April 2023

DNB Research Newsletter

DeNederlandscheBank
EUROSYSTEEM

Research highlights

1. Central bank communication with the general public: A journey worth the effort

Over the recent few decades, central banks have become much more active in terms of communication. Initially, this communication mostly had in mind an audience of experts. This is changing quickly, as the public at large is also coming into focus. The forthcoming paper in the *Journal of Economic Literature* by Alan Blinder, Michael Ehrmann, Jakob de Haan and David-Jan Jansen discusses the background of this changing focus and surveys the empirical evidence on its effectiveness. The paper concludes that the potential benefits from more and better central bank communication with the general public are important enough that central bankers should keep trying to achieve them.
Read more

2. Fiscal foresight and the effects of government spending: It's all in the monetary-fiscal mix

Studying the effects of announcements of future changes in government spending is important, because arguably almost all changes in fiscal policy are pre-announced but come with an implementation lag. Previous studies that consider fiscal foresight find that a positive government spending shock causes increasing output but decreasing consumption and real wages. This outcome differs from the results of standard VARs that do not take fiscal foresight into account. The forthcoming paper in the *Journal of Monetary Economics* by Guido Ascari, Peder Beck-Friis, Anna Florio and Alessandro Gobbi replicates earlier analyses but, instead of one longer sample, two subperiods are considered: the Great Inflation (1960-1979) and the Great Moderation (1984-2007). Contrary to the results over the entire period, output responds in opposite ways in the two different samples: it increases during the Great Inflation while it decreases during the Great Moderation. Read more

3. The Bank of Amsterdam and the limits of fiat money

Rising interest rates and losses on central bank balance sheets draw back attention to "old" questions about the relevance of central bank equity. Central banks can operate with negative equity, and many have done so in history without undermining trust in fiat money. However, there are limits. How negative can central bank equity be before fiat money loses credibility? We address this question using a global games approach motivated by the fall of the Bank of Amsterdam (1609–1820). Read more

4. Loan-to-value shocks and macroeconomic stability

In the Netherlands, households typically take out a mortgage loan which is large relative to the value of the house. In other words, the "loan-to-value ratio" is high. In a macroeconomic model with housing markets, I find that a decline in the loan-to-value ratio causes a reduction in house prices and the economy's output. In addition, with high-loan-to-value ratios, house prices and the economy's output respond much more strongly to developments such as changes in how keen households are to buy houses. Therefore, the fact that Dutch loan-to-value ratios are high tends to make swings in house prices and in output larger.
Read more

5. Quantifying systemic risk in the presence of unlisted banks: Application to the European banking sector

We develop a framework for measuring systemic risk and attributing it across a universe of European banks based on an approach used in the securitization industry. Modelling the banking system as a portfolio of loans, we can then measure the potential loss for the sector, given that one or more institutions default simultaneously. Applying the model on a European scale, we find discrepancies between the capital adequacy of the largest contributors to systemic risk relative to less systemically important banks, engaging in the debate on macroprudential capital regulation in Europe. Read more

6. Nowcasting GDP using tone-adjusted time varying news topics: Evidence from the financial press

In this paper we extract sentiment from the texts of Dutch financial news and show that this sentiment is a strong indicator of the Dutch business cycle. Sentiment correlates strongly with GDP growth and turns negative when the economy is in a downturn. The article combines sentiment with a time-varying and layered topic model to provide policymakers and practitioners with valuable insights into the causes of sentiment swings. Sentiment indicators derived from newspaper articles contain valuable information not embodied in monthly indicators from statistical offices. The forecast accuracy of the dynamic factor model increases when including the tone-adjusted topics derived from the newspaper articles. The added value of newspaper sentiment articles is particularly strong during periods of large declines in GDP. Read more

Publications (since December 2022)

Working Papers

772 - Euro area consumers' payment behaviour and banking digitalisation
Justus Meyer, Federica Teppa

771 - Know your (holding) limits: CBDC, financial stability and central bank reliance
Barbara Meller, Oscar Soons

