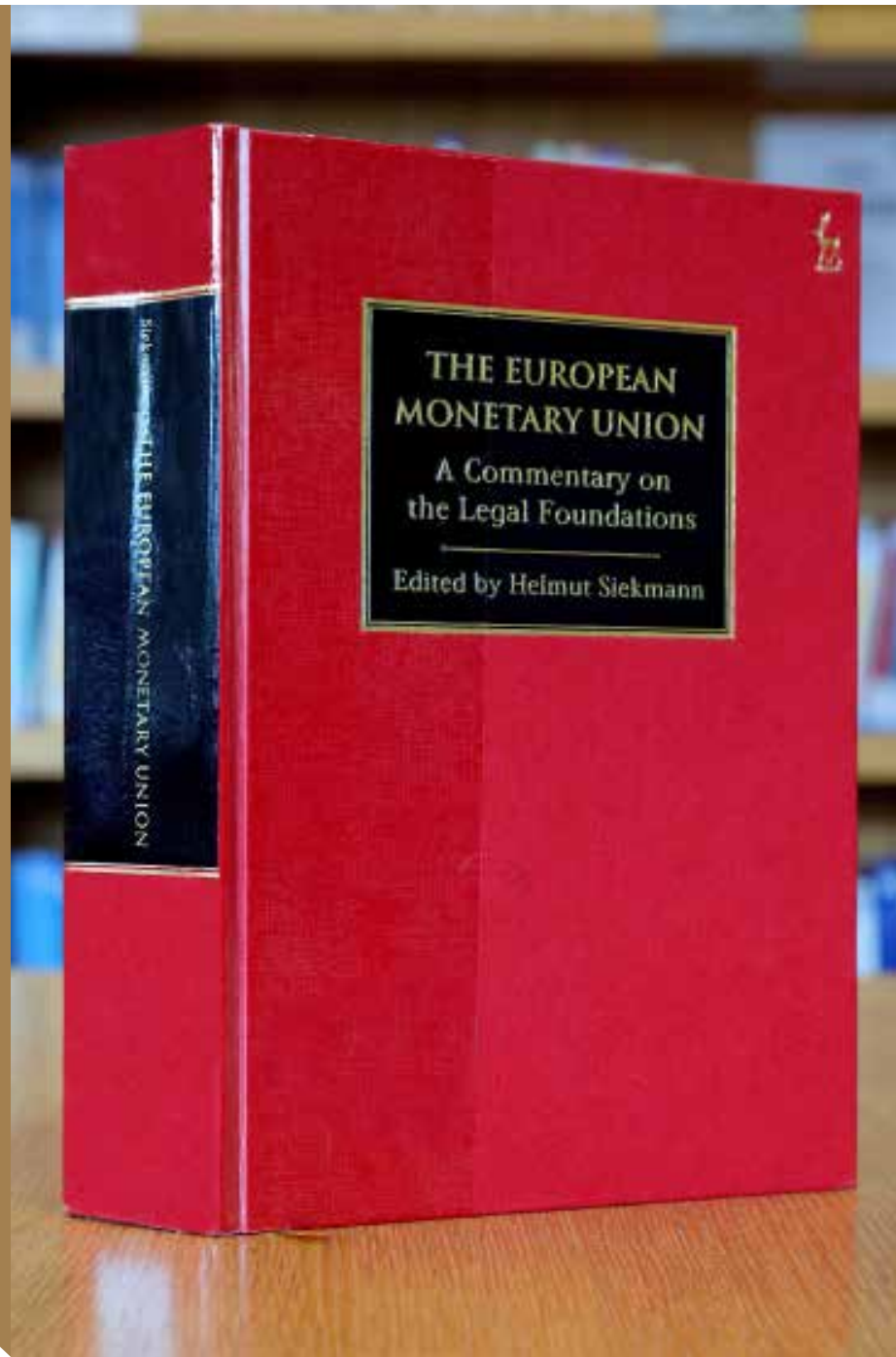


# ANNUAL REPORT 2021

Institute for  
Monetary and  
Financial  
Stability



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PHOTOS

IMFS / Jakob Liermann  
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DESIGN

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# Editorial

Dear friends of the IMFS,

We are delighted to present to you the IMFS Annual Report 2021. The effects of the coronavirus pandemic and policy support measures have remained a dominating theme throughout the year. IMFS expertise in this regard was sought after in policy circles and the media. IMFS researchers provided insights and analysis concerning the macroeconomic and financial consequences of the pandemic.

In December, we were able to launch the first version of the Macro-Epi Model Database, which was developed by a team led by Mathias Trabandt and Volker Wieland. This new archive makes more than 20 new models available that can be used to study the relationship between epidemics and the macroeconomy. Further computational tools will follow in 2022.

IMFS research professor Michael Haliassos received the Hillcrest Best Paper Award 2020 in Behavioral Finance from the Review of Financial Studies for research into questions of financial literacy. Alexander Meyer-Gohde was able to raise research funding from the German National Science Foundation for his work on macroeconomic modelling.

At the same time, an important IMFS project of legal research was completed. The new English language Commentary on the European Monetary Union was released. Helmut Siekmann, along with Roland Broemel and further experts as contributing authors, published this 1500-page edition, which analyzes the entire legal foundation of EMU. For professionals and scholars alike, this work is an excellent and unique resource.

But also the general public benefited from IMFS expertise in more than 270 editorials, TV appearances, and newspaper commentary pieces, setting a new record after already strong interest in the previous year. An important issue covered throughout the year was the rise of inflation. As early as spring 2021, IMFS Chair of Monetary Economics, Volker Wieland, had warned of the risk of inflation exceeding the ECB's target substantially for a longer period.

Another crucial area of work at the IMFS that saw an increase was academic mentorship, where researchers could provide support to a greater number of graduates. The network of IMFS alumni in central banks and international institutions continues to expand with new placements at the International Monetary Fund and the World Bank.

Kind regards,  
Volker Wieland,  
Managing Director and Professor of Monetary Economics

Roland Broemel,  
Deputy Managing Director and Chair of Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory



The Institute for Monetary and Financial Stability (IMFS) serves as a hub for interdisciplinary research in economics and law that is dedicated to improving our understanding of conditions and policies that are supportive of both price stability and financial stability. In 2021, the coronavirus pandemic continued to have an enormous impact on research and outreach.

### Commentary on the European Monetary Union available in English

A comprehensive commentary on all 50 articles of the Statute of the European System of Central Banks (ESCB) and the European Central Bank (ECB), edited by Professor Helmut Siekmann, was made available in December 2021. The book, entitled "The European Monetary Union - A Commentary on the Legal Foundations", contains over 1500 pages explaining the complete legal basis of the European Monetary Union.

In addition to all provisions of the Treaties themselves, which regulate the ESCB and the ECB, the analysis is supplemented by commentaries on other Protocols that contain relevant rules for the Monetary Union. In essence, all relevant statutory rules governing the euro and its key monetary authority, the ECB, are explained within this single volume. This places the book in a unique position in the legal literature on the law of the EU.

With contributions by renowned academics and practitioners, this book is an expanded and updated translation of the 2013 German commentary, "EWU Kommentar zur Europäischen

Währungsunion" published by Mohr Siebeck, and is an invaluable resource for those who are looking for a provision-by-provision commentary on the laws governing the European Monetary Union. IMFS Professor Roland Broemel is also among the more than 20 experts who contributed to this commentary.

### IMFS launches new book series on money, currency and finance

The IMFS and the publishing company Nomos have jointly launched a series of publications on money, currency and finance. The series is edited by Helmut Siekmann and Volker Wieland. The first volume of the series deals with development banks. In this book, Freya Carolin Siekmann addresses the legal foundations and the special "business model" of development banks, which is determined by the public mandate, state protection, and state influence and control. She also explores the question of how banking supervision law can be applied to public development banks. This work was supported by the Foundation for Monetary and Financial Stability (*Stiftung Geld und Währung*).



Nomos - Money, Currency and Finance, Volume 1:  
Freya Carolin Siekmann  
„Die öffentlichen Förderbanken in Deutschland - Rechtliche Grundlagen, öffentlicher Auftrag und staatliche Absicherung, staatliche Einflussnahme und Kontrolle sowie bankaufsichtsrechtliche Vorgaben“



## The Epidemic Macro Model Database (Epi-MMB) is launched

The Epi-Macro MMB is a new resource for researchers and policy analysts who want to assess the joint macroeconomic and health impact of epidemics and appropriate policy measures. The database was developed by Mathias Trabandt, Volker Wieland, and the IMFS team and featured more than 20 models at its start and will continue to be expanded. For each model, a short summary and the replication code are available for download at [www.epi-mmb.com](http://www.epi-mmb.com). Thus, different scenarios can be applied at the user's discretion.

Volker Wieland and his team previously developed the Macroeconomic Model Data Base (MMB, [www.macromodelbase.com](http://www.macromodelbase.com)), which includes more than 150 macroeconomic models where researchers can share formulas and codes of their models and also reproduce the calculations of other researchers. Mathias Trabandt is a Professor of Macroeconomics at Goethe University. Alexander Dück, Clara Lindemann, Anh H. Le, KaiLong Liu, Sirikorn Puangjit and Niko Telia are members of the MMB team.

## Alexander Meyer-Gohde receives DFG funding for research project on macroeconomic models

Alexander Meyer-Gohde received a grant for his research project on macroeconomic models from the German Research Foundation (*Deutsche Forschungsgemeinschaft, DFG*). The DFG will fund the project titled "Numerical diagnostics and improvements for the solution of linear dynamic macroeconomic models" during the next three years with an amount of 250,000 euros.

Meyer-Gohde's research concentrates on the methodological foundations of macroeconomics, in particular the numerical, theoretical, and empirical foundations, and its interaction with financial markets. In his research project funded by the DFG, Meyer-Gohde will quantify numerical limitations of current linear solutions methods for dynamic stochastic general equilibrium models based on recent advances from applied mathematics and thus provide restrictions on monetary policy. In 2021, a joint paper on "(Un)expected monetary policy shocks and term premia" by Meyer-Gohde and his co-author Martin Kliem was first published online in the *Journal of Applied Economics*.



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## Michael Haliassos receives award for best paper in behavioral finance

In 2021, IMFS Research Professor Michael Haliassos, together with Thomas Jansson and Prof. Yigitcan Karabulut, received the **Hillcrest Best Paper Award 2020 in Behavioral Finance** from the *Review of Financial Studies* for the paper "Financial Literacy Externalities". The prize recognizes the top paper published each year in the *Review of Financial Studies*, one of the most prestigious finance journals, and is endowed with 5,000 US dollars.

Their paper uses unique administrative data and a quasi-field experiment of exogenous allocation in Sweden to estimate medium- and longer-run effects on financial behavior from exposure to financially literate neighbors. It uncovers evidence of causal impact of exposure and of a social multiplier of financial knowledge, but also of unfavorable distributional aspects of externalities. Exposure promotes saving in private retirement accounts and stockholding, especially when neighbors have an economics or business education, but only for educated households and when interaction possibilities are substantial. Their findings point to a transfer of knowledge rather than mere imitation or effects through labor, education, or mobility channels.

Apart from that, Haliassos also received the 3rd Teaching Prize for "Intermediate Macroeconomics" (Bachelor-BMAK) at Goethe University.

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## Roland Broemel contributes legal expertise to project group on digital transformation

The **Centre Responsible Digitality (ZEVEDI)** is a research network which actively reaches out into politics, society and the economy. It brings the scientific expertise of researchers based at Hessian universities together in order to analyze the ethical and legal dimensions of digital transformation, thus contributing to shaping this transformation. ZEVEDI identifies and discusses responsibility as a crucial yet uncertain aspect of technological development and aims at making responsible digitality conceivable as well as practically feasible. It engages in research projects, promotes the transfer of scientific knowledge into society and the economy, and provides research-based policy advice on the topic – for a digital transformation guided by a democratic and humane orientation. ZEVEDI was founded in November 2019 and is supported by the Hessian Ministry for Digital Strategy and Innovation.

Roland Broemel forms part of the ZEVEDI project group on **Artificial Intelligence (AI) & Finance**. Digital technologies of AI and machine learning raise a variety of normative questions, such as liability for algorithmic decisions. Answering these questions requires norms that are, due to the innovative nature of those technologies, only beginning to emerge. The formation of norms takes place at different levels and by different actors – partly as ethical guidelines drafted by experts, partly as mechanisms embedded in technology, partly through the application of existing law, partly through legislative action. There are also differences in design and scope, with regulatory approaches that are partly sector-specific and partly technology-specific. The project group aims at analyzing the formation of norms, systematizing the complex body of norms and searching for effective enforcement mechanisms at the intersection of law, ethics, technology and market mechanisms.





## Volker Wieland takes the lead in Kronberger Kreis Study on ECB monetary policy

The Kronberger Kreis Study No. 67 titled "The Monetary Policy Strategy of the European Central Bank" examines whether the ECB's monetary policy strategy still holds promise for success, whether its mandate should be reinterpreted, and how the use of specific instruments should be assessed. In its analysis, the Kronberger Kreis draws on the experience of the financial crisis, the euro debt crisis and the coronavirus crisis, and is also based on relevant research from the IMFS.

Volker Wieland and his colleagues from the Kronberger Kreis argue that greater attention should be paid to the side effects and proportionality of monetary policy measures.

The central banks of the Eurosystem are now the largest creditors of the member states. Fiscal dominance of monetary policy should be avoided.

The researchers also argue that the ECB's hierarchical mandate prioritizing price stability should not be called into question. However, the ECB should also consider other measures of inflation in its decisions and their communication. In addition, the ECB should rely more strongly on quantitative benchmarks (interest rate rules, money supply growth). The transparency of monetary policy could be significantly increased,

for example, by publishing surveys and forecasts of the ECB's Governing Council.

## Lars P. Feld and Volker Wieland assess the proportionality of the ECB bond purchases in the *Journal of Financial Regulation*

In a joint paper in the *Journal of Financial Regulation*, Vol. 7, Issue 2, Lars P. Feld and Volker Wieland explain how a regular proportionality check of the ECB bond purchases could look like.

In May 2020, the German Federal Constitutional Court ruled that the ECB's large-scale bond-buying program exceeds European Union competencies. It stated that the ECB failed to assess that the program satisfies the principle of proportionality. The ECB has now integrated a proportionality assessment in its monetary policy strategy statement as a result of its strategy review.

At the request of the Constitutional Court, the European Court of Justice (ECJ) had previously ruled on the legality of the program and deemed it not in violation of EU law. However, the judges in Karlsruhe did not accept this ruling and thus opposed the ECJ. Their main criticism of the bond-buying program was the ECB's failure to justify why the program was proportionate. Proportionality is listed explicitly in the new ECB's monetary policy strategy statement. On July 8, ECB President Christine Lagarde presented the outcome of the ECB strategy review.



Feld and Wieland explain in their paper how a regular proportionality check could be integrated in the ECB's strategy. They propose to include quantitative benchmarks for policy rates and the central bank balance sheet in the context of such a proportionality check. In their view, proportionality assessments regarding monetary policy could be used as a way to strengthen the independence of the ECB. The interdisciplinary research of Feld and Wieland is at the cross-section of monetary economics and central bank law and very much in line with the IMFS mission of interdisciplinary work.

The *Journal of Financial Regulation* is an international forum for the publication of world-class scholarship examining theoretical, policy and practice-oriented issues related to the regulation of financial markets and institutions.

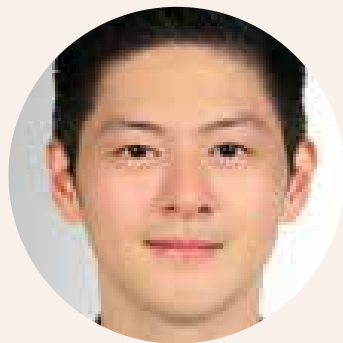
The report deals with ethics, which is mainly understood as the legal rules protecting privacy and personality rights and partially extended to (sub-legislative) legal norms and by-laws. Ethics and ethical rules are ambiguous terms easily abused by special interests to promote their goals circumventing the due democratic procedures of legislation. Upholding the great achievement of enlightenment, the fundamental distinction between morality and legality, these rules cannot as such claim general binding force notwithstanding their inflationary use. Under close scrutiny, the rules of the primary law and of the General Data Protection Regulation (GDPR) do not pose a serious obstacle for establishing the planned research infrastructure. Preconditions are, however, that its components are sponsored by public research institutions and do not work for profit.

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### Helmut Siekmann contributes to EU project EURHISFIRM

In spring 2021, Helmut Siekmann finalized his work within a project on the European History of Firm Data (EURHISFIRM), a project of ten research institutions of seven EU Member States, funded by the EU as part of its research and innovation funding program "Horizon 2020" (grant agreement No. 777489). The objective of the project was to design a research infrastructure to collect and share reliable standardized long-term company-level data for Europe to enable researchers and policymakers to develop and evaluate effective strategies to promote investment and economic growth. Siekmann had been participating in the project consortium as representative of the IMFS and Goethe University from the preparation of the application in 2017 to the final reports finished and approved by the EU in 2021. His report on the legal issues related to the protection of Privacy and Personal Data has a page count of more than 120 pages.

# Institute and Staff



# I. The Institute

The **Institute for Monetary and Financial Stability (IMFS)** is a research center of Goethe University Frankfurt, located in the House of Finance. The focus of the institute is on the tasks, competences and powers of central banks in monetary policy, financial regulation and financial supervision as well as their impact on the financial system and the real economy.

The IMFS encompasses three core chairs: Monetary Economics; Financial Markets and Macroeconomics; and Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory. These chairs are complemented by professors from the university's regular faculty with relevant research interests. Currently, three additional professors collaborate closely with the core professors, forming part of the IMFS's Executive Board. Since 2012, Volker Wieland has been heading the institute as Managing Director. A Board of Trustees supervises and guides the activities of the institute.

In 2007, the IMFS was established as part of the "Currency and Financial Stability" project funded by a grant of the *Stiftung Geld und Währung* (Foundation for Monetary and Financial Stability) on the order of a total of ten million euros over a period of ten years. The Foundation for Monetary and Financial Stability was created by federal law on January 1, 2002. In 2017, the Foundation and Goethe University agreed on the perpetuation of the IMFS as well as an extension of the funding period. Until 2027, the IMFS will receive external funding in the amount of five million euros by the Foundation for Monetary and Financial Stability. Furthermore, Goethe University, the Faculty of Economics and Business and the Faculty of Law joined the Foundation in the funding of the institute in order to maintain the size of the IMFS and the scale of its activities. From the start, the institute's main objective has been to promote public awareness of the benefits of monetary and financial stability. It has focused on questions regarding monetary

and financial stability from economic, financial and legal perspectives. Within the scope of central banking, the researchers collaborate in order to pursue the institute's objectives via:

- Economic and legal research, partially conducted in an interdisciplinary way
- Raising research funding
- Public outreach
- Doctoral and post-doctoral training
- Economic and legal police advice

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## Economic and Legal Research

Economic and legal research is conducted at the three core chairs of the IMFS:

### Monetary Economics:

This research area addresses questions pertaining to the importance of stable prices; the analysis of different stability-oriented strategies of monetary policy; the study of business cycles and the role of expectations in money and financial markets; the development and implementation of monetary macroeconomic models; and the analysis of the interactions between monetary, fiscal and macroprudential policy.

### Financial Markets and Macroeconomics:

This chair addresses questions regarding microeconomic foundations of financial markets in economy-wide models and pursues interdisciplinary projects in the area of price stability and financial stability. Especially, the research concentrates on the methodological (numerical, theoretical, and empirical) foundations of macroeconomics and its interaction with financial markets through nonlinearities in risk and uncertainty, as well as through market frictions.

### Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory:

This chair focuses on market regulation, in particular as it relates to currency, banking supervision, network regulation and the media.



Furthermore, one cross-sectional project examines the legal aspects of digitalization and algorithm-based applications. Further research interests include Basic Law theory and legal technical methodology.

The Foundation's and Goethe University's support allows for long-term basic research with an interdisciplinary dimension. Particular emphasis is put on promoting the academic and interdisciplinary exchange of views by means of research seminars, lectures and conferences. These events are jointly organized and attended by the IMFS professors and involve researchers from around the world who work on economic, financial or legal aspects pertaining to IMFS research areas.

Particularly valued IMFS research achieves high impact in the respective field, for example, by publishing in a leading international journal or book series, achieving high citation counts in scientific journals, or being frequently cited in legal commentaries.

### **Doctoral and Post-Doctoral Training**

The IMFS also aims to advance knowledge about monetary and financial stability by contributing to doctoral and post-doctoral training. IMFS professors teach advanced Master and Ph.D. level courses, and organize research-oriented seminars at the Master, doctoral and post-doctoral levels. IMFS professors interact and collaborate with doctoral and post-doctoral students and staff members at the IMFS in various further formats, including Master thesis supervision, dissertation supervision, reading groups, brown-bag lunches, workshops, discussions and, on some occasions, also joint research projects.

Pre-doctoral members of the IMFS research staff working in the areas of monetary economics, financial markets and/or macroeconomics typically are doctoral students in the Ph.D.

programs at Goethe University, under the auspices of the Graduate School of Economics, Finance, and Management (GSEFM). GSEFM offers Ph.D. programs that are structured in line with international best practice. The GSEFM offerings in the fields of monetary economics, macroeconomics and econometrics in their current format and depth would not be possible without the involvement of IMFS professors. Various new teaching formats have been introduced at GSEFM by IMFS professors, and the doctoral student demand for supervision by IMFS professors is high.

Each year, GSEFM places a sizable number of graduates in highly coveted research-oriented positions in academia, and other public as well as private-sector institutions. Nearly every year, one or more of the members of the IMFS research staff defend their Ph.D. and Dr. jur. theses and receive offers for research-oriented positions at central banks, ministries, international organizations, research think tanks and/or universities.

Post-doctoral staff members at IMFS can take part in a variety of training courses offered by the Goethe Graduate Academy (GRADE), including courses on organizational proficiency, communication competencies as well as leadership and teamwork skills. The GRADE training courses also include short courses taught by IMFS professors.

### **Economic and Legal Policy Advice**

An essential task of the IMFS involves transferring research findings into the world of financial institutions, central banks, and political decisionmakers. Joint interdisciplinary approaches to research-based policy advice are explicitly encouraged. The IMFS aims to further the interaction with policymakers and transferring research findings into policy by using the following four channels:

- Organizing lectures, seminars and policy-oriented conferences that involve key policymakers together with academics;
- Producing IMFS Working Papers and studies with practical policy implications and contributing writings to external policy-oriented publications;
- Participating in parliamentary hearings and government advisory bodies and contributing to advisory reports requested by governmental agencies;
- Contributing interviews and commentaries on policy issues to the media;
- Advising and representing government organs in constitutional court cases.

Indicators of success in this area include the level of the policymakers who interact with academics at IMFS events, the importance of the policy publications to which IMFS researchers contribute, the relevance of the hearings and government advisory bodies IMFS researchers participate in, and the public visibility and media impact of IMFS contributions on policy issues.

In order to communicate with the public on a national and international level, IMFS professors give speeches and presentations and participate in discussions. Furthermore, IMFS researchers regularly contribute to national and international newspapers and magazines, websites, blogs, and TV and radio programs. Indicators of success include the quality of speakers at IMFS events and the number of participants, as well as the public speaking opportunities of IMFS researchers. Additionally, the frequency of commentaries in the media provides an indication of the visibility. Media coverage of research by IMFS researchers on economic and legal questions concerning monetary and financial stability in the media is of particular importance.

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## Public Outreach

The IMFS aims to raise and promote awareness among the general public regarding the significance of a stable currency. The institute pursues this objective on two levels: Locally, the IMFS reaches out to the financial community in Frankfurt - Germany's financial center - by regularly organizing lectures and seminars with IMFS researchers and distinguished speakers from other institutions that deal with current issues in the area of monetary and financial stability. In 2021, lectures and conferences were held in an online format, which also allowed a wider audience to be reached, independent of location.



## Committees

### IMFS Executive Board

Members of the Executive Board of Directors are the professorial members of the center as well as professors of Goethe University whose research focuses on IMFS-related topics and whose membership application was approved by the Board of Trustees. Furthermore, two members are elected by the staff of the institute. The chairperson of the Executive Board is the Managing Director of the institute. In September 2020, Volker Wieland was re-elected unanimously. In December 2021, Roland Broemel took over from Michael Binder as Deputy Managing Director.

#### Managing Director:

Prof. Volker Wieland, Ph.D.  
Endowed Chair of Monetary Economics, IMFS

#### Deputy Managing Director:

Prof. Dr. Roland Broemel  
Chair of Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory, IMFS

#### Members:

- Prof. Michael Binder, Ph.D.  
Chair of International Macroeconomics and Macroeconometrics, Goethe University
- Prof. Michael Haliassos, Ph.D.  
Chair of Macroeconomics and Finance, Goethe University
- Prof. Dr. Alexander Meyer-Gohde  
Chair of Financial Markets and Macroeconomics, IMFS
- Prof. Dr. Dr. h.c. Helmut Siekmann  
Distinguished Professor
- Prof. Dr. Tobias Tröger, LL.M.  
Chair of Private Law, Commercial and Business Law, Jurisprudence, Goethe University
- Jan Herrmann,  
IMFS, staff representative
- Jakob Liermann,  
IMFS, staff representative

### Board of Trustees

The Board of Trustees is comprised of six members who advise, support and supervise the Executive Board within the scope of its duties.

