

## Report on DNB Research Program 2020

In line with the DNB Research Agenda, the [DNB Research program 2020](#) had the following themes:

1. *Effects of unconventional monetary policies*
2. *The new normal for monetary policy*
3. *Dynamics of inflation*
4. *Credit supply*
5. *Financial stability and financial regulation*
6. *Sustainability*
7. *Payments and market infrastructures*

Appendix 1 provides an overview of the status of the projects included in the 2020 DNB research program. Table 1 summarizes the progress made on individual projects. In 2020 14 (out of 70) projects were stopped due to lack of sufficient results. In 2021, 30 projects of the research program 2020 will be continued in 2021.

Table 1. Overview of the status of the projects in 2020 DNB research program

Theme:	Total number of projects:	Published as WP or under review:	Will soon be published:	Will be continued in 2021:	Stopped:
1.	9	3	2	3	1
2.	11	2	2	5	2
3.	6	0	1	5	0
4.	2	0	1	1	0
5.	14	2	4	4	4
6.	15	1	5	7	2
7.	13	3	0	5	5
Total	70	11	15	30	14

In 2020 40 [DNB working papers](#) have been published, compared to 39 in 2019 and 38 in 2018.

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.

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 at the [DNB Research website](#). 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. The number of publications and acceptances in A-rated journals in 2020 is 6.

Table 2. Journal publications by DNB staff in 2009-2020

	A journals	B journals	C journals	Others
2009	3	15	4	4
2010	3	19	2	11
2011	4	16	9	3
2012	3 (2)	19 (12)	9 (8)	11 (8)
2013	6 (4)	27 (19)	10 (5)	16 (11)
2014	5 (4)	17 (14)	8 (5)	7 (6)
2015	3 (3)	18 (17)	9 (8)	6 (5)
2016	5 (4)	20 (14)	7 (7)	9 (3)
2017	3 (3)	22 (15)	3 (2)	4 (3)
2018	4 (4)	18 (12)	11 (7)	5 (4)
2019	5 (5)	26 (19)	3 (2)	1 (1)
2020	4 (4)	13 (10)	6 (6)	7 (4)
Forthcoming <sup>1</sup>	2 (2)	8 (5)	7 (5)	7 (5)

Table 3. Books and contributions in books by DNB staff in 2010-2020

	Books (monographs and edited volumes) by publishers on DNB list	Other books	Contributions in books by publishers on DNB list	Other contributions
2010	1	--	7	1
2011	1	--	2	2
2012	2 (2)	--	4 (4)	6 (2)
2013	1 (1)	--	3 (3)	1 (1)
2014	1 (0)	--	1 (1)	--
2015	1 (1)	1 (0)	4 (4)	7 (0)
2016	--	--	1 (0)	--
2017	1 (0)	--	1 (1)	3 (1)
2018	2 (1)	--	5 (3)	3 (2)
2019	1 (1)	--	4 (4)	--
2020	1 (1)	-- (--)	-- (--)	-- (--)
Forthcoming	-- (--)	-- (--)	1 (--)	1 (1)

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

Papers written by DNB staff have been published or accepted for publication in the *Journal of Business & Economic Statistics*, the *Journal of Econometrics*, the *Journal of Financial Intermediation*, the *Review of Economics and Statistics*, and the *Journal of Money, Credit and Banking*, amongst others.

In 2020 the following Occasional Studies have been published:

- Nr. 1: *Central Bank Digital Currency – Objectives, preconditions and design choices* by Peter Wierds and Harro Boven
- Nr. 2: *The role and future of cash* by Jurgen Spaanderman

<sup>1</sup> Measured at the beginning of January 2021 (includes papers already published in 2021).

Due to the Covid-19 pandemic there were no Visiting Scholars in 2020. Normally the DNB Visiting Scholar Program is able to attract several excellent scholars who give seminars and/or policy lectures and interact with DNB staff.

