Report on DNB Research programme 2015

This report consists of two parts. The first part offers a discussion how research at DNB can contribute to policy, while the second part provides details about the status of individual research projects, working papers, publications and conferences and seminars in 2015.

1. How research can contribute to policy

Over the past year, research conducted at DNB has provided a number of interesting insights that can be useful for monetary policy, financial stability and other policy areas in the Netherlands and the euro area. This part of the report presents a selection of these contributions. The aim is not to provide a comprehensive list of research findings and their policy relevance but rather to illustrate with concrete examples research/policy interactions.

In this part, six DNB Working Papers published in the course of 2015 are discussed covering the main themes in the DNB Research programme 2015: Monetary strategy, business cycles, and price stability (A); Financial stability and macro-prudential supervision (B); Micro-prudential supervision and conduct of financial institutions (C); Financial literacy and behaviour of households and companies (D); Modelling and forecasting (E).

Are households’ inflation expectations well anchored? (A)

With HICP inflation stuck at levels close to 0% in the euro area, the success of the ECB in achieving price stability hinges on inflation expectations remaining well anchored. It is notoriously difficult to measure inflation expectations and hence assess their anchoring. Existing measures rely on surveys of professional forecasters or on the prices of inflation-linked products traded on financial markets, both of which have shortcomings. Importantly, we know very little about how households are forming their inflation expectations, even though their behavior is crucially important. In fact, forward guidance has been seen as a way to steer households’ expectations.

Federica Teppa, Maarten van Rooij and a team from the New York Fed tackle this issue by analyzing a novel data source on inflation expectation by households in the Netherlands over the period 2008-2014.¹ They find that survey measures of households’ inflation expectation depend crucially on the wording of survey questions. A careful survey design shows that are over past years inflation expectations have declined but consumers are not viewing deflation as likely.

Regionalization and globalization in international banking (B)

1 Wändi Bruine de Bruin, Wilbert van der Klaauw, Maarten van Rooij, Federica Teppa and Klaas de Vos (2016) “Measuring expectations of inflation: Effects of survey mode, wording, and opportunities to revise”, Mimeo, DNB. The data come from a CenterERdata online survey.
In response to the global financial crisis and the sovereign debt crisis in Europe, policy makers created a European banking union that coordinates at a regional level entry, regulation, supervision and resolution of internationally active EU banks. Regional coordination should have a positive direct effect on financial stability but it may also lead to a stronger “regionalization” of the European banking system. This could imply limited diversification and consequently a less stable global banking system. To assess the overall implications for financial stability, it is therefore important to have a better understanding of the drivers of regionalization, or more in general fragmentation, of banking sectors.

A new paper by Stijn Claessens and Neeltje van Horen addresses these issues from a global perspective and analyzes developments in international banking after the global financial crisis. They examine developments in local foreign bank presence (so-called “brick and mortar” investments) by some 5000 banks in more than 100 countries over the period 2007-2013. They find a global trend towards fewer entries of foreign banks in domestic banking sectors after the crisis. However, the global banking system is not becoming more fragmented. Rather, it has come to encompass a more diverse set of players – most notably from emerging markets and developing countries – and have a more regional focus.

Financial stress indicators and financial crises (B)

Macropudential policy instruments – such as the counter-cyclical capital buffer – are typically designed to be forward looking and require early warning indicators for future systemic crises, which would trigger an activation of these tools. One way to find such predictors is to develop financial stress indices (FSI) that measure the level of stress within the financial system, and then identify the index that performs best as warning indicator for future crises.

In two working papers, Robert Vermeulen, Marco Hoeberichts, Jakob de Haan and their co-authors examine a myriad of financial variables to construct a financial stress index (FSI) for 28 OECD countries using a novel database on financial crises. They document that sharp increases in this FSI and its various sub-components are associated with financial crises, i.e. the FSI is a good “thermometer” of financial distress. They also show that their FSI does not work well as a “barometer” of financial distress, i.e. it does not perform well in predicting financial crises.

These results show the limitations of using FSIs as early warning indicators. They also provide suggestive evidence in favor of the so-called paradox of instability: the financial system is most unstable when it looks most stable, i.e. when a financial stress index is lowest.