#### Chairman:

Prof. Michael Krause, Ph.D.  
Chairman of the Executive Board of the Foundation for Monetary and Financial Stability

#### Members:

- Prof. Dr. Klaus Günther, Dean of the Faculty of Law, Goethe University (until August 31, 2021)
- Prof. Dr. Christian Schlag, Dean of the Faculty of Economics and Business, Goethe University
- Dr. Detlev Homann, Federal Ministry of Finance
- Prof. Dr. Thomas M.J. Möllers, Augsburg University, Chairman of the Council of the Foundation for Monetary and Financial Stability
- Prof. Dr. Enrico Schleiff, President of Goethe University
- Prof. Dr. Thomas Vesting, Dean of the Faculty of Law, Goethe University (since September 1, 2021)

## II. The IMFS in Numbers

	2021	2020	2019	2018	2017
Number of IMFS Professors	7	7	7	7	4
External funds expended	910.000 €	860.000 €	1.100.000 €	736.000 €	907.000 €
IMFS Working Papers	19	8	8	9	11
IMFS Interdisciplinary Studies in Monetary and Financial Stability	-	1	-	-	1
Articles in scientific journals	8	8	7	4	10
Scientific books	2	2	2	1	1
Contributions to books	10	11	17	6	10
Policy papers	4	2	2	3	7
Google scholar citations	900	806	732	664	388
Completed dissertations total (supervised by all IMFS Professors)	12	5	7	11	4
Financed by the IMFS	3	2	2	1	-
IMFS Pre- and Post-Docs placements:					
Academia, government agencies, international organizations, and central banks	-	2	2	2	-
Banks, consultancies, law firms, and others	1	1	1	1	1
Keynote and major public speeches	9	5	3	7	7
Speeches and conference presentations	40	29	53	63	29
Policy meetings and hearings	20	17	7	13	10
Media references to IMFS research papers	5	7	3	5	5
Editorials and interviews by IMFS researchers	25	33	12	17	11
Press portraits of IMFS researchers	9	1	1	15	4
Short press commentaries of IMFS researchers	220	151	85	70	59
Radio and TV interviews with IMFS researchers	19	27	14	15	28
Conferences	-	2	4	3	3
IMFS Distinguished Lectures	-	-	1	1	2
IMFS Working Lunches and Policy Lectures	8	13	4	4	3
Registered participants at IMFS events	1605	3024	1264	1086	1168
Registered media representatives at IMFS events	16	70	84	108	106

### III. Macroeconomic Model Comparison Initiative

The Macroeconomic Model Comparison Initiative (MMCI) is a large-scale research project of the IMFS. With the aim of rendering research on structural macroeconomic modeling substantially more reproducible, replicable, comparable and collaborative, Hoover Institution at Stanford University and the IMFS launched and established the MMCI in 2017. Within the MMCI, John B. Taylor, the Mary and Robert Raymond Professor of Economics at Stanford University and the George P. Shultz Senior Fellow in Economics at the Hoover Institution, Volker Wieland and Michael Binder contributed as principal investigators. The Alfred P. Sloan Foundation awarded a three-year grant in the amount of \$591,295 in support of the MMCI. The funding ended by the end of the first quarter of 2020.

Within the project, model comparison took center stage in macroeconomic modeling research. So far, more than 150 models developed by researchers around the world are reproduced systematically and integrated into the public archive Macroeconomic Model Data Base (MMB). The MMB is available at [www.macromodelbase.com](http://www.macromodelbase.com). MMB users are able to directly simulate large numbers of different scenarios in multiple models using the software available for download from the website. The current version MMB 3.1. also provides a self-contained platform for model-development, it includes an in-built editor, keyword search for the models in the database that can be edited and modified, user-defined policy rules, impulse response simulations, and flexible graphing tools for displaying and downloading results. It is straightforward to contribute and upload new models. In a forum on the website, researchers can discuss model replication and comparison or ask specific questions and receive advice from the user community.

As a part of the project, the code underlying the MMB was further developed to make use only of open-source scientific software and

the interactive online platform was built. Users can browse and modify all the models' code or add new models/policy rules directly on the interface, which can also automatically detect MATLAB/Octave and Dynare in users' computer and check their compatibility with the MMB. MMB may be run on Windows, Mac including the most recent releases of macOS, and Linux. It is also compatible with MATLAB on Ubuntu.

#### Macroeconomic Modelling and Model Comparison Network (MMCN)

Another important aim of the project was to initiate the Macroeconomic Modelling and Model Comparison Network (MMCN). This is a network of researchers interested in systematically comparing models and contributing to policy applications. The network is run in cooperation with the Centre for Economic Policy Research (CEPR) in London. It serves as a platform for promoting collaboration of researchers who are working on issues of model replication and comparison, and increases the visibility of MMCI.

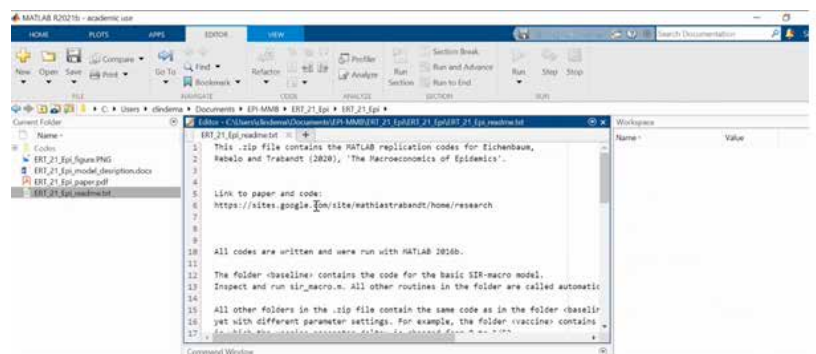


In 2021, the Epi-Macro MMB was launched as a new resource for researchers and policy analysts who want to assess macroeconomic and health impact of epidemics and appropriate policy measures.



The database, developed by Mathias Trabandt, Volker Wieland and the IMFS team, featured more than 20 models at its launch and is being expanded. For each model, a short summary and the replication code to download are available at [www.epi-mmb.com](http://www.epi-mmb.com). Thus, different scenarios can be applied and compared. Mathias Trabandt is a Professor of Macroeconomics at Goethe University. Alexander Dück, Clara Lindemann, Anh H. Le, KaiLong Liu, Sirikorn Puangjit and Niko Telia form part of the MMB team.

In short videos, researchers can learn how to use Epi-MMB models in Matlab and Dynare.



## IV. External Research Funding

The acquisition of research funding is part of the objectives of the IMFS. External funding in the amount **of five million euro by the Foundation for Monetary and Financial Stability forms the financial basis for the second ten-year funding period of the IMFS** from 2017 to 2027.

In 2021, new projects with external research funding include a project by Alexander Meyer-Gohde, who received the funding approval for a research project on macroeconomic models from the German Research Foundation (*Deutsche Forschungsgemeinschaft*, DFG). The DFG will fund the project titled "Numerical diagnostics and improvements for the solution of linear dynamic macroeconomic models" during the next three years with an amount of 250,000 euros.

Furthermore, Roland Broemel received the approval for more than 50,000 euros over a two-year period for his research within the ZEVEDI project group on Artificial Intelligence. Also, the research by Volker Wieland and Mathias Trabandt on the extension of the Macro Economic Model Database to macro-epidemic models was funded externally.

## External Research Funding

Recipient	Project	Time Period	External Funds Received TOTAL	External Funds Expended 2016-2021
IMFS	Project Currency and Financial Stability, RF S 126/10003/04	10 years	10.115.000,00 €	1.410.154,65 €
IMFS	Project Currency and Financial Stability, RF S 126/10133/16	Sep. 2017 – Aug. 2027	5.000.000,00 €	1.857.742,50 €
IMFS	Project W3 Interim Professorship, RF S 126/10153/18	Apr. 2018 – Oct. 2018	45.000,00 €	29.341,29 €
IMFS / HS	Project Commentary on the EMU RF S126/10169/18	Nov. 2018 – Oct. 2019	70.000,00 €	70.000,00 €
IMFS Conference HS	Project IMFS Conference 2016, RF S 126/10127/16	Apr. 2016 – Sep. 2016	49.000,00 €	49.000,00 €
IMFS Conference	Project IMFS Conference 04/2017, RF S 126/10137/17	Apr. 2017 – Sep. 2017	30.000,00 €	30.000,00 €
IMFS Conference	Project IMFS Conference, 06/2017, RF S 126/10143/17	June 2017 – Dec. 2017	20.000,00 €	20.003,00 €
IMFS Conference	Project IMFS Conference, ECB Watchers 2018, RF S 126/ 10157/2018, Project 380 2010016	Apr. 2018 – Dec. 2018	25.000,00 €	25.000,00 €
IMFS Conference	Project IMFS Conference, MMCN 2018, RF S 126/ 10157/2018 Project 380 2010016	June 2018 – Dec. 2018	30.000,00 €	30.000,00 €
IMFS Conference	Project IMFS Conference, ECB Watchers XX, 03/2019, RF S 126/10173/2019, Project 380 2010018	Mar. 2019 – Dec. 2019	30.000,00 €	30.000,00 €
IMFS Conference	Project IMFS Conference, MMCN 06/2019, RF S 126/0176/2019 Project 380 2010019	June 2019 – Dec. 2019	30.000,00 €	30.000,00 €
IMFS Conference	Project IMFS Conference, ECB Watchers XXI, 09/2020, RF S 126/10187/2020, Project 380 2010020	Sep. 2020 – Mar. 2021	24.000,00 €	24.000,00 €
MB / VW	EU Project MACFINROBODS	May 2014 – Apr. 2017	296.241,36 €	158.108,69 €
HS	Festschrift Baums	2016	12.000,00 €	12.000,00 €
HS	EU-Horizon 2020: EURHISFIRM	Apr. 2018 – Mar. 2021	26.646,23 €	26.646,23 €
VW / MB	Alfred P. Sloan Foundation, MMCI (Total in US\$, IMFS exp. in €)	Dec. 2016 – Dec. 2019	591.295,00 \$ 416.608,00 €	593.851,80 \$ 416.608,00 €
Baums / VW / Sachs	Book project "Stability of the Monetary System" (managed externally)	Nov. 2017 – Nov. 2018	9.402,34 €	
MH	Project Hybrid CEPR London Collabor. and ING Project 3902010005	2018-2021	250.000,00 €	225.320,72 €
TT	DFG-Grant Research Group FOR 2774 Foundations of Law and Finance	Nov. 2018 – Oct. 2022	1.577.310,00 € (incl. program allowance 284.450,00 €)	860.765,32 €
VW / Trabandt	Extension of MMB to Epi Models	2021 – 2022	60.000 € (VW 30.000 €)	8.790,67 €
AMG	DFG ME5828/1-1 Num. diagnostics and improvements for the solution of linear dynamic macroecon. models	Dec. 21 – Nov. 24	246.827,00 € (incl. program allow. 44.500 €)	7.388,71 €
RB / Langenbucher / Goldmann / Hinz	Project Broemel 51000165 AI & Finance – Innovation, Resilience and Responsibility	Aug. 2021 – Dec. 2023	54.825 €	16.125,00 €



Project	External Funds Expended 2021	External Funds Expended 2020	External Funds Expended 2019	External Funds Expended 2018	External Funds Expended 2017	External Funds Expended 2016
Project Currency and Financial Stability, RF S 126/10003/04	closed	closed	closed	79.625,76 €	612.709,62 €	717.819,27 €
Project Currency and Financial Stability, RF S 126/10133/16	482.420,07 €	481.446,29 €	435.589,84 €	356.003,68 €	102.273,62 €	
Project W3 Interim Professorship, RF S 126/10153/18	closed	closed	closed	29.341,29 €		
Project Commentary on the EMU	closed	closed	58.476,24 €	11.523,76 €		
Project IMFS Conf. 2016, RF S 126/10127/16	closed	closed	closed	closed	closed	49.000,00 €
Project IMFS Conf. 04/2017 RF S 126/10137/17	closed	closed	closed	closed	30.000,00 €	
Project IMFS Conf. 6/2017 RF S 126/10143/17	closed	closed	closed	closed	20.003,00 €	
Project IMFS Conf., ECB Watchers 2018, RF S 126/10155/2018	closed	closed	closed	25.000,00 €		
Project IMFS Conf., MMCN 06/2018, RF S 126/10157/2018	closed	closed	closed	30.000,00 €		
Project IMFS Conf., ECB Watchers 2019, RF S 126/10173/2019	closed	closed	30.000,00 €			
Project IMFS Conf., MMCN 06/2019, RF S 126/10176/2019 Project 380 2010019	closed	closed	30.000,00 €			
Project IMFS Conf., ECB Watchers 2020, RF S 126/10187/2020	closed	24.000,00 €				
MACFINROBODS	closed	closed	closed	0,36 €	85.224,31 €	72.884,38 €
Festschrift Baums	closed	closed	closed	closed	closed	12.000,00 €
Coll. Works Th. Baums	closed	closed	closed	closed	closed	5.000,00 €
EURHISFIRM	4.616,64 €	18.438,00 €	3.591,59 €			
Alfred P. Sloan Foundation, MMCI	Closed	6.039, 80 \$ 5.101,00 €	295.564,00 \$ 188.255,00 €	217.212,00 \$ 166.115,00 €	75.036,00 \$ 57.137,00 €	
Project Hybrid CEPR London Collaboration and ING Project 3092010005	70.658,91 €	71.349,00 €	54.718,05 €	28.594,76 €		
DFG-Grant Research Group FOR 2774 Foundations of Law and Finance	319.969,61 €	260.357,80 €	270.769,94 €	9.667,97 €		
Extension to Epi Models	8.790,67 €					
DFG-Grant AMG	7.388,71 €					
RB AI & Finance	16.125,00 €					
<b>TOTAL</b>	<b>909.969,61 €</b>	<b>860.692,09 €</b>	<b>1.071.409,66 €</b>	<b>735.872,22 €</b>	<b>907.347,55 €</b>	<b>851.703,65 €</b>

## V. Member of the European Banking Institute

In a year with activities across many areas marked by the coronavirus pandemic, the European Banking Institute (EBI) managed to establish numerous new initiatives regarding research in banking regulation.

At the start of EBI as international centre for banking studies in 2016, Goethe University joined as a founding academic member. The IMFS is proud to serve as the representative of Goethe University in this international network. Tobias Tröger and Volker Wieland are Members of the Academic Board of EBI.

Thirty-one academic members from universities, mostly from the euro area, share and coordinate their commitments and structure their research activities in the Frankfurt-based EBI in order to provide the highest quality legal, economic and accounting studies in the field of banking regulation, banking supervision and banking resolution in Europe. In 2021, the State of Hesse became the first institutional member of the EBI.

The EBI aims at fostering the dialogue between scholars, regulators, supervisors, industry representatives, and advisors with regard to issues concerning the regulation and supervision of financial institutions and financial markets from a legal and economic viewpoint. It produces interdisciplinary



banking research, makes recommendations, and devises new strategies on banking in Europe.

During the course of the year, the EBI organized various workshops, conferences and webinars. In 2021, EBI launched a new webinar series on sustainable finance organized jointly by the working group on finance, climate change and sustainability and EBI's Associate Researchers Group, to bring together academics and practitioners to discuss whether the new regulations are fit for purpose and what are the new challenges for supervisors and monetary authorities.

Detailed information on all activities is available at [www.ebi-europa.eu](http://www.ebi-europa.eu).



## VI. The Researchers

### IMFS Professors

The IMFS Executive Board comprises seven professors who are either IMFS Chairs or participate as IMFS Research Professors. Professor Volker Wieland serves as the institute's Managing Director. In December 2021, Roland Broemel took over from Michael Binder as Deputy Managing Director. All IMFS Professors come together on a regular basis for the Executive Board meetings to discuss joint research projects as well as organizational aspects and future events. In 2021, the Executive Board held meetings on March 4, September 15, and December 1, two of them were online.

Furthermore, the institute can appoint professors from other universities as IMFS Affiliated Professors in order to involve them more closely in its activities. Currently, these are Prof. Petra Geraats from Cambridge University, Prof. Luisa Lambertini from Ecole Polytechnique Fédérale de Lausanne, Prof. Heike Schweitzer from Humboldt University Berlin and Prof. Maik Wolters from the University of Würzburg.

### Volker Wieland

IMFS Endowed Chair of Monetary Economics



Professor Volker Wieland, Ph.D., has held the Endowed Chair of Monetary Economics since March 1, 2012. As one of the three founding professors, he was involved in the successful application for the "Currency and

Financial Stability" project and has been affiliated with the IMFS from its beginning. In 2020, he was re-elected Managing Director after having filled this position since 2012. From March 2013 until April 2022, Wieland was a member of the German Council of Economic Experts. From May 2021 until April 2022, he was a member of the Advisory Board of the Stability Council. He is also a member of the

Scientific Advisory Council of the Federal Ministry of Finance, of the Scientific Advisory Council of the Market Economy Foundation (Kronberger Kreis) and a CEPR Research Fellow.

In his research, Wieland concentrates on monetary and fiscal policy, business cycles and macroeconomic models, inflation and deflation, learning behavior and economic dynamics as well as numerical methods in macroeconomics. Wieland and his team have developed the Macroeconomic Model Data Base with more than 150 models. His research has been published in leading scientific journals such as the *American Economic Review*, the *European Economic Review* and the *Journal of Monetary Economics*, and in 2021 was cited almost 300 times, according to Google Scholar. Altogether, his research received more than 6500 citations until now. Wieland has consistently been the highest placed Goethe University professor in the ranking of Germany's most influential economists by research and media impact published by the German daily *Frankfurter Allgemeine Zeitung*. The international research ranking of bibliographic database IDEAS-REPEC lists Wieland among the top two percent of economists worldwide, among the top one percent in Europe and in 25th place of more than 4000 economists in Germany.

Volker Wieland completed his Ph.D. at Stanford in 1995 and worked at the Federal Reserve in Washington for the next five years. In November 2000, he joined the Goethe University faculty. He has been a consultant to many institutions including the ECB and the European Commission. In 2008, Wieland was awarded the Duisenberg Fellowship by the ECB. In 2017, he received the "Public Service Fellowship" by the foundation of Alfons and Gertrud Kassel. With the members of the German Council Economic Experts, he received the German Economic Policy Prize 2015 of the Small and Medium-Sized Business Association of the CDU/CSU and the Thought Leader Award 2018 of the Thought Leader Forum supported by Plansecur Financial Group. In 2019, Wieland was awarded the prize of the Monetary Workshop in recognition of his research regarding monetary economics.

## Roland Broemel

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IMFS Chair of Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory



Professor Dr. Roland Broemel, *Maîtrise en Droit*, has held the Chair of Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory since July 2018. Before that, he was

a Junior Professor of

Public Law and Economic Law at Hamburg University's law department. Broemel's research focuses on market regulation, in particular as it relates to currency, banking supervision, network regulation and the media. Furthermore, one cross-sectional project examines the legal aspects of digitalization and algorithm-based applications. Further research interests include Basic Law theory and legal technical methodology.

Roland Broemel studied at the universities of Bayreuth (commercial lawyer), Bordeaux (*Maîtrise en Droit*), and Hamburg (First State Examination) and completed his legal clerkship at the Higher Regional Court of Hamburg. He received his doctorate and habilitation at Hamburg University's law department. During this time, Professor Broemel was supported by a grant of the *Studienstiftung des deutschen Volkes* and received the Doctorate Award 1<sup>st</sup> Class from the university's law department as well as the Hamburg Teaching Award 2010 from Hamburg's Department for Science and Research (*Behörde für Wissenschaft und Forschung*). He is editor of the publication series *Digitization and the Law / Recht und Digitalisierung* published by Nomos, member of the scientific advisory council of the journal *Recht der Zahlungsdienste* and external member of the Centre for Law in the Digital Transformation at the University of Hamburg.

## Alexander Meyer-Gohde

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IMFS Chair of Financial Markets and Macroeconomics



Professor Dr. Alexander Meyer-Gohde has held the Chair of Financial Markets and Macroeconomics since April 2018. He obtained his bachelor's degree from Colorado State University in his home state before moving to Germany.

His master's degree followed at the Humboldt-Universität zu Berlin and he obtained his doctorate from the Technische Universität Berlin. Before coming to Frankfurt, he held various positions in Hamburg, Berlin, and Potsdam.

Meyer-Gohde's research concentrates on the methodological (numerical, theoretical, and empirical) foundations of macroeconomics and its interaction with financial markets through nonlinearities in risk and uncertainty, as well as through market frictions. The international research ranking of bibliographic database IDEAS-REPEC lists Meyer-Gohde among the top eleven percent in Europe and top ten percent in Germany.

## Michael Binder

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IMFS Research Professor



Michael Binder is Professor of Economics at Goethe University Frankfurt, holding the Chair for International Macroeconomics and Macroeconometrics since 2003. He is also Founding Dean of the Graduate

School of Economics, Finance, and Management (GSEFM) at Goethe University, Johannes Gutenberg University Mainz and Technische Universität Darmstadt, that offers Ph.D.



Programs in economics, accounting, finance and marketing. He has been affiliated with the IMFS for a number of years.

Binder received a Ph.D. in economics from the University of Pennsylvania in 1995. He has held appointments and visiting appointments inter alia at the University of Cambridge, the University of Maryland, the University of Munich (CESifo), the University of Southern California, Xiamen University, the Bank of Spain, the European Central Bank, the International Monetary Fund, and the World Bank. Binder was a Fulbright scholar, a Marie Curie research fellow, a scholar of the German National Scholarship Foundation, has directed the node of an FP7 research project, and has been the recipient of numerous teaching and advising awards. He has published on a variety of topics in macroeconomics and econometrics in journals such as *Econometric Theory*, the *International Economic Review*, and the *Journal of Economic Dynamics and Control*, and has held editorial board positions at *Journal of Applied Econometrics*, the *Journal of Economic Dynamics and Control*, and *Empirical Economics*.

Part of Binder's recent research centers around the research project "Macroeconomic Model Comparison Initiative" that was granted by the Alfred P. Sloan Foundation to the Hoover Institution at Stanford University and to the IMFS. More broadly, Binder's current research examines the implications of informational frictions and financial market structures for business cycle dynamics, output growth, and policy design. His research also involves the development of new econometric methods for panel data sets. As part of his commitment to further opportunities for young researchers in economics and finance, Binder also continues to serve as chairman of the jury of the Young Innovators Award, an award that he co-initiated in 2014 as part of his involvement with *Thought Leader Forum*.

## Michael Haliassos

### Research Professor



Professor Michael Haliassos, Ph.D., has held the Chair of Macroeconomics and Finance at Goethe University Frankfurt since 2004. He is a Research Fellow at the CEPR, Founding Director of the CEPR Network on

Household Finance and International Research Fellow of the Dutch Network for Studies on Pensions, Aging and Retirement (Netspar). As an expert for household finance, consumer investment and borrowing behavior and financial literacy, he is also advisor to the ECB on the Eurozone Survey of Household Finances and Consumption since its inception in 2006. He has published many influential papers in these fields, among them in leading international scientific journals such as the *Review of Financial Studies*, *Review of Economics and Statistics*, *Journal of Monetary Economics*, *International Economic Review*, *Economic Journal*, and *Management Science*. Haliassos received a B.A. from Cambridge University and a Ph.D. from Yale University in 1987 under the supervision of Nobel Laureates James Tobin and William Nordhaus. He was a finalist for the University-wide teaching prize 2018.

In 2021, Haliassos was one of the organizers of the virtual European Conference on Household Finance in Singapore and a member of the program committee for the annual conference 2021 of the International Association of Applied Econometrics and the Society for Economics of the Household. He was also among the CEPR Network organizers of the virtual European Workshop on Household Finance in Nice. Since 2021, he has also been one of the organizers of a prominent online series on "Micro and Macro Implications of Household Behavior and Financial Decision-Making". This is a cross-

disciplinary seminar series covering research at the intersection of household finance, macro and labor economics. It represents a collaboration between universities and research networks and centers. Seminars are held on Zoom on the third Friday of the month at 3:30pm UK time and run for 90 minutes including a discussion panel. In winter semester 2019/20, Haliassos founded the Frankfurt Reading Group on Household Finance, which meets four times a semester. Meetings are attended by invited Ph.D. students from Goethe University and the Frankfurt School of Finance and Management, and by graduates of the Chair and other invited young researchers, currently located in Germany, Italy, Denmark, Canada, and Argentina.

### **Tobias Tröger**

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#### **IMFS Research Professor**



Professor Dr. Tobias Tröger, LL.M., holds the Chair of Private Law, Commercial and Business Law, Jurisprudence at Goethe University. In his research, Tröger investigates internal governance structure of banking union

institutions, the reinstallation of market discipline through bank reorganization and resolution (bail-in, living wills), capital market union, the regulation of non-bank credit intermediation (shadow banking), the development of securities regulation and social change, the law of shareholder meetings and resolutions as well as German and European sales law. Tobias Tröger has held various executive positions at the European Banking Institute (EBI), an international center for banking studies. Among the EBI's academic members, the IMFS is the representative of Goethe University. He is also Co-Director of the Center for Advanced Studies on the Foundations of Law and Finance at Goethe University, an interdisciplinary research group funded by the German Research

Foundation (DFG) since 2018. The Center seeks to investigate how financial markets actually respond to law as a dynamic and evolutionary system. Tobias Tröger advises the European Parliament on matters of the Banking Union.