In 2020 the following [conference and workshop](#) have been organized or hosted:

- 8 January 2020: Forging a new future between the UK and the EU
- 29 October 2020: DNB Annual Research Conference titled “The Real Effects of Monetary Policy in the Short and Long Run”

Due to Covid-19 two conferences were cancelled. In 2020 there were 19 seminars by external speakers (see Appendix 3) and about 20 seminars by internal speakers. Due to Covid-19 the number of seminars has been lower compared to other years. All seminars are announced at the website of DNB and are frequently attended by DNB policy makers and external visitors.

For forecasting purposes extensive use has been made of DNB’s macro model DELFI. As usual DNB’s macroeconomic projections were issued in June and December in our bi-annual publication [“Economic Developments and Outlook”](#). The Covid-19 pandemic was the main focus of attention in 2020. Based on DELFI various scenario’s – mild, baseline, and severe – have been constructed to explore and judge the potential impact of the pandemic on the Dutch economy. Moreover, DELFI has also been used as the main tool to develop the macroeconomic scenario’s underlying DNB’s pandemic stress tests for the banking sector in the Netherlands. In addition DELFI has been used to explore the impact of a rise in interest rates on the Dutch economy, as input to a report of the Financial Stability Committee in response to parliamentary questions. The DELFI projections for GDP-growth have been informed by the output of the nowcasting model DFROG and the financial sentiment indicator tool FISI. Sectoral analysis, complemented by simulations with an input-output model, proved very useful to support the macroeconomic projections in and their narrative in the context of the development of the pandemic.

Next to the models mentioned above in the course of 2020 several models have been developed and applied for policy scenario analysis:

- A model calibrated to the Dutch economy that sheds light on testing and quarantining. This is a stylized equilibrium model integrating epidemiological and economic developments.
- A tool based on CBS firm-level microdata which can be used to project the liquidity and solvency position of Dutch firms and sectors. It has been applied to analyse the implications of government pandemic support packages.
- The EAGLE model, a multi-country equilibrium model, which consists of four regions, namely the Netherlands, the rest of the Euro Area, the US and the rest of the World. The model has been used to gauge the impact of trade tariffs on the global and Dutch economy.

## Appendix 1. Research projects 2020

Theme	Title	Authors	Published as DNB WP	Will soon (in 2021 Q1) be published as WP	Project stopped	Project will be continued in 2021
Effects of unconventional monetary policies	Monetary policy effects when interest rates are negative: What do bank stock prices tell us?	Joost Bats, Massimo Giuliodori (University of Amsterdam) and Aerd Houben	694			
Effects of unconventional monetary policies	The impact of providing information on monetary policy on inflation expectations and trust in the ECB	Nils Brouwer and Jakob de Haan		1		
Effects of unconventional monetary policies	Unintended effects of quantitative easing: An assessment of the safety premium channel	Gavin Goy, Dennis Bonam and Ansgar Rannenberg (NBB)				1
Effects of unconventional monetary policies	A structural investigation of quantitative easing	Gavin Goy, Gregor Boehl (Goethe University) and Felix Stroebel (Goethe University)	691			
Effects of unconventional monetary policies	Optimal Quantitative Easing in a monetary union	Renske Maas, Kostas Mavromatis, Serdar Kabaca (Bank of Canada) and Romanos Priftis (Bank of Canada)	697			
Effects of unconventional monetary policies	Asset bubbles in risky assets	Nander de Vette			1	
Effects of unconventional monetary policies	QE and (international) portfolio rebalancing	Tom Hudepohl and Renske Maas				1
Effects of unconventional monetary policies	Risk management principles for central banks: Towards a better understanding of interest rate risks in the central bank balance sheet	Michael Kurz, Dirk Broeders and Paul Wessels				1
Effects of unconventional monetary policies	Spillover effects of PSPP in the euro area	Anna Samarina, Yvo Mudde and Robert Vermeulen		1		