3 The paradox of instability (also called the paradox of volatility) is prominent in the work of Borio (Change and constancy in the financial system. BIS WP 237, 2009), Minsky (The Financial Instability Hypothesis. Levy Economics Institute Working Paper No. 74, May 1992) and Danielsson (Global Financial Systems: Stability and Risk, 2013).
The Comprehensive Assessment and private sector confidence in the soundness of euro area banks and the quality of their balance sheets (C)

On 26 October 2014 ECB published the outcomes of its Comprehensive Assessment of banks in the euro area, which scoured banks’ books for hidden problems, tested their ability to withstand crises, and forced weak banks to raise more capital. The ECB hopes that this assessment will strengthen private sector confidence in the soundness of euro area banks and the quality of their balance sheets. If that is indeed the case, one would observe limited reactions from financial markets on the banks being assessed.

To validate this, a paper by Cenkhan Sahin and Jakob de Haan examines financial markets’ reactions to the publication of the ECB’s Comprehensive Assessment.4 They find that on average for euro area banks, stock prices and CDS spreads generally did not react to this news, while CDS spreads of Dutch banks tended to increase, albeit by very small amounts. The overall limited market reaction shows that the outcomes of the assessment were in line with market expectations and consequently supports for conducting such assessments repeatedly.

Contingent capital (CoCos) can increase banks’ risk-taking, unless triggers for their conversion are designed to be high (C)

An important novelty of Basel III is that it allows banks to use contingent convertible capital instruments (CoCos or “contingent capital” in short), which are hybrid capital securities that absorb losses when the capital of the issuing bank falls below a certain level. The policy debate has highlighted that the design of these CoCos may affect banks’ incentives to take risks. However, there is little research on whether and how CoCos would change banks’ risk taking incentives.

A new paper by Natalya Martynova and Enrico Perotti contributes to filling this gap.5 They find that to reduce banks’ risk taking incentives, it is optimal to set a high trigger for CoCo. On the contrary, high conversion ratio (or “equity dilution”) may worsen risk incentives. Hence, for a given yield of CoCo, regulators should only accept CoCos with sufficiently high triggers as regulatory capital.

Account number portability reduce barriers for consumers to switch between banks (D)

Policymakers around the world call for more competition in the banking sector. One barrier to achieving this goal is the currently limited flexibility for consumer to switch across different bank services.

Research by Carin van der Cruijsen and Maaike Diepstraten analyzes bank switching behavior of consumers and the effectiveness of policies to ease this switching.6 They find that the propensity to switch varies across banking products. Policies geared towards reducing the hassle of switching, such

5 No. 480 Convertible bonds and bank risk-taking (Natalya Martynova and Enrico Perotti)
6 Carin van der Cruijsen and Maaike Diepstraten (2015) “Banking products: you can take them with you, so why don’t you?” DNB WP No. 490.
as allowing for account number portability (enabling customers to retain their account number when changing banks), will be effective in easing switching. They also show that it will be especially hard for foreign banks to attract Dutch consumers.

The work has already been used in policy, and will be used in future meetings with the NVB and the AFM.\(^7\) It is one of the studies that Minister Dijsselbloem will use to answer the questions in resolution 31789-60 (Anke de Vries en Wouter Koolmees, April 2015).

2. Detailed report about activities

The DNB Research programme 2015 has five themes:

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


Appendix 1 provides an overview of the status of the projects included in the 2015 DNB research programme.

Table 1 summarizes the progress made on individual projects. In 2015 12 (out of 71) projects were stopped for various reasons, mostly lack of sufficient results. In 2016 34 projects of the Research programme 2015 will be continued.

Table 1. Overview of the status of the projects in 2015 DNB research programme

<table>
<thead>
<tr>
<th>Theme</th>
<th>Total number of projects:</th>
<th>Published as WP or under review:</th>
<th>Will soon be published:</th>
<th>Will be continued in 2016:</th>
<th>Stopped:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>19</td>
<td>4</td>
<td>2</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>12</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>20</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>13</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>7</td>
<td>--</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>15</td>
<td>10</td>
<td>34</td>
<td>12</td>
</tr>
</tbody>
</table>

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

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\(^7\) These include the Werkgroep Betalingsverkeer, MOB Werkgroep Toegankelijkheid en Bereikbaarheid, meeting with de Betaalvereniging, answering questions from the parliament.
DELFI has been made available to the general public (see http://delfi.dnb.nl/). The DELFI tool allows users to examine the effects of changes in economic policy or the (international) economic environment on the economy of the Netherlands. In 2015 a taskforce has worked on extending the model with a special focus on the interaction of the real and the financial sector, which has led to several changes. Most importantly, much progress has been made in developing a model for the banking sector, which will be incorporated in DELFI. Furthermore, a new model for the pension sector has been incorporated in DELFI. Revised National Accounts required re-estimation of the entire model.