### **Helmut Siekmann**

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#### **IMFS Distinguished Professor**



Professor Dr. Dr. h.c. Helmut Siekmann was appointed Distinguished Professor at the IMFS in November 2018. From 2006 until March 2018, he held the IMFS Endowed Chair of Money, Currency, and Central Bank Law. He

is the founding director of the IMFS and was the institute's Managing Director from 2006 to 2010 as well as from September 2011 to May 2012. Siekmann received his doctor juris and his post-doctoral degree ("Habilitation") from the University of Cologne. He also earned a degree in economics (Diplom-Volkswirt) from the University of Bonn and was awarded an honorary doctor's degree by the University Paris-Dauphine. Siekmann's main field of work is the stability of financial markets, financial institutions, and public finances. His research is focused on all aspects of government finances, the institutional framework of the European System of Central Banks, the European provisions to secure stable government finances, the stabilization mechanisms in time of crisis, and the supervision and control of financial markets. In addition to his academic work, Siekmann contributed to numerous legislative projects on the national and supranational level. He worked as counsel to constitutional bodies and represented them in constitutional courts. From its inception in 1996, he contributed significant parts to the standard-setting commentary on the "Grundgesetz", the German federal constitution, edited by Michael Sachs, particularly concentrating on the sections about central banks, government finances, and fiscal federalism.



## Petra Geraats

### Affiliated Professor



Dr. Petra Geraats is a Senior Lecturer at the Department of Economics at the University of Cambridge. Her research areas include macroeconomics, international finance and behavioral economics.

She holds a Ph.D. in Economics from the University of California at Berkeley and a Master in Economics from Tilburg University. Her special interest lies in the transparency of monetary policy on which she has contributed to several publications, e.g. *The Oxford Handbook of Economics and Central Bank Communication, Decision-Making and Governance*. In 2019, Petra Geraats was among the experts to evaluate the Central Bank of Chile. She was an advisor to the International Monetary Fund and an external expert for the Central Bank Studies group at the Bank for International Settlements. In 2020, she participated in the conference „The ECB and Its Watchers“ as a panelist.

## Luisa Lambertini

### Affiliated Professor



Luisa Lambertini is a Professor at the Ecole Polytechnique Fédérale de Lausanne, where she holds the Chair of International Finance. She received her Ph.D. in Economics from the University of California at Berkeley in 1995,

her Master of Science in Economics from the University of Warwick in 1989 and her Laurea cum Laude from the Università degli Studi di Bologna in 1987. Luisa Lambertini is a member of the Executive Committee of the International

Banking, Economics and Finance Association and she is serving in the Advisory Council of the Society for Computational Economics. She is an Associate Editor of the *B.E. Journal of Macroeconomics*. Professor Lambertini has been a consultant with the ECB, the Federal Reserve Bank of Richmond and Hoover National Fellow. Her research focuses on the interaction of monetary and fiscal policies; on introducing housing and mortgage default in macroeconomic models; on the analysis of regulation and macroprudential policies in models with financial institutions.

## Heike Schweitzer

### Affiliated Professor



Professor Dr. Heike Schweitzer, LL.M. (Yale) has held the Chair for Civil Law, German and European Commercial and Competition Law and Economics at the law faculty of Humboldt University Berlin since April 2018. She is a

renowned expert in those fields and a special advisor to EU commissioner Margrethe Vestager for digitalization and competition policy. Besides competition law, the European law on the economic system, state aid law, the law on digital markets as well as the financial market law are among her main research areas. From 2006 to 2018, she taught at the universities of Florence and Mannheim and at Freie Universität Berlin. Heike Schweitzer is a member of the Kronberger Kreis.

## Maik Wolters

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Affiliated Professor



Maik Wolters has held the Chair of Monetary Economics and International Financial Markets at the University of Würzburg since April 2020. From 2017 until March 2020, he was a Professor of Macroeconomics at

Friedrich Schiller University Jena and from 2012 until 2017, he was a Junior Professor of Macroeconomics at Kiel University. His research interests are macroeconomics, monetary economics and international economics. In 2010 Wolters graduated from Goethe University's Ph.D. program where he had also gained a M.Sc. in quantitative economics previously. He was also involved in the MMCI project and coordinated the model forecasting competition. Wolters is also a Research Fellow at the Kiel Institute for the World Economy (IfW).

## Pre-Docs and Post-Docs

All chairs at the IMFS contribute to the training of doctoral students within the structured Ph.D. and doctoral programs. Doctoral and post-doctoral training at the IMFS also focuses on providing a productive research environment for post-docs who were either hired as research assistants or received external funding to work temporarily at the IMFS. Many doctoral candidates work as research assistants in IMFS research projects.



**Raphael Abiry** joined the Chair of Financial Markets and Macroeconomics in November 2021. He is a postdoctoral researcher at Goethe University, where he received his Ph.D. in 2021. He held a prior position at the ECB in the Fiscal

Policies Division as PhD trainee and he was a Researcher at the Leibniz Centre for European Economic Research (ZEW) in the departments "Labour Markets, Human Resources and Social Policy" and "International Distribution and Redistribution". He studies the effects of demographic change on growth and interest rates, the output effects of social security systems, and the climate change mitigating effects of green monetary policy.



**Alexander Dück** joined the IMFS in November 2019. Currently, he is a fourth-year student at GSEFM at Goethe University. In 2020, he assisted in the Ph.D seminar "Macrofinancial Modeling and the Coronavirus Pandemic".

Before joining the Macroeconomic Model Data Base (MMB) team, he worked as a research assistant in the Department of Money

and Macroeconomics of Goethe University. During his studies at GSEFM he received a scholarship (*Deutschlandstipendium*) for two years. Alexander completed his Bachelor's degree at Goethe University where he was involved in teaching undergraduate students in Mathematics and Business Informatics for nearly three years. Apart from that, he was on the Dean's List for excellent academic performance. His research interests lie in the fields of non-linear modelling, Bayesian estimation and machine learning.



**Hendrik Hegemann** joined the IMFS in October 2021. Currently, he is a second-year student at GSEFM at Goethe University. He received his B.Sc. in Economics and Business Administration from Goethe University in

2020. Hendrik has gained work experience at Deutsche Bundesbank, Prudential Regulatory Authority, PricewaterhouseCoopers, Zeb Rolfes Schierenbeck Associates and Rothschild & Co. His research interests lie in the field of monetary economics.



**Jan Herrmann** is a second-year Ph.D. student at GSEFM and joined the IMFS in 2021. He received his B.Sc. in Economics from the University of Augsburg in 2018, and his M.Sc. in Economics from the London

School of Economics (LSE) in 2019. He has gained practical experience working at the ifo Institute for Economic Research, Investment Management at Allianz SE, the European Central Bank, and McKinsey. His research interests lie in the field of monetary policy.



**Chihchun Huang** was a research assistant from December 2018 until August 2021. Before starting his Ph.D. coursework and assisting the team of the Macroeconomic Model Data Base, he was an analyst for an

equity research firm and the Intelligence Unit of The Economist in New York City. Chihchun received his MA in Politics from New York University and MSc in Economics from the University of Warwick. Chihchun wrote an ethnography about New York City published in Taiwan, where he grew up. His research interests are the applications of DSGE and macroeconometrics on monetary policy and international macroeconomics.



**KaiLong Liu** joined the IMFS in July 2021. Currently, he is a third-year student at GSEFM at Goethe University. Before joining the IMFS, he worked at the Chair for International Macroeconomics and Macroeconometrics as

both a teaching and research assistant. He was working on the macroeconomic forecasting platform project, which is designed for comparing and analyzing the forecasting performance of macroeconomic models. He also assisted in teaching the Ph.D. course on „Solution, Identification and Estimation of DSGE models“. KaiLong comes from Hong Kong, where he completed his undergraduate studies in economics at the Hong Kong University of Science and Technology (HKUST) and master studies in Economics at University Bonn. His research interests lie in the implication of policies with agent heterogeneity, and his recent research explores the effect of monetary economics under imperfect markets.



**Maie Mörsch** joined the Chair of Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory at the IMFS in November 2018. She is currently pursuing her Ph.D. in Public Law and Financial Law. She

completed her law studies with the first state examination in Frankfurt am Main. During her studies she completed stays abroad in Switzerland and Scotland. She worked as a research assistant in several major international law firms. Her research interest lies in the fields of public finance in connection with inequality, with a special focus on the effects of public debt on the realization of human rights.



**Ioanna Pigkou** joined the Chair of Financial Markets and Macroeconomics in September 2018. She is currently pursuing her Ph.D. at the Graduate School of Economics, Finance and Management at Goethe University. Her research

interests lie in the fields of monetary and fiscal economics as well as in computational methods. Together with Alexander Meyer-Gohde, she is working on nonlinear perturbations aiming to develop techniques to provide accurate depictions on the interaction of macroeconomy and financial markets. Ioanna completed her undergraduate studies in mathematics at National and Kapodistrian University of Athens. She has been a teaching assistant in macroeconomics and a research assistant in DSGE modelling at Deutsche Bundesbank.



**Sandra Plicht** is a research assistant at the Chair of Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory. She joined the institute in July 2018 and followed Prof. Dr. Roland Broemel from

Hamburg to Frankfurt to support his academic research. Sandra Plicht studied law at the universities of Greifswald, Copenhagen and Hamburg (First State Examination). She finished her Legal Clerkship at the Higher Regional Court of Frankfurt and got her doctorate at Hamburg University's law department in 2021. In her doctoral thesis she investigated the regulatory structure of rebate contracts for pharmaceuticals. Sandra Plicht had a teaching position at the Universities of Applied Police Sciences in Hamburg and in Mühlheim. Her main research interests are in the field of market regulation, in particular competition law and procurement law. Furthermore, she is interested in public security law and the legal aspects of digitalization.



**Jessica Ray** joined the Chair of Public Law, Economic and Currency Law, Financial Markets Regulation and Legal Theory at the IMFS in June 2020. She is currently pursuing her Ph.D. Prior to this, she completed her first state

examination at Goethe University, specializing in Law and Finance. During her studies, she worked for the International Bankers Forum e.V., the largest privately initiated professional association of the banking and finance industry in Germany. Her research interest lies in the field of banking supervision law and legal aspects of digitalisation. In her thesis she analyzes digitalization measures applied by

financial service providers and the resulting regulatory challenges.

**Johanna Saecker** joined the Chair of Financial Markets and Macroeconomics in October 2018. She is a Ph.D. student at the Graduate School of Economics, Finance and Management (GSEFM) at Goethe University. She holds a M.Sc. in Economics and Financial Economics from the University of Nottingham, a M.Sc. in International Political Economy from the London School of Economics and Political Science (LSE) and a BA in International Relations from TU Dresden. She completed traineeships at the ECB's Directorate General International and European Relations (International Policy Analysis) and the European Commission's Directorate General for Internal Market, Industry, Entrepreneurship and SMEs (GROW). Furthermore, she has been a teaching assistant for Macroeconomics 2 since she joined the IMFS. Her research interest broadly lies in international economics and financial markets.



**Zexi Sun** started working at the IMFS in June 2020. He is now a doctoral student at Goethe University and also works at the Chair for International Macroeconomics and Macroeconometrics, mainly as a teaching

assistant. He is in charge of establishing the macroeconomic forecasting platform, which is designed for comparing and analyzing the forecasting performance of macroeconomic models. Zexi received an M.Sc. degree from the London School of Economics and a Bachelor degree from Wuhan University. In 2017, he was an intern at the Research Centre at Deutsche Bundesbank. His research interests lie in monetary economics and macro finance, and his recent research explores the effects of central bank's communication policies using natural language processing and machine learning methods.





**Balint Tatar** joined the Chair of Monetary Economics at the IMFS in May 2017. He completed his M.Sc. in economics at the University of Bonn and is presently working on his dissertation. He also holds a B.Sc. degree in

mathematics from the University of Bonn and a diploma in business administration from the University of Cologne. Before joining the IMFS, he worked as a teaching assistant in the Department of Money and Macroeconomics of Goethe University and was involved in teaching undergraduate students in macroeconomics. Prior to joining the Graduate School of Economics, Finance and Management, he was employed by the Directorate General of Economic and Financial Affairs (DG ECFIN) of the European Commission. In parallel with his studies, Balint also worked as a part-time employee at HSBC Global Asset Management in Düsseldorf, the asset management division of HSBC Group. His research interests are in the field of applied macroeconometrics and DSGE models, and his research is broadly related to crises and monetary policy.

develop new techniques to merge these fields of interests and develop new solution methods for these models. Furthermore, she is a teaching assistant in macroeconomics.



**Mary Tzaawa-Krenzler** joined the Chair of Financial Markets and Macroeconomics in October 2021. She is a third-year Ph.D. student at the Graduate School of Economics, Finance and Management (GSEFM) at the Goethe

University. She holds a M.Sc. in Economics from the University of Bern focusing on quantitative macroeconomics and monetary policy. Her research interests lie in the fields of monetary economics, computational methods and information formation. Together with Alexander Meyer-Gohde she is aiming to



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## Fellows

By appointing IMFS Fellows, the Board of Directors aims to affiliate selected academics, researchers and practitioners from the areas of monetary policy finance and financial law with the IMFS. The appointment is for a period of three years.

**IMFS Distinguished Fellows** are individuals with exceptional experience in policymaking or in the financial sector who have made outstanding contributions to the IMFS and its activities in research and policy advice. There can be up to ten IMFS Distinguished Fellows at a time. They are nominated by the IMFS Managing Director and appointed by its Board of Directors.

**IMFS Research Fellows** are excellent scholars from other universities and institutions who collaborate closely with one of the IMFS professors. The IMFS offers its Research Fellows opportunities to get involved in IMFS research, policy advice and events and to make their own contributions to such IMFS activities. Each of the IMFS chairs can appoint up to six Research Fellows for a period of three years each. IMFS Research Professors appoint Research Fellows subject to approval by the IMFS Executive Board. Reappointment is possible.

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## Theodor Baums

### Distinguished Fellow



Prof. Dr. Dres. h.c. Theodor Baums holds the Chair for Civil and Business Law at the Institute for Law and Finance (ILF) at Goethe University. He is also the founder of the ILF. He was the chairman of the Government

Commission on Corporate Governance, a member of the Advisory Board of the Federal Financial Supervisory Authority (BaFin), counsel

to the EC Commission on company law, and ethics advisor to the management board of the Deutsche Bundesbank. He also served as member of the German government commission on the Corporate Governance Code. Prof. Baums is co-editor of several scientific journals and publication series. He has published more than 150 books and articles on corporations, civil and antitrust law. Prof. Baums has frequently advised the German Federal Government and Federal Parliament on questions concerning company and securities market regulation and was also an advisor for international organizations like the World Bank and the OECD. In 2006, he was awarded the Order of Merit 1st class of the Federal Republic of Germany. Prof. Baums studied law and Catholic theology in Bonn. After receiving his doctor juris he was a professor in Münster and Osnabrück before he came to Frankfurt in 2000. He is a Professeur associé of the University of Luxembourg as well as Dr. rer. pol. h.c. and Dr. iur. h.c. He has been a Founding Professor of the IMFS.

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## Willy Friedmann

### Distinguished Fellow



Dr. Willy Friedmann served in different capacities in the areas of monetary policy, financial markets and trade at Deutsche Bundesbank from 1978 to 2009, and most recently as head of the economics department.

Before his service with Deutsche Bundesbank, he was in charge of monetary policy and financial markets at the German Council of Economic Experts. From 2009 until 2015, he was Chairman of the Foundation for Monetary and Financial Stability and a member of the IMFS Board of Trustees. During this time, Willy Friedmann was associated with Goethe University as member of the foundation's Board of Trustees.

## Hermann Remsperger

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### Distinguished Fellow



Prof. Dr. Hermann Remsperger was member of the Executive Board of the Deutsche Bundesbank from 1998 to 2009 where he was in charge of the department for economics and statistics as well as the research center. In 2006 he

became responsible for all matters relating to the bank's international relations. In this capacity he represented the Deutsche Bundesbank in the economics and finance committee of the EU, at the G7 and G20 meetings as well as the Financial Stability Forum. Previously, he was chief economist at BHF Bank. He was a lecturer and honorary professor at Goethe University Frankfurt from 1979 to 2014. As Chairman of the Council of the Foundation for Monetary and Financial Stability (*Stiftung Geld und Währung*), Hermann Remsperger also served as Chairman of the IMFS Board of Trustees since its establishment. He retired from these roles in 2015 but remains associated with the IMFS. In 2016, Hermann Remsperger was awarded the Federal Cross of Merit 1st class in honor of his role in the foundation and numerous other scientific institutions but also his volunteer work in church committees as well as his social commitment.

## Reinhard H. Schmidt

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### Distinguished Fellow



Prof. Dr. Dr. h.c. Reinhard H. Schmidt is Seniorprofessor at the Department of Finance of Goethe University, focusing on financial systems in industrial and developing countries, especially comparing financial systems in

Europe, international firms and their strategy and structure, finance theory, international economic relationships and regulation as well as development financing. He is a member of the European Shadow Financial Regulatory Committee. He is author and editor of 25 books and 70 contributions to compilations and has published more than 60 scientific articles in national and international magazines. From 1991 to 2014, Schmidt held the Endowed Chair of Finance and Accounting at Goethe University, before that he was a professor in Trier and Göttingen. As a Visiting Professor, he taught at various universities like Stanford, Georgetown University, Wharton School as well as in Paris and Milan. He had also been a Founding Professor at the IMFS.

## Gerhard Ziebarth

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### Distinguished Fellow



Gerhard Ziebarth worked at Deutsche Bundesbank from 1986 to 2014 in various functions in the public finance division and the macroeconomic analysis and projections division of the economics department

and most recently as head of the statistics department. Before joining the Bundesbank, he was a member of the research staff of the German Council of Economic Experts. From 2015 to 2020, he chaired the Executive Board of the Foundation for Monetary and Financial Stability and was Chairman of the Board of Trustees of the IMFS. He was also a member of the Board of Trustees of the House of Finance and a member of the Board of Trustees of Goethe University Foundation. Gerhard Ziebarth is a member of the Alliance for Monetary and Financial Stability (*Aktionskreis Stabiles Geld*) and is associated with Goethe University as a lecturer.

## Tobias Adrian

### Research Fellow



In 2017, Tobias Adrian took over as Financial Counsellor and Director of the Monetary and Capital Markets Department of the IMF in Washington. Previously, he had been a Vice President of the Federal

Reserve Bank of New York and head of the Capital Markets Function of the Research and Statistics Group. In this capacity, he contributed to the New York Fed's financial stability policy and monetary policy briefings. His research covers asset pricing, financial intermediation, and macroeconomics, with a focus on the aggregate implications of capital market developments. Adrian holds a Ph.D. in Economics from Massachusetts Institute of Technology (MIT) and a M.Sc. from the London School of Economics. He also holds M.A.s in Economics from Goethe University Frankfurt and Dauphine University in Paris. He has taught at MIT and Princeton University.

## Günter W. Beck

### Research Fellow



Günter W. Beck is Professor for European Macroeconomics at the University of Siegen and Research Fellow at the Center for Financial Studies. His research focuses on macroeconomics, monetary economics,

and international economics. Before his appointment in Siegen, Beck was Professor at the University of Mainz. After gaining a Ph.D. from Goethe University in 2004, he worked as an Assistant Professor in Frankfurt. From 2015

until 2017, he organized the conference "The ECB and Its Watchers".

## Petra Geraats

### Research Fellow



Petra Geraats is a Senior Lecturer at the Department of Economics at the University of Cambridge. Her research areas include macroeconomics, international finance and behavioral economics.

She holds a Ph.D. in Economics from the University of California at Berkeley and a Master in Economics from Tilburg University. Her special interest lies in the transparency of monetary policy on which she has contributed to several publications, e.g. *The Oxford Handbook of Economics and Central Bank Communication, Decision-Making and Governance*. In 2019, Petra Geraats was among the experts to evaluate the Central Bank of Chile. She was an advisor to the International Monetary Fund and an external expert for the Central Bank Studies group at the Bank for International Settlements.

## Luisa Lambertini

### Research Fellow



Luisa Lambertini is a Professor at the Ecole Polytechnique Fédérale de Lausanne, where she holds the Chair of International Finance. She received her Ph.D. in Economics from the University of California at Berkeley in 1995,

her Master of Science in Economics from the University of Warwick in 1989 and her Laurea cum Laude from the Università degli Studi di Bologna in 1987. Professor Lambertini's

research focuses on the interaction of monetary and fiscal policies; on introducing housing and mortgage default in macroeconomic models; on the analysis of regulation and macroprudential policies in models with financial institutions. She has been a consultant with the European Central Bank and the Federal Reserve Bank of Richmond and Hoover National Fellow.

### Emanuel Mönch

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Research Fellow



Emanuel Mönch is Head of Research at Deutsche Bundesbank and Cooptation Professor for Monetary Policy and Financial Markets at Goethe University. He studied statistics at the École Nationale de la Statistique et de

l'Administration Économique (ENSAE) in Paris and economics at Humboldt University in Berlin, where he later gained his doctorate. From 2007 to 2015, Mönch had been working at the research group of the Federal Reserve Bank in New York. He also taught as a visiting professor at the prestigious Columbia University in New York. The Research Centre of the Deutsche Bundesbank has over 50 members of staff, who carry out research on general economic topics and issues in the areas of banking supervision, financial stability and risk modelling. Mönch has published articles in numerous renowned academic journals and has very close connections in academic circles.

### Athanasios Orphanides

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Research Fellow



Athanasios Orphanides is a Professor of the Practice of Global Economics and Management at the MIT Sloan School of Management, Cambridge. He holds undergraduate degrees in mathematics and economics as well as

a Ph.D. in economics from the Massachusetts Institute of Technology. Orphanides served as Governor of the Central Bank of Cyprus from May 2007 to May 2012 and was a member of the Governing Council of the European Central Bank between January 2008 and May 2012. Prior to that, Orphanides was a Senior Adviser to the Board of Governors of the US Federal Reserve System. While at the Federal Reserve, he taught undergraduate and graduate courses in macroeconomics and monetary economics at Georgetown University and Johns Hopkins University.

### Peter Tillmann

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Research Fellow



Peter Tillmann is Professor of Monetary Economics at the Justus Liebig University Giessen. His research focuses on monetary policy, empirical macroeconomics, and financial markets. Before coming to Giessen in 2009, Tillmann was a senior economist at the Swiss

National Bank. He started his academic career at the Universities of Bonn and Edinburgh. In 2003, he gained a Ph.D. from the University of Cologne.

## Heike Schweitzer

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### Research Fellow



Prof. Dr. Heike Schweitzer, LL.M. (Yale) has held the Chair for Civil Law, German and European Commercial and Competition Law and Economics at the law faculty of Humboldt University Berlin since April 2018. She is a

recognized expert in those fields and a special advisor to EU commissioner Margrethe Vestager for digitalization and competition policy. Besides competition law, the European law on the economic system, state aid law, the law on digital markets as well as the financial market law are among her main research areas. From 2006 to 2018, she taught at the universities of Florence and Mannheim and at Freie Universität Berlin. Heike Schweitzer is a member of the Kronberger Kreis and also an IMFS Affiliated Professor.

the model forecasting competition. Wolters is also a Research Fellow at the Kiel Institute for the World Economy (IfW).