770 - Walk the green talk? A textual analysis of pension funds' disclosures of sustainable investing
Rob Bauer, Dirk Broeders, Annick van Ool

769 - Long-term investors, demand shifts, and yields
Kristy Jansen

768 - Quantifying systemic risk in the presence of unlisted banks: Application to the european banking sector
Daniel Dimitrov, Sweder van Wijnbergen

767 - Green bond home bias and the role of supply and sustainability preferences
Anouk Levels, Claudia Lambert, Michael Wedow

766 - Nowcasting GDP using tone-adjusted time varying news topics: Evidence from the financial press
Dorinth van Dijk, Jasper de Winter
See also this interview

765 - Macroprudential regulation: a risk management approach
Daniel Dimitrov, Sweder van Wijnbergen

764 - The Bank of Amsterdam and the limits of fiat money
Wilko Bolt, Jon Frost, Hyun Song Shin, Peter Wierts

763 - Loan-to-Value shocks and macroeconomic stability
Emmanuel De Veirman

762 - The impact of high inflation on trust in national politics and central banks
Carin van der Cruijsen, Jakob de Haan, Maarten van Rooij

761 - Physical and transition risk premiums in euro area corporate bond markets
Joost Bats, Giovanna Bua, Daniel Kapp

760 - Paying in a blink of an eye: It hurts less, but you spend more
Marie-Claire Broekhoff, Carin van der Cruijsen

Published journal articles

How much do investors rely on credit ratings: Empirical evidence from the U.S. and E.U. CLO primary market
Frank Fabozzi, Vivian van Breemen, Dennis Vink, Mike Nawas and Austin Gengos
Journal of Financial Services Research, 2023, 63, 221-247

Fickle emerging market flows, stable euros, and the dollar risk factor
Martijn Boermans and John Burger
Journal of International Economics, 2023, 142, 103730

Drivers of trust in the ECB during the pandemic
Carin van der Cruijsen and Anna Samarina
Applied Economics, 2023, 55(13), 1454-1476

Banks’ net interest income from maturity transformation and other interest income: Communicating vessels?
Raymond Chaudron, Leo de Haan and Marco Hoeberichts
Journal of Financial Services Research, 2023, 63(1), 35-62

The unbearable lightness of equilibria in a low interest rate environment
Guido Ascari and Sophocles Mavroeidis
Journal of Monetary Economics, 127, 1-17

The impact of providing information about the ECB’s instruments on inflation expectations and trust in the ECB: Experimental evidence
Nils Brouwer and Jakob de Haan
Journal of Macroeconomics, 2022, 73, 103430

Forthcoming journal articles

Intensified competition and the impact on credit ratings in the RMBS market
Vivian van Breemen, Frank Fabozzi and Dennis Vink
Financial Markets, Institutions & Instruments

Central bank communication with the general public: Promise or false hope?
Alan Blinder, Michael Ehrmann, Jakob de Haan and David-Jan Jansen
Journal of Economic Literature

The (ir)relevance of rule-of-thumb consumers for U.S. business cycle fluctuations
Guido Ascari, Alice Albonico and Qazi Haque
Journal of Money, Credit and Banking

Fiscal foresight and the effects of government spending; it's all in the monetary-fiscal mix
Guido Ascari, Peder Beck-Friis, Anna Florio and Alessandro Gobbi
Journal of Monetary Economics

Excess liquidity and the usefulness of the money multiplier
Jan Willem van den End and Jan Marc Berk
Credit and Capital Markets

Consumer willingness to share payments data: Trust for sale?
Michiel Bijlsma, Carin van der Cruijsen and Nicole Jonker
Journal of Financial Services Research

Not all data are created equal: Data sharing and privacy
Michiel Bijlsma, Carin van der Cruijsen and Nicole Jonker
Applied Economics

Herd behaviour of pension funds by asset class
Ian Koetsier and Jacob Bikker
International Journal of Economics and Finance