DELFI has also been used extensively in 2015 for other policy purposes than forecasting:

- Scenarios for bank stress testing have been developed in collaboration with the Financial Stability Division.
- DELFI has been used to assess the impact of changes in taxation.
- Scenarios for credit supply presented in the Occasional Study “Bank lending and capital” have been updated.
- The analysis of the consequences of further reducing the LTV-ratio has been updated.
- Scenarios have been made for analyzing the credit-to-GDP ratio.


Appendix 2 provides an overview. DNB Working papers are available in REPEC and are also included in SSRN, which has increased the number of downloads substantially; see: 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. All published and forthcoming articles in journals and books and book contributions can be found on the DNB internet site: http://www.dnb.nl/en/onderzoek-2/publications/dnb-published-articles/index.jsp.

Substantial progress has been made to realise our ambition to increase the quality and quantity of scientific contributions. The number of papers in A and B journal that have already been accepted is promising.
Table 2. Journal publications by DNB staff in 2009-2015

<table>
<thead>
<tr>
<th></th>
<th>A journals</th>
<th>B journals</th>
<th>C journals</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>3</td>
<td>15</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2010</td>
<td>3</td>
<td>19</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>2011</td>
<td>4</td>
<td>16</td>
<td>9</td>
<td>3⁸</td>
</tr>
<tr>
<td>2012</td>
<td>3 (2)</td>
<td>19 (12)</td>
<td>9 (8)</td>
<td>11 (8)</td>
</tr>
<tr>
<td>2013</td>
<td>6 (4)</td>
<td>27 (19)</td>
<td>10 (5)</td>
<td>16 (11)</td>
</tr>
<tr>
<td>2014</td>
<td>5 (4)</td>
<td>17 (14)</td>
<td>8 (5)</td>
<td>7 (6)</td>
</tr>
<tr>
<td>2015</td>
<td>3 (3)</td>
<td>18 (17)</td>
<td>9 (8)</td>
<td>6 (5)</td>
</tr>
<tr>
<td>Forthcoming⁹</td>
<td>7 (6)</td>
<td>17 (11)</td>
<td>8 (8)</td>
<td>5 (3)</td>
</tr>
</tbody>
</table>

In parentheses the number of publications by staff of Economic Policy and Research is shown. Forthcoming papers have been accepted for publication but have not yet been published. As it sometimes takes very long before papers are published, acceptances in a particular year and publications in that same year do not coincide.

Table 3. Books and contributions in books by DNB staff in 2010-2015

<table>
<thead>
<tr>
<th></th>
<th>Books (monographs and edited volumes) by publishers on DNB list</th>
<th>Other books</th>
<th>Contributions in books by publishers on DNB list</th>
<th>Other contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1</td>
<td>--</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>2011</td>
<td>1</td>
<td>--</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2012</td>
<td>2 (2)</td>
<td>--</td>
<td>4 (4)</td>
<td>6 (2)</td>
</tr>
<tr>
<td>2013</td>
<td>1 (1)</td>
<td>--</td>
<td>3 (3)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>2014</td>
<td>1 (0)</td>
<td>--</td>
<td>1 (1)</td>
<td>--</td>
</tr>
<tr>
<td>2015</td>
<td>1 (1)</td>
<td>1 (0)</td>
<td>4 (4)</td>
<td>7 (0)</td>
</tr>
<tr>
<td>Forthcoming</td>
<td>2 (0)</td>
<td>--</td>
<td>3 (2)</td>
<td>--</td>
</tr>
</tbody>
</table>

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

In 2015 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 2015.

