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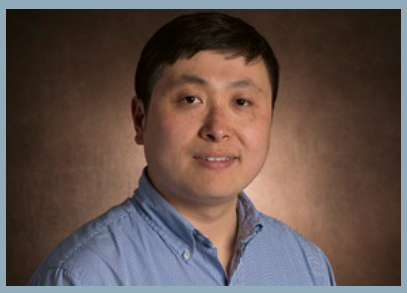
Research Newsletter

DeNederlandscheBank
EUROSYSTEEM

Latest news

Chen Zhou appointed Full Professor of Mathematical Statistics and Risk Management in Erasmus University Rotterdam



As of 1 May 2019 Chen Zhou has been appointed as Professor of Mathematical Statistics and Risk Management at Erasmus School of Economics, Erasmus University Rotterdam. After finishing his PhD in 2008, Chen Zhou joined De Nederlandsche Bank (DNB) as a (senior) economist. From June 2015 he started to work part-time at Erasmus School of Economics (0.2 fte) and at the end of the same year he was promoted to associate professor. A month later Chen Zhou received a Fellowship from the Executive Board of Erasmus University Rotterdam to endorse his successful scientific career. His research has led to publications in academic journals such »

New A Publication

Effective Macroprudential Policy: Cross-Sector Substitution from Price and Quantity Measures

Authors Janko Cizel, Jon Frost, Aerdt Houben and Peter Wierts; forthcoming in *Journal of Money, Credit and Banking*.

In the wake of the global financial crisis, macroprudential policies are being used increasingly worldwide. These new policy instruments seek to raise the resilience of the financial system and to dampen the amplitude of the financial cycle. As macroprudential measures apply predominantly to banks, a key question is whether these policies prompt substitution to nonbanks. Indeed, while research has established the intended effects of these policies on bank credit, a prime concern is that they may "leak" on account of waterbed effects to nonbank credit. To test this, we use quarterly data from 37 countries over 1997-2014. To address endogeneity concerns, we apply three different methodologies – detrending, panel regressions and propensity score matching – to two different cross-country data sets of prudential policy measures.

Our results consistently indicate substantial substitution effects after macroprudential measures are activated. Waterbed effects are largest when policy constraints are binding on banks and when countries have well-developed nonbank credit markets, as in most developed economies. Since these substitution effects partially offset the effect on bank credit, our findings suggest they need to be taken into account in the initial design of macroprudential policy. Moreover, they underscore the importance of developing macroprudential policy instruments beyond banking.

Conferences

Bundesbank-Riksbank-DNB macro-prudential policy conference

On June 21-22, the fifth joint annual macro-prudential policy conference took place, this time hosted by the Bundesbank. In 2015, the Riksbank took the initiative to hold an annual conference on macroprudential policy. The conference provides an excellent opportunity for policy »

Latest news
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as the *Journal of Financial and Quantitative Analysis*, the *Journal of Economic Theory*, the *Journal of the Royal Statistical Society* (Series B) and *Annals of Applied Statistics*. He also serves as an Associate Editor for the journal Extremes.

In his research, Chen Zhou focuses on extreme value analysis and its applications in economics and finance. Extreme value analysis is a modern subfield of mathematical statistics starting from 1970s. It offers statistical tools for analyzing rare events that happen with very low probability. This approach can be applied in risk management, in particular for analyzing systemic risk in the financial system.

Nobel Laureate Jean Tirole gave the keynote speech

makers, representatives of the private sector and prominent academics from around the world to gather to discuss, exchange experiences and learn from the best in the macroprudential field. Conferences in the series were held in Stockholm in 2015, 2016 and 2018, and the 2017 conference was hosted by De Nederlandsche Bank in Amsterdam.

The program of the 2019 conference can be downloaded here.

