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


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

<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 2013:</th>
<th>Stopped:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>9</td>
<td>--</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>20</td>
<td>6</td>
<td>3</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>24</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>13</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>8</td>
<td>3</td>
<td>--</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>21</td>
<td>13</td>
<td>33</td>
<td>8</td>
</tr>
</tbody>
</table>

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.dnb.nl/en/system/iframebreed.jsp?sg=tem:47-47214-4&height=2500&title=Economic%20simulations&url=http%3A//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 available at: 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 policy-oriented 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: 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>
<thead>
<tr>
<th>Year</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>3¹</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>Forthcoming²</td>
<td>6 (5)</td>
<td>18 (14)</td>
<td>7 (4)</td>
<td>13 (9)</td>
</tr>
</tbody>
</table>

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

¹ Includes one publication in journal that has A-status on TI list.
² Measured at end of January 2012 (includes papers already published in 2013).
Table 3. Books and contributions in books by DNB staff in 2010-2012

<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>Forthcoming</td>
<td>2 (1)</td>
<td>--</td>
<td>1 (1)</td>
<td>--</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Sergio Schmuckler</th>
<th>The World Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maria Soledad Martinez Peria</td>
<td>The World Bank</td>
</tr>
<tr>
<td>William Roberds</td>
<td>Fed Kansas</td>
</tr>
<tr>
<td>Pat McGuire</td>
<td>BIS Basel</td>
</tr>
<tr>
<td>Sebnem Kalemli-Ozcan</td>
<td>Houston University</td>
</tr>
<tr>
<td>Rodney Garratt</td>
<td>University of California</td>
</tr>
</tbody>
</table>

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).


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).


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.


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)

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 Wietz and Henk van Kerkhoff

**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

**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 Bruijkere (University of Gent)
Status: will be continued in 2013.

**Net foreign asset (com)position: Does financial development matter?**
Robert Vermeulen, Jakob de Haan
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)

3. Micro-prudential supervision and conduct of financial institutions

Identifying loans in the Euro interbank money market.
Luca Aciero (Bdl), Ronald Heijmans, Richard Heuver, Chrisina Picillo (Bdl), Francesco Vacirca (Bdl)
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)

Indexation of pension benefits through the economic cycle
Dirk Broeders, Paul Hilbers, David Rijsbergen

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

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

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)

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

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

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

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.

DELFIs 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

Predicting quarterly GDP in the short run: A comparison of methodologies
Jos Jansen, Jasper de Winter, Xiaowen Jin (University of Munich)

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. 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, Stefán 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.