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⁸ Includes one publication in journal that has A-status on TI list.
⁹ Measured at the end of January 2016 (includes papers already published in 2016).
Table 4. Visiting scholars 2015

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrew Rose</td>
<td>University of California</td>
</tr>
<tr>
<td>Francesco Zanetti</td>
<td>University of Oxford</td>
</tr>
<tr>
<td>Jan Groen</td>
<td>Federal Reserve Bank of New York</td>
</tr>
<tr>
<td>Rafael Repullo</td>
<td>CEMFI</td>
</tr>
<tr>
<td>Renee Adams</td>
<td>University of New South Wales</td>
</tr>
<tr>
<td>Vincent Sterk</td>
<td>University College London</td>
</tr>
<tr>
<td>William Nelson</td>
<td>Board of Governors of the Federal Reserve System</td>
</tr>
<tr>
<td>Hiro Ito</td>
<td>Portland State University</td>
</tr>
<tr>
<td>Eric van Wincoop</td>
<td>University of Virginia</td>
</tr>
<tr>
<td>Guido Ascarri</td>
<td>University of Oxford</td>
</tr>
</tbody>
</table>

In 2015 the following conferences and workshops have been organised:

- 29-30 January 2015: Conference on Macroprudential Regulation: From Theory to Implementation (jointly organized with EBC of Tilburg University; selected papers will be published in special issue of *Journal of Financial Stability*).
- 21-22 May 2015: Conference on the New Normal in the Post-Crisis Era at City University of Hong Kong (jointly organized with City University HK and JIMF; selected papers will be published in special issue of *Journal of International Money and Finance*).
- 29-30 October 2015: Structural Reforms. Moving the Debate Forward (jointly organized with the IMF; selected papers will be published in a conference volume to be published by Springer).

Details about these conferences are available at:

In 2015 there were 36 seminars by external speakers (see Appendix 3) and about 30 seminars by internal speakers. All seminars are announced at the website of DNB and are frequently attended by DNB policy makers and external visitors.
Appendix 1. Research projects 2015

1. Monetary strategy, business cycles and price stability

1. Fiscal multipliers at the extensive margin
Andrea Colciago, Vivien Lewis (University of Leuven), Lorenza Rossi (University of Pavia)
Status: will be continued in 2016.

2. Who creates jobs over the business cycle? (started in 2014)
Andrea Colciago, Antonella Trigari (Bocconi University)
Status: will be continued in 2016.

3. Structural reforms in time of crisis
Andrea Colciago, Tiziano Ropele (Bank of Italy)
Status: stopped.

4. Survey on communication about unconventional monetary policy (started in 2014)
Jakob de Haan, David-Jan Jansen, Richhild Moessner
Status: published as DNB WP 475.

5. Lending shocks and macroeconomic stability
Emmanuel de Veirman
Status: will be continued in 2016.

6. Firm volatility and the Phillips curve (project started in 2014)
Emmanuel de Veirman
Status: stopped.

7. Formation of inflation expectations – new insights from heterogeneity in a high-frequency survey (started in 2014)
Gabriele Galati, Richhild Moessner (BIS)
Status: will be continued in 2016.

8. Inflation differentials in the euro area: the role fiscal policy in real time
Niels Gilbert, Jasper de Jong
Status: stopped.

9. Wage dynamics after the crisis
Marco Hoeberichts
Status: will be continued in 2016.

10. Household inflation expectations in a context of low inflation
David-Jan Jansen, Matthias Neuenkirch (University of Trier), Edith Neuenkirch (University of Marburg)
Status: will be continued in 2016.

11. FDI and international business cycle synchronization: a structural analysis (started in 2012)
Jos Jansen, Ad Stokman
Status: will be continued in 2016.

12. Cyclical and structural imbalances in the euro area
Mark Mink, Jakob de Haan, Jan Jacobs (University of Groningen)
Status: will soon be published as DNB Working Paper.

13. Loan default risk in the banking sector and macroeconomic stability
14. The role of monetary authorities in (de)stabilizing the financial sector
Sebastiaan Pool
Status: will be continued in 2016.

15. How does the market respond to a government announcement? (started in 2014)
Ayako Saiki, Jeffrey Frankel (Harvard University)
Status: under review.

16. The impact of income equality and business cycle
Ayako Saiki
Status: will soon be published.

17. Comparison of the income distribution effect of unconventional monetary policy – UK, US, Germany, and Japan
Ayako Saiki
Status: will be continued outside DNB.

18. The formation of European inflation expectations: One learning rule does not fit all
Christina Strobach (WHU - Otto Beisheim School of Management), Carin van der Cruijsen
Status: published as DNB WP 472.

19. Effectiveness of central bank balance sheet as monetary policy tool
Jan Willem van den End, Christiaan Pattipeilohy
Status: published as DNB WP 473.

2. Financial stability and macro-prudential supervision

1. The liquidity of financial instruments
Clemens Bonner, Iman van Lelyveld
Status: will be continued in 2016.

2. Following the herd or leading it? Portfolio allocation of Dutch occupational pension funds
Dirk Broeders, Peter Minderhoud, Willem Schudel
Status: will soon be published.