Jens Weidman, the president of the Bundesbank, opened the conference. He explained why on 27 May, Germany's Financial Stability Committee issued a recommendation to activate a countercyclical capital buffer (CCB) of 0.25%. He pointed out that within the last nine years, house prices have risen nationwide by almost 60%. While this average increase can be explained by fundamental factors, real estate prices in German cities last year were between 15% and 30% above what fundamentals would suggest. Even though credit has not been the main driver of rising house prices in recent years, there is a risk that potentially overvalued property means potentially overvalued collateral. Weidman further pointed to heightened interest rate risk. As it is expected that the utilization of aggregate capacities is likely to remain at above normal levels, while cyclical risks have been identified in the financial system, now, Weidman argued, is the appropriate time to increase the CCB.

In the first session, Mitsuhiro Fukao talked about the causes of the Japanese financial crisis in the late 1990s. He pointed out that the direct cause of the crisis was the falling land and stock prices in the aftermath of the bubble economy in the 1980s. Expanding bank credit pushed up land prices of major cities and, in turn, pushed up the value of stock portfolio held by banks allowing banks to lend more. This positive feedback was reversed in the 1990s. As the Bank of Japan's successive tightening of monetary policy started to take effect, asset prices started to decline. In the fall of 1997, a severe credit crunch occurred due to the failure of some large financial institutions. The sudden failure of these supposedly well-regulated and well-capitalized institutions generated a strong mistrust against financial institutions and their regulator, triggering bank runs and rapid shifts of deposits from weaker financial institutions to more sound ones. Nationalization of two long-term credit banks in late 1998 and a large capital injection to banks in March 1999 succeeded to stabilize the banking sector. The recovery of the Japanese economy helped to allow banks to rebuild their capital base gradually. Discussants of the paper were Hiroshi Nakaso (Daiwa Institute of Research, Tokyo) and Eric S. Rosengren (Federal Reserve Bank of Boston).

In the second session, Monika Piazzesi presented a paper (co-authored by Martin Schneider) studying the welfare effects of introducing a Central Bank Digital Currency (CBDC). Their argument is based on the premise is that CBDC is a new product in the market for liquidity where it competes with both commercial bank deposits and credit lines used for payments. If the central bank offers CBDC but not credit lines, then it interferes with the complementarity between credit lines and deposits built into modern payment systems. As a result, increasing CBDC may reduce welfare even if the central bank can provide deposits more cheaply than commercial banks. Discussants of the paper were Narayana Kocherlakota (University of Rochester) and Carolyn A. Wilkins (Bank of Canada).

In the third session, Nellie Liang presented a paper (co-authored with Rochelle Edge) entitled Basel III Capital and macroprudential governance. They show that multi-agency financial stability committees (FSCs) have grown dramatically since the financial crisis. However, only about one-quarter can take actions ››

or recommend to others that they take actions, while most can only influence through convening and coordinating. The authors evaluate whether FSCs affect macroprudential bank-capital policies in Basel III, especially for decisions taken during 2015 to 2018 to use the countercyclical capital buffer (CCyB) using data of 58 countries. After controlling for financial conditions and the severity of the 2008 financial crisis, they find that countries with FSCs with stronger governance mechanisms are more likely to use the CCyB, especially relative to countries where an independent bank regulator has authority for the CCyB and where the central bank has the authority. Their results also suggest that just having a FSC does not have an effect on CCyB use, suggesting that some countries established FSCs with strong governance to promote actions among agencies, while others FSCs were established with a symbolic political motivation without mechanisms to promote actions. Discussants of the paper were Jean-Charles Rochet (University of Geneva) and Martin Taylor (Bank of England).

Next, Guido Lorenzoni presented the paper Borrower and Lender Resilience (joint work with Anil Kashyap). The goal of the paper is to assess whether successful macroprudential policy can focus primarily on the resilience of lenders or whether a focus on borrowers is also needed. For this purpose, the authors use a three-period model in which there are heterogeneous households (some borrow and some lend), and banks which act as intermediary. The model allows for the possibility that shocks to the economy can be amplified by the actions of either borrowers or lenders. The goal of macroprudential policy is to prevent either type of amplification. If all borrowing households are identical, there are many different tools that can be equivalently deployed. If households differ, explicit borrower resilience tools must be considered to prevent shocks from being amplified. The paper was discussed by Arlene Wong (Princeton University) and Vasileios Madouros (Central Bank of Ireland).