## Maik Wolters

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### Research Fellow

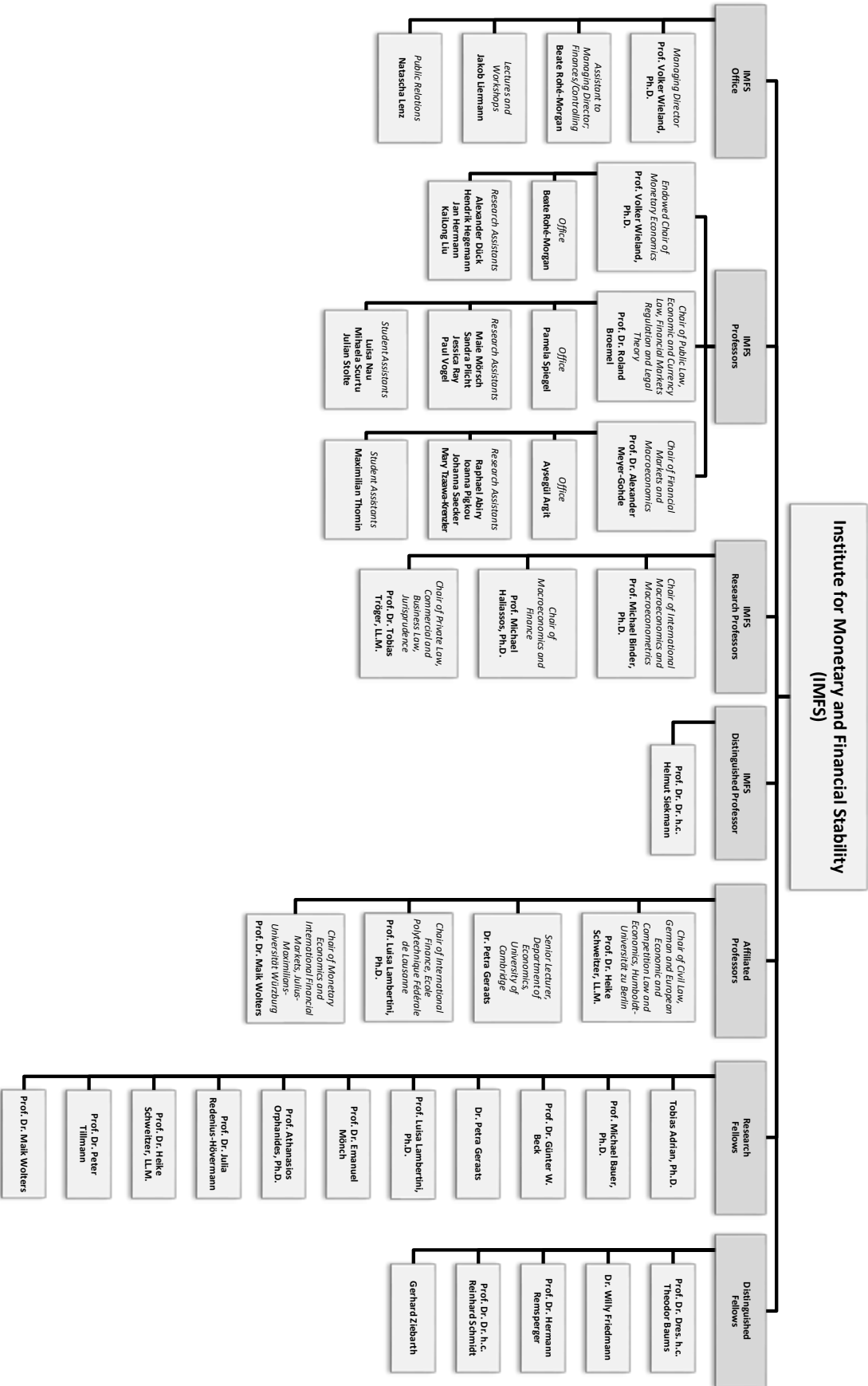


Maik Wolters has held the Chair of Monetary Economics and International Financial Markets at the University of Würzburg since April 2020. From 2017 until March 2020, he was a Professor of Macroeconomics

at Friedrich Schiller University Jena and from 2012 until 2017, he was a Junior Professor of Macroeconomics at Kiel University. His research interests are macroeconomics, monetary economics and international economics. In 2010 Wolters graduated from Goethe University's Ph.D. program where he had also gained a M.Sc. in quantitative economics previously. He is currently involved in the MMCI and coordinated



# VII. Organization Chart





# Conversations with IMFS Researchers and Alumni



## **Alina Tänzer, Deutsche Lufthansa** **“Developing ideas for research projects** **on the flight”**

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**Alina Tänzer** joined the IMFS in April 2017, supporting the Macroeconomic Model Comparison Initiative team and working as a research assistant. In December 2021, she completed her Ph.D. in economics

at Goethe University. Before focusing on economic research, Alina completed her airline pilot training with Deutsche Lufthansa. Since 2018, she continued her career as First Officer, flying for Lufthansa alongside her Ph.D. studies. In her research, she deals with different methods of artificial intelligence and applies them to solve monetary policy related questions. In a forecast comparison, artificial neural networks are trained to predict core macroeconomic variables and forecasts are compared to conventional prediction methods. The effectiveness of unconventional monetary policy is analyzed in a model comparison analysis on the one hand, and within a nonlinear model economy based on artificial neural networks on the other hand. Further, optimal monetary policy reaction functions are derived making use of another branch of machine learning called reinforcement learning. Alina's research shows evidence for artificial intelligence to provide powerful and flexible tools which can improve upon conventional methods and which are therefore very useful in the field of economics.

### **How would you describe your job to other people?**

Being a pilot is a very exciting occupation, which combines several dimensions of technical knowledge with practical skills. Before each

flight, you make the fuel calculations, check the weather along the route, and the technical condition of the airplane. It is important to process this information and to consider possible threats which might be present. Hence, it is required to be focused and to notice every detail. During the flight, the main task is to steer the airplane of course, which is done by giving the correct commands to the autopilot and by checking their execution. Continuously, the surrounding weather and terrain conditions are evaluated. Especially during takeoff and approach, good manual flying skills are required to keep the aircraft in the desired operating envelope. Hence, while being trained to handle emergency situations, a normal working day is in most cases rather uneventful.

### **What do you like most about your job?**

The view from my “office”. Seeing the world with a bird's eye view is very impressive and often times puts personal struggles in a different light. Furthermore, I especially like the connection to the meteorological and geographical environment and the communication with air traffic controllers and handling staff of different countries. Last but not least, the execution of one flight is always based on team work. I very much like this interpersonal aspect as well.

### **What was the main focus of your research at the IMFS?**

In my research, I contrast novel methods of artificial intelligence against conventional approaches with the goal to answer macroeconomic and monetary policy related questions. In one research project, I provide a forecast comparison of a parsimonious and fundamental artificial neural network (ANN), a dynamic stochastic general equilibrium model (DSGE), a Bayesian VAR, as well as official forecasts. Training or estimating either model with U.S. real-time data in an expanding window framework reveals a superior forecasting

performance by the ANN. This superiority increases with the forecasting horizon and with the actuality of the data. As even this benchmark ANN yields promising results, further applications of ANNs for forecasting but also in a modeling-context is recommended. Two of my research projects deal with the effectiveness of unconventional policy, i.e. the central banks' purchases of treasury securities. A structural model comparison of several DSGE models aims at comparing QE effects across models to tackle the problem of model uncertainty. The results provide evidence for QE having rather little impact on the economy, which questions large investment volumes and motivates balance sheet normalization.

To overcome the problem of model uncertainty, in another project I employ a novel empirical approach making use of a nonlinear ANN-based model economy, which does not require a-priori assumptions about the transmission channel of QE. The results point to asymmetric effects of this policy intervention which are contingent on the prior state of the economy. It can be said, that the deeper the crisis, the more powerful is QE. Nevertheless, also this project underlines rather small overall effects. The idea for another research project was developed when I was thinking about the working mechanism of the autopilot and the underlying principles of control theory. As it relies on circular dependencies which can also be found in a macroeconomic context, the methods should be transferrable as well. Hence, a machine-learning technique called reinforcement learning, which is an enhancement of control theory, is employed to find optimal monetary policy reactions functions. The rules (linear and nonlinear) are trained in two different environments which are based on a structural VAR and a nonlinear ANN economy. The trained rules can be shown to reduce the central bank loss by over 43%, assuming an inflation target of 2% and an output gap target of zero. The findings of my research projects allow to conclude that methods of artificial intelligence

can improve upon standard approaches, especially when nonlinearities are present or underlying functional interrelations are unknown. The promising results motivate further research in this interdisciplinary field.

### **Do you benefit in any way from your research at IMFS in your job at Lufthansa?**

There is clearly no direct link between research on monetary policy and working as a pilot. However, there are some relevant skills that I developed through doing research such as stress resistance, the ability to put diffuse information in order or to have an eye for the detail. Besides that, the teamwork within the IMFS initiative allowed to train many interpersonal skills which are a prerequisite for any job-related and also private relationship. Furthermore, my plan is to complement my job as a pilot by another function which will take more advantage of Ph.D.-related knowledge as regards to content. I would especially like to exert and strengthen my skills in artificial intelligence as I see many use cases of these techniques in business companies and policy agencies.

### **What did you enjoy most regarding your time at the IMFS?**

Working at the IMFS offered a lot of opportunities which supported my research path and also my future career plans. On the one hand, working on a great project as the macroeconomic model comparison initiative widened the knowledge about project management and it offered several touch points with an international research community. On the other hand, we had a lot of room to work on projects of our own which facilitated to progress with the doctoral thesis. I would say working for the IMFS was a welcome chance to start working in a research-related field and to conduct own thesis-related research at the same time.

**Lazar Milivojević, World Bank**  
**“Working on the Modelbase gave me a better economic intuition”**



Before taking up a position within the World Bank in February 2021, **Lazar Milivojević** was a research and teaching assistant at the IMFS for almost four years. During that period, he also visited the World Bank

in Washington D.C. and European Stability Mechanism in Luxembourg. Lazar defended his Ph.D. dissertation in December 2021 at the Graduate School of Economics, Finance, and Management (GSEFM) at Goethe University. A Serbian citizen, he earned a B.Sc. in Economics and an M.Sc. in Quantitative Analysis from the University of Belgrade. Lazar's research interests lie in the area of applied macroeconomics. .

**How would you describe your job to other people?**

I am a part of the World Bank's South Asia Region Chief Economist (SARCE) Office macroeconomic team. Our main product, South Asia Economic Focus (SAEF), aims to provide a high-quality update on economic developments, a near-term outlook, and in-depth analyses of key economic challenges in the region. My work entails monitoring regional trends and potential risks, performing different empirical analyses, and relying on structural models to provide scenarios comparison. In addition, I participate in the Climate Change and Development Report (CCDR) macroeconomic chapter that focuses on the economic implications of climate change in Bangladesh and associated adaptation and mitigation policy measures.

**What do you like most about your job?**

Essentially, my job allows me to work on policy-relevant issues while further developing methodological skills I have developed throughout my Ph.D. studies. I particularly appreciate that combination of strong research and applied policymaking environment, along with the possibility to provide policy guidance. Last but not least, the World Bank's quest to end poverty through sustainable and inclusive growth is an inspiring goal that I would like to contribute utmostly.

**What was the main focus of your research at the IMFS?**

Primarily, I was working on the further development of the Macroeconomic Model Data Base (MMB). That gave me a good overview of a large set of structural macroeconomic models and their applications. In parallel, I worked on the papers that formed the chapters of my dissertation. One part of my research examined the real equilibrium interest rates ( $r^*$ ) dynamics, given its strong policy implications. Another was centered on fiscal policies that lower labor costs as a means to re-ignite growth in euro area economies facing subdued prospects.

**How is your job at the World Bank related to your work at the IMFS?**

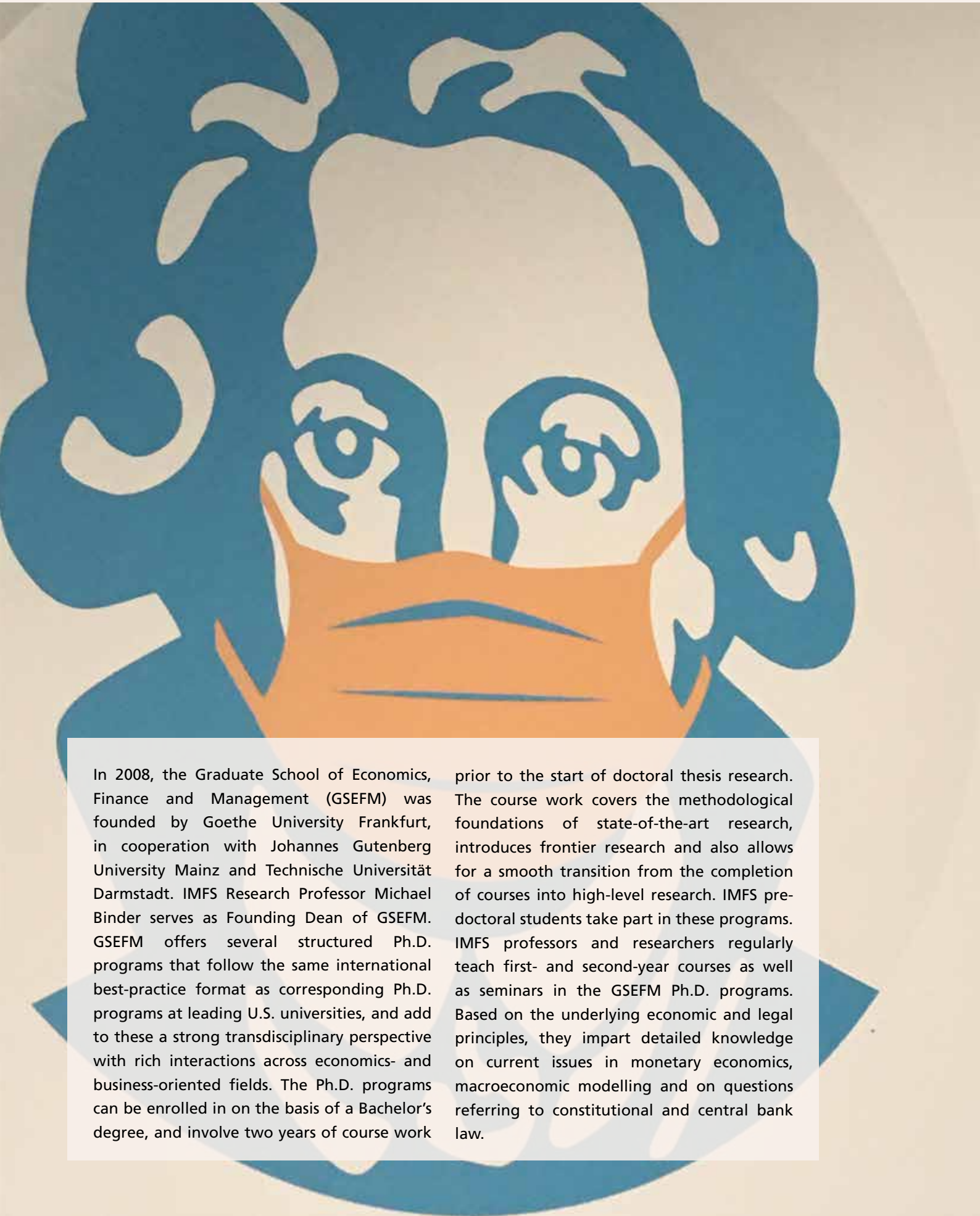
The job at the IMFS put me in a frontier of macroeconomic research. Working on the MMB gave me a broader perspective on macroeconomic modeling, but also a better economic intuition. Additionally, attending the IMFS lectures and conferences helped me to stay up to date with the latest advances in the field and topical policy issues. That turns out to be pivotal to my work at the World Bank.

**What did you enjoy most regarding your time at the IMFS?**

The IMFS provided a very stimulative research environment. Besides an opportunity to participate in the IMFS events, teach, and have applied work for the MMB, I benefited enormously from the collaboration with the other colleagues, many of them now being friends and co-authors.



## Teaching Concept and Activities



In 2008, the Graduate School of Economics, Finance and Management (GSEFM) was founded by Goethe University Frankfurt, in cooperation with Johannes Gutenberg University Mainz and Technische Universität Darmstadt. IMFS Research Professor Michael Binder serves as Founding Dean of GSEFM. GSEFM offers several structured Ph.D. programs that follow the same international best-practice format as corresponding Ph.D. programs at leading U.S. universities, and add to these a strong transdisciplinary perspective with rich interactions across economics- and business-oriented fields. The Ph.D. programs can be enrolled in on the basis of a Bachelor's degree, and involve two years of course work

prior to the start of doctoral thesis research. The course work covers the methodological foundations of state-of-the-art research, introduces frontier research and also allows for a smooth transition from the completion of courses into high-level research. IMFS pre-doctoral students take part in these programs. IMFS professors and researchers regularly teach first- and second-year courses as well as seminars in the GSEFM Ph.D. programs. Based on the underlying economic and legal principles, they impart detailed knowledge on current issues in monetary economics, macroeconomic modelling and on questions referring to constitutional and central bank law.



**Prof. Michael Binder, Ph.D.**

## 1 Macroeconomics 1

(Winter Semester 2020/21, Winter Semester 2021/22, 12 CP)

This is a large-scale course in the Bachelor program of the Faculty of Economics and Business. The primary purpose of this course is to enable participants to develop a first thorough understanding of macroeconomic measurement and macroeconomic theory. In particular, the course discusses the macroeconomic accounts and develops a contemporary modelling framework to analyze macroeconomic outcomes in the short, medium and long run. This modelling framework in turn provides the basis for this course to discuss some of the macroeconomic issues that are the subject of the current public debate.

One of the distinguishing features of this course are its innovative Excel-based workbooks that make the quantitative analysis of dynamic, partially nonlinear, business cycle and growth models accessible to second-year undergraduate students. For example, with the help of these workbooks, students can quantitatively analyze the effects of changes in monetary and/or fiscal policy on macroeconomic aggregates. The distribution of these workbooks occurs under the Creative Commons licensing standard, and thus encourages students to share with each other their work on the course and beyond. In 2020, calculations on the effects of the coronavirus pandemic were integrated in the course.

## 2 Introduction to Econometric Forecasting: Predicting Exchange Rates

(Summer Semester 2021, 5 CP)

This course provides a thorough yet accessible presentation of some of the key models and methods that econometrics currently has to offer for the analysis of exchange rates, and

the application of these models and methods to the forecasting of exchange rates. Many of the course's classes involve empirical illustration of the models and methods discussed in STATA on the basis of the most recently available data, enabling course participants to do independent, theory-based empirical work using time series data as arising in many areas of finance and macroeconomics.

The course covers the use of a broad range of reduced-form and theory-based models for the forecasting of exchange rates, including autoregressive moving average (ARMA) models, autoregressive integrated moving average (ARIMA) models, autoregressive fractionally integrated moving average (ARFIMA) models, vector autoregressive (VAR) models, vector error correction (VEC) models as well as rational expectations present value (REPV) models.

## 3 Solution, Identification and Estimation of DSGE models

(Winter Semester 2020/21, Winter Semester 2021/22, 4 CP)

This course is part of the field course offerings in macroeconomics and econometrics of the Ph.D. programs at GSEFM. It encompasses an in-depth discussion of issues in the econometric analysis of Dynamic Stochastic General Equilibrium (DSGE) models: model solution, model identification and model estimation.

A special focus of the course is on the issue of the possible multiplicity and time-variation of model solutions, issues that various software packages at present cannot yet address. The course thus engages its participants in building up a library of routines that allow to go beyond such limitations in the empirical analysis of structural macroeconomic models.

To reflect the course's use of a variety of software packages and programming environments as part of implementing the model solution, identification and estimation methods

discussed, its examination is pioneering within the Ph.D. programs of GSEFM the mixed use of a traditional closed-book, paper-based examination format with the hands-on use of MATLAB and STATA during the examination, to carry out numerical work on the solution, identification and estimation of DSGE models as part of the examination

#### **4 Organization of Pre-Semester Courses in Mathematics, Statistics and Econometrics for First-Year Students of GSEFM**

(Winter Semester 2020/21, Winter Semester 2021/22)

These courses help students with mastering the transition from Bachelor and Master programs to the analytical and quantitative rigor of GSEFM Ph.D. program courses. The course contents are developed in collaboration with upper-year Ph.D. program students (who also serve as course instructors), and include coverage of elements of real analysis, linear algebra, optimization, statistics and linear regression, all accompanied by programming components in MATLAB and STATA.

#### **5 Orientation Sessions for First-, Second- and Third-Year Students in the Ph.D. Programs of GSEFM**

(Winter Semester 2020/21, Winter Semester 2021/22)

#### **6 Advanced Econometrics 2**

(Summer Semester 2021, 8 CP)

with Dr. Marc-Oliver Pohle (Part 1)

This course is part of the first-year MSQ/Ph.D. Program. The second part of the course studies vector autoregressions, vector error correction models and autoregressive distributed lag models, both in time-series and panel data settings. A specific focus is on understanding how these models allow economists to address issues of regressor endogeneity, and how they may learn through these models about dynamic

adjustment processes even when the number of time series observations may be small. While a sizeable fraction of class time is devoted to learn about the relevant methodological aspects, the course also features hands-on applications involving empirical use of various of the models and methods discussed. The applications are based on STATA routines. Beyond covering the relevant STATA command syntax, the applications also provide the opportunity to give in-depth consideration to issues of model formulation in empirical analysis, as well as to the adequate interpretation of empirical results.

#### **7 Solution, Identification and Estimation of DSGE models**

(Winter Semester 2020/21, Winter Semester 2021/22 4 CP)

This course is part of the field course offerings in macroeconomics and econometrics of the Ph.D. programs at GSEFM. It encompasses an in-depth discussion of issues in the econometric analysis of Dynamic Stochastic General Equilibrium (DSGE) models: model solution, model identification and model estimation.

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## **8 Topics in Empirical Macroeconomic Research**

(Summer Semester 2021, 4 CP)

This seminar is intended for discussion of issues in frontier research in empirical macroeconomics, of methodological and/or empirical nature. Seminar sessions involve a presentation of a draft of a paper or a research proposal, a discussion on the paper or proposal by a fellow seminar participant and an open discussion.

## **9 Organization of Pre-Semester Courses in Mathematics, Statistics and Econometrics for First-Year Students of GSEFM**

(Winter Semester 2020/21, Winter Semester 2021/22)

These courses help students with mastering the transition from Bachelor and Master programs to the analytical and quantitative rigor of GSEFM Ph.D. program courses. The course contents are developed in collaboration with upper-year Ph.D. program students (who also serve as course instructors), and include coverage of elements of real analysis, linear algebra, optimization, statistics and linear regression, all accompanied by programming components in MATLAB and STATA.

## **10 Orientation Sessions for First-, Second- and Third-Year Students in the Ph.D. Programs of GSEFM**

(Winter Semester 2020/21, Winter Semester 2021/22)

## **11 Supervision of Theses at the Bachelor, Master and Ph.D. Levels**

(Winter Semester 2020/21, Summer Semester 2021, Winter Semester 2021/22)

**Prof. Dr. Roland Broemel**

## **1 Regulierung digitaler Medien (Regulation of Digital Media)**

(Summer Semester 2021, block seminar)

Digital transformation is changing the way media are produced, distributed and used. In particular, media platforms and media intermediaries such as social networks play a special role in the dissemination of content and the framework conditions for opinion formation in the communicative process. For this reason, the Interstate Treaty on the Media introduces some new regulatory instruments. In this seminar, different aspects and approaches will be discussed, from social networks to media platforms, the task of public broadcasting to the rules for contributions by influencers.

## **2 Maßnahmen zur Bewältigung der Covid-19-Pandemie (Measures to Overcome the Covid-19 Pandemic)**

(Summer Semester 2021, block seminar)

Extraordinary times call for extraordinary measures. The exceptional character, both of the circumstances and of the measures, raises a number of legal issues in this context - from the Union law framework of ECB measures to the establishment of a reconstruction and resilience facility, from exceptions to antitrust and state aid rules to requirements regarding the legal basis, proportionality in the case of burdensome measures and the domestic division of competences between the federal and state governments. The aim of the seminar is to analyze the legal requirements for the individual measures in their respective contexts and to work out overarching aspects on this basis.

## **3 Macht- und Werteverstärkung durch Algorithmen (Power and Value Shift Through Algorithms)**

(Winter Semester 2020/21)

with Prof. Christoph Burchard and Prof. Indra Spiecker gen. Döhmman

This colloquium discusses algorithm-based power and value shifting and its consequences for legal scholarship in different facets. The colloquium embeds five lectures by specialists who address the impact of AI and algorithmic systems on various value systems, e.g., through standard setting, on democracy and collectives, on legal systems. Typical questions include: How does an interaction between human decision-making ideas and machine learning work? What changes are brought about by developments in probabilistics, etc.? What does this mean for our social system and its subsystems? Do we recognize new structures or a dissolution? Is the essence of our democracy changing? Will collectives be formed differently or will individuality have to be rethought? Following the keynote speeches, the participants will discuss with renowned experts. An introductory and closing event will place AI in its legal context.

## **4 Regulierung digitaler Plattformen und Infrastrukturen (Regulation of Digital Platforms and Infrastructure)**

(Winter Semester 2021/22)

Platforms are of particular importance in the digital transformation. They facilitate mediation between suppliers and consumers of different goods or services. They can also be the basis for exchange among users. In some cases, participants achieve considerable visibility via the platform. Platforms form the prerequisite for a range of offers from other market participants. Digital platforms thus play a central role in many areas. Social networks, search engines, Amazon, Spotify, YouTube, Netflix, AirBnB and Uber are prominent examples. But virtual currencies and digital payment services also have similar characteristics in some cases. The aim of the seminar is to analyze the associated regulatory issues in the individual areas and, on this basis, to look for overarching connections.

## 5 Verwaltungsrecht 1 (Administrative Law)

(Winter Semester 2021/22)  
with Priv. Doz. Nils Grosche

Introduction to the law of public administration: constellations of the state-citizen relationship, types and forms of action of the administration, conflicts under administrative law and legal protection against administrative action. In addition, basics of police and regulatory law, special powers, enforcement measures.

**Prof. Michael Haliassos, Ph.D.**

## 1 Macroeconomics 1

(Summer Semester 2021, 12 CP)

Europe has undergone two major crises over the past ten years: first, the financial crisis originating in over-borrowing through mortgages in the United States, and second, the fiscal crisis, originating in massive government debt in some Eurozone countries. Both have challenged macroeconomic analysis and the design of policies for macroeconomic adjustment. It is now in the process of a global pandemic, which challenges policy makers on different levels (fiscal, monetary, labor, technological), partly in view of the limited space the previous crisis have left.

## 2 Household Finance (Master Course)

(Winter Semester 2020/21, Winter Semester 2021/22, 6 CP)

This course presents topics on the new area of Household Finance, on the interface between Macroeconomics and Finance. This is not only an active area of frontier academic research, but also interesting and useful to people working in the financial sector, including central banks. The broad overall theme of the topics presented is household wealth management, namely analysis of household demand for assets and for loans. The course

should appeal to a wide range of students, from those interested in understanding household preferences for financial products useful for financial sector jobs, to those who are more academically oriented and who want to study intertemporal portfolio selection in the face of labor income risk for which one cannot buy insurance.

## 3 Research Topics in Household Finance (Ph.D. Seminar)

(Winter Semester 2020/21, Winter Semester 2021/22, block seminar, 6 CP)

This seminar encourages students to study frontier papers in household finance in depth, understand their strengths and weaknesses, and formulate a proposal for pushing household finance research forward through an own future project. Students are expected to present a recent research paper on household finance, discuss the presentation of another paper, and write a five-page proposal for a future paper of their own, in the area of household finance, following the template for DFG proposals. The seminar does not attempt to be encyclopedic. It focuses on some promising areas of recent research in the relatively new but very active field of Household Finance. The field is attracting particular attention by academics, policy makers, regulators, and practitioners in view of major developments, such as the demographic transition, financial innovation, and the recent financial crisis.

