, by Ralph de Haas and Neeltje van Horen, *Review of Financial Studies*, 2013, 26(1), 244-285.
- The international wealth channel: A global error-correcting analysis, by Nils Holinski and Robert Vermeulen, *Empirical Economics*, 2012, 43(3), 985-1010.
- Credit rationing when banks are funding constrained, by Itai Agur, *North American Journal of Economics and Finance*, 2012, 23(2), 220–227.
- Bank profitability during recessions, by Wilko Bolt, Leo de Haan, Marco Hoeberichts, Maarten van Oordt and Job Swank, *Journal of Banking and Finance*, 2012, 36(9), 2552–2564.
- Pension fund finance and sponsoring companies, by Phil Davis and Leo de Haan, *Journal of Pension Economics and Finance*, 2012, 11(3), 439-463.
- International shock transmission after the Lehman Brothers collapse: Evidence from syndicated lending by Ralph de Haas and Neeltje van Horen, *American Economic Review* Papers & Proceedings, 2012, 102(3), 231–237.
- When liquidity risk becomes a systemic issue: Empirical evidence of bank behaviour by Jan Willem van den End and Mostafa Tabbae, *Journal of Financial Stability*, 2012, 8(2), 107–120.
- Transmission of the Financial and Sovereign Debt Crisis to the EMU: Stock Prices, CDS Spreads and Exchange Rates by Theoharry Grammatikos and Robert Vermeulen, *Journal of International Money and Finance*, 2012, 31(3), 517-533.
- Labor Market Flexibility and the Impact of the Financial Crisis by I. Kadek Dian Sutrisna Artha and Jakob de Haan, *Kyklos*, 2011, 64(2), 213-230
- Financial acceleration of booms and busts by Kakes, J.I. and C.A. Ullersma, *Kredit und Kapital*, 2010, 43, 321-337.
- Banking sector fragility and the transmission of currency crises by Allard Bruinshoofd, Bertrand Candelon and Katharina Raabe, *Open Economies Review*, 2010, 21(2), 263-292.
- Credit Frictions and the comovement between durable and non-durable consumption by Vincent Sterk, *Journal of Monetary Economics*, 2010, 57(2), 217-225.
- Internal capital markets and lending by multinational bank subsidiaries by Ralph de Haas and Iman van Lelyveld, *Journal of Financial Intermediation*, 2010, 19(1), 1-25.

Appendix 1. Research projects 2012

1. Monetary strategy and price stability

The optimal tenure length for MPC members Jan Marc Berk, Beata K. Bierut Status: will be continued in 2013.

Global liquidity as predictor of asset price booms

Beata K. Bierut

Status: working paper will soon be finished.

FDI and international business cycle synchronization: a structural analysis

Jos Jansen, Ad Stokman

Status: will be continued in 2013.

Communication about unconventional monetary policy

Jakob de Haan, Jan-Egbert Sturm (ETH, Zürich), David-Jan Jansen

Status: will be continued in 2013 (in 2012 priority was given to contribution to 50 Years of SUERF on unconventional monetary policy which will be published in 2013).

Experiments with monetary policy rules in a multi country macro model framework

Jakob de Haan, Ad Stokman and Peter van Els

Status: project stopped due to lack of progress.

Switching between time and state dependent pricing: consequences for international price level differentials

Marco Hoeberichts, Ad Stokman Status: will be continued in 2013.

Literature survey: changes in the inflation process and asset price dynamics, and their relationship

William Melick (Kenyon College), Marco Hoeberichts

Status: will soon be published as Occasional Study.

Competitive devaluation and relative prices in Europe

Ad Stokman, Marco Hoeberichts Status: will be continued in 2013.

Exchange rate regimes, determinacy, and learnability in a two-block world economy

Eric Schaling (Wits Business School, Johannesburg), Marco Hoeberichts

Status: project stopped due to limited progress.

2. Financial stability and macro-prudential supervision

Can infrastructure-related systemic risk be eliminated or mitigated? (project started in 2010)

Ron Berndsen

Status: project will be continued in 2013 with newly appointed PhD student.

Non-linear mean reversion in stock prices: an international comparison

Jaap Bikker (TB-STB/UU), Laura Spierdijk (RUG)

Status: published as DNB Working Paper 343.

Housing Markets and Heterogenous Agent Models

Wilko Bolt, Maria Demertzis, Cees Diks (UvA), Marco van der Leij (UvA)

Status: will be continued in 2013.

Impact of Innovation on Retail Payments Pricing Wilko Bolt, Heiko Schmiedel (ECB) Status: will be continued in 2013.