At the end of the first day, Jean Tirole gave the keynote address. Using the Holström-Tirole framework, he discussed several ways through which liquidity (market and funding liquidity) can be provided. Here the government as provider of liquidity stands out as it has the exclusive right to tax future generations of citizens and firms.

The final presentation was about financial variables as predictors of recessions and was presented by Lucrezia Reichlin (joint work with Giovanni Ricco and Thomas Hasenzagl). The authors consider two approaches: growth-at-risk and the Basel-gap and offer what they call an outsiders' look at these tools. Reichlin offered some illustrative exercises using the growth-at-risk framework. An interesting finding is that if financial conditions deteriorate,

Markus Brunnermeier chaired the second session

The second day started with a presentation by Ricardo Reis, entitled: The fiscal footprint of macroprudential policy, in which he examined the fiscal consequences of macro-prudential policy and the consequences of fiscal dominance over macro-prudential policy. When facing a public debt crisis, fiscal authorities sometimes turn inflation control into seignorage production. The paper asks when will fiscal authorities be tempted to exert dominance under macro-prudential tools so as to control their fiscal footprint. It first investigates the size and sign of this footprint, compared to that of monetary policy. It then asks under what circumstances will the fiscal authority desire to impose financial repression or regulatory laxity. The interaction between fiscal and macroprudential policy is particularly strategic during twin crises, when both sovereign default and financial crashes occur and reinforce each other. Discussants were Arvind Krishnamurthy (Stanford University and Luiz Awazu Pereira da Silva (BIS).

the model assigns a larger probability of both a large negative event and of a large positive event. The out of sample predictive performance of the model is poor: during a recession both real and financial models have large forecast errors. Next, Reichlin pointed to several problems with the Basel gap approach (notably the contamination of the gap by the business cycle (common) dynamics). Reichlin therefore proposed a more formal multivariate time series model in which it is assumed that credit variables comove (at lags) with the output gap, while in the long run credit and real variables should grow at same rate. An interesting result is that idiosyncratic credit growth may have predictive value for (the risk of) recessions and that it therefore can be used for monitoring excess credit risk. Discussants were: Mikkel Plagborg-Møller (Princeton University) and Vítor Constâncio (former ECB Vice-President).

Next year the joint conference will be hosted by DNB. ››

Forthcoming Conference

22nd Annual Research Conference De Nederlandsche Bank Amsterdam, 30th September-1st October 2019

Uncertainty and Non-linearities: Policy Challenges and New Perspectives

Monday, 30 September 2019
8:45-9:30 Registration with coffee/tea
9:30-9:45 Opening address: Klaas Knot (Governor, De Nederlandsche Bank)

SESSION I: Inspecting the transmission mechanism: roots and consequences of price stickiness
Chair: Andrea Colciago (DNB, University of Milano Bicocca)
9:45-10:45 Paralyzed by fear: rigid and discrete pricing under demand uncertainty by Cosmin Ilut (Duke University), Rosen Valchev (Boston College) and Nicolas Vincent (HEC Montreal)
Discussant: Krisztina Molnar (Norwegian School of Economics)
10:45-11:15 Coffee break
11:15-12:15 Sticky prices and the transmission mechanism of monetary policy: a minimal test of New Keynesian models by Timo Haber (University of Cambridge) and Guido Ascari (University of Oxford)
Discussant: Anton Nakov (European Central Bank)
12:15-13:30 Lunch in Foyer
13:30-14:30 Keynote Address: Jesus Fernandez-Villaverde (University of Pennsylvania)