3. A theory of bazookas, or “how to design large-scale official support” (started in 2013)
Jon Frost
Status: published as DNB WP 479.

4. Financial crises and macroeconomic performance (started in 2011)
Gabriele Galati, Chen Zhou
Status: stopped.

5. Sovereign-bank interdependencies: an empirical exploration (started in 2013)
Krzysztof Muzalewski, Remco van der Molen, Jon Frost
Status: will soon be published.

6. Measuring systemic risk in OTC-derivatives markets
Anouk Levels
Status: will be continued in 2016.

7. Financial sector development and external shocks in small open economies (started in 2012)
Steven Poelhekke, Thorsten Beck (Cass Business School)  
Status: will soon be published.

8. *Inherent instability in the financial sector*  
Sebastiaan Pool  
Status: will be continued in 2016.

9. *Demand and supply of mortgage credit*  
Alex van de Minne (UvA), Federica Teppa, Johan Verbruggen  
Status: published as DNB WP 486.

10. *Identifying the determinants of competitiveness: A value added trade share perspective* (started in 2013)  
Robert Vermeulen, Martin Schmitz (ECB)  
Status: will be continued in 2016.

Robert Vermeulen, Karsten Staehr (Eesti Pank)  
Status: will soon be published.

12. *Price-based measures of systemic importance* (started in 2014)  
Nikola Tarashev (BIS), Chen Zhou  
Status: stopped.

3. **Micro-prudential supervision and conduct of financial institutions**

1. *X-efficiency of Dutch pension providers*  
Gosse Alserda (EUR), Jaap Bikker, Fieke van der Lecq (EUR)  
Status: will soon be published.

2. *Developing secondary legislation: the Achilles heel of the EU’s framework on financial services?*  
Niels van der Bijl  
Status: stopped.

3. *Dynamic adjustment of stock prices to the fundamental value: An error correction approach* (started in 2014)  
Jaap Bikker, Laura Spierdijk (University of Groningen)  
Status: will be continued in 2016.

4. *Competition in the non-life insurance industry: a cross-country comparison* (started in 2014)  
Jaap Bikker, Thomas Maas (University of Utrecht)  
Status: will be continued in 2016.

5. *Early warning and forecasting performance of HAMs in housing markets*  
Wilko Bolt, Maria Demertzis, (DNB/European Commission), Cees Diks (CeNDEF, UvA Amsterdam), Cars Hommes (CeNDEF, UvA Amsterdam), Marco van der Leij (CeNDEF, UvA Amsterdam)  
Status: will be continued in 2016.

Wilko Bolt, Rod Garratt (University of California Santa Barbara), Iman van Lelyveld  
Status: will be continued in 2016.

7. *Strategic defaults: An empirical identification*
Margherita Bottero (BoI), Steven Poelhekke, Razvan Vlahu
Status: will be continued in 2016.

8. A return analysis of pension fund investment portfolios
Dirk Broeders, Arco van Oord, David Rijsbergen
Status: will be continued in 2016.

9. The role of foreign banks in trade
Stijn Claessens (IMF), Omar Hassib (Maastricht University), Neeltje van Horen
Status: will be continued in 2016.

10. The robustness of risk measures in market risk regulation
Jon Danielsson (LSE), Chen Zhou
Status: under review.

11. Recovery measures of underfunded pension funds: contribution increase, no indexation, or pension cut? (started in 2014)
Leo de Haan
Status: published as DNB WP 485.

12. Spoilt for choice? Firm-bank matching in local credit markets
Ralph de Haas (EBRD), Neeltje van Horen
Status: will be continued in 2016.

13. Internal asset transfers and risk taking in financial conglomerates
Natalya Martynova
Status: will be continued in 2016.

14. Convertible bonds and bank risk taking
Natalya Martynova, Enrico Perotti (UvA)
Status: published as DNB WP 485.

15. What drives the markets’ view on bank capitalization?
Mark Mink (DNB), Jakob de Haan (DNB), Eric van Loon (Ministry of Finance)
Status: will be continued in 2016.

16. To increase or not to increase? The determinants of banks’ sovereign exposure
Steven Ongena (Zurich University), Alex Popov (ECB), Neeltje van Horen
Status: under review.

17. Do banks lend to countries with overvalued currencies? (started in 2014)
Ayako Saiki, Dennis Quinn (Georgetown University)
Status: will soon be published.