Modelling the liquidity ratio as macroprudential instrument Jan-Willem van den End, Mark Kruidhof Status: Published as DNB Working Paper 342.

What determines the size of the fiscal multiplier? A literature review Niels Gilbert, Jakob de Haan Status: will be continued in 2013.

Trade dynamics in EMU: Are deficits and surpluses related? Jakob de Haan, Peter Wierts and Henk van Kerkhoff Status: published as DNB Working Paper 354.

Financial crises and macroeconomic performance Gabriele Galati and Chen Zhou Status: will be continued in 2013.

Industry performance and leverage during the financial crisis Theoharry Grammatikos (Luxembourg School of Finance), Robert Vermeulen Status: published as DNB Working Paper 344.

Central bank's influence in solving disruptions in RTGS: an experimental approach. Peter Heemeijer (UvA and ABN AMRO), Ronald Heijmans Status: will be continued in 2013.

Bank credit constraints and automatic stabilizers (project started in 2010)

Willem Heeringa, Job Swank Status: will soon be finished.

The empirical relationship between demographics and real house prices: the Netherlands versus the US (project started in 2010) Willem Heeringa, Job Swank

Status: will soon be finished.

Financial sector development and external shocks in small open economies (project started in 2012)

Steven Poelhekke, Thorsten Beck (Tilburg University)

Status: will be continued in 2013.

Credit and liquidity risk pricing in interbank markets

Iman van Lelyveld

Status: will be continued in 2013.

The sensitivity of banks to system shocks

Maarten van Oordt, Chen Zhou, Valerie de Bruykere (University of Gent)

Status: will be continued in 2013.

Net foreign asset (com)position: Does financial development matter?

Robert Vermeulen, Jakob de Haan

Status: published as DNB Working Paper 340.

Collective strategic defaults: Bailouts and repayment incentives

Razvan Vlahu

Status: will be continued in 2013.

Franchise value and risk capacity Razvan Vlahu, Lev Ratnovski (IMF)

Status: will soon be published as DNB Working Paper.

Currency crises linkage: weak or strong?

Chen Zhou

Status: project stopped.

Identifying systemically important financial institutions: size and other determinants

Chen Zhou, Kyle Moore (Erasmus University Rotterdam)

Status: published as DNB Working Paper 347.

3. Micro-prudential supervision and conduct of financial institutions

Identifying loans in the Euro interbank money market.

Luca Aciero (BdI), Ronald Heijmans, Richard Heuver, Chrisina Picillo (BdI), Francesco Vacirca (BdI) Status: will soon be published.

Intra-bank competition and risk taking Itai Agur, Wilko Bolt and Chen Yeh Status: will be continued in 2013.

Optimal pension fund size

Jaap Bikker

Status: will soon be published as DNB Working Paper.

Developments in competition and efficiency in the Dutch insurance industry Jaap Bikker and Jalal Mrabti (University of Utrecht) Status: published as DNB Working Paper 357.

Dynamic adjustment of stock prices to the fundamental value: An error correction approach Jaap Bikker, Lien Bui (University of Utrecht); and Laura Spierdijk (University of Groningen) Status: will soon be published as DNB Working Paper.

Regular Equivalence in Interbank Markets Wilko Bolt, Rod Garratt (UCSB), Iman van Lelyveld Status: will be continued in 2013.

Measuring competition across US banks (project started in 2010) Wilko Bolt and Dave Humphrey (Florida State University) Status: published as DNB Working Paper 359.

Indexation of pension benefits through the economic cycle Dirk Broeders, Paul Hilbers, David Rijsbergen Status: published as DNB Working Paper 368.

Interbank lending behaviour under stress and the role of the central bank Leo de Haan, Ronald Heijmans, Richard Heuver, Jan Willem van den End Status: will be continued in 2013.

Bank liquidity risk management under supervision

Leo de Haan, Jan Willem van den End

Status: published as DNB Working Paper 346.

Volatility analysis of Dutch EONIA

Ronald Heijmans, Lola Hernandez, Richard Heuver

Status: will soon be published.

Determinants of bank stability throughout the 2007 – 2011 financial crisis

Mark Mink, Jakob de Haan

Status: will be continued in 2013.

Suppliers to multinationals and local and global crises

Steven Poelhekke, Beata Javorcik (University of Oxford)

Status: will be continued in 2013.

Global financial contagion, foreign bank ownership and credit availability

Steven Ongena (Tilburg University), Jose Luis Peydro Alcalde (ECB) and Neeltje van Horen

Status: will soon be published as DNB Working Paper.