Spillover effects of sovereign bond purchases in the euro area
Yvo Mudde, Anna Samarina and Robert Vermeulen
International Journal of Central Banking

Other publications

The effects of monetary policy across fiscal regimes
SUERF Policy Brief 529
Roben Kloosterman, Dennis Bonam, Koen van der Veer

Can machine learning methods help nowcast GDP?
SUERF Policy Brief 521
Andreas Pick, Jasper de Winter

Digitalisation of the payment system: A solution for some, a challenge for others
De Nederlandsche Bank
Marie-Claire Broekhoff, Carin van der Cruijsen, Nicole Jonker, Jelmer Reijerink, Ghislaine Umuhire, Wouter Vinken

High inflation erodes trust in the ECB
VoxEU Column
Carin van der Cruijsen, Jakob de Haan, Maarten van Rooij

For a complete list of publications see our website.

Events

Research seminars

Past

28 Feb 2023: Prescriptions for monetary policy when inflation is high
Aleš Maršál (National Bank of Slovakia)
7 March 2023: Real-time inequality
Gabriel Zucman (UC Berkeley)
21 March 2023:The price of leverage: Learning from the effect of LTV constraints on job search and wages
Kasper Rozbach (Norges Bank/RUG)
28 March 2023: Optimal monetary policy during a cost-of-living crisis
Vincent Sterk (UCL)

Forthcoming

4 April 2023: Brexit and the trade elasticity
John Lewis (Bank of England)
11 April 2023: Firm heterogeneity, capital misallocation and optimal monetary policy
Galo Nuno (Bank of Spain)
18 April 2023: TBA
Isaiah Hull (Norwegian Business School)

25 April 2023: The macroeconomic effects of cash transfers: Evidence from Brazil
Thuy Lan Nguyen (Federal Reserve Bank San Francisco)

4 May 2023: TBA
Sarah Holton (ECB)

9 May 2023: TBA
Luca Sala (Bocconi University)

Other news

David-Jan Jansen was a panelist in a CEPR panel on Central Bank Communication on December 1.

Oscar Soons defended his PhD thesis at the University of Amsterdam on January 11. The title of his thesis is "The past, present, and future of the euro area".

Research highlights, details

1. Central bank communication with the general public: A journey worth the effort

Challenges to be expected
In communicating with the public, central bankers face several challenges. First, reaching the public to begin with. When communicating with experts, central banks can rely on the fact that these will be very attentive to central bankers' words. For the public at large, this is less certain. Previous research at DNB found that members of the public can be quite comfortable with not being that well informed on monetary policy. Second, there may be an issue with financial literacy. Even if members of the public read or hear about monetary policy, it may remain difficult for them to interpret the message. Evidence shows households may lack knowledge of the central bank's intentions with monetary policy. Third, even if the message does get across, there is still the question of whether the public's beliefs or behaviour will change. There is evidence that communication moves inflation expectations, but mainly in the context of controlled experiments. Outside of the laboratory, communication is not certain to move inflation expectations.

Why communication with the public matters

Even though there will be challenges, important benefits make the journey worth the effort. Building trust is one key point. The forthcoming paper discusses that central banks increasingly see their communications with the general public as a way to enhance public trust. The literature that is surveyed in the JEL paper shows that low trust can have harmful repercussions for the central bank. For instance, by weakening the transmission of monetary policy, but also in the political sphere by attracting more political commentaries and thus potentially threatening independence. In addition, increasing trust can also have direct pay-offs for policy itself: there is evidence that the inflation expectations of people who have more trust in the central bank are closer to the central bank's target than those of people who have less trust.

Looking ahead
Going forward, it is expected that central banks will continue to search for ways to engage with the public. In that journey, there will be a trade-off between accuracy and simplicity. Central banks may reach households better by communicating in simpler ways and with shorter messages. However, if such messages get too much simplified, they may generate a false sense of precision and certainty. That may harm trust if economic outcomes differ from what was signaled in central bankers' messages. Also, ensuring consistency between the simpler messages geared toward the public and the more detailed information provided for expert audiences will become essential.