<b>Theme</b>	<b>Title</b>	<b>Authors</b>	<b>Published as DNB WP</b>	<b>Will soon (in 2021 Q1) be published as WP</b>	<b>Project stopped</b>	<b>Project will be continued in 2021</b>
The new normal for monetary policy	Drivers of the Euro area economy: A nonlinear semi-structural approach	Gavin Goy, Claus Brand (ECB), Carlos Montes-Galdon (ECB), Mario Porqueddu (ECB) and Mate Toth (ECB)				1
The new normal for monetary policy	Non-linearities in the IS curve	Jan Willem van den End, Paul Konietschke, Anna Samarina and Irina Stanga	684			
The new normal for monetary policy	Nowcasting Dutch GDP with Machine Learning Methods	Andreas Pick				1
The new normal for monetary policy	Fear of secular stagnation and the natural interest rate	Paolo Bonomolo and Valentina Gavazza (Stockholm University)		1		
The new normal for monetary policy	Detecting liquidity traps	Paolo Bonomolo, Yildiz Akkaya (Konjunkturinstitutet) and Ingvar Strid (Sveriges Riksbank)				1
The new normal for monetary policy	Re-assessing monetary policy shocks	Paolo Bonomolo, Björn van Roye (ECB) and Alistair Dieppe (ECB)			1	
The new normal for monetary policy	Now-casting under structural change	Maurice Bun, Jos Jansen (Ministry of Finance) and Jasper de Winter			1	
The new normal for monetary policy	Look for the stars: Estimating the natural rate of interest	Irma Hindrayanto, Mengheng Li and Siem Jan Koopman (Free University Amsterdam (VU))				1
The new normal for monetary policy	Behavioural learning equilibria in the New Keynesian model	Kostas Mavromatis, Cars Hommes (University of Amsterdam) and Tolga Ozden (University of Amsterdam)	654			
The new normal for monetary policy	Estimating DSGE models with finite horizons	Kostas Mavromatis, Joep Lustenhouwer (Bamber University), Mike Tsionas (Lancaster University) and Giorgio Motta (Lancaster University)				1

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The new normal for monetary policy	Forecasting with large panel data sets	Andreas Pick		1		
Dynamics of inflation	Private beliefs formation and macroeconomic risk	Paolo Bonomolo, Guido Ascari (University of Oxford and University of Pavia) and Leonardo Melosi (Federal Reserve Bank of Chicago)				1
Dynamics of inflation	Non linearity in the long run Phillips Curve	Paolo Bonomolo and Guido Ascari (University of Oxford and University of Pavia)		1		
Dynamics of inflation	On the sources of business cycle fluctuations in small open economies: Sweden 1995-2015	Paolo Bonomolo, Vesna Corbo and Jesper Lindé (both at Sveriges Riksbank)				1
Dynamics of inflation	Inflation fluctuations and liquidity constraints	Jakob de Haan, Emmanuel de Veirman and Irina Stanga				1
Dynamics of inflation	Heterogeneity in inflation forecasts	Kostas Mavromatis, Jakob de Haan, Cars Hommes (University of Amsterdam), Domenico Massaro (Catholic University of Milan) and Adriana Cornea Madeira (University of York)				1
Dynamics of inflation	Does it matter how you target? Performance of point, band, and range targets for inflation	Anna Samarina				1
Credit supply	The impact of negative interest rates on bank intermediation	Jorien Freriks and Jan Kakes		1		
Credit supply	IBRN project on consequences of low interest rates	Anna Samarina, David-Jan Jansen and Jakob de Haan				1
Financial stability and financial regulation	Detecting anomalous payment flows in large value payments system TARGET and LVTS	Timothy Aerts, Segun Bewaji (Payments Canada), Shaun Byck (Payments Canada), Ronald Heijmans and Ellen van der Woerd		1		