Topics:

- Asset allocation and debt behavior over the life cycle
- Financing retirement and the demographic transition
- Consumer indebtedness, financial distress, and default decisions
- Behavioral approaches to household finance
- Financial literacy and financial education programs
- Trust, subjective expectations, pessimism,

and financial decisions

- International comparisons of household finances using micro-data
- Financial advice and legal protection of investors and borrowers
- Financial innovation and household finances
- Households liquidity and risk management
- Climate change, sustainability, and household finances

## 4 Thesis Research Seminar (Master Level)

(Winter Semester 2020/21, 6 CP)

with Prof. Ester Faia

This seminar is designed to provide useful feedback to Master of Science in Money and Finance (MMF) students writing their Master thesis. This takes the form of suggestions from the instructor and the participants on possible directions to take, as well as the possibility to compare one's own work to that of the other participants. In this spirit, attendance of all sessions is mandatory for all students. Thesis advisors or their assistants are invited to participate in the seminar and several do so. As a result, the seminar can also serve as a way for advisors to provide feedback to their own supervisees. Students give two presentations related to their MMF Master Thesis. The first presentation serves as a thesis proposal. The second presentation discusses the main results of the thesis, show how they relate to the research question and to findings in closely related literature, and what use can be made of them.

## 5 Job Market Seminar

(Winter Semester 2020/21, Winter Semester 2021/22, 6 CP)

with Prof. Ester Faia

The students are followed and guided through the job market process. The main goal is

how to learn to give a job market seminar, to prepare effective slides, to package the research papers, to give an effective interview and how to place the research agenda at the frontier of research.

## 6 Topics in Household Finance (Bachelor Seminar)

(Winter Semester 2020/21, Winter Semester 2021/22, block seminar, 8 CP)

This seminar presents topics in the modern and rapidly growing area of Household Finance, on interface between Macroeconomics and Finance. This is not only an active area of frontier academic research, but also interesting and useful to people working in the financial sector, including central banks, commercial banks, insurance companies, and large brokers. The broad overall theme is household wealth management, namely analysis demand for assets and loans. Gone are the days when household portfolios consisted of a bank account and a home. Instead, people try to supplement the limited pension system given by the social security system and they are willing to undertake a lot more risk than before. Understanding what determines household asset and debt choices behavior is of paramount importance for academics and practitioners alike. This has been made much easier by the recent introduction of several data sources.

**Prof. Dr. Alexander Meyer-Gohde**

## 1 Business Cycles: Theory and Policy

(Winter Semester 2020/21, 5 CP)

The course introduces students to two modern theories of business cycles: Real Business Cycle theory and New Keynesian theory. A standard Real Business Cycle model is formally stated and solved. Afterwards, a standard New Keynesian model is formally stated and solved. Finally, these two models are used for policy analysis.



Students are supposed to learn how to state and solve modern business cycle models.

## 2 Macroeconomics 2

(Winter Semester 2020/21, Summer Semester 2021, 6 CP)

The course provides an introduction to Advanced Macroeconomics at the undergraduate level, serving as a bridge between Intermediate Macroeconomics at the undergraduate level and graduate-level Macroeconomics. The first part of the course is about economic growth. The second part of the course is about business cycles. Knowledge of functions, derivatives, and constrained optimization, along with basic statistics is assumed.

## 3 Advanced Macroeconomic Theory 2, Part 1

(Summer Semester 2021, 8 CP)

with Prof. Ester Faia for Part 2

Part 1 of this course introduces students to the rigorous solution, estimation, and analysis of business cycle models. Numerical solution methods are compared in the analysis of the real business cycle (RBC) model and numerical estimation techniques introduced in the analysis of New Keynesian models. Thus, the course has a twofold focus on models and techniques.

## 4 Monetary Theory and Policy

(Summer Semester 2021, 6 CP)

This course introduces students to the dynamic stochastic general equilibrium (DSGE) models used in modern monetary macroeconomics called New Keynesian models. The basic model equations including nominal frictions such as price stickiness are derived carefully, and model solution techniques are discussed. Numerical solutions of the models are obtained and the models are simulated and analyzed using Dynare in MATLAB. Possible extensions

to the core model that may be treated in class include an analysis of optimal monetary policy. After completing the course, students should understand the dynamic mechanisms of nominal rigidities and the policy tradeoffs facing monetary policy. Mechanically, students will be able to derive, solve and simulate simple DSGE models and should be able to read and understand more elaborate models found in the literature. Outline: Introduction, A Classical Monetary Economy, The Basic New Keynesian, Optimal Policy Design, Discretion versus Commitment.

**Prof. Dr. Tobias Tröger, LL.M.**

## 1 Commercial Law

(Winter Semester 2020/21)

The lecture is on commercial law, which is regulated in the 1st and 4th book of the Commercial Code. The focus is in particular on the concept of a merchant, the commercial register, the trading company, procurator and power of attorney, commercial agents and commercial transactions.

**Prof. Volker Wieland, Ph.D.**

## **1 Monetary and Fiscal Policy: Theory and Practice**

2nd Year Ph.D. and MSQE Course  
(Macroeconomics, 4 CP)

(Winter Semester 2020/21, Winter Semester 2021/22)

The objective of this course is to provide an introduction to the analysis of monetary and fiscal macroprudential policymaking with practical applications to current policy challenges. Examples from the European Union, the United States and Japan are discussed. Students develop theoretical models of monetary and fiscal policy and learn how different policy recommendations can be evaluated using these models. Students also conduct practical simulation exercises and make use of MATLAB-based software tools for model analysis.

- Introduction
- Monetary models and monetary policy rules
- Optimal Control and New Keynesian modelling: Inflation targeting and the ECB
- Quantitative easing and the zero bound on nominal interest rates
- Government budget constraints and monetary-fiscal policy linkages
- Fiscal stimulus and multiplier effects
- Government debt dynamics and fiscal consolidation
- Financial accelerator, housing markets and macro-prudential regulation

## **2 Macro-Financial Modeling and the Coronavirus Pandemic**

Ph.D. program seminar

(Summer semester 2021, 4 CP)

The purpose of this seminar is to give advanced doctoral students a hands-on introduction to frontier research in structural macroeconomic analysis and the development and application

of structural macroeconomic models. The seminar consists of a combination of lectures, supervision of modeling projects, student presentations and group discussions with extensive feedback. Each project, which should ideally be pursued by a team of two students, involves studying an existing macroeconomic model from the literature. Students are guided in the development of a software implementation of the model in DYNARE with a policy application. At the end of the seminar, students should be able to start working on a dissertation project that involves structural macroeconomic modeling. Successful participation in this seminar is a precondition for the supervision of a dissertation at the chair.

## Publications and Presentations



# I. IMFS Working Papers

The *IMFS Working Paper* series helps disseminate the findings of IMFS researchers among the general public before they are published, for example, in scientific journals or policy publications.



**No. 164 Thomas Jost, Karl-Heinz Tödter:**

Reducing sovereign debt level in the post-Covid Eurozone with a simple deficit rule

**No. 163 Michael D. Bauer, Mikhail Chernov:**

Interest Rate Skewness and Biased Beliefs

**No. 162 Magnus Reif, Mewael F. Tesfaselassie, Maik Wolters:**

Technological Growth and Hours in the Long Run: Theory and Evidence

**No. 161 Michael Haliassos, Thomas Jansson, Yigitcan Karabulut:**

Wealth Inequality: Opportunity or Unfairness?

**No. 160 Natascha Hinterlang, Josef Hollmayr:**

Classification of Monetary and Fiscal Dominance Regimes using Machine Learning Techniques

**No. 159 Volker Wieland:**

The decline in euro area inflation and the choice of policy strategy

**No. 158 Matthew Agarwala, Matt Burke, Patrycja Klusak, Moritz Kraemer, Kamiar Mohaddes:**

Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness

**No. 157 Yvan Lengwiler, Athanasios Orphanides:**

Collateral Framework: Liquidity Premia and Multiple Equilibria

**No. 156 Gregor Böhl, Cars Hommes:**

Rational vs. Irrational Beliefs in a Complex World

**No. 155 Michael D. Bauer, Eric T. Swanson:**

The Fed's Response to Economic News Explains the "Fed Information Effect"

**No. 154 Alexander Meyer-Gohde:**

On the Accuracy of Linear DSGE Solution Methods and the Consequences for Log-Normal Asset Pricing

**No. 153 Gregor Böhl, Philipp Lieberknecht:**

The Hockey Stick Phillips Curve and the Zero Lower Bound

**No. 152 Lazar Milivojevic, Balint Tatar:**

Fixed exchange rate – a friend or foe of labor cost adjustments?

**No. 151 Thomas Jost, Franz Seitz:**

Designing a European Monetary Fund: What role for the IMF?

**No. 150 Gerhard Rösl, Franz Seitz:**

Cash and Crises: No surprises by the virus

**No. 149 Wolfgang Lechthaler, Mewael F. Tesfaselassie:**

Endogenous Growth, Skill Obsolescence and Output Hysteresis in a New Keynesian Model with Unemployment

**No. 148 Gregor Böhl:**

Efficient Solution and Computation of Models with Occasionally Binding Constraints

**No. 147 Brian Fabo, Martina Jancokova, Elisabeth Kempf, Lubos Pastor:**

Fifty Shades of QE: Conflicts of Interest in Economic Research

**No. 146 Robert C.M. Beyer, Lazar Milivojević:**

Dynamics and Synchronization of Global Equilibrium Interest Rates



**No. 164 Thomas Jost, Karl-Heinz Tödter**

**Reducing sovereign debt level in the post-COVID Eurozone with a simple deficit rule**

Debt levels in the Eurozone have reached new record highs. The member countries have tried to cushion the economic consequences of the corona pandemic with a massive increase in government spending. The authors propose a new fiscal rule that could to bring public debt down to an acceptable level. They argue that it lowers the existing incentives for highly indebted governments to exert expansionary pressure on monetary policy.

**No. 163 Michael D. Bauer, Mikhail Chernov**

**Interest Rate Skewness and Biased Belief**

Conditional yield skewness is an important summary statistic of the state of the economy. It exhibits pronounced variation over the business cycle and with the stance of monetary policy, and a tight relationship with the slope of the yield curve. Most importantly, variation in yield skewness has substantial forecasting power for future bond excess returns, high-frequency interest rate changes around FOMC announcements.

**No. 162 Magnus Reif, Mewal Tesfaselassie, Maik Wolters**

**Technological Growth and Hours in the Long Run: Theory and Evidence**

Over the last decades, hours worked per capita have declined substantially in many OECD economies. Using a neoclassical growth model with endogenous work-leisure choice, the authors assess the role of trend growth slowdown in accounting for the decline in hours worked. In the model, a permanent reduction in technological growth decreases steady state hours worked by increasing the consumption-output ratio.

**No. 161 Michael Haliassos, Thomas Jansson, Yigitcan Karabulut**

**Wealth Inequality: Opportunity or Unfairness?**

The authors present evidence of a new propagation mechanism for wealth inequality, based on differential responses, by education, to greater inequality at the start of economic life. Using unique administrative micro data and a quasi-field experiment of exogenous allocation of households, the authors find that exposure to a greater top 10 percent wealth share at the start of economic life in the country leads only the more educated placed in locations with above-median wealth mobility to attain higher wealth levels and position in the cohort-specific wealth distribution later on.

**No. 160 Natascha Hinterlang, Josef Hollmayr**

**Classification of Monetary and Fiscal Dominance Regimes using Machine Learning Techniques**

The authors identify U.S. monetary and fiscal dominance regimes using machine learning techniques. The algorithms are trained and verified by employing simulated data from Markov-switching DSGE models, before they classify regimes from 1968-2017 using actual U.S. data. All machine learning methods outperform a standard logistic regression concerning the simulated data. The authors find clear evidence of fiscal dominance before Volcker. Monetary dominance is detected between 1984-1988, before a

fiscally led regime turns up around the stock market crash lasting until 1994. Until the beginning of the new century, monetary dominance is established.

**No. 159 Volker Wieland**

**The decline in euro area inflation and the choice of policy strategy**

The author argues that the ECB should adjust its strategy in order to consider broader measures of inflation in its policy deliberations and communications. In particular, he points out that a broad measure of domestic goods and services price inflation such as the GDP deflator has increased along with the euro area recovery and the expansion of monetary policy since 2013, while HICP inflation has become more variable and, on average, has declined. Furthermore, he shows that optimal monetary policy at the effective lower bound on nominal interest rates aims to return inflation more slowly to the inflation target from below than in normal times because of uncertainty about the effects and potential side effects of quantitative easing.

**No. 158 Matthew Agarwala, Matt Burke, Patrycja Klusak, Moritz Kraemer, Kamir Mohaddes**

**Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness**

How will a changing climate impact the creditworthiness of governments over the very long term? Financial markets need credible, digestible information on how climate change translates into material risks. To bridge the gap between climate science and real-world financial indicators, the authors simulate the effect of climate change on sovereign credit ratings for 108 countries, creating the world's first climate-adjusted sovereign credit rating.

**No. 157 Yvan Lengwiler, Athanasios Orphanides**

**Collateral Framework: Liquidity Premia and Multiple Equilibria**

Central banks normally accept debt of their own governments as collateral in liquidity operations without reservations. This gives rise to a valuable liquidity premium that reduces the cost of government finance. The ECB is an interesting exception in this respect. It relies on external assessments of the creditworthiness of its member states, such as credit ratings, to determine eligibility and the haircut it imposes on such debt. The authors show how such features in a central bank's collateral framework can give rise to cliff effects and multiple equilibria in bond yields and increase the vulnerability of governments to external shocks.

**No. 156 Gregor Böhl, Cars Hommes**

**Rational vs. Irrational Beliefs in a Complex World**

Can boundedly rational agents survive competition with fully rational agents? The authors develop a highly nonlinear heterogeneous agents model with rational forward looking versus boundedly rational backward looking agents and evolving market shares depending on their relative performance. Their novel numerical solution method detects equilibrium paths characterized by complex bubble and crash dynamics.

**No. 155 Michael D. Bauer, Eric T. Swanson**

**The Fed's Response to Economic News Explains the "Fed Information Effect"**

High-frequency changes in interest rates around FOMC announcements are a standard method of measuring monetary policy shocks. However, some recent studies have documented puzzling effects of these shocks on private-sector forecasts of GDP, unemployment, or inflation that are opposite in sign to what standard macroeconomic models would predict. This evidence has been viewed as supportive of a "Fed information effect" channel of monetary policy, whereby an FOMC tightening (easing) communicates that the economy is stronger (weaker) than the public had expected. The authors show that these empirical results are also consistent with a "Fed response to news" channel, in which incoming, publicly available economic news causes both the Fed to change monetary policy and the private sector to revise its forecasts. They provide new evidence that strongly favors the latter.

**No. 154 Alexander Meyer-Gohde**

**On the Accuracy of Linear DSGE Solution Methods and the Consequences for Log-Normal Asset Pricing**

This paper demonstrates a failure of standard, generalized Schur (or QZ) decomposition based solutions methods for linear dynamic stochastic general equilibrium (DSGE) models when there is insufficient eigenvalue separation about the unit circle. The significance of this is demonstrated in a simple production-based asset pricing model with external habit formation. While the exact solution afforded by the simplicity of the model matches post-war US consumption growth and the equity premium, QZ-based numerical solutions miss the later by many annualized percentage points.

**No. 153 Gregor Böhl, Philipp Lieberknecht**

**The Hockey Stick Phillips Curve and the Zero Lower Bound**

The recently observed disconnect between inflation and economic activity can be explained by the interplay between the zero lower bound (ZLB) and the costs of external financing. In normal times, credit spreads and the nominal interest rate balance out; factor costs dominate firms' marginal costs. When nominal rates are constrained, larger spreads can more than offset the effect of lower factor costs and induce only moderate inflation responses. The Phillips curve is hence flat at the ZLB, but features a positive slope in normal times and thus a hockey stick shape. Via this mechanism, forward guidance may induce deflationary effects.

**No. 152 Lazar Milivojevic, Balint Tatar**

**Fixed exchange rate – a friend or foe of labor cost adjustments?**

The authors examine the effectiveness of labor cost reductions as a means to stimulate economic activity and assesses the differences which may occur with the prevailing exchange rate regime. They develop a medium-scale three-region DSGE model and show that the impact of a cut in the employers' social security contributions rate does not vary significantly under different exchange rate regimes. They find that both the interest rate and the exchange rate channel matters. Furthermore, the measure appears

to be effective even if it comes along with a consumption tax increase to preserve long-term fiscal sustainability. Finally, they assess their obtained theoretical results empirically.

**No. 151 Thomas Jost, Franz Seitz**

**Designing a European Monetary Fund: What role for the IMF?**

The so-called Troika, consisting of the EU-Commission, the ECB and the IMF, was supposed to support the member states of the euro area which had been hit hard by a sovereign debt crisis. For that purpose, economic adjustment programs were drafted and monitored in order to prevent the break-up of the euro area and sovereign defaults. The cooperation of these institutions, which was born out of necessity, has been partly successful, but has also created persistent problems. With the further increase of public debt, especially in France and Italy, the authors see the danger of a renewed crisis in the euro area. They argue that the current course is inadequate to tackle the core problems of the euro area and to avoid future crises, which are mainly structural in nature and due to escalating public debt and lack of international competitiveness of some member countries.

**No. 150 Gerhard Rösl, Franz Seitz**

**Cash and Crises: No surprises by the virus**

Despite the increasing use of cashless payment instruments, the notion that cash loses importance over time can be unambiguously refuted. In contrast, the authors show that cash demand increased steeply over the past 30 years. This is not only true on a global scale, but also for the most important currencies in advanced countries (USD, EUR, CHF, GBP and JPY). In this paper, they focus especially on the role of different crises (technological crises, financial market crises, natural disasters) and analyse the demand for small and large banknote denominations since the 1990s in an international perspective. It is evident that cash demand always increases in times of crises, independent of the nature of the crisis itself.

**No. 149 Wolfgang Lechthaler, Mewael F. Tesfaselassie**

**Endogenous Growth, Skill Obsolescence and Output Hysteresis in a New Keynesian Model with Unemployment**

The authors embed human capital-based endogenous growth into a New-Keynesian model with search and matching frictions in the labor market and skill obsolescence from long-term unemployment. The model can account for key features of the Great Recession: a decline in productivity growth, the relative stability of inflation despite a pronounced fall in output (the “missing disinflation puzzle”), and a permanent gap between output and the pre-crisis trend output. In the model, lower aggregate demand raises unemployment and the training costs associated with skill obsolescence. Lower employment hinders learning-by-doing, which slows down human capital accumulation, feeding back into even fewer vacancies than justified by the demand shock alone.

**No. 148 Gregor Böhl**

**Efficient Solution and Computation of Models with Occasionally Binding Constraints**

Occasionally binding constraints have become an important part of economic modelling, especially since western central banks see themselves constrained by the so-called zero lower bound (ZLB) of the nominal interest rate. A binding ZLB constraint poses a major problem for a quantitative-structural analysis: Linear solution methods do not work in the presence of a non-linearity such as the ZLB and existing alternatives tend to be computationally demanding. The urge to study macroeconomic questions related to the Great Recession and the COVID crisis in a quantitative-structural framework requires algorithms that are not only accurate, but also robust, fast, and computationally efficient. A particularly important application where efficient and fast methods for occasionally binding constraints (OBCs) are needed is the Bayesian estimation of macroeconomic models. This paper shows that a linear dynamic rational expectations system with OBCs, depending on the expected duration of the constraint, can be represented in closed form.

**No. 147 Brian Fabo, Martina Jancokova, Elisabeth Kempf, Lubos Pastor**

**Fifty Shades of QE: Conflicts of Interest in Economic Research**

Central banks sometimes evaluate their own policies. To assess the inherent conflict of interest, the authors compare the research findings of central bank researchers and academic economists regarding the macroeconomic effects of quantitative easing (QE). They find that central bank papers report larger effects of QE on output and inflation. Central bankers are also more likely to report significant effects of QE on output and to use more positive language in the abstract. Central bankers who report larger QE effects on output experience more favorable career outcomes. A survey of central banks reveals substantial involvement of bank management in research production.

**No. 146 Robert C.M. Beyer, Lazar Milivojević**

**Dynamics and Synchronization of Global Equilibrium Interest Rates**

Empirical estimates of equilibrium real interest rates are so far mostly limited to advanced economies, since no statistical procedure suitable for a large set of countries is available. This is surprising, as equilibrium rates have strong policy implications in emerging markets and developing economies as well; current estimates of the global equilibrium rate rely on only a few countries; and estimates for a more diverse set of countries can improve understanding of the drivers. The authors propose a model and estimation strategy that decompose ex ante real interest rates into a permanent and transitory component even with short samples and high volatility. This is done with an unobserved component local level stochastic volatility model, which is used to estimate equilibrium rates for 50 countries with Bayesian methods. Equilibrium rates were lower in emerging markets and developing economies than in advanced economies in the 1980s, similar in the 1990s, and have been higher since 2000. In line with economic integration and rising global capital markets, synchronization has been rising over time and is higher among advanced economies.

## II. IMFS Interdisciplinary Studies

The IMFS Interdisciplinary Studies in Monetary and Financial Stability series presents interdisciplinary work resulting from research and policy analysis by institute members, external collaborators and research discussed at IMFS conferences.

### Volume 1/2020

#### Contributions to the Strategy Review of the European Central Bank

The conference “The ECB and Its Watchers XXI” served as a listening event for academics in the ECB’s strategy review. The study brings together contributions by Christine Lagarde (ECB), Jens Weidmann (Deutsche Bundesbank), Christian Noyer (Banque de France), Jordi Galí (CREI), Helmut Siekmann (IMFS), Pablo Hernández de Cos (Banco de España), Lucrezia Reichlin (LBS), Athanasios Orphanides (MIT), Claudio Borio (BIS), François Villeroy de Galhau (Banque de France), Otmar Issing (CFS), Petra Geraats (University of Cambridge), John B. Taylor (Stanford University) and Philip Lane (ECB) on the ECB’s mandate, instruments and monetary policy strategy and discussions of the conference.



### Volume 1/2017

#### Quantitative Easing in the Euro Area: Its Record and Future Prospects

Over the past years, the ECB’s expansionary monetary policy has reached an unprecedented scale. The aim of the study is to shed some light on the risks and a possible exit strategy. It contains contributions by Peter Praet (ECB), Julian Callow (Element Capital), David Folkerts-Landau and Stefan Schneider (Deutsche Bank), Alex Cukierman (formerly Tel Aviv University) as well as Günter Beck and Volker Wieland.



### Volume 1/2015

#### The ECB’s Outright Monetary Transactions in the Courts

In this study the Outright Monetary Transaction (OMT) program of the ECB and the court case at the German Federal Constitutional Court are analyzed by the authors Christoph Degenhart (Constitutional Court of the Free State of Saxony and Leipzig University), Antonio Luca Riso (ECB), Harald Uhlig (University of Chicago) as well as Helmut Siekmann and Volker Wieland. The study was published on the occasion of the European Court of Justice’s Advocate General summing up the OMT case.



### Volume 2/2013

#### Central Banking: Where are we headed?

This study contains articles based on speeches at the symposium held in February 2013 in honor of Stefan Gerlach’s contributions to the IMFS by the following authors: Michael Burda, Benoît Coeuré, Stefan Gerlach, Patrick Honohan, Sabine Lautenschläger, Athanasios Orphanides, and Volker Wieland.







### **Volume 1/2013**

#### **The ECB and Its Watchers 2012**

This study contains articles based on speeches at the 14th CFS-IMFS Conference “The ECB and Its Watchers” on June 15, 2012, by Mario Draghi, John Vickers, Peter Praet, Lucrezia Reichlin, Vítor Gaspar, Lucio Pench and Stefan Gerlach and a post-conference outlook by Helmut Siekmann and Volker Wieland.



### **Volume 1/2012**

#### **The ESRB at 1**

This volume contains articles based on speeches and presentations at the 5th IMFS Conference on Monetary and Financial Stability organized jointly with Société Universitaire Européenne de Recherches Financières (SUERF) on several aspects, such as macroprudential supervision and financial integration one year after the creation of the European Systemic Risk Board (ESRB) with speeches by central bankers and researchers.

### III. Publications

The *Journal of Financial Regulation* is an international forum for the publication of world-class scholarship examining theoretical, policy and practice-oriented issues related to the regulation of financial markets and institutions mere imitation or effects through labor, education, or mobility channels. In a joint paper, Lars P. Feld and Volker Wieland explain what a regular proportionality check of the ECB bond purchases could look like and how it could be integrated in the ECB's strategy. The interdisciplinary research of Feld and Wieland is at the cross-section of monetary economics and central bank law and very much in line with the IMFS mission of interdisciplinary work.



In 2021, a paper by Michael Haliassos together with Nicola Fuchs-Schündeln titled "Participation following sudden access" was published in the *Journal of Monetary Economics*, the leading journal in the field of monetary macroeconomics. Also, a survey article on "Household Finance" by Michael Haliassos, Francisco Gomes and Tarun Ramadorai appeared in the very important *Journal of Economic Literature*.



Research by Lazar Milivojević and Robert Beyer, two IMFS graduates and both economists at the World Bank, was published by the *Review of Development Economics*. The paper titled "Fiscal policy and economic activity in South Asia" analyzes whether fiscal policy in South Asia amplifies or smoothens business cycle fluctuations. It estimates several econometric models to explore the cyclical nature of government spending and tax buoyancy.