A starting point
Overall, the forthcoming paper concludes that the potential benefits from more and better central bank communication with the general public are important enough that central bankers should keep trying to achieve them. It points out that one area of attention could be that the central bank makes an investment in explaining its role clearly and in clarifying its objectives. That would provide a basic level of understanding on which further interactions with the public at large could build.

Read more? See the DNB Working Paper 744 Central bank communication with the general public: Promise or false hope? by Alan S. Blinder, Michael Ehrmann, Jakob de Haan, and David-Jan Jansen.
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2. Fiscal foresight and the effects of government spending: It's all in the monetary-fiscal mix

Announcement effects depend on the fiscal-monetary policy mix
How can we reconcile these findings? We propose the following theoretical explanation. The rise in output after an anticipated increase in government spending during the Great Inflation is consistent with the behavior of agents who expect positive wealth effects if the fiscal expansion is unbacked. The decrease in output during the Great Moderation, instead, is consistent with an anticipated, fiscally-backed increase in government spending. Our two samples match two well-defined regimes that literature generally denotes as, respectively, a fiscally-led and a monetary-led regime. We show that announcements of future government spending have different effects on economic activity depending on the monetary-fiscal policy mix. Upon announcement, they are contractionary in the monetary regime but expansionary in the fiscal regime, in contrast with the expansionary nature of government spending at implementation in both regimes.

Anticipation effects can therefore help to distinguish between the two regimes. Empirical analysis supports our theoretical insight. This evidence suggests that it could be (un)wise to anticipate future fiscal policies, depending on the regime in place.

Read more? See the publication Fiscal foresight and the effects of government spending: It's all in the monetary-fiscal mix in the *Journal of Monetary Economics* by Guido Ascari, Peder Beck-Friis, Anna Florio and Alessandro Gobbi.
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3. The Bank of Amsterdam and the limits of fiat money

Central banks and fiat money

Fiat money is issued by decree or "by fiat". Trust in fiat money is ensured through sound institutions, particularly central banks. Central banks work to maintain the value of the currency, often through actions taken on their own balance sheets. But what happens in the case of large losses? It is well-known that central banks can operate with negative equity for a time, and many have done so in recent history. Yet there are limits beyond which trust in fiat money disappears. By examining what it takes for an issuer of fiat money to fail, we may draw lessons on the central bank underpinnings of the institution of money.

Bank of Amsterdam and a game of incomplete information

Our case in point draws on the failure of the Bank of Amsterdam (1609-1820), a public deposit bank and an early precursor to modern central banks. We build a global games model with (positive) network effects enhancing the coordination value of money, in which merchants choose whether to hold (fiat) Bank of Amsterdam guilders ("Bank money") or metal coins. In this model, merchants receive a "noisy" signal about the state of the economy that drives small differences in the value they attach to using Bank money. Since merchants do not know each other's signals (or "types"), this forces them to coordinate their actions. Using this framework, we solve for the unique "break point" where fiat money becomes worthless.

Way forward

Although there are many differences with the current situation, the relatively simple financial system of the 18th century allows for a unique and illustrative case study. Our model allows us to draw lessons on the role of fiscal support and central bank capital in sustaining trust in fiat money. We find that trust in fiat money is more likely to evaporate when central bank equity is more deeply negative, assets are more illiquid, an alternative form of money is readily available, and when economic fundamentals are weaker. Moreover, as "fundamental" uncertainty among investors dissipates, there is a "jump" at the break point below which fiat money immediately loses all its value. This is particularly relevant when the fiscal backing of the central bank is absent or in doubt. Our analysis strongly suggests that credible fiscal backing remains critical in the current context of above-target inflation and (heavy) losses on central bank portfolios.