SESSION II: Uncertainty shocks
Chair: Gabriele Galati (De Nederlandsche Bank)
14:30-15:30 Uncertainty, real activity, and risk aversion during the Great Recession by Giovanni Pellegrino (Aarhus University), Giovanni Caggiano (Monash University) and Efrem Castelnuovo (University of Melbourne)
Discussant: Kostantinos Theodoridis (Cardiff Business School)
15:30-16:00 Coffee break
16:00-17:30 *Policy Panel: Athanasios Orphanides (MIT), Ulf Soderstrom (Sveriges Riksbank), Frank Smets (European Central Bank)*
Moderator: Jakob De Haan (De Nederlandsche Bank, University of Groningen)
18:30-21:30 Conference Dinner (by invitation only)

Tuesday 1 October 2019
8:45-9:15 Registration with coffee/tea

SESSION II: Uncertainty shocks
Chair: Gabriele Galati (De Nederlandsche Bank)
09:15-10:15 The impact of uncertainty and certainty shocks by Yves S. Schüler (Deutsche Bundesbank)
Discussant: Andreas Pick (Erasmus University Rotterdam, De Nederlandsche Bank)

SESSION III: Monetary policy under incomplete information
Chair: Tjerk Kroes (De Nederlandsche Bank, Head of Policy and Research)
10:15-11:15 Indeterminacy and imperfect information by Thomas Lubik (Richmond Fed), Christian Matthes (Indiana University) and Elmar Mertens (Deutsche Bundesbank)
Discussant: Mark Weder (Aarhus University)
11:15-11:30 Coffee break
11:30-12:30 Can more public information raise uncertainty? The international evidence on forward guidance by Michael Ehrmann (European Central Bank), Gaetano Gaballo (Banque de France), Peter Hoffmann (European Central Bank) and Georg Strasser (European Central Bank)
Discussant: Yildiz Akkaya (NIER)
12:30-13:30 Lunch in Foyer
13.30-14:30 *Keynote speech: Lars Hansen (University of Chicago)*
14:30-15:00 Coffee break

SESSION IV: Subjective beliefs and the business cycle
Chair: Peter Van Els (De Nederlandsche Bank)
15:00-16:00 Survey data and subjective beliefs in business cycle models by Anmol Bhandari (University of Minnesota), Jaroslav Borovicka (New York University) and Paul Ho (Richmond Fed)
Discussant: Riccardo Masolo (Bank of England)
16.00-16.15 Coffee break
16:15-17:15 Fear of secular stagnation and the natural interest rate by Paolo Bonomolo (DNB) and Valentina Gavazza (Stockholm University)
Discussant: Oreste Tristani (European Central Bank)

DNB workingpapers

Since December 2018 the following Working Papers have been published, please use the following link.

- **629** - What option prices tell us about the ECBs unconventional monetary policies by Stan Olijslagers, Annelie Petersen, Nander de Vette and Sweder van Wijnbergen 5 April 2019
- **630** - Fair pensions by Ilja Boelaars and Dirk Broeders 11 April 2019
- **631** - Impact of targeted credit easing by the ECB: Bank-level evidence by Joost Bats and Tom Hudepohl 16 April 2019
- **632** - Monetary policy and the top one percent: Evidence from a century of modern economic history by Mehdi El Herradi and Aurélien Leroy 29 April 2019
- **633** - Financial stability and the Fed: Evidence from congressional hearings by Arina Wischnewsky, David-Jan Jansen and Matthias Neuenkirch 9 May 2019
- **634** - Do fiscal rules constrain political budget cycles? by Bram Gootjes, Jakob de Haan and Richard Jong-A-Pin 9 May 2019
- **635** - Heterogeneity and asymmetric macroeconomic effects of changes in loan-to-value limits by Jasper de Jong and Emmanuel De Veirman 13 May 2019 ››