## Publications at a Glance

### Articles in scientific journals in economics, finance, and law

AMG	(Un)expected Monetary Policy Shocks and Term Premia, co-author Martin Kliem, Journal of Applied Econometrics, forthcoming
LM	Fiscal Policy and Economic Activity in South Asia, co-author Robert C.M. Beyer, Review of Development Economics, Vol. 25, Issue 1, forthcoming in February 2021
MH	Household Finance, co-authors Francisco Gomes, Tarun Ramadorai, Journal of Economic Literature, Vol. 59(3), September 2021, p. 919-1000
MH	Participation Following Sudden Access, Journal of Monetary Economics, co-author Nicola Fuchs-Schündeln, Vol. 117, Jan. 2021, p. 671-688
RB	Zulässigkeit des Ausschlusses von Barzahlungen (Eligibility of the exclusion of cash payments) (EuGH, Urt. v. 26.1.2021, C-422/19), Recht der Zahlungsdienste (RdZ) 2021, 129-130
RB	Regulation of Digital Platforms in Germany and the EU, Journal of Law and Economic Regulation, forthcoming in 2022
RB	Markt und Effizienz in den Netzwirtschaften (Markets und efficiency in the network industries), Die Verwaltung, forthcoming in 2022
TT	Detecting Tail Risks to Preclude Regulatory Arbitrage: The Case for a Normatively Charged Approach to Regulating Shadow Banking, with Mathias Thiemann, Accounting, Economics and Law, Vol. 11, No. 2, p. 233-266
TT	Unzulängliche Institutionenbildung im Beschlussmängelrecht der Personengesellschaft (Inadequate Institution Building in the Law on Defective Resolutions in Partnerships), with Benedikt Happ, Neue Zeitschrift für Gesellschaftsrecht (NZG) 2021, p. 133-140
TT	Beschlussmängelrecht nach dem MoPeG: Bestandsaufnahme, Kritik und Fortentwicklung (Resolution Defect Law after the MoPeG: Stocktaking, Criticism and Further Development), with Rainer Haselmann, ZIP 2021, p. 2059
VW	The German Federal Constitutional Court Ruling and the European Central Bank's Strategy, co-author Lars P. Feld, Journal of Financial Regulation, Vol. 7, Issue 2, p. 1-37

### Books

RB	Interaktionszentrierte Grundrechtstheorie (The Theory of Human Rights Centered on Interaction), Jus Publicum, Mohr Siebeck, 2021
VW	Shaping the Transformation: Education, Digitalisation and Sustainability, Annual Report 2021/22 of the German Council of Economic Experts (GCEE)

## Contributions to books

- HS            Commentary on Art. 3, 13, and 119, 130 TFEU, and Protocol No. 4, Art. 7, 15, 36, 37, and Protocol No. 15, 16, 17, 18 in: Helmut Siekmann (ed.), *The European Monetary Union: A Commentary on the Legal Foundations*, 2021
- RB            Commentary on Art. 70, 71, 72, 73, 122, 123, 124, 125, 127, in: Ingo von Münch, Philipp Kunig (eds.), *Commentary on the Basic Law*, 7th edition, 2021
- RB            Commentary on § 58a ZAG (Zahlungsdiensteaufsichtsgesetz), in: Frank A. Schäfer, Sebastian Omlor, Jörg Mimberg (eds.), *ZAG*, C.H. Beck, 2021
- RB            Das primäre Recht der wirtschaftspolitischen Koordinierung (Primary law of the European Union on economic policy coordination), in: Ulrich Hufeld, Christoph Ohler (eds.), *Europäische Wirtschafts- und Währungsunion (European Economic and Monetary Union)*, Vol. 9 of *Enzyklopädie Europarecht (Eyclopedia on European Law)*, 2021
- RB            Commentary on Art. 137 TFEU (together with R. Meier), Art. 139 TFEU, Art. 142-144 TFEU, Protocol No 14-16 to the Treaty of Lisbon, Art. 6, 35 and 42 ESCB/ECB Statute, in: Helmut Siekmann (ed.), *The European Monetary Union: A Commentary on the Legal Foundations*, 2021
- RB            Regulating Virtual Currencies, in: Alexander Peukert (ed.), *Law of Global Digitality*, Routledge, forthcoming in 2022
- RB            Abwehr von Cyberbedrohungen (Prevention of Cyber Threats), in: Jan-Hendrik Dietrich, Matthias Fahrner, Nikolaos Gazeas, Bernd v. Heintschel-Heinegg (eds.): *Sicherheits- und Staatsschutzrecht. Handbuch für die Praxis (Law on Security and State Protection, Practical Handbook)*, C. H. Beck, forthcoming in 2022
- RB            Europäisches Telekommunikationsverwaltungsrecht (European Telecommunications Administrative Law), in: Jörg Philipp Terhechte (ed.), *Verwaltungsrecht der Europäischen Union (Administrative Law of the European Union)*, Nomos, 2<sup>nd</sup> edition, forthcoming in 2022
- RB            Undergraduate Research in Legal Studies, in: Mieg/Ambos/Brew/Deicke/Lehmann (eds.), *The Cambridge Handbook of Undergraduate Research*, with Olaf Muthorst, forthcoming in 2022
- RB            Markt und Effizienz am Beispiel der Netzwirtschaften (Market and Efficiency Using the Example of the Network Industries), in: Michael Fehling, Georg von Wangenheim (eds.), *Methodische Grundfragen der ökonomischen Analyse im Öffentlichen Recht (Methodological Basic Issues of the Economic Analysis in Public Law)*, Mohr Siebeck, forthcoming in 2022

- RB Didaktische Formate im rechtswissenschaftlichen Studium (Didactic Formats in the Study of Law), in: Julian Krüper (ed.), Rechtswissenschaft lehren: Handbuch der rechtswissenschaftlichen Fachdidaktik (Teaching Law: Handbook of the Didactics of Legal Studies), forthcoming in 2022
- TT § 18 Der Einheitliche Abwicklungsmechanismus (Single Resolution Mechanism, SRM), in: Ulrich Hufeld, Christoph Ohler (eds.), Europäische Wirtschafts- und Währungsunion (European Economic and Monetary Union), Enzyklopädie Europarecht (Encyclopedia of European Law), Volume 9, Nomos Verlag, 2021, p. 841-893 (with Alexander Friedrich)
- TT §§ 118-120a AktG, in: Wolfgang Zöllner, Ulrich Noack (eds.), Kölner Kommentar zum AktG (Cologne Commentary on the Stock Corporation Act), 3rd edition, Carl Heymanns Verlag, 2021
- TT When and How to Unwind COVID-Support Measures to the Banking System?, with Rainer Haselmann in: Christos Gortsos, Wolf-Georg Ringe (eds.), Financial Stability Amidst the Pandemic Crisis: On Top of the Wave, 2021, p. 25-59
- TT Personelle Reichweite aktienrechtlicher Stimmverbote bei Aktionärsgruppen mit einheitlicher Interessenausrichtung (Personal Scope of Voting Prohibitions under Stock Corporation Law for Shareholder Groups with Uniform Interests Alignment), in: Barbara Dauner-Lieb, Joachim Hennrichs, Martin Henssler, Thomas Liebscher, Alexander Morell, Hans-Friedrich Müller, Michael Schlitt (eds.), Festschrift für Barbara Grunewald (liber amicorum for Barbara Grunewald), 2021, p. 1151-1158
- VW Wirtschaftspolitik und Europa: Wie kann es gelingen, gut aus der Corona-Krise zu kommen? (Economic Policy and Europe: How to come out of the Corona Crisis in good shape?), in: Rolf van Dick, Dania Hückmann, Christiane Liermann Traniello, Andrea Esteban Samà, Wolfgang Schopf, Manfred Schubert-Zsilavec: Goethe-Vigoni Discorsi. Ein deutsch-italienisches Tagesbuch der COVID-Krise (A German-Italian diary of the COVID crisis), Villa Vigoni Editore, 2021

## Editorships

- HS The European Monetary Union: A Commentary on the Legal Foundations, 2021
- HS/VW IMFS publication series on money, currency and finance, Nomos, volume 1 by Freya Carolin Siekmann, Die öffentlichen Förderbanken in Deutschland (Government development banks in Germany)
- RB Publication series on the overall law of companies and finances, with Katja Langenbucher, Matthias Jahn and Georg Hermes, Nomos, one volume published in 2021
- RB Publication series on digitization and the law, together with Jörn Lüdemann, Rupprecht Podszun and Heike Schweitzer, Nomos, two volumes published in 2021

## Policy Studies and Notes

TT	When and how to unwind COVID-Support Measures to the Banking System?, Economic Governance Support Unit, In-Depth Analysis for the Economic and Monetary Affairs Committee of the European Parliament, March 2021, SAFE Policy White Paper No. 83, (with Rainer Haselmann)
TT	What are the Main Differences Between the Practice of Supervising Large Banks in the UK and in the Euro Area, and What are the Main Risks of Regulatory Divergence?, In-Depth Analysis for the Economic and Monetary Affairs Committee of the European Parliament, Economic Governance Support Unit, July 2021, SAFE Policy White Paper No. 86, (with Rainer Haselmann)
VW	Die Herausforderungen jetzt annehmen (Accepting the challenges now), co-authors Lars P. Feld, Clemens Fuest, Justus Haucap, Heike Schweitzer, Berthold Wigger, Kronberger Kreis Study No. 68
VW	Die geldpolitische Strategie der Europäischen Zentralbank: Was geändert werden sollte und was nicht (The Monetary Policy Strategy of the European Central Bank), co-authors Lars P. Feld, Clemens Fuest, Justus Haucap, Heike Schweitzer, Berthold Wigger, Kronberger Kreis Study No. 67

## Working Papers

AMG	On the accuracy of linear DSGE solution methods and the consequences for log-normal asset pricing, IMFS Working Paper No. 154
LM/BT	Fixed exchange rate – a friend or foe of labor cost adjustments?, IMFS Working Paper No. 152
MH	Wealth Inequality: Opportunity or Unfairness?, co-authors Thomas Jansson and Yigitcan Karabulut, IMFS Working Paper No. 161
TT	The Role of Disclosure in Green Finance, European Corporate Governance Institute, co-author Sebastian Steuer, Law Working Paper No. 604/2021, SAFE Working Paper No. 320, LawFin Working Paper No. 24, August 2021
VW	The decline in euro area inflation and the choice of policy strategy, IMFS Working Paper No. 159
TT	Lockerungen in der Bankenaufsicht nur auf Zeit (Easing of Banking Supervision Only Temporary), Absolut Report 2021/2, p. 15

AMG	Alexander Meyer-Gohde	LM	Lazar Milivojević	RB	Roland Broemel
BT	Balint Tatar	MB	Michael Binder	TT	Tobias Tröger
HS	Helmut Siekmann	MH	Michael Haliassos	VW	Volker Wieland



## IV. Speeches and Conference Presentations

### Keynote and major public speeches

24.11.	Frankfurt	How sustainable is economic growth? Business cycle, inflation and monetary development, European Tax & Legal Forum	VW
18.11.	Frankfurt	After the Corona Crisis: Normalizing Monetary and Fiscal Policy, Euro Finance Week, Faros Institutional Investors Forum	VW
16.11.	Frankfurt	Shaping the Transformation in Germany and Europe, German Mobility Congress, German Association of Transport Sciences e.V. (DVWG)	VW
05.10.	Kronberg	The Economy after the Elections: Our Fears, our Chances, our Decisions, Forum Values Leadership Meaning (Forum Werte – Führung – Sinn)	VW
28.09.	Brussels/ Belgium	Banking Supervision in the EU and UK after the Withdrawal, Representation to the State of Hesse at the EU	TT
14.09.	Frankfurt	Germany before the Elections: Economic Policy Challenges for the Future, Family Entrepreneurs (Die Familienunternehmer)	VW
10.09.	Lisbon/ Portugal	Macro Modelling, Crises, and Policy, 23rd INFER Annual Conference, International Network for Economic Research (INFER), Research in Economics and Mathematics (REM), Research Unit on Complexity and Economics (UECE), Universidade de Lisboa	VW
22.04.	Webinar	The Pandemic reset and its implications for household finances, SUERF, Conference Saving Behavior in Crisis and Post-Crisis Times	MH
10.02.	Webinar	Social Interactions in Household Finance, ZEW, Conference on Ageing and the Financial Markets	VW

### Speeches

29.11.	Webinar	Shaping the Transformation, International Club of Frankfurt Business Journalists (ICFW)	VW
25.11.	Frankfurt	Shaping the Transformation, Rotary Club	VW
22.11.	Cologne	Economic Policy before, during and after the Corona Crisis, Institute for Economic Policy, University of Cologne	VW
16.11.	Webinar	The Role of Disclosure in Green Finance, Board of Trustees of the House of Finance Foundation	TT
15.11.	Frankfurt	Power Talk, Euro Finance Week	VW

12.11.	Webinar	Platform Regulation in Germany and the EU, 20th Annual International Conference, The Wave of Digital Economy and Exploration of the Direction of Online Platform Regulation, Center for Law & Public Utilities, School of Law, Seoul National University	RB
11.11.	Düsseldorf	Shaping the Transformation: Education, Digitalization and Sustainability, IKB Conference	VW
11.11.	Webinar	Shaping the Transformation: Education, Digitalization and Sustainability, INSM Webinar	VW
10.11.	Webinar	Shaping the Transformation: Education, Digitalization and Sustainability, INSM Webinar	VW
09.11.	Webinar	Online Shareholder Meetings & Closing Remarks, German East Asian Conference on Corporate and Capital Market Law, Leibniz Institute SAFE	TT
02.11.	Webinar	Application of the Law as a Constructive Performance, Research Colloquium at the University of Göttingen	RB
21.10.	Webinar	Wealth Inequality: Opportunity or Unfairness, 42nd Annual Meeting of the Association of Southern European Economic Theorists (ASSET)	MH
07.10.	Webinar	Coalition Check Federal Budget, INSM Webinar	VW
30.09.	Berlin	Preparing for the new Normal – Asset Based Finance in Challenging Times, True Sale International Congress 2021: Moving into a New Era - Financing Structural Change and Climate Change with Asset Based Finance	VW
24.09.	Frankfurt	Discussion of: The Case for a Positive Euro Area Inflation Target: Evidence from France, Germany and Italy by Klaus Adam, 2021 Frankfurt – Mannheim Macro Workshop	AMG
16.09.	Webinar	Should the Stability and Growth Pact's 3 Percent Deficit Rule Be Abandoned?, EUI Florence School of Banking and Finance	TT
15.09.	Frankfurt	The Role of Disclosure in Green Finance, Conference on Sustainable Finance, SAFE, Frankfurt School of Finance and Management	TT
10.09.	Siena/ Italy	Reacting to Capital Shortfalls and Managing Non-Performing Exposures, University of Siena	TT
10.09.	Florence/ Italy	Banking Union, the Future of the EU Economic Policy System: Economic Requirements and Legal Conditions, CEPR/EUI Robert Schumann Center	TT
22./ 23.07.	Webinar	Can Green Finance Work? The Role of Intermediaries, International Summer School Banking and Capital Markets	TT

07.07.	Mainz	The Economy on the Way Out of the Corona Crisis, Industrial Association for Technical Building Equipment and Environmental Technology Hessen e.V. (ITGA) and Financial Stability in Challenging Times, Panel Discussion	VW
29.06.	Webinar	Money and Prices: A Permanent Puzzle, Academic Colloquium in Honor of Prof. Otmar Issing	VW
25.06.	Webinar	On the Accuracy of Linear DSGE Solution Methods and the Consequences for Log-Normal Asset Pricing, 2021 IAAE Annual Conference	AMG
18.06.	Webinar	Algorithms in the Application of Law, University of Cologne, Conference on Theory of Norms in the Digital Age	RB
16.06.	Webinar	Discussant of the Paper: Consumer Credit: Learning Your Customer's Default Risk from What (S)he Buys, Bank of England, Second Workshop on Household Financing and Housing	MH
16.06.	Webinar	On the Accuracy of Linear DSGE Solution Methods and the Consequences for Log-Normal Asset Pricing, CEF 2021: 27th International Conference on Computing in Economics and Finance	AMG
15.06.	Webinar	Printing Industry and Overall Economy in the Period after Corona, German Printing and Media Industries Federation (bvdn)	VW
09.06.	Webinar	Side Effects of Monetary Policy: What the Central Banks should do, Center for Financial Studies (CFS), Association of German Banks, IBF – Institute for Banking and Financial History	VW
02.06.	Webinar	Can Green Finance Work? SAFE Brownbag Seminar	TT
19.05.	Webinar	Corona and the Consequences: How Do We Get out of the Economic Crisis?, Union International Club	VW
18.05.	Webinar	On the Accuracy of Linear DSGE Solution Methods and the Consequences for Log-Normal Asset Pricing, Schumpeter-BSE-Seminar, Berlin	AMG
17.05.	Webinar	Low Interest Rates and Rising Housing Costs? What Can the ECB Do?, European Citizens Bank, Positive Money Europe, Panel Discussion	VW
28.04.	Webinar	Coping with Post-COVID Sovereign Debt Levels in the Euro Area, ZEW Mannheim and EconPol Europe Special Policy Session	VW

23.04.	Webinar	Financial Literacy Enhancement in Greece, Panel Discussion sponsored by the Greek Financial Literacy Institute, the Bank of Greece, the Athens Stock Exchange, and the University of Pireaus	MH
22.04.	Webinar	Prospects for Development in Post-pandemic Greece, Panel Discussion of The Athens College Alumni Association	MH
04.04.	Webinar	The Case for a Normatively Charged Approach to Regulating Shadow Banking, Brooklyn Law School	TT
09.03.	Webinar	The Economic Impact of the Corona Crises and Policy Changes, Mannheim Business School, Macroeconomic Course	VW
11.02.	Webinar	Corona Crisis: Current Developments, Economic Policy Measures and Challenges, Rotary Club Friedensbrücke Frankfurt	VW
04.02.	Webinar	The Current State of the Euro and Its Future, Municipal Guarantee Board Helsinki	VW
27.01.	Webinar	Corona Crisis: Current Developments, Economic Policy Measures and Challenges, Cepa Policy Lecture, Potsdam University	VW
21.01.	Webinar	The Economic Consequences of the Coronavirus Pandemic and the Economic Policy Options of the EU, the German Government and the ECB, Future Forum Financial Center Frankfurt CDU Hessen	VW

AMG	Alexander Meyer-Gohde	MH	Michael Haliassos
HS	Helmut Siekmann	RB	Roland Broemel
LM	Lazar Milivojević	TT	Tobias Tröger
MB	Michael Binder	VW	Volker Wieland



## Events



## IMFS Policy Webinars and MMCN Webinars

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|--------|---|
| 25.01. | IMFS Policy Webinar, Charles Goodhart, Manoj Pradhan  |
| 03.03. | IMF-IMFS Webinar, Gaston Gelos, IMF, Jörg Krämer, Commerzbank, Silvana Tenreyro, London School of Economics |
| 19.03. | IMFS Policy Webinar, Volker Wieland, IMFS and German Council of Economic Experts                            |
| 27.05. | IMFS Policy Webinar, Harald Uhlig, University of Chicago  |
| 10.06. | IMFS Policy Webinar, John Y. Campbell, Harvard University   |
| 15.09. | IMFS Policy Webinar, Philip R. Lane, ECB  |
| 10.11. | IMFS Policy Webinar, Volker Wieland, IMFS and German Council of Economic Experts                            |
| 11.11. | IMFS Policy Webinar, Sumit Agarwal, University of Singapore   |





# I. Policy Lectures and Webinars

The usual format of Working Lunches is an academic seminar that takes places between 12:00 and 1:00 pm, dealing with new research on legal, monetary and financial topics. Participants include Ph.D. students, IMFS professors and researchers, as well as professionals from central banks, financial institutes and law firms. In 2021, due to the Coronavirus pandemic, all events took place as webinars.

25.01.

**Charles Goodhart, Manoj Pradhan**

**"The Great Demographic Reversal"**



Why the world is steering toward a rise in inflation and which global trends bring about this shift was the topic of the IMFS Webinar with Charles Goodhart and Manoj Pradhan together with Peter Praet on January 25. In their book "The Great Demographic Reversal. Ageing Societies, Waning Inequality, and an Inflation Revival", Goodhart and Pradhan describe global trends of the future which in their opinion cause a significant rise in prices.

In the virtual discussion moderated by Volker Wieland, Peter Praet, former Chief Economist of the European Central Bank, doubted that this reversal would happen in the near future. However, he emphasized the need to prepare for such a situation although he wasn't convinced that societies were willing to do so.

According to Goodhart and Pradhan, the rise of China, the subsequent speed up in globalization and the growing number of workers were the decisive factors of the last seventy years. During that time, the integration

of China led to an increase in the working age population. This was reenforced by a higher participation of women. The combination of all these factors led to a decline in inflation. But as the British economists pointed out, "the future will be nothing like the past".

With the so-called baby boomers beginning to retire, the work force is going to decline in many countries. While workers by definition are disinflationary, younger and older people are inflationary with the elder ones consuming a lot more than younger people, Goodhart explained. For the society as a whole, the authors consider that ageing will lead to a massive rise in deficits and borrowing. Already before the Coronavirus pandemic, they identified an upward exponential trend in the public sector debt ratio. At the same time, they predict a modest productivity – the continuation of a global phenomenon that has already been observed in advanced economies.

Although there might be mitigating factors, such as Africa and India and the technological developments, the consequence is clear. According to Goodhart and Pradhan, politicians would have to raise taxes. "This is unattractive, so there will be inflation". In their book, they warn against this development. "Neither financial markets nor policymakers are prepared for a significant rise in inflation and wages, or a rise in nominal interest rates." Regarding inequality, Goodhart and Pradhan find that the world as a whole is becoming less inequal. From 2010 world inequality started declining, however, they observe that inequality has sharply increased within a country.

Praet gave credit to the authors for coming up with a competing narrative and recognized the link between the demographic factors and the inflation development in many countries. He warned that the reversal could lead to a big shock – “if it happens suddenly”. In order to prepare for this, he called for changes in the solvency law, stress tests, and asked to make financial institutions more resilient. On the other hand, Praet did not expect an imminent change.

“In many ways, our book is a statement which trends we see and what could happen,” Goodhart and Pradhan concluded. “The world should try to be ready when this comes true.”

### 03.03.

#### IMF-IMFS Webinar

**Gaston Gelos, Jörg Krämer, Silvana Tenreyro**

**“Negative Interest Rate: Taking Stock of the Experience So Fare”**

What is the impact of negative interest rates and which side effects do they have? This was the topic of a joint IMF-IMFS Webinar where economists and central bank watchers took stock of this experience during a discussion moderated by Prof. Volker Wieland. In a joint paper with IMF researchers, Gaston Gelos, Assistant Director and Chief of the Monetary and Macropudential Policies Division in the Monetary and Capital Markets Department of

the International Monetary Fund (IMF), finds that there is no evidence for cash hoarding. On the other hand, they observe an effective transmission to asset prices as money market rates respond almost one-to-one. In his opinion, the negative interest rate policy poses communication challenges. “There are still some lessons to learn for central banks”. He argues that central banks need to express that they will monitor potential side effects and also should highlight the difference between nominal and real interest rates. According to Gelos, further research is needed on the impact on non-banks or cross-border spillovers.

Silvana Tenreyro, Professor for Economics at the London School of Economics, argued that there was no clear evidence that negative rates have reduced bank profits overall. She pointed out that financial-market channels of monetary policy have worked effectively under negative rates and bank-lending channels have also been effective. However, “communication with the public is important”, Tenreyro said.

According to Jörg Krämer, chief economist of Commerzbank, the negative interest rate policy only has a small impact on inflation. “But over time, the negative side effects become more prominent,” he warned. He also argued that the expansionary impact is to decline over time. “Consumers cannot bring consumption forward forever”. In his view, zombification of firms is also an important aspect. Furthermore, he warned that institutional investors’ hunt for yields may end up in a bubble. Krämer also emphasized the importance of an exit strategy. “Before you raise interest rates, you have to put an end to Quantitative Easing”, which will be difficult for the ECB, Krämer said. He also sees a risk to trigger bankruptcies. “The ECB is fully aware of that but nevertheless might be hesitant to raise rates”, he concluded.



19.03.

## Volker Wieland, IMFS and German Council of Economic Experts

**"The Economic Outlook: German economy resilient despite prolonged shutdown"**



While the global economy as a whole is developing well and Germany has also seen a strong recovery in some areas, in view of the third wave of Corona infection, the vaccination strategy in particular is crucial for the further course of the economy. This is the current assessment of Prof. Volker Wieland. In an IMFS Policy Webinar, Wieland provided an outlook on further economic development and the challenges the German economy is facing, based on the updated economic forecast of the German Council of Economic Experts. According to the report, global trade has already returned to pre-crisis levels by the turn of the year and the manufacturing sector has recovered strongly in the United States, China and the euro area. "Demand for consumer goods and medical protective equipment were the main drivers. " As a result, ocean freight costs have already risen significantly and supply bottlenecks are making themselves felt. For the United States and China, the Council of Economic Experts expects economic growth to increase by 6.3 and 8.5 percent, respectively, this year.

Currently, Wieland is already seeing effects on price development. "Inflation is back and will remain higher". According to Wieland, in addition to the base effect caused by the increase in value-added tax at the turn of the year, the rise in oil prices and food prices are also having an impact on price development.