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Financial stability and financial regulation	Are there arbitrage possibilities in the trade of crypto currencies?	Timothy Aerts, Segun Bewaji (Payments Canada), Ronald Heijmans, Jeff Stewart and Ellen van der Woerd				1
Financial stability and financial regulation	Recourse and (strategic) mortgage defaults: Evidence from changes in laws governing the housing market	Alin Andries (Alexandru Ioan Cuza University), Anca Copaciu (National Bank of Romania), Radu Popa (National Bank of Romania), and Razvan Vlahu		1		
Financial stability and financial regulation	How does the relationship between the loss-given-default (LGD) and the probability of default (PD) affects the cyclical behaviour of the Dutch banks' regulatory capital?	Laurence Deborgies Sanches and Marno Verbeek (Erasmus University Rotterdam)		1		
Financial stability and financial regulation	Shallow or deep? Detecting anomalous flows in the Canadian Automated Clearing and Settlement System using an autoencoder	Ronald Heijmans and Leonard Sabetti (Bank of Canada)	681			
Financial stability and financial regulation	Growth-at-Risk	Dimitris Mokas and David-Jan Jansen			1	
Financial stability and financial regulation	Trust in financial institutions	Carin van der Crujisen, Jakob de Haan and Ria Roerink	693			
Financial stability and financial regulation	Systemic risk of pension funds	Rob Bauer (University of Maastricht), Dirk Broeders and Annick van Ool			1	
Financial stability and financial regulation	Foreign bias in equity portfolios	Martijn Boermans, Ian Cooper (London Business School), Piet Sercu (KU Leuven) and Rosanne Vanpee (KU Leuven)				1
Financial stability and financial regulation	Does search for duration make investment behaviour procyclical?	Stijn Claessens (BIS) and Robert Vermeulen				1

Theme	Title	Authors	Published as DNB WP	Will soon (in 2021 Q1) be published as WP	Project stopped	Project will be continued in 2021
Financial stability and financial regulation	Requirement on the Total Loss Absorbing Capacity for Global Systemically Important Banks	Wayne Passmore (Federal Reserve Board) and Chen Zhou			1	
Financial stability and financial regulation	Demand and supply reservation price indices for the housing market	Dorinth van Dijk and Marc Francke (University of Amsterdam)			1	
Financial stability and financial regulation	Regulation, supranational bank supervision, and the corporate structure of foreign affiliates	Razvan Vlahu and Natalya Martynova (Deutsche Bundesbank)				1
Financial stability and financial regulation	Bank relationships after foreign takeover	Razvan Vlahu, Steven Poelhekke (University of Auckland) and Vadym Volosovych (EUR)		1		
Sustainability	A convenient truth: The convenience yield, low interest rates and implications for fiscal policy	Dennis Bonam		1		
Sustainability	Tax multipliers over the business cycle: new evidence from a narrative panel dataset	Dennis Bonam and Paul Konietschke (ECB)		1		
Sustainability	Inequality and household financial decisions	Dimitris Georgarakos (ECB), Yuriy Gorodnichenko (University of California Berkeley), Olivier Coibion (University of Texas Austin) and Maarten van Rooij				1
Sustainability	Pricing the carbon factor for Europe's equity market	Kristy Jansen, Rianne Luijendijk, and Sweder van Wijnbergen				1
Sustainability	The Dutch financial sectors dependence on ecosystem services	Guan Schellekens			1	
Sustainability	The effect of ESG integration on the environmental performance of stock portfolios	Guan Schellekens, Anouk Levels				1