18. Securitization and insolvency risk (started in 2014)
Maarten van Oordt
Status: stopped (author left DNB).

Dennis Veltrop, Jakob de Haan
Status: published as DNB WP 488.

20. Understanding the effects of qualitative supervision policies (started in 2012)
Aloys Wijngaards, David-Jan Jansen
4. Financial literacy and behaviour of households and companies

1. Using point-of-sale payment data for estimating household consumption
Wilko Bolt, Carin van der Cruijzen, Nicole Jonker
Status: will be continued in 2016.

2. Mode effects on self-reported household financial data
Wändi Bruine de Bruin (Leeds University Business School), Wilbert van der Klauw (Federal Reserve Bank of New York), Maarten van Rooij, Federica Teppa, Klaas de Vos (CentERdata)
Status: will be continued in 2016.

3. Uncertainty about future consumption and precautionary saving
Dimitris Christelis (CSEF), Dimitris Georgarakos (Goethe University Frankfurt), Tullio Jappelli (University of Naples), Maarten van Rooij
Status: will soon be published.

4. Housing price shocks and trust in financial advice (started in 2014)
Dimitris Georgorakos (Goethe University Frankfurt), Roman Inderst (Goethe University Frankfurt), Maarten van Rooij
Status: will be continued in 2016.

5. Intraday payment choices: mainstream vs. payments innovations (started in 2014)
Lola Hernandez, Nicole Jonker
Status: will be continued in 2016.

6. How wide is the Dutch border: assessing the effects of increases in excise duties on cross-border trade filling stations
David-Jan Jansen, Nicole Jonker
Status: will be continued in 2016.

7. Inflation expectations and household behaviour
Malka de Castro Campos, Federica Teppa (DNB)
Status: will soon be published.

8. Friends, family and framing: An international comparison of longevity expectations formation
Hazel Bateman (University of New South Wales); Federica Teppa; Susan Thorp (University of Sydney)
Status: published as DNB WP 491.

9. In love with the debit card but still married to cash
Carin van der Cruijzen, Lola Hernandez, Nicole Jonker
Status: published as DNB WP 461.

10. Flat or flexible pension? Consumers’ expenditures before and after retirement
Carin van der Cruijzen, Nicole Jonker
Status: will be continued in 2016.

11. Changing payment patterns at point-of-sale: their drivers
Carin van der Cruijzen, Mirjam Plooij
Status: published as DNB WP 471.

12. On the value of virtual currencies
Maarten van Oordt, Wilko Bolt
13. Economic and institutional determinants of mortgage default
Razvan Vlahu, Jakob de Haan
Status: will be continued in 2016.

5. Modelling and forecasting

1. Modelling spending under conditions of low inflation/deflation
Robert-Paul Berben, Ad Stokman
Status: will be continued in 2016.

2. A labour market indicator for the Netherlands
Wilko Bolt, Johan Verbruggen
Status: stopped.

3. Modelling the business and financial cycle in a multivariate time series model for the G7 and the euro area (started in 2014)
Irma Hindrayanto, Jasper de Winter, Siem Jan Koopman (VU University)
Status: will be continued in 2016.

4. Improving short-run predictions of GDP by statistical methods by subjective information (started in 2013)
Jos Jansen, Jasper de Winter
Status: will soon be published.

5. Natural resource dependence of the Dutch economy
Jante Parlevliet, Robert Vermeulen
Status: stopped (will become part of Occasional Study).

6. Forecasting with large panel data sets
Andreas Pick
Status: will be continued in 2016.

7. Trade financing practices before, during and after the Great Recession
Ad Stokman
Status: stopped.
Appendix 2. DNB Working Papers in 2015