For the German economy, the Corona restrictions create a clear dichotomy. "While manufacturing is above pre-crisis levels, consumer-related services are severely impacted." Viewing the risks of the current third wave of Corona, Wieland warns, "Production for foreign demand should be maintained at all costs." For now, Wieland believes the economy is on track. "We are running at 95 percent". The closures in retail, restaurants, events and the restrictions on travel result in a gross value added of just under five percent below pre-crisis levels. In the coming year, Wieland expects full capacity utilization to return, and for the current year, the Council of Economic Experts anticipates a plus of 3.1 percent.

The course of the third Corona wave will be decisive for further development. For its economic forecast, the German Council of Economic Experts has therefore looked closely at various simulations of vaccination progress and is betting on a significant increase in supply volumes in the second quarter. "If the general practitioners were involved, enough people could already have been vaccinated by mid-September." In comparison with countries such as Israel or even Chile, however, Germany could not score points with this. "We are not among the best internationally".

The consequences of the Corona pandemic can be seen, among other things, in insolvencies and the debt ratio. While the suspension of the obligation to file for insolvency in 2020 led to a decline in corporate bankruptcies, a significant increase is expected after the end of the exemption. In the case of the debt-to-

GDP ratio, the Council of Economic Experts expects an increase from around 60 to around 70 percent in Germany this year. For countries such as Spain, an increase to around 120 percent is even to be expected. While the debt brake has been suspended this year due to the exceptional emergency situation, Wieland is confident about the coming year. "If the federal government uses its reserves, a return to the debt brake would be possible again in 2022." The good thing is that there is no need to decide now.

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**27.05.**

**Harald Uhlig, University of Chicago**

**"Digital Currencies: What Does the Future Hold?"**



The development of the bitcoin price is like a roller coaster ride. After reaching a new high of 60,000 US dollars in April, by the end of May the bitcoin trades at above 30,000 US dollars. Despite such fluctuations, digital currencies currently meet with high interest. In his IMFS Policy Webinar, Prof. Harald Uhlig of the University of Chicago gave an overview about current developments in this area. Since the mysterious inventor of bitcoin, Satoshi Nakamoto, has come up with the concept of a digital currency in 2008, many more digital

currencies have emerged. Ethereum, Tether, Ripple or Litecoin are just a few more names on the list of crypto currencies. Although Facebook had to trim its plans for its blockchain digital currency Libra and moved from Switzerland to the U.S. to get regulators on board, Uhlig showed himself convinced that this trend will continue. "There will be more players to come. The technology is simple".

Whereas the European Central Bank is still exploring the possibilities of designing a digital euro, a central bank digital currency (CBDC) has already been put into practice on the Bahamas and in the Eastern Caribbean. With the CBDC, Uhlig sees the central banks in a trilemma. "Of the three central bank objectives price stability, financial stability and efficiency, central banks can only achieve two and then have to choose which."

Summing up, Uhlig remained optimistic. In a currency landscape that is changing dramatically, central banks face competition and will have to act. On the other hand, he argued that CBDC offer central banks lots of new tools that ought to be explored. "In the last decade of negative nominal interest rates, central banks were stuck at the zero lower bound. CBDC bring new opportunities to stimulate the economy". Overall, Uhlig sees the technology still at an infant stage. "There are lots of technological possibilities but they're not yet on our fingertips. It's like when the iPad appeared."



## 10.06.

**John Y. Campbell, Harvard University**

**“Portfolio Choice with Sustainable Spending:  
A Model of Reaching for Yield”**



How investors are reaching for yield in a period of large and persistent decline in real interest rates was the question Prof. John Y. Campbell addressed during his IMFS Policy Webinar on June 10. Campbell, Professor of Economics at Harvard University and renowned expert in the field of finance and macroeconomics, pointed out that this was a question also much discussed by central bankers as this situation can create incentives for investors to take on risk or to employ additional financial leverage. However, the standard finance theory does not predict reaching for yield. “Normally, risktaking depends on risk premium, risk, and risk aversion but not riskfree interest rates,” Campbell pointed out. Looking at the approach among endowments and sovereign wealth fund, Campbell, in his joint research with Roman Sigalov, added a sustainable spending constraint to the standard model. “This implies that wealth is expected to remain constant: the investor cannot plan to run down or accumulate wealth.” As Campbell explained, this is also applicable to individuals. “Many individuals have a reluctance to run down wealth by dissaving but are willing to take risk”. The reaching for yield gets stronger when interest rates are low”.

Usually, the risky share of an investor’s portfolio depends on the reward for taking risk and on risk aversion but not on the riskfree interest rate. Campbell analyzed whether lower riskfree rate or greater impatience lead investors to want higher consumption (lower marginal utility) today relative to expected future consumption (marginal utility). In the standard model, this is achieved by dissaving. With a sustainable spending constraint, it is achieved by taking risk. This allows higher spending today, and the negative consequence, the riskier consumption, is realized in the future.

Campbell comes to the conclusion that investors take risk as a way to increase current consumption at the cost of more volatile future consumption. “The model predicts that reaching for yield gets stronger when the riskfree rate is low, and the more risk the investor is willing to take.”

## 15.09.

**Philip R. Lane, European Central Bank**

**„The ECB’s Monetary Policy Strategy Review”**

The recent strategy review of the European Central Bank (ECB) was the topic of the IMFS Policy Webinar with Philip R. Lane on September 15. The ECB Chief Economist illustrated the outcome of the review presented in July. In this process, 13 Eurosystem workstreams covered key topics, such as inflation measurement, monetary policy instruments, employment or digitalization. While the results are summarized in the new monetary policy statement, the overview note and a climate change action



plan, more information will be available in 18 occasional papers, Lane announced. The IMFS conference “The ECB and Its Watchers” one year ago also served as a listening event with academics within this context.

The strategy review takes the ECB’s mandate as given. The Governing Council is bound by the ECB’s primary mandate of price stability as enshrined in Article 127(1) of the Treaty on the Functioning of the European Union. The ECB’s original monetary policy strategy was adopted in 1998 and reviewed in 2003. Since then, the world has seen major changes that present central banks with numerous new challenges, the ECB described in a statement.

According to the new strategy, the headline Harmonized Index of Consumer Prices (HICP) remains the appropriate index for quantifying the price stability objective for the euro area and will be retained as the price index used to measure euro area inflation. The Governing Council considers that price stability is best maintained by aiming for a two per cent inflation target over the medium term. The previous double-key formulation featured a definition of price stability in terms of “below, but close to two per cent”. However, the Governing Council has decided to recommend a roadmap to include owner-occupied housing (OOH) in the HICP. The roadmap foresees four main stages for moving to an HICP including OOH costs.

Regarding monetary policy instruments, Lane pointed out that borrowing costs, not the volume of asset purchases, are the best indicator of the ECB’s policy stance. “It’s not a good idea to identify the monetary policy stance with the volume of asset purchases because the mappings from the volume of asset purchase to the monetary policy stance essentially goes through the yield curve, and we assess that the yield curve remains pretty low,” Lane told the audience. The previous week, the ECB had decided to reduce bond purchases moderately as the economy was improving.

Lane also stressed the integrated analytical framework: “My personal view is that in the end we have to bring together the analyses. We only make one decision.” Also central bank communication was one of the key issues and is supposed to be expanded. “We think it is important to communicate with the wider public,” Lane said. “You have already seen some of the communication revision, we will publish more of our background thinking.”

The recent strategy review won’t be the last over the coming years. “It is important to have a regular review cycle, otherwise starting a review is already a signal,” Lane explained. The next review is scheduled for 2025.

## 10.11.

### Volker Wieland, IMFS and German Council of Economic Experts

#### „Shaping the Transformation: Education, Digitalisation and Sustainability “

The transition to a green and digital economy will profoundly change the German economy. Domestic action plans and strategies must be developed in a European and global context in order to address the challenges effectively. Lifelong learning and education need to be strengthened. Accelerated digitalisation can help to reap substantial amounts of untapped potential. Sustainability needs to be ensured in various dimensions. Combating climate change successfully calls for international cooperation. Increased private and public-sector investment





needs to be mobilised for the transformation and the improvement of productivity. For all the above, fiscal sustainability needs to be assured. The German Council of Economic Experts (GCEE) discussed these topics in its Annual Report 2021/22, which it handed over to the German government on this day. The key messages were presented by Volker Wieland in this webinar.

The recovery of the German economy seen in summer this year has continued but is being held back by a variety of bottlenecks on the supply side. Economic growth should continue to pick up, provided that industrial output and consumer demand for services normalize next year. The GCEE has lowered its forecast for 2021 and now expects German GDP to rise by 2.7 %, followed by strong growth of 4.6 % in 2022. The pre-crisis level from the fourth quarter of 2019 is likely to be reached again in the first quarter of 2022. There is great uncertainty about how the economy will perform going forward. Renewed health policy restrictions or longer-lasting supply shortages could take a heavy toll on the recovery.

The sharp rise in global demand has led to high commodity and energy prices and supply shortages. This is likely to drive Germany's already elevated consumer price inflation to 3.1 % this year. Next year, it could drop back down to 2.6 %. Longer-lasting supply shortages, higher wage settlements and rising energy prices pose a risk that the temporary factors that are driving up prices may lead to persistently higher inflation rates.

## 11.11.

**Sumit Agarwal, University of Singapore**

**„Illicit Wealth Flows and House Prices: What can we learn from Panama Papers data?“**



Real estate markets are particularly frequent targets of money laundering. In an IMFS Policy Webinar on November 11, Sumit Agarwal, Professor of Finance and Real Estate at the National University of Singapore, illustrated the impact of money laundering on the real estate market by the example of Singapore. Agarwal, an expert in behavioral finance and co-author of several textbooks, including “Kiasunomics”, used the Panama Papers as a starting point to examine suspicious money flows in real estate transactions. He analyzed how individuals whose names were published in the Panama Papers behaved in real estate transactions and, based on this, draws conclusions on the consequences for the real estate market.

Recent investigations published in September 2020, the FinCEN Files, showed that there were about than 2 trillion US dollars of illicit global banking assets that were being move around. However, this was only the part that had been detected. “People engaged in illegal activities know how to cover their tracks. Usually you don't get datasets”, Agarwal explained the problem of scarce evidence of the phenomenon of money laundering.

Based on the information released in the Panama Papers, Agarwal and his colleagues examined the price premiums in transaction on the housing market connected to suspicious financial flows and investigated the channels behind the movements. They also explored the effects of two regulatory enforcements on such purchase activities and finally quantified the spillovers on the housing market.

Agarwal started by matching the names of people listed in the Panama Papers with the names of people involved in real estate transactions. Again, this process only revealed a fraction. "The real smart people don't buy in their own name but in the name of others such as family members," Agarwal said.

An average real estate transaction in Singapore is about 2 million dollars (SGD), he told the audience. In his research, Agarwal comes to the conclusion that Panama-linked buyers purchase properties at a 3.8 percent premium. However, he also finds out that these premiums are much higher in luxury properties. In the process of whitewashing money, several mechanisms come into play. As the buyers are looking for a safe haven for their money, the purchase prices in the offshore vehicle increase, local buyers e.g. real estate agents become involved via straw purchasing, and property values are manipulated as the selling prices are 4.2 percent higher. "The whitewashing of the money only happens when I sell the property and put that money on the bank account or use it for other activities," Agarwal explained.

By taking into account various variables such as the home countries of buyers or the employment status and matching this with data from the Panama Papers, Agarwal comes to the conclusion that the spillover effect is quite large. Purchase prices of properties within the same building increased by 5.1 percent. Prices in the same neighborhood even increased by 7.3 percent. According to a back-of-the-envelope analysis, he calculates that the aggregate value

of illicit wealth in Singapore's housing market is about 3.72 billion dollars.

## Research-Based Policy Advice



**Prof. Volker Wieland**    Experte für Geldtheorie und Geldpolitik

Laut KMK waren vergangene Woche 54.000 Schüler:innen in Quarantäne

Prof. Wi

IMFS researchers share their insights regarding current economic and legal issues on both the national and international levels of policy making. Since 2013, Volker Wieland's research has been closely intertwined with his work as a member of the **German Council of Economic Experts (GCEE)**. His current term of office runs until February 2023.

Throughout the year, the Council conducts hearings with government ministers and leading officers of federal associations in order to gain insights from policy practice for its analysis. On March 17, the GCEE presented its economic update, taking into account the latest developments and the recent impact of the pandemic. The GCEE found the German economy to be resilient despite prolonged shutdown and expected further recovery in the summer.

On November 10, the Council members presented their Annual Report 2021/22 entitled "Shaping the Transformation: Education, Digitalisation and Sustainability" to Chancellor Angela Merkel, the Federal Minister of Finance Olaf Scholz, the Federal Minister of Labour and Social Affairs Hubertus Heil, the Federal Minister of Health Jens Spahn and the Head of the Federal Chancellery Helge Braun. The findings were also presented and discussed in a press conference. At that time, the GCEE consisted of four members: Prof. Veronika Grimm, Prof. Monika Schnitzer, Prof. Achim Truger and Prof. Volker Wieland.

Apart from that, as a member of the scientific advisory council of the Market Economy Foundation, the **Kronberger Kreis**, Volker Wieland has a strong focus on market-oriented solutions to crucial challenges in German and European economic policy. The Kronberger Kreis meets several times a year at different places to discuss solutions to current challenges and prepare op-eds or studies. In 2021, the Kronberger Kreis published two studies. Study No. 67 titled "The Monetary Policy Strategy of the European Central Bank" examines whether the ECB's monetary policy strategy still holds promise for success, whether its mandate should be reinterpreted and how the

use of specific instruments should be assessed. In its analysis, the Kronberger Kreis draws on the experience of the financial crisis, the euro debt crisis and the coronavirus crisis and argues that greater attention should be paid to the side effects and proportionality of monetary policy measures. The central banks of the Eurosystem are now the largest creditors of the member states. Fiscal dominance of monetary policy should be avoided. The Kronberger Kreis argues that the ECB's hierarchical mandate prioritizing price stability should not be called into question. However, the ECB should also consider other measures of inflation in its decisions and their communication. In addition, the ECB should rely more strongly on quantitative benchmarks (interest rate rules, money supply growth). The transparency of monetary policy could be significantly increased, for example, by publishing surveys and forecasts of the ECB's Governing Council.



Study No. 68 "*Die Herausforderungen jetzt annehmen!*" (Accepting the challenges now!). The 20th Bundestag was elected on September 26, 2021. The members of the Bundestag and the new federal government have major tasks ahead of them. Demography, climate change and digitization are three key challenges that need to be tackled and sustainably overcome in the new legislative period. In this study, the Kronberger Kreis proposes concrete measures to the new federal government to adequately meet the challenges with a responsible, forward-looking economic and financial policy.

The members of the Kronberger Kreis are Prof. Berthold Wigger, Prof. Clemens Fuest, Prof. Heike Schweitzer, Prof. Lars P. Feld, Prof. Justus Haucap, and Prof. Volker Wieland.

## Policy Meetings and Hearings at a Glance

16.12.	Virtual Meeting	GCEE Presentation of the Annual Report to Deutsche Bundesbank President Jens Weidmann and Members of the Deutsche Bundesbank Executive Board	VW
10.12.	Virtual Meeting	Meeting of the Advisory Board of the Stability Council with chair Thiess Büttner, University of Erlangen-Nuremberg, deputy chair Georg Milbradt, former Minister-President of Sachsen, and the members Stephan Fasshauer, German Pension Insurance, Hans-Günter Henneke, Executive Presidium Member of the German County Association, Stefan Kooths, Institute for the World Economy (IfW) Kiel, Thomas Lenk, Leipzig University, Silke Übelmesser, University of Jena, Karsten Wendorff, Deutsche Bundesbank	VW
26.11.	Virtual Meeting	Meeting of the Advisory Board of the Stability Council	VW
10.11.	Berlin	Presentation of the Annual Report of the German Council of Economic Experts (GCEEE) handover to Chancellor Angela Merkel, the Federal Minister for Economic Affairs and Energy Peter Altmaier and the Federal Minister of Finance Olaf Scholz	VW
09.11.	Berlin	Meeting with the Chief Economist of the Federal Ministry of Finance Jakob von Weizsäcker, the State Secretary at the Federal Ministry for Economic Affairs Ulrich Nussbaum further officials, the Economic Policy Advisor in the Chancellor's Office Lars-Hendrik Röller and further officials	VW
29.10.	Virtual Meeting	Meeting of the Advisory Board of the Stability Council	VW
20.10.	Virtual Meeting	Meeting with ECB President Christine Lagarde and ECB Board Members Isabel Schnabel and Philip Lane	VW
30.09.	Berlin	Meeting with the Federal Minister for Economic Affairs and Energy, Peter Altmaier, and leading officers	VW
30.09.	Berlin	Meeting with the Federal Minister of Labor and Social Affairs, Hubertus Heil, and leading officers	VW
30.09.	Berlin	Meeting with Parliamentary Undersecretary in the Federal Minister of Finance, Wolfgang Schmidt, and leading officers	VW
24.09.	Berlin	GCEE meeting with the Economic Policy Advisor in the Chancellor's Office Lars-Hendrik Röller and leading officers	VW

22.09.	Berlin	GCEE meeting with representatives of the German Employers' Association (BDA), of the Federal Employment Agency, and the German Trade Union Confederation (DGB)	VW
20.09.	Virtual Meeting	GCEE meeting with the President of Deutsche Bundesbank, Jens Weidmann, and members of the Executive Board	VW
03.09.	Kronberg	Annual Meeting of the Kronberger Kreis with Parliamentary Director and Economic Policy Spokeswoman of the Green Party in the Bundestag Katharina Droege and Deputy Chairman of the FDP, Labor market and social policy Spokesman of the Bundestag parliamentary group, Johannes Vogel	VW
15.07.	Virtual Meeting	Trilateral meeting of the German Council of Economic Experts (GCEE), the French Council of Economic Analysis (CEA), and the US Council of Economic Advisers (CEA)	VW
17.06.	Berlin	GCEE meeting with the Economic Policy Advisor in the Chancellor's Office Lars-Hendrik Röller and leading officers	VW
17.06.	Berlin	GCEE meeting with representatives of the Association of German Chambers of Industry and Commerce (DIHK) and the Federation of German Industries (BDI)	VW
09.06.	Virtual Meeting	Meeting of the Advisory Board of the Stability Council	VW
02.06.	Virtual Meeting	Board meeting of the Advisory Board of the Stability Council	VW
17.03.	Virtual Meeting	GCEE meeting with representatives of the Federal Chancellery and Chancellor Merkel for the presentation of the GCEE economic outlook	VW



## Public Outreach and Press



**IMFS researchers are regularly invited by the press to share their insights on a wide range of economic issues. These include the economic outlook and business cycle developments but also issues concerning price stability and financial stability as well as monetary policy and financial regulation. In 2021, the total number of press contributions reached a new high.**

## Public Outreach and Press at a Glance

### Media References to IMFS research papers and IMFS research

11.06.	Börsen-Zeitung	Politischer Druck ist ein Risiko bei der Inflation (Political pressure is a risk with inflation)	VW
20.04.	Neue Zürcher Zeitung (NZZ)	Verfassungsklagen gegen die EZB: Ziehen deutsche Richter den billionenschweren Pandemie-Anleihekäufen den Stecker? (Constitutional challenges against the ECB: Will German judges pull the plug on the billion-dollar pandemic bond purchases?)	VW
11.03.	Börsen-Zeitung	Warnung vor fiskalischer Dominanz (Warning against fiscal dominance)	VW
10.03.	Reuters	Kronberger Kreis fordert mehr Verhältnismäßigkeit in der Geldpolitik (Kronberger Kreis calls for more proportionality in monetary policy)	VW
10.03.	Dow Jones	Kronberger Kreis will von EZB mehr Regelbindung und Verhältnismäßigkeit (Kronberger Kreis wants more rule binding and proportionality from ECB)	VW

### Guest Editorials

18.12.	Kathimerini – Money Review	What to do with our money	MH
14.11.	Welt am Sonntag	Was Deutschland jetzt braucht (What Germany needs now, co-authors Veronika Grimm, Monika Schnitzer, Achim Truger)	VW
14.11.	Frankfurter Allgemeine Sonntagszeitung (FAS)	Genug Spielraum (Enough room for maneuver, co-authors Lars P. Feld, Veronika Grimm)	VW
27.09.	Kathimerini – Money Review	Savers, Investors, or Gamblers	MH

19.09.	FAS	Anleitung zum Regieren (Guide to governance, co-authors Lars P. Feld, Clemens Fuest, Justus Haucap, Heike Schweitzer, Berthold Wigger)	VW
23.07.	Handelsblatt	Wer CO2 ausstößt, soll dafür bezahlen (Those who emit CO2 should pay for it, co-authors Veronika Grimm, Monika Schnitzer, Achim Truger)	VW
09.07.	FAZ	Rückkehr zur Marktwirtschaft (Return to the market economy, co-authors Gabriel Felbermayr, Lars P. Feld, Clemens Fuest, Veronika Grimm, Christoph M. Schmidt)	VW
27.06.	FAS	Bitcoin & Co.: Kampf ums Geld (Bitcoin and other cryptocurrencies: The struggle over money)	VW
15.05.	FAZ	Europäische Zentralbank auf grünen Abwegen (Turning green is the wrong direction for the European Central Bank, co-authors Clemens Fuest, Hans-Peter Grüner)	VW
15.03.	FAZ	Jetzt in Bildung investieren (Invest in education now, co-authors Veronika Grimm, Monika Schnitzer, Achim Truger )	VW
11.03.	Kathimerini – Money Review	Should and can policy react to the growing concentration of household wealth?	MH
17.02.	Kathimerini - Money Review	How do the rich get richer?	MH
13.01.	Handelsblatt	Die Chancen der Digitalisierung (The chances of digitalization, co-authors Lars P. Feld, Veronika Grimm, Achim Truger)	VW
04.01.	Kathimerini – Money Review	Our own unknown illiteracy	MH

## Interviews

26.11.	Börsen-Zeitung	Das Tempo ist beeindruckend (The pace is impressive)	VW
26.11.	Frankfurter Neue Presse	Ich gehe davon aus, dass die Erholung intakt bleibt (I assume that the recovery will remain intact)	VW
25.11.	Münchner Merkur	Wirtschaftsweiser Wieland fordert mehr 2G und fürchtet Szenario durch möglich Lockdown (Economic expert Wieland calls for more 2G and fears scenario due to possible lockdown)	VW
23.11.	Handelsblatt	Mehr als ein kurzfristiger Ausschlag (More than a short-term rash)	VW
09.10.	Börsen-Zeitung	Lieber etwas früher mit der Straffung beginnen (Better to start a little earlier with the tightening)	VW
02.09.	Börsen-Zeitung	Höhere Steuern wären Gift fürs Wachstum (Higher taxes would be poison for growth)	VW
10.07.	Passauer Neue Presse / Donaukurier/ Presse Augsburg / Wilhelms-havener Zeitung	Wirtschaftsweiser Wieland rechnet mit keiner Zinswende (Economic expert Wieland does not expect a turnaround in interest rates)	VW
08.07.	Handelsblatt	Geldpolitik bringt fürs Klimaziel nichts (Monetary policy does not help reaching the climate objective)	VW
17.03.	NZZ	Wir müssen generalstabsmäßig die Impfungen vorantreiben (We have to bring forward the vaccinations systematically)	VW
12.03.	Wiwo.de	Inflationsraten von drei bis vier Prozent sind nicht undenkbar (Inflation rates of three or four percent are not unthinkable)	VW
25.02.	FAZ	Es ist anders als nach der Finanzkrise (It's different from after the financial crisis)	VW

## Profiles

26.05.	Süddeutsche Zeitung	Kein Chef, keine Chefin (No chair and no female chair)	VW
26.05.	FAZ	Machtkampf im Sachverständigenrat (Struggle for power in the Council of Economic Experts)	VW
25.05.	Handelsblatt	Wirtschaftsweise wollen den Sachverständigenrat abwechselnd führen (Economic experts want to take the chair in turns)	VW
26.05.	FAZ	Machtkampf im Sachverständigenrat (Struggle for power in the Council of Economic Experts)	VW
17.03.	Allgemeine Zeitung	Frauenfrage erreicht die Wirtschaftsweisen (Gender equality becomes an issue for the economic experts)	VW
15.03.	Nürnberger Nachrichten	Die Wirtschaftsweisen sind auf Chefsuche (The economic experts in search of a leader)	VW
14.03.	RP Online	Rat der Wirtschaftsweisen tut sich schwer mit einer Frau an der Spitze (The Council of Economic Experts has its difficulty with a female spokesperson)	VW
13.03.	Nordbayern.de	Rückt FAU-Professorin an die Spitze der Wirtschaftsweisen? (Will a professor of FAU lead the Council of Economic Experts?)	VW
12.03.	Süddeutsche Zeitung	Machtkampf im Sachverständigenrat (Struggle for power in the Council of Economic Experts)	VW

## Commentary/Mentions

27.12.	Handelsblatt.com	Drei Gründe, warum die Inflation höher bleiben könnte als alle denken (Three reasons why inflation could remain higher than expected)	VW
21.12.	Stuttgarter Nachrichten	Guter Kompromiss für die Bundesbank (A good compromise for the Bundesbank)	VW
20.12.	Tagesschau.de	Bundesbankpräsident: Was von Nagel zu erwarten ist (Bundesbank president: What can be expected from Nagel)	VW