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Sustainability	Monetizing the environmental externalities of the Dutch economy and its supply chain	Bas Smeets (former DNB intern), Guan Schellekens, Thomas Bauwens (UU) and Harry Wilting (PBL)		1		
Sustainability	Climate risks, the macroeconomy and the term-structure of sovereign bonds	Dieter Wang			1	
Sustainability	Granular carbon risk stress test for portfolio	Martijn Boermans and Rients Galema		1		
Sustainability	Zombie firms and productivity growth in the Dutch economy	Maurice Bun and Jasper de Winter				1
Sustainability	The employment effects of corporate income tax shocks: New evidence and some theory	Andrea Colciago, Vivien Lewis (Bundesbank) and Branka Matyska (Leuven University)				1
Sustainability	The interplay of financial education, financial literacy, financial inclusion and financial stability: Any lessons for the current big tech era?	Nicole Jonker and Anneke Kosse (Bank of Canada)	692			
Sustainability	Asymmetric shocks in EMU: private or public risk sharing?	Patrick Kosterink, Dennis Bonam, Matthijs Zaal and Jakob de Haan				1
Sustainability	Monitoring the Dutch business cycle using text-mining techniques	Dorinth van Dijk and Jasper de Winter		1		
Sustainability	Financial literacy and pension expectations	Maarten van Rooij, Rob Alessie (University of Groningen) and Remko Struik				1
Payments and market infrastructures	Is there anybody out there? Detecting operational outages from LVTS transaction data	Neville Arjani (Canada Deposit Insurance Corporation) and Ronald Heijmans	683			
Payments and market infrastructures	Influence of proximity of ATMs on cash and card usage	Michiel Bijlsma, Igo Boerrigter, Wilko Bolt and Nicole Jonker			1	

Theme	Title	Authors	Published as DNB WP	Will soon (in 2021 Q1) be published as WP	Project stopped	Project will be continued in 2021
Payments and market infrastructures	How much liquidity would a liquidity-saving mechanism save if a liquidity-saving mechanism could save liquidity? A simulation approach for Canada's large-value payment system	Shaun Byck (Payments Canada) and Ronald Heijmans	682			
Payments and market infrastructures	Drivers of consumers' trust in a changing retail payment ecosystem	Carin van der Cruijssen, <del>Eric Faber</del> and Nicole Jonker				1
Payments and market infrastructures	Scene guidance for faster and intuitive banknote authentication	Frank van der Horst, Igo Boerrigter and Jan Theeuwes (Free University Amsterdam)				1
Payments and market infrastructures	Account-based versus token-based/P2P/value-based CBDC	Peter Wierts and Harro Boven			1	
Payments and market infrastructures	Cryptos and illegal activities: casting light on the dark side of cryptos	Timothy Aerts, Janko Gorter and Jakob de Haan			1	
Payments and market infrastructures	E-commerce: Use, growth and pricing	Wilko Bolt and Bas Butler				1
Payments and market infrastructures	Virtual currencies: Dynamics and monetary aspects	Wilko Bolt and Maarten van Oordt (Bank of Canada)				1
Payments and market infrastructures	Liquidity efficiency in large value payment systems	Martin Diehl (Deutsche Bundesbank), Ioana Duca (ECB), Ronald Heijmans, Patrick Papsdorf (ECB) and Jan Paulick (Deutsche Bundesbank)	BIS			
Payments and market infrastructures	Pricing the payments infrastructure	Nicole Jonker, Wilko Bolt and Michiel Bijlsma			1	
Payments and market infrastructures	Contactless payments, the pain of paying, and financial troubles	Carin van der Cruijssen				1
Payments and market infrastructures	Financial literacy, trust in banks and adoption of new payment technologies	Carin van der Cruijssen and Nathanael Vellekoop (University of Toronto and SAFE)			1	