- **636** - Euro area sovereign risk spillovers before and after the ECB's OMT announcement by Niels Gilbert 13 May 2019
- **637** - Local constant-quality housing market liquidity indices by Dorinth van Dijk 13 May 2019
- **638** - Being in good hands: Deposit insurance and peers financial sophistication by Francesco Caloia, Mauro Mastrogiacomo and Giacomo Pasini 17 May 2019
- **639** - Measuring trends and persistence in capital and labor misallocation by Maurice Bun and Jasper de Winter 7 June 2019
- **640** - Dynamics and heterogeneity of subjective stock market expectations by Florian Heiss, Michael Hurd, Maarten van Rooij, Tobias Rossmann and Joachim Winter 11 June 2019
- **641** - Redistributive consequences of abolishing uniform contribution policies in pension funds by Damiaan Chen and Sweder van Wijnbergen 11 June 2019
- **642** - Liquidity stress detection in the European banking sector Richard Heuver and Ron Triepels 25 June 2019
- **643** - Security design and credit rating risk in the CLO market Dennis Vink, Mike Nawas and Vivian van Breemen 16 July 2019

DNB occasional studies (new since December 2018)

Since December 2018 the following occasional studies have been published, please use the following link.

Nr. 1 (2019): De kwaliteit en onafhankelijkheid van woning-taxaties by Remco van der Molen and Rob Nijskens (March 2019)

Published Articles in Journals

- **Identifying booms and busts in house prices under heterogeneous expectations**
  Wilko Bolt, Maria Demertzis, Cees Diks, Cars Hommes and Marco van der Leij, *Journal of Economic Dynamics and Control, 2019, 103, 234-259*
- **Walk on the wild side: temporarily unstable paths and multiplicative sunspots**
  Guido Ascari, Paolo Bonomolo and Hedibert Lopes, *American Economic Review, 2019, 109(5), 1805-1842*
- **Home biased expectations and macroeconomic imbalances in a monetary union**
  Dennis Bonam and Kevin Goy, *Journal of Economic Dynamics and Control, 2019, 103, 25-42*
- **Cash or card? Unravelling the role of socio-psychological factors**
  Carin van der Cruijsen and Frank van der Horst, *De Economist, 2019, 167(2), 145-175*

For published articles in journals please use the following link.

Forthcoming Articles in Journals

- **European banks after the global financial crisis: Peak accumulated losses, twin crises and business models**
  Leo de Haan and Jan Kakes, *Journal of Banking Regulation*
- **Near real-time monitoring in real-time gross settlements systems: A traffic light approach**
  Ron Berndsen and Ronald Heijmans, *Journal of Risk*
- **International lending of Dutch insurers and pension funds: The impact of ECB monetary policy and prudential policies in the host country**
  Jon Frost, Patty Duijm, Clemens Bonner, Leo de Haan and Jakob de Haan, *Open Economies Review*
- **The time varying causal relationship between international capital flows and the real effective echange rate: New evidence for China**
  Yanping Zhao, Xiaoyan Li and Jakob de Haan, *The Singapore Economic Review*
- **What drives the adoption of crypto-payments by online retailers?**
  Nicole Jonker, *Journal Electronic Commerce Research and Applications*
- **Would helicopter money be spent? New evidence for the Netherlands**
  Jakob de Haan and Maarten van Rooij, *Applied Economics*
- **Life cycle assessment of cash payments in the Netherlands**,
  Randall Hanegraaf, Atakan Larcin, Nicole Jonker, Steven Mandley and Jelle Miedema, *International Journal of Life Cycle Assessment*

For forthcoming articles in journals please use the following link.

Forthcoming Articles in Books

- **ECB communication: effects on expectations**
  Jakob de Haan
  In: Jaques Ziller (ed.), *The European Central Bank's Communication: An Instrument of Monetary Policy and a Vector of Accountability*, Giappichelli

For forthcoming articles in books please use the following link.

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Published Articles in Books

- **Use-centred design of banknotes: getting started**
  Hans de Heij
  In: Ivan Montoya (ed.), Banknote Management for Central Banks, 2017, Risk Books

- **Anomaly detection in real-time gross settlement systems**
  Ron Triepels, Hennie Daniels and Ronald Heijmans
  In: Proceedings of the 19th International Conference on Enterprise Information Systems 1, 2017, 433-441

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