No. 454  Mauro Mastrogiacomo and Rob Alessie, Where are the retirement savings of self-employed? An analysis of 'unconventional' retirement accounts
No. 455  Clemens Bonner and Paul Hilbers, Global liquidity regulation - Why did it take so long?
No. 456  Leo de Haan, Jan Willem van den End and Philip Vermeulen, Lenders on the storm of wholesale funding shocks: Saved by the central bank?
No. 457  Wilko Bolt and David Humphrey, Assessing bank competition for consumer loans
No. 458  Robert Beyer and Michael Stemmer, From progress to nightmare - European regional unemployment over time
No. 459  Stijn Claessens and Neeltje van Horen, The impact of the global financial crisis on banking globalization
No. 460  Francisco Blasques, Falk Bräuning and Iman van Lelyveld, A dynamic network model of the unsecured interbank lending market
No. 461  Carin van der Cruijsen, Lola Hernandez and Nicole Jonker, In love with the debit card but still married to cash
No. 462  Koen van der Veer, Loss shocks and the quantity and price of private export credit insurance: Evidence from a global insurer
No. 463  Cenkhan Sahin and Jakob de Haan, Market reactions to the ECB’s Comprehensive Assessment
No. 464  Melanie de Waal, Floor Rink and Janka Stoker, How internal and external supervisors influence employees' self-serving decisions
No. 465  Andrea Colciago and Lorenza Rossi, Firms entry, oligopolistic competition and labor market dynamics
No. 466  Peter Heemeijer and Ronald Heijmans, Central bank intervention in large value payment systems: An experimental approach
No. 467  Natalya Martynova, Effect of bank capital requirements on economic growth: a survey
No. 468  Melle Bijlsma and Robert Vermeulen, Insurance companies' trading behaviour during the European sovereign debt crisis: Flight home or flight to quality?
No. 469  Robert Vermeulen, Marco Hoeberichts, Bořek Vašíček, Diana Žigraiová, Kateřina Šmidková and Jakob de Haan, Financial stress indices and financial crises
No. 470  Nicole Jonker, Mirjam Plooij and Johan Verburg, Does a public campaign influence debit card usage? Evidence from the Netherlands
No. 471  Carin van der Cruijsen and Mirjam Plooij, Changing payment patterns at point-of-sale: their drivers
No. 472  Christina Strobach and Carin van der Cruijsen, The formation of European inflation expectations: One learning rule does not fit all
No. 473  Jan Willem van den End and Christiaan Pattipeilohy, Central bank balance sheet policies and inflation expectations
No. 474  Dirk Broeders, Arco van Oord and David Rijsbergen, Scale economies in pension fund investments: A dissection of investment costs across asset classes
No. 475  Richhild Moessner, David-Jan Jansen and Jakob de Haan, Communication about future policy rates in theory and practice: A Survey
No. 476  Bořek Vašíček, Diana Žigraiová, Marco Hoeberichts, Robert Vermeulen, Kateřina Šmidková and Jakob de Haan, Leading indicators of financial stress: New evidence
No. 477  Rasmus Wiese, Richard Jong-A-Pin and Jakob de Haan, Are expenditure cuts the only effective way to achieve successful fiscal adjustment?
No. 478  Maarten van Oordt and Chen Zhou, Systemic risk of European banks: Regulators and markets
No. 479  Jon Frost, A theory of bazookas, or; “when (and when not) to use large-scale official sector support”
No. 480  Natalya Martynova and Enrico Perotti, Convertible bonds and bank risk-taking
No. 481  Dorinth van Dijk and Marc Francke, Internet search behavior, liquidity and prices in the housing market
No. 482  Simas Kucinskas, Liquidity creation without banks
| No. 483 | Reinder Haitsma, Deren Unalmis and Jakob de Haan, The impact of the ECB’s conventional and unconventional monetary policies on stock markets |
| No. 484 | Damiaan Chen, Roel Beetsma and Dirk Broeders, Stability of participation in collective pension schemes: An option pricing approach |
| No. 485 | Leo de Haan, Recovery measures of underfunded pension funds: higher contributions, no indexation, or pension cuts? |
| No. 486 | Alex van de Minne and Federica Teppa, Demand and supply of mortgage credit |
| No. 487 | Yakov Ben-Haim and Maria Demertzis, Decision making in times of uncertainty: An info-gap perspective |
| No. 488 | Irene Mostert, Dennis Veltrop, Paula van Veen-Dirks and Jakob de Haan, Pawn or Vigilant Watchdog? How board vigilance and board tenure moderate the effects of executive tenure on board functioning |
| No. 489 | Patty Duijm and Sophie Steins, Short-termism of long-term investors? The investment behaviour of Dutch insurance companies and pension funds |
| No. 490 | Carin van der Cruijsen and Maaike Diepstraten, Banking products: you can take them with you, so why don’t you? |
| No. 491 | Federica Teppa, Susan Thorp and Hazel Bateman, Family, friends and framing: A cross-country study of subjective survival expectations |
| No. 492 | Jante Parlevliet, What drives public acceptance of reforms? Longitudinal evidence from the run-up of the increase of the Dutch retirement age |
Appendix 3. Overview of research seminars 2015