## Appendix 2. DNB Working Papers in 2020

- No. 662 **Carin van der Cruijisen-Knoben, Jakob de Haan and Ria Roerink**, Financial knowledge and trust in financial institutions
- No. 663 **Jon Frost**, Economic Forces Driving FinTech Adoption
- No. 664 **Anna Samarina and Nikos Apokoritis**, Evolution of monetary policy frameworks in the post-crisis environment
- No. 665 **Christian König-Kersting, Stefan T. Trautmann and Razvan Vlahu**, Bank instability: Interbank linkages and the role of disclosure
- No. 666 **Claus Brand, Gavin Goy, Wolfgang Lemke**, Natural Rate Chimera and Bond Pricing Reality
- No. 667 **Joost Bats**, Corporates' dependence on banks: The impact of ECB corporate sector Purchases
- No. 668 **Marc van Kralingen, Diego Garlaschelli, Karolina Scholtus and Iman van Lelyveld**, Crowded trades, market clustering, and price instability
- No. 669 **Mark Mink, Rodney Ramcharan and Iman van Lelyveld**, How Banks Respond to Distress: Shifting Risks in Europe's Banking Union
- No. 670 **Jasmira Wiersma, Rob Alessie, Adriaan Kalwij, Annamaria Lusardi and Maarten van Rooij**, *Skating on thin ice: New evidence on financial fragility*
- No. 671 **Michiel Bijlsma, Carin van der Cruijisen and Nicole Jonker**, Consumer propensity to adopt PSD2 services: trust for sale?
- No. 672 **Duncan van Limbergen and Robert Vermeulen**, The importance of value chains for euro area trade: a time series perspective
- No. 673 **Martijn Boermans en Bram van der Kroft**, Inflated credit ratings, regulatory arbitrage and capital requirements: Do investors strategically allocate bond portfolios?
- No. 674 **Andras Lengyel and Massimo Giuliadori**, Demand Shocks for Public Debt in the Eurozone
- No. 675 **Raymond Chaudron, Leo de Haan and Marco Hoeberichts**, Banks' net interest margins and interest rate risk: communicating vessels?
- No. 676 **Martijn Boermans and John Burger**, Global and local currency effects on euro area investment in emerging market bonds
- No. 677 **Patty Duijm and Ilke van Beveren**, Product diversification as a performance boosting strategy? Drivers and impact of diversification strategies in the property-liability insurance industry
- No. 678 **Richard Heuver and Ron Berndsen**, Liquidity Coverage Ratio in a Payments Network: Uncovering Contagion Paths
- No. 679 **Gabriele Galati, Jan Kakes and Richhild Moessner**, Effects of credit restrictions in the Netherlands and lessons for macroprudential policy
- No. 680 **Frank van der Horst, Jelle Miedema, Joshua Snell and Jan Theeuwes**, Banknote verification relies on vision, feel and a single second
- No. 681 **Leonard Sabetti and Ronald Heijmans**, Shallow or deep? Detecting anomalous flows in the Canadian Automated Clearing and Settlement System using an autoencoder
- No. 682 **Shaun Byck and Ronald Heijmans**, How much liquidity would a liquidity-saving mechanism save if a liquidity-saving mechanism could save liquidity? A simulation approach for Canada's large-value payment system
- No. 683 **Neville Arjani and Ronald Heijmans**, Is there anybody out there? Detecting operational outages from LVTS transaction data
- No. 684 **Jan Willem van den End, Paul Konietschke, Anna Samarina, Irina Stanga**, Macroeconomic reversal rate: evidence from a nonlinear IS-curve