Unused observables in loan officer decision-making

Neeltje van Horen, Sumit Agarwal (Chicago Fed)

Status: project on hold due to new position of co-author.

Geographic diversification in banking

Iman van Lelyveld

Status: project on hold due to secondment to BIS.

Contextual determinants of banks' liquid buffers (project started in 2010)

Iman van Lelyveld, Robert Zymek (Bank of England, Pompeu Fabra).

Status: will be continued in 2013.

Securitization and the dark side of diversification

Maarten van Oordt

Status: published as DNB Working Paper 341.

A tale of two factions: Exploring the relationship between factional faultlines, conflict management and the moderating role of reflexivity in pension fund boards (project started in 2011)

Dennis Veltrop, Niels Hermes (University of Groningen), Theo Postma (University of Groningen),

Jakob de Haan

Status: published as SOM Working Paper.

Regulatory capture: A social identity perspective on supervisors' monitoring financial institutions

Dennis Veltrop, Jakob de Haan

Status: will be continued in 2013.

Board functioning: A multilevel perspective on the determinants of effective board behaviour in financial institutions

Dennis Veltrop, Jakob de Haan, Gerben van der Vegt (University of Groningen)

Status: will be continued in 2013.

Is there a home bias in Dutch insurance companies' asset allocations?

Robert Vermeulen, Melle Bijlsma

Status: will be continued in 2013.

Contagious bank runs

Razvan Vlahu, Martin Brown (University of St. Gallen), Stefan Trautmann (Tilburg University) Status: published as DNB Working Paper 363.

Goal incompatibility and prioritization of collective goals at the top of financial organisations

Melanie de Waal

Status: will soon be published.

4. Financial literacy and behaviour of households and companies

What do the public and the retailers expect from DNB concerning its role in the retail payment system? Evidence from a survey among Dutch customers and retailers
Hans de Heij, Frank van der Horst, Nicole Jonker, Esther van den Kommer
Status: published as confidential report.

Compensating insurance agents: commissions versus fees

Janko Gorter

Status: published as DNB Working Paper 350.

Cash versus debit card: the role of budget control Lola Hernandez, Nicole Jonker, Anneke Kosse

Status: will be continued in 2013.

Explaining the relative wage of older workers

Jos Jansen, Yike Wang

Status: project stopped due to other priorities.

The impact of public campaigns on debit card usage in the Netherlands

Nicole Jonker, Mirjam Plooij Status: will be continued in 2013.

Do newspaper articles on debit card fraud affect debit card usage? (project started in 2010)

Anneke Kosse

Status: published as DNB Working Paper 339.

Distributional aspects of household savings, saving motives and liquidity constraints

Federica Teppa

Status: will be continued in 2013.

Subjective bias in house prices: Empirical evidence from the Netherlands

Federica Teppa, Gabriele Galati

Status: will soon be published as DNB Working Paper.

Public trust in banks and their supervisor: why it left on horseback

Carin van der Cruijsen, Jakob de Haan, David-Jan Jansen

Status: will be continued in 2013.

Motives for paying with cash or debit card on a conscious or subconscious level

Frank van der Horst, Ester Matthijsen, Marcel van der Woude

Status: will soon be published.

Non-financial determinants of the individual retirement age

Niels Vermeer (CPB/UvT), Daniel van Vuuren (CPB), Maarten van Rooij

Status: will be continued in 2013.

Remittance payment channel preferences of migrant' in the Netherlands: Evidence from survey data

Robert Vermeulen, Anneke Kosse Status: will be continued in 2013.

Labelling, magnitude, ordering and choice set effects in individual preferences

Federika Teppa and Maarten van Rooij

Status: published as DNB Working Paper 366.

5. Modelling and forecasting

Macroeconomic Forecasting in the Euro-zone using Seasonal Dynamic Factor Analysis: combination of forecasts and Bayesian model averaging

Andres M. Alonso (UC3M, Spain), Carolina Garia-Martos (UPM, Spain), Irma Hindrayanto Status: project stopped due to insufficient progress.

DELFI's long-run properties

Robert-Paul Berben, Johan Verbruggen

Status: will be continued in 2013.

Reduced rank time-varying Vector Autoregressions (project started in 2011)

Joris de Wind, Luca Gambetti (UAB, RECent)

Status: project stopped as de Wind left DNB.

Forecasting macro-economic time series using economic indicators (dynamic factor model approach)

Jasper de Winter, Siem Jan Koopman (VU), Irma Hindrayanto

Status: will be continued in 2013.

Relation between employment and production: Lessons from the credit crisis

Irma Hindrayanto, Johan Verbruggen

Status: will be continued in 2013.