See DNB Working Paper No. 764 The Bank of Amsterdam and the limits of fiat money by Wilko Bolt, Jon Frost, Hyun Song Shin and Peter Wierts.
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4. Loan-to-value shocks and macroeconomic stability

A tightening in mortgage lending standards causes house prices and output to decline
When banks or other mortgage providers tighten their credit standards, in the sense that they lend at lower loan-to-value ratios, this has macroeconomic effects. Because both households and small businesses can borrow less than before, they are forced to spend less. Households buy fewer consumer goods and services. They also buy fewer or smaller houses. Meanwhile, businesses build fewer factories and buy less equipment to produce their goods and services. All of these declines in spending contribute to an overall decrease in the economy's output. Furthermore, the decline in the demand for housing by households and business causes house prices to drop.

High loan-to-value ratios imply larger swings in house prices and output
When the loan-to-value ratio is high, this not only means that the level of the mortgage loan amount is quite high relative to the purchase price of the house. It also means that a given change in house prices implies quite a large change in the loan amount that households and small business can borrow. Because of this, it also implies quite large changes in spending by households and small businesses on consumer items, productive equipment, as well as on accommodation and buildings used in production. Such large changes in spending on housing, in turn, cause large changes in house prices. To sum up, when the loan-to-value ratio is high, there is a strong feedback loop between house prices, mortgage credit and house purchases. This implies that any given change in households' or small businesses' willingness to buy houses strongly affects house prices, and therefore also the economy's total output. This means that house prices and output fluctuate more strongly over time when loan-to-value ratios are high.

Read more? ? See DNB Working Paper 763 Loan-to-Value shocks and sacroeconomic stability by Emmanuel De Veirman.
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5. Quantifying systemic risk in the presence of unlisted banks: application to the European banking sector

Systemic risk
Systemic linkages between financial institutions arise naturally either directly from the structure of the networks through which banks operate on the interbank market or indirectly due to common exposures to the same risk sources - either on the liability side or on the asset side. This paper presents a framework that does not require a particular view of what is causing systemic losses. Instead, we identify the potential for high joint distress based on observed dependencies between traded credit protection on the market.

Benefits of using CDS data
The methodology developed in this study allows policymakers to evaluate systemic risk in a cross-section, determining the share of systemic risk due to a particular institution and, over time, evaluating the potential for large systemic losses in response to or anticipation of systemic market shocks. The use of CDS data, in contrast to the more common academic approaches of using information from the equity markets, allows us also to analyze banks that do not have equity listings, as is commonly the case in the Euro Area. Overall, we find that for an important subgroup of large European banks the size of the capital buffers they are required to hold does not seem to be in proportion to their contribution to systemic risk on a European scale. These findings speak to the discussion on the efficient capital regulation of banks in the Euro Area so that the banking sector remains resistant to potential systemic shocks.

Read more? See DNB Working Paper No. 768 Quantifying systemic risk in the presence of unlisted banks: Application to the European banking sector by Daniel Dimitrov and Sweder van Wijnbergen**.**
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6 Nowcasting GDP using tone-adjusted time varying news topics: Evidence from the financial press

This paper investigates two related questions. First, can newspaper sentiment be used to assess the course of the business cycle? Second, can newspaper sentiment be used to decrease the forecasting error of nowcasting models? To answer the first question, the authors combine a dictionary-based newspaper sentiment measure with a topic model that allows tracing the sentiment by fine-grained time-varying and hierarchically ordered topics. This tone-adjusted time-varying layered topic model is new in the literature. The second question analyses the first question more formally by examining the added value of including newspaper sentiment indicators in a formal nowcasting horse-race between a state-of-the-art nowcasting model using 70 monthly indicators versus a model using these indicators and 4 to 64, time-varying and hierarchically ordered, sentiment indicators derived from the topic model.

The results of this analysis may be useful to policymakers, financial analysts, and economic agents. The article demonstrates that sentiment indicators derived from the financial press contain valuable additional information that can be extracted in real time. The findings suggest that the number of topics and the number of layers in the topic model are important determinants of the forecasting power of their value added in a nowcasting model.

Read more? See DNB Working Paper 766 Nowcasting GDP using tone-adjusted time varying news topics: Evidence from the financial press by Dorinth van Dijk and Jasper de Winter
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