10 February 2015
Ralph Koijen, London Business School
Shadow Insurance

3 March 2015
Rossana Merola, International Labour Office
Consumption and Credit Constraints: A Model and Evidence for Ireland

17 March 2015
Jan Jacobs, University of Groningen
Modeling Multivariate Data Revisions

24 March 2015
Michael Massmann, VU University
Estimating Structural Parameters in Regression Models with Adaptive Learning

31 March 2015
Andrew Rose, University of California
Domestic Bond Markets and Inflation

2 April 2015
Francesco Zanetti, University of Oxford
Financial Shocks and Labor Market Fluctuations

7 April 2015
Dion Bongaerts, Erasmus University
The Economics of Investor-Paid Credit Rating Agencies

14 April 2015
Sweder van Wijnbergen, University of Amsterdam
Cocos, Contagion and Systemic Risk

21 April 2015
Michael Ehrmann, Bank of Canada
Targeting Inflation from Below - How do Inflation Expectations Behave?

30 April 2015
Saki Bigio, Columbia University
Banks, Liquidity Management and Monetary Policy

6 May
Jan Groen, Federal Reserve Bank of New York
Short-Term Forecasting of U.S. Growth Rates: Pooling Forecasts Using Higher Frequency Factors

12 May 2015
Rafael Repullo, CEMFI
Search for Yield

20 May 2015
Michael Hutchison, University of California
Fiscal Rules and Business Cycles in Emerging and Developing Economies

26 May 2015
Agnieszka Markiewicz, Erasmus University
Top Incomes, Rising Inequality, and Welfare

2 June 2015
Renée Adams, University of New South Wales
Women in Finance

9 June 2015
Joan Muysken, Maastricht University
The Deposit Financing Gap, the Current Account Surplus and Other Anomalies in the Dutch Economy

11 June 2015
Vincent Sterk, University College London
The Dark Corners of the Labor Market

16 June 2015
Robin Lumsdaine, University of Portsmouth
The Intrafirm Complexity of Systemically Important Financial Institutions

23 June 2015
Job Boerma, University of Minnesota,
Openness and the (Inverted) Aggregate Demand Logic

18 Augustus 2015
William Nelson, Board of Governors of the Federal Reserve System
Federal Reserve Monetary Policy Normalization

31 Augustus 2015
Hiro Ito, Portland State University
Clamoring for Greenbacks: Explaining the Resurgence of the US Dollar in International Public Debt

8 September 2015
George Pennacchi, University of Illinois
A Reexamination of Contingent Convertibles with Stock Price Triggers

9 September 2015
Eric van Wincoop, University of Virginia/ NBER
Self-Fulfilling Debt Crises: Can Monetary Policy Really Help?

15 September 2015
Artashes Karapetyan, Norges Bank
Collateral versus Informed Screening during Banking Relationships

16 September 2015
Wandi Bruine de Bruine, Leeds University
Expectations of inflation: Effects of Wording, Mode, and Opportunities to Revise

22 September 2015
Dirk Schoenmaker, Duisenberg School of Finance
Regulating the Financial Cycle: An Integrated Approach with a Leverage Ratio

13 October
Taylor Begley, London Business School
The Strategic Under-Reporting of Bank Risk
20 October 2015
Skerdilajda Zanaj, University of Luxembourg
Tax havens or Safe havens. What differences does it make for the removal of bank secrecy?

27 October 2015
Florian Sniekers, VU
Buying First or Selling First in Housing Markets

29 October 2015
Seppo Honkapohja, Bank of Finland
Targeting Prices or Nominal GDP: Forward Guidance and Expectation Dynamics

2 November 2015
Yasushi Hamao, Columbia Business School
Selective Disclosure: The Case of Nikkei Preview Articles

3 November 2015
Pascal Golec, University of Amsterdam
A Review on Safe Assets

10 November 2015
Albert Menkveld, VU
Crowded Trades: An Overlooked Systemic Risk for Central Clearing Counterparties

24 November 2015
Gerhard Runstler, ECB
Business and Financial Cycles: an Unobserved Components Models Perspective

3 December 2015
Susan Thorp, University of Sydney
First Impressions Matter: An Experimental Investigation of Online Financial Advice

8 December 2015
Vadym Volosovych, Erasmus University
Nationally Representative Firm Level data from the ORBIS Global Database: Construction and Some Applications for International Economics and Finance