14.12.	Tagesschau.de	Notenbanken unter Zugzwang (Central banks under pressure)	VW
14.12.	Inpact-media.com	Packen wir's an! (Let's do it!)	VW
04.12.	Offenburger Tagblatt	Folgt Nagel auf Weidmann? (Will Nagel succeed Weidmann?)	VW
04.12.	Frankfurter Rundschau	Wer auf Weidmann folgen könnte (Who could succeed Weidmann)	VW
04.12.	NZZ	Für den Chefposten bei der Deutschen Bundesbank fällt vor allem ein Name (One name in particular comes to mind for the chief post at the Deutsche Bundesbank)	VW
03.12.	Stuttgarter Nachrichten	Nagel dürfte auf Weidmann folgen (Nagel likely to succeed Weidmann)	VW
30.11.	Textilwirtschaft	Wirtschaftsforscher sehen Gefahr eines weiteren Ausbremsens (Economic researchers see risk of further slowdown)	VW
30.11.	Bloomberg	ECB should tell market when rates may rise, German wise man says	VW
30.11.	Reuters	Wirtschaftsweiser Wieland plädiert für Zinsprognose der EZB nach Fed-Vorbild (Economic expert Wieland advocates ECB interest rate forecast based on Fed model)	VW
30.11.	dpa	Ökonom Wieland: Wirtschaftswachstum könnte schwächer ausfallen (Economist Wieland: Economic growth could be weaker)	VW
29.11.	FAZ	Ölpreis könnte Inflation drücken (Oil price could push inflation rate downward)	VW
23.11.	Versicherungsbote.de	30 Wirtschaftsexperten wollen Rentenplus zügeln (30 top economists want to rein in pension increases)	VW
23.11.	Handelsblatt	Prognose: Inflation bei sechs Prozent (Forecast: inflation at six percent)	VW
22.11.	FT.com	Germany's cautious consumers feel the pinch from surging inflation	VW
22.11.	Bild.de	Top-Wirtschaftsexperten warnen: Ohne Reform droht der Renten-Kollaps (Top economists warn: pension collapse looms without a reform)	VW



19.11.	Handelsblatt	Die künftige Regierung braucht eine institutionalisierte ökonomische Politikberatung (The future government needs institutionalized economic policy advice)	VW
18.11.	Handelsblatt.com	Bundesregierung verlängert Coronahilfen (German government extends Corona aid)	VW
16.11.	FAZ	Streit um die Inflation (Dispute about inflation)	VW
15.11.	dpa / Westfalen-Blatt	Banker fordern EZB-Antwort auf Inflation (Bankers call for ECB response to inflation)	VW
15.11.	Die Welt	Die Bankenbranche kämpft gegen ihre Marginalisierung (The banking industry fights against its marginalization)	VW
15.11.	FAZ	Das große Bundesbank-Rätsel (The big Bundesbank puzzle)	VW
14.11.	FAS	Reicht das Geld zum Regieren (Is there enough money for governing?)	VW
12.11.	Junge Welt	Die nächste Welle (The next wave)	VW
11.11.	Rhein-Neckar-Zeitung	Wirtschaftsweisen sehen große Risiken für Deutschland (Economic experts see big risks for Germany)	VW
11.11.	Wiesbadener Kurier	Top-Ökonomen streiten über Ampel-Kurs (Top economist debate over course of coalition of SPD, Greens and Liberal Democrats)	VW
11.11.	Der Tagesspiegel	Geteilter Rat (Shared advice)	VW
11.11.	Süddeutsche Zeitung	Zweierlei Rat (Two kinds of advice)	VW
11.11.	Handelsblatt	Tue nichts ohne Rat (Don't do anything without advice)	VW
11.11.	Handelsblatt	Einig in der Uneinigkeit (United in disagreement)	VW
11.11.	Focus online	Zoff bei den Wirtschaftsweisen. Jetzt bestimmen Sie den Kurs, Herr Scholz! (The economic experts are at loggerheads. Now you set the course, Mr. Scholz!)	VW

11.11.	FAZ	Wirtschaftsweise: Mehr Wachstum mit 2G möglich (Economic experts: More growth possible with 2G)	VW
11.11.	Börsen- Zeitung	Wirtschaftsweise fordern von EZB klare Exit-Strategie (Economists call for clear exit strategy from ECB)	VW
11.11.	Börsen- Zeitung	Wirtschaftsweise im Patt (Economic experts in stalemate)	VW
11.11.	Badisches Tagblatt	Wirtschaftsweise kappen Prognose (Economic experts cut forecast)	VW
10.11.	FT.com	German economic recovery stumbles as covid cases hit record high	VW
10.11.	Reuters	Wirtschaftsweise an EZB: Rechtzeitig aus Krisenhilfen aussteigen (Economic experts to ECB: Quit crisis support in time)	VW
10.11.	Reuters	Wirtschaftsweise geben Ampel-Parteien bei Schulden- bremse keinen klaren Rat (Economic experts fail to give clear advice to traffic light parties on debt brake)	VW
10.11.	Reuters	Wirtschaftsweise erwarten Wachstumsschub - Unsicher- heit durch Risiken (Economic experts expect growth spurt - uncertainty due to risks)	VW
10.11.	Tagesspie- gel.de	Geteilter Rat (Shared advice)	VW
10.11.	n-tv.de	Wirtschaftsweise erwarten 2022 kräftiges Wachstum (Economic experts expect strong growth in 2022)	VW
10.11.	Handels- blatt.com	Wirtschaftsweise streiten über Finanzierung von Klima- schutz und Digitalisierung (Economists argue about financing climate protection and digitization)	VW
10.11.	Deutsche Welle.com	2G-Regel kann Wachstum beschleunigen (2G rule can accelerate growth)	VW
10.11.	Süddeutsche Zeitung	Raus aus der Dogma-Bude (Get out of the dogma booth)	VW
10.11.	FAZ	Wirtschaftsweise ohne klare Linie (Economic experts without a clear line)	VW
09.11.	Süddeutsche Zeitung	Patt der Weisen (Stalemate of the economic expert)	VW

09.11.	FAZ	Sachverständigenrat erwartet 4,6 Prozent Wachstum (Economic experts expect 4.6 percent growth)	VW
08.11.	The Daily Telegraph	Eurozone's fiercest hawk takes flight	VW
08.11.	Handelsblatt online	Wirtschaftsweise senken Wachstumsprognose für laufendes Jahr auf 2,7 Prozent (Economic experts lower growth forecast for current year to 2.7 percent)	VW
07.11.	FAS	Zu Besuch bei den vier Weisen (Visiting the four economic experts)	VW
01.11.	Fazit-Blog	Der Einfluss der Wirtschaftsweisen (The influence of the economic experts)	VW
29.10.	Handelsblatt	Spitzenposten zu vergeben (Top positions up for grabs)	VW
28.10.	Süddeutsche Zeitung	Wer gurrnt denn da? (Who's cooing?)	VW
27.10.	Reuters	Weidmann-Nachfolger muss für geldpolitische Stabilität stehen (Weidmann successor must stand for monetary policy stability)	VW
26.10.	Focus online	Im Poker um Deutschlands mächtigsten Bank-Posten geht es um Sucht nach billigem Geld (In the poker for Germany's most powerful bank post, it's all about addiction to cheap money)	VW
25.10.	Tagesschau. de	Personalpoker um Weidmann-Nachfolge (Personnel poker over Weidmann successor)	VW
25.10.	The Pioneer	Bundesbank: Ende der Stabilitätskultur (Bundesbank: End of the stability culture)	VW
22.10.	Der Tages- spiegel	Wird künftig weniger auf Stabilität geachtet? (Will less attention be paid to stability in the future?)	VW
22.10.	Tagesschau. de	Wer folgt auf Weidmann? (Who will follow Weidmann?)	VW
22.10.	Münchner Merkur	Wer folgt auf Weidmann? (Who will follow Weidmann?)	VW

22.10.	Euro am Sonntag	Debatte um Nachfolge (Debate about succession)	VW
22.10.	Der Plattow-Brief	Wer folgt auf Weidmann? (Who will follow Weidmann?)	VW
21.10.	Spiegel.de	Wer jetzt Chancen auf die Nachfolge von Jens Weidmann hat (Who now has a chance of succeeding Jens Weidmann)	VW
21.10.	Deutschlandfunk.de	Wer folgt auf Jens Weidmann? (Who will follow Jens Weidmann?)	VW
21.10.	FT.com	Picking Jens Weidmann's successor presents key test for Germany's coalition talks	VW
21.10.	Bloomberg	Weidmann exit could pave way for Bundesbank's first female chief	VW
21.10.	Börsen-Zeitung	Etliche Namen kursieren für Weidmann-Nachfolge (Several names circulating for Weidmann successor)	VW
21.10.	Börsen-Zeitung	Weidmann-Rücktritt löst Richtungsstreit über Bundesbank aus (Weidmann resignation triggers directional dispute over Bundesbank)	VW
20.10.	Reuters	Who will be the Bundesbank's next chief?	VW
20.10.	Reuters	Bundesbank's Weidmann quits with one last inflation warning	VW
15.10.	FAZ	Nach der Krise wird es im Restaurant teurer (After the crisis restaurants will be more expensive)	VW
13.10.	Handelsblatt	Unbelehrbare Ökonomen (Unteachable economists)	VW
12.10.	Les Echos	La crainte de la stagflation s'accroît avec la crise de l'énergie (Angst vor Stagflation wächst mit der Energiekrise)	VW
12.10.	Handelsblatt.com	Einige Ökonomen rudern beim Thema Inflation zurück, andere sind unbelehrbar (Some economists row back on the subject of inflation, others are unteachable)	VW
12.10.	Handelsblatt	Die Weisen suchen nach ihrer Rolle (The economic experts are looking for their role)	VW

12.10.	FAZ	Die Preise steigen auf breiterer Front (Prices rise on a broader front)	VW
11.10.	Wiwo.de	Wem Deutschlands Top-Ökonomen den Nobelpreis geben würden (Who Germany's top economists would give the Nobel Prize to)	VW
09.10.	Der Spiegel	Wie gefährlich wird die Inflation? (How dangerous is inflation becoming?)	VW
08.10.	T-online.de	Wirtschaftsweiser rechnet auch künftig mit höheren Preisen (Economic experts expects prices to remain higher in the future)	VW
08.10.	Börsen-Zeitung	US-Arbeitsmarkt bringt Fed in Bedrängnis (US labor market puts Fed in a tight spot)	VW
07.10.	Wiwo.de	Gabriel Felbermayr verlässt das IfW: Wer folgt? (Gabriel Felbermayr is leaving the Ifw: Who will follow?)	VW
05.10.	Handelsblatt	Deckel und Markt sollen das Klima retten (Lid and market to save the climate)	VW
03.10.	Tagesspiegel	Eine Glaubensfrage (A question of faith)	VW
02.10.	FAZ	Inflation in der Eurozone steigt auf 3,4 Prozent (Euro area inflation rate rises to 3.4 percent)	VW
01.10.	Handelsblatt	Der Preis ist heiß (The price is hot)	VW
01.10.	Bild.de	Mega-Inflation frisst unser Geld auf (Mega inflation eats our money)	VW
29.09.	FT.com	Climate change activism heads to the courtroom	VW
28.09.	Börsen-Zeitung	Verbände befürchten neuerliche Hängepartie (Associations are afraid of adjourned game)	VW
28.09.	Börsen-Zeitung	Worauf es jetzt für die Wirtschaft ankommt (What matters now for the economy)	VW
27.09.	Börsen-Zeitung.de	Wirtschaft warnt Politik vor neuer Regulierung und Bürokratisierung (Business representatives warn politicians against regulation and bureaucratization)	VW

24.09.	Handelsblatt.com	Der Deutschland-Plan: 21 Aufgaben, die die nächste Regierung dringend anpacken muss (The Germany plan: 21 tasks the next government urgently needs to tackle)	VW
24.09.	Handelsblatt	Mut zum Nichtstun (Courage to do nothing)	VW
16.09.	Handelsblatt	Berufswunsch Preiswächter (Future career guardian of prices)	VW
10.09.	FAZ	Minimales Signal (Minimal signal)	VW
09.09.	Politico	Germans ponder sea change on tax, spending policies ahead of election	VW
08.09.	Bloomberg	No candidate is telling German voters what the plans will cost	VW
04.09.	Svenska Dagbladet	Slutnotan landar hos konsumenterna (The impact of the lack of containers)	VW
02.09.	FAZ	Der große Streit um die Anleihekäufe (The big fight over bond purchases)	VW
02.09.	Börsen-Zeitung	Wieland warnt vor höheren Steuern (Wieland warns against higher taxes)	VW
26.08.	Deutsche Welle	Jackson Hole: Wann kommt die geldpolitische Kehrtwende? (Jackson Hole: When will the turnaround in monetary policy occur?)	VW
26.08.	B92	Zbogom politici jeftinog novca? (Goodbye to the policy of cheap money?)	VW
25.08.	Bild	Bundesbank warnt vor 5% Inflation (Bundesbank warns against 5% inflation)	VW
24.08.	Bild.de	Warum dem Sparbuch jetzt das Ende droht (Why the savings book is now threatened with the end)	VW
24.08.	Deutschlandfunk.de	Die Verlierer sind die Armen (The losers are the poor)	VW
20.08.	Wirtschaftswoche	Geld, Macht, Markt (Money, power, market)	VW
05.08.	Bild.de	Top-Ökonom Wieland drängt EZB zur Zinsanhebung (Top economist Wieland urges ECB to raise interest rates)	VW



05.08.	FAZ	Die Welt ist im Rohstoff-Rausch (The world is in a raw materials frenzy)	VW
03.08.	Bild.de	Wo jetzt Berufstätige, Familien und Rentner sparen müssen (Where working people, families and pensioners must save now)	VW
02.08.	Bild	So hart trifft die Inflation uns Bürger (This is how hard inflation hits us citizens)	VW
01.08.	Bild am Sonntag	Die Preise steigen, die Zinsen leider nicht (Pricing are rising but unfortunately interest rates not)	VW
17.07.	Focus	Digitales wie Bares (Digital like cash)	VW
09.07.	NZZ	Die EZB genehmigt sich mehr Spielraum (The ECB authorizes itself more leeway)	VW
09.07.	FAZ	Eine grüne Strategie für Europas Notenbank (A green strategy for Europe's central bank)	VW
09.07.	Handelsblatt	EZB mit neuer Strategie (ECB with new strategy)	VW
09.07.	Börsen-Zeitung	EZB schafft sich mehr Flexibilität bei Inflation (ECB creates more flexibility for inflation)	VW
08.07.	Handelsblatt.com	Zwei Prozent ist keine Obergrenze: Das ist die neue Strategie von EZB-Chefin Lagarde (Two percent is not an upper limit: This is ECB chief Lagarde's new strategy)	VW
08.07.	dpa	Europas Währungshüter werden flexibler beim Thema Inflation (Europe's monetary guardians become more flexible on the subject of inflation)	VW
08.07.	Reuters	EZB überarbeitet Strategie – mehr Spielraum bei der Inflation (ECB revises strategy - more room for maneuver on inflation)	VW
24.06.	FAZ	Warum Hauspreise künftig in die Inflation einfließen sollen (Why house prices are to be taken into account for measuring inflation in the future)	VW
21.06.	Finanz und Wirtschaft	Das Konjunkturprogramm hat wieder nicht gewirkt (The economic stimulus once again didn't work)	VW

17.06.	Börsen-Zeitung	Annäherung beim Inflationsziel und Ringen ums Klima (Convergence on inflation target and wrangling over the climate)	VW
15.06.	E-Tailment	Morning Briefing	VW
13.06.	Bloomberg	Out of control shipping cost fire up prices from coffee to toys	VW
11.06.	Börsen-Zeitung	EZB lässt Geldschleusen weit offen (ECB leaves money floodgates wide open)	VW
11.06.	Wirtschafts-woche	Notenbanken: Mal eben die Welt retten (Central banks: saving the world)	VW
10.06.	FAZ	Nicht nur Immobilienpreise werden künstlich nach oben getrieben (Not only house prices are driven up atrificially)	VW
10.06.	Börsen-Zeitung	Issing in großer Sorge wegen Fed (Issing extremely worried because of the Fed)	VW
08.06.	Wiwo.de	Inflation: Angriff aus dem Hinterhalt (Inflation: ambush attack)	VW
05.06.	FAZ	Die EZB vor grünen Kriterien für ihre Anleihekäufe (The ECB is about to introduce green criteria for bond purchases)	VW
04.06.	Platow-Brief	Von Falken, Tauben und Drosseln (About hawks, doves, and thrushes)	VW
02.06.	Berliner Morgenpost	Anlass zur Sorge (Cause for concern)	VW
02.06.	Südtirol-news.it	Ökonom erwartet höhere Inflation in Deutschland (Economist is expecting higher inflation in Germany)	VW
02.06.	Spiegel.de	Enteignung für Sparer immer spürbarer (Expropriation for savers increasingly noticeable)	VW
02.06.	WAZ	So schützen Sparer ihr Geld (This is how savers protect their money)	VW
02.06.	Reuters	Wirtschaftsweiser rechnet mit höherer Inflation in Deutschland (Economic expert is expecting higher inflation in Germany)	VW
01.06.	Tagesspiegel	Inflation im Anmarsch (Inflation is coming)	VW

01.06.	FAZ	Inflationskalküle (Inflation calculi)	VW
01.06.	Handelsblatt	Inflation steigt deutlich (Inflation is rising significantly)	VW
22.05.	Süddeutsche Zeitung	Anleihen für den Klimaschutz (Bonds for climate protection)	VW
20.05.	Les Echos	Avec le retour de l'inflation, l'Allemagne affiche sa vigilance (With the return of inflation Germany shows	VW
19.05.	FAZ	Am Ende ist alles weg (In the end everything is gone)	TT
19.05.	Börsen- Zeitung	Befreiungsschlag für Währungshüter (Final solution for the central banks)	VW
19.05.	FAZ	Verfassungsrichter legen Streit um EZB-Anleihekauf bei (Constitutional judges settle dispute about ECB bond purchases)	VW
08.05.	FAZ	Die Bauflation: Bauen wird teurer (The construction inflation: Building houses becomes more expensive)	VW
06.05.	Süddeutsche Zeitung	Die Zinsangst geht um (Interest rate fear is going around)	VW
30.04.	Finanz und Wirtschaft	Digitalwährungen und die Zukunft der Geldpolitik (Digital currencies and the future of monetary policy)	VW
28.04.	Der Standard	Auf dem Weg zur Mindeststeuer (On the way to the minimum taxation)	VW
27.04.	Spiegel.de	Scholz und Le Maire können sich 21 Prozent Mindeststeuer vorstellen (Scholz and Le Maire can imagine a minimum taxation of 21 percent)	VW
27.04.	Reuters, Deutsche Welle	Scholz und Le Maire können sich 21 Prozent Mindeststeuer vorstellen (Scholz and Le Maire can imagine a minimum taxation of 21 percent)	VW
23.04.	NZZ	Die EZB will im Sommer weiter Vollgas geben (The ECB wants to go at full speed over the summer)	VW
21.04.	Euro- Magazin	Frankfurter Krampf (The Frankfurt spasm)	VW

19.04.	Spiegel.de	So könnte Deutschland seinen Langzeitarbeitslosen helfen (This is how Germany could help ist long-term unemployed)	VW
17.04.	Spiegel	Und raus bist du (And out are you)	VW
17.04.	FAZ	Nicht nur Obst und Benzin werden deutlich teurer (Not only fruit and gasoline are getting more expensive)	VW
11.04.	Welt am Sonntag	Abgehängt – Immer mehr Langzeitarbeitslose unter 35 (Left behind – More and more long-term unemployed below 35)	VW
10.04.	Börsen-Zeitung	EZB sendet drastische Warnung an EU-Politik (ECB sends drastic warning to EU policymakers)	VW
24.03.	Börsen-Zeitung	Wirtschaft attackiert Maßnahmen (Business representatives attack measures)	VW
23.03.	Reuters	Längerer Lockdown bedrückend für Betroffene (Longer lockdown depressing for people affected)	VW
19.03.	Wiwo.de	Inflation legt weiter zu (Inflation continues to increase)	VW
18.03.	NZZ	Deutsche Wirtschaftsweise korrigieren Prognose für 2021 (German economic experts cut forecast for 2021)	VW
18.03.	Stuttgarter Zeitung	Die Wirtschaftsweisen korrigieren ihre Prognose (Economic experts correct their forecast)	VW
18.03.	Kölner Stadt-Anzeiger	Prognose war zu optimistisch (Forecast was too optimistic)	VW
18.03.	Rheinische Post	Die Wirtschaft fürchtet die dritte Welle (Economy fears third wave)	VW
18.03.	Der Tages-spiegel	Der Sommer soll's richten (Summer is supposed to put things right)	VW
18.03.	Süddeutsche Zeitung	Auf der Kippe (At the tipping point)	VW
18.03.	FAZ	Aufschwung in greifbarer Nähe (Economic upturn close at hand)	VW
18.03.	Börsen-Zeitung	Konjunktur erst später in Schwung (The economy is gaining momentum only later)	VW

17.03.	The Guardian.com	Germany's 2021 forecast cut	VW
17.03.	Tagesschau.de	Fed-Entscheid stützt US-Aktien (Fed decision supports the stock prices)	VW
17.03.	RP online	Lockdown drückt die Konjunktur (Lockdown is a burden for the economy)	VW
17.03.	RND	Sachverständigenrat: Die Konjunktur ist trotz Lockdown sehr robust (Council: Economy is very robust despite lockdown)	VW
17.03.	Tagesspiegel.de	Wirtschaftsweise rechnen mit 3,1 Prozent Wachstum (Economic experts expect 3.1 percent growth)	VW
17.03.	Welt online	Die Menschen sind müde und die Effektivität von Lockdowns ist nicht mehr so groß (People are tired and a lockdown is no longer that effective)	VW
17.03.	Handelsblatt.com	Wirtschaftsweise senken Prognose – doch ab Sommer ist kräftige Erholung möglich (Economic experts cut forecast – but starting from summer onwards a strong rebound is possible)	VW
17.03.	Tagesschau.de	Wirtschaftsweise senken Konjunkturprognose (Economic experts cut economic forecast)	VW
17.03.	Spiegel.de	Wirtschaftsweise senken Konjunkturprognose (Economic experts cut economic forecast)	VW
17.03.	Dow Jones	Deutsche Wirtschaft trotz längeren Shutdowns robust (German economy is robust despite longer shutdown)	VW
17.03.	FAZ.NET	Sachverständigenrat senkt seine Prognose (Council of Economic Experts cuts its outlook)	VW
17.03.	Reuters	Wirtschaftsweise senken Konjunkturprognose (Economic experts cut economic forecast)	VW
14.03.	Cash online	Diese Inflationssignale sind unübersehbar (These inflation signals are evident)	VW
13.03.	FAZ.NET	Der Streit um die grüne Geldpolitik (Dispute over green monetary policy)	VW
11.03.	Tagesschau.de	Zinsen bleiben bei Null, Inflation steigt (Interest rates remain at zero, inflation is rising)	VW

11.03.	Fonds Professionell.de	Greenpeace steigt EZB aufs Dach (Greenpeace climbs on roof of ECB)	VW
11.03.	Handelsblatt	Gleitschirmflieger landen auf EZB-Zentrale (Paragliders land on ECB headquarters)	VW
11.03.	FAZ	Gleitschirme auf der EZB (Paragliders on the ECB)	VW
10.03.	Deutsche Welle.com	Rekordjagd an der Börse – bis zum Crash? (The stock market is setting new records – until the crash?)	VW
03.03.	Tagesschau.de	Bundesbank überweist dem Bund kein Geld (Bundesbank will not transfer money to the government)	VW
01.03.	FAZ.NET	10 Konsumgüter-Aktien als Schutz vor Inflation (10 shares of consumer goods as protection against inflation)	VW
01.03.	Das Investment.com	Inflation ist diesmal kein Problem (This time inflation is not a problem)	VW
27.02.	Anleger-Plus	Wie ein lautloser Tornado (Like a quiet tornado)	VW
27.02.	FAZ	Schutz vor Inflation wird nötiger (Protection against inflation becomes more necessary)	VW
26.02.	Dow Jones	Altmaier sieht Felds Ausscheiden als bedauerlichen Verlust (For Altmaier, Feld leaving office is a regrettable loss)	VW
26.02.	Der Spiegel.de	Die Geißel Inflation ist wieder da (The scourge of inflation is back)	VW
25.02.	Der Spiegel.de	Wofür stehen Lars Feld, Marcel Fratzscher und Veronika Grimm? (What do Lars Feld, Marcel Fratzscher and Veronika Grimm represent?)	VW
25.02.	NZZ	Zu marktwirtschaftlich für die SPD (Too market-oriented for the SPD)	VW
24.02.	FAZ	Laschet: SPD legt Arroganz und Ignoranz an den Tag (Laschet: SPD is demonstrating arrogance and ignorance)	VW
23.02.	Cash online	Bei Inflation droht ein böses Erwachen (Rude awakening about inflation is imminent)	VW
23.02.	Handelsblatt.com	Koalitionskrach um Wirtschaftsweisen (Controversy in the coalition about economic expert)	VW



23.02.	Handelszeitung online	Axel Weber warnt: Die Inflationsgefahr wird unterschätzt (Axel Weber warns not to underestimate the risk of inflation)	VW
23.02.	NZZ	Lars Feld, der Chef der deutschen Wirtschaftsweisen, muss gehen (Lars Feld, chair of the German economic experts, has to leave)	VW
22.02.	Handelsblatt Morning Briefing	Der große Glaubensstreit der Volkswirte (The big controversy of the economists)	VW
22.02.	Handelsblatt