Asset price based leading indicators of GDP for US, Europe and Asia

Clovis Hopman, Ad Stokman

Status: finished, results published but not in DNB Working Paper.

Predicting quarterly GDP in the short run: A comparison of methodologies

Jos Jansen, Jasper de Winter, Xiaowen Jin (University of Munich)

Status: published as DNB Working Paper 365.

Forecasting macroeconomic and financial time series that are subject to structural breaks

Andreas Pick

Status: accepted for publication in Journal of Econometrics.

6. Other projects

Key elements in banknote design: banknote identity

Hans de Heij

Published as DNB Occasional Study.

Appendix 2. DNB Working Papers in 2012

- No. 335 Mark Mink and Jakob de Haan, Contagion during the Greek Sovereign Debt Crisis
- No. 336 Paul Cavelaars and Joost Passenier, Follow the money: what does the literature on banking tell prudential supervisors on bank business models?
- No. 337 Michael Ehrmann and David-Jan Jansen, The pitch rather than the pit: investor inattention during FIFA World Cup matches
- No. 338 Janko Gorter and Paul Schilp, Risk preferences over small stakes: Evidence from deductible choice
- No. 339 Anneke Kosse, Do newspaper articles on card fraud affect debit card usage?
- No. 340 Robert Vermeulen and Jakob de Haan, Net Foreign Asset (Com)position: Does Financial Development Matter?
- No. 341 Maarten van Oordt, Securitization and the dark side of diversification
- No. 342 Jan Willem van den End and Mark Kruidhof, Modelling the liquidity ratio as macroprudential instrument
- No. 343 Laura Spierdijk and Jacob Bikker, Mean Reversion in Stock Prices: Implications for Long-Term Investors
- No. 344 Theoharry Grammatikos and Robert Vermeulen, The 2007-2009 Financial Crisis: Changing Market Dynamics and the Impact of Credit Supply and Aggregate Demand Sensitivity
- No. 345 Pierre Lafourcade and Joris de Wind, Taking Trends Seriously in DSGE Models: An Application to the Dutch Economy
- No. 346 Leo de Haan and Jan Willem van den End, Bank liquidity, the maturity ladder, and regulation
- No. 347 Kyle Moore and Chen Zhou, Identifying systemically important financial institutions: size and other determinants
- No. 348 Iman van Lelyveld and Daan in 't Veld, Finding the core: Network structure in interbank markets
- No. 349 Daniel Kapp, The optimal size of the European Stability Mechanism: A cost-benefit analysis
- No. 350 Janko Gorter, Commission Bans and the Source and Quality of Financial Advice
- No. 351 Emmanuel de Veirman and Andrew Levin, When Did Firms Become More Different? Time-Varying Firm-Specific Volatility in Japan
- No. 352 Jan Willem van den End and Marco Hoeberichts, The interaction between the central bank and government in tail risk scenarios
- No. 353 Steven Poelhekke and Frederick van der Ploeg, Green havens and pollution havens
- No. 354 Peter Wierts, Henk van Kerkhoff and Jakob de Haan, Trade Dynamics in the Euro Area: The role of export destination and composition
- No. 355 Franklin Allen, Trends in Financial Innovation and Their Welfare Impact: An Overview
- No. 356 Bruno Biais, Jean-Charles Rochet and Paul Woolley, Innovations, rents and risk
- No. 357 Jacob Bikker, Performance of the life insurance industry under pressure: efficiency, competition and consolidation
- No. 358 Martijn Boermans and Daan Willebrands, Financial constraints, risk taking and firm performance: Recent evidence from microfinance clients in Tanzania
- No. 359 Wilko Bolt and David Humphrey, A Frontier Measure of U.S. Banking Competition
- No. 360 Henriette Prast, Federica Teppa and Anouk Smits, Is Information Overrated? Evidence from the Pension Domain
- No. 361 Clemens Bonner, Liquidity Regulation, Funding Costs and Corporate Lending
- No. 362 Wilko Bolt, Retail Payment Systems: Competition, Innovation, and Implications
- No. 363 Martin Brown, Stefan Trautmann and Razvan Vlahu, Contagious Bank Runs: Experimental Evidence
- No. 364 Clemens Bonner and Sylvester Eijffinger, The Impact of the LCR on the Interbank Money Market
- No. 365 Jos Jansen, Xiaowen Jin and Jasper de Winter, Forecasting and nowcasting real GDP: Comparing statistical models and subjective forecasts
- No. 366 Federica Teppa and Maarten van Rooij, Are Retirement Decisions Vulnerable to Framing Effects? Empirical Evidence from NL and the US.