- No. 685 **Andrea Colciago and Riccardo Silvestrini**, Monetary Policy, Productivity, and Market Concentration
- No. 686 **Jon Frost, Hiro Ito and René van Stralen**, The effectiveness of macroprudential policies and capital controls against volatile capital inflows
- No. 687 **Valeriu Nalban and Andra Smadu**, Financial disruptions and heightened Uncertainty: a case for timely policy action
- No. 688 **Gabriele Galati, Richhild Moessner and Maarten van Rooij**, The anchoring of long-term inflation expectations of consumers: insights from a new survey
- No. 689 **Andrea Colciago and Rajssa Mechelli**, Competition and Inequality
- No. 690 **Gabriele Galati and Richhild Moessner**, Effects of Fed policy rate forecasts on real yields and inflation expectations at the zero lower bound
- No. 691 **Gregor Boehl, Gavin Goy and Felix Strobel**, a Structural Investigation of Quantitative Easing
- No. 692 **Nicole Jonker and Anneke Kosse**, The interplay of financial education, financial literacy, financial inclusion and financial stability: Any lessons for the current Big Tech era?
- No. 693 **Carin van der Cruijssen, Jakob de Haan and Ria Roerink**, Trust in financial institutions: A survey
- No. 694 **Joost Bats, Massimo Giuliodori and Aerd Houben**, Monetary policy effects in times of negative interest rates: What do bank stock prices tell us?
- No. 695 **Andrea Colciago, Stefano Fasani and Lorenza Rossi**, Unemployment, Firm Dynamics, and the Business Cycle
- No. 696 **Jon Frost, Hyun Song Shin and Peter Wierds**, An early stablecoin? The Bank of Amsterdam and the governance of money
- No. 697 **Serdar Kabaca, Renske Maas, Kostas Mavromatis and Romanos Priftis**, Optimal Quantitative Easing in a Monetary Union
- No. 698 **Rob Bauer, Rien Bogman, Matteo Bonetti and Dirk Broeders**, The impact of trustees' age and representation on strategic asset allocations
- No. 699 **Dennis Bonam and Paul Konietschke**, Tax multipliers across the business cycle
- No. 700 **Dennis Bonam**, A convenient truth: The convenience yield, low interest rates and implications for fiscal policy
- No. 701 **Nicole Jonker, Carin van der Cruijssen, Michiel Bijlsma and Wilko Bolt**, Pandemic payment patterns
- No. 702 **Dennis Bonam, Gavin Goy and Emanuel de Veirman**, Should developed economies manage international capital flows? An empirical and welfare analysis.

### Appendix 3. Overview of seminars in 2020

1	9-jan	The Digitalization of Money	Markus Brunnermeier	Princeton University
2	14-jan	Net Trade Credit and Firm Performance	Yiannis Karavias	Birmingham University
3	16-jan	Innocent until proven guilty: Dutch Shell Companies and International Tax Planning	Maarten van 't Riet	CPB
4	28-jan	Loan Types and the Bank Lending Channel	Enrique Moral-Benito	Bank of Spain
5	4-feb	Policy Lecture - Rethinking monetary policy frameworks	Claudio Borio	BIS
6	18-feb	Have Systemically Important Financial Institutions Gotten Riskier?	Giovanni Calice	Loughborough University
7	10-mrt	The Contribution of Market Power to Wage Inequality	Jan Eeckhout	Universitat Pompeu Fabra (UPF)
8	9-jun	All You Need is Cash: Corporate Cash Holdings and Investment after a Crisis	Neeltje van Horen	Bank of England
9	30-jun	Household Insurance and The Macroeconomic Impact of the Novel Corona Virus"	Stefania Albanesi	University of Pittsburgh
10	8-jul	Bretton Woods, Brussels, and Beyond: Redesigning the Institutions of Europe	Jan-Egbert Sturm	ETH Zürich
11	8-sep	Rigid Wages and Contracts: Time- versus State-Dependent Wages in the Netherlands	Burak Uras	Tilburg University
12	15-sep	Zombie Credit and (Dis-) Inflation: Evidence from Europe	Tim Eisert	Erasmus University
13	22-sep	Raising the Inflation Target: How Much Extra Room Does It Really Give?	Raphael Schoenle	Brandeis University
14	6-okt	Business Shutdowns and COVID-19 Mortality	Gabriele Ciminelli	Asia School of Business
15	3-nov	Monetary Policy Uncertainty and Firm Dynamics	Stefano Fasani	Queen Mary University
16	10-nov	The Macroeconomics of Sticky Prices with Generalized Hazard Functions	Francesco Lippi	Luis University
17	17-nov	Monetary Policy and Intangible Investment	Robin Doettling	EUR
18	24-nov	Agnostic Output Gap Estimation in Large Cross-Sections	Samad Sarferaz	KOF ETH
19	8-dec	Banking barriers to the green economy	Tarik Roukny	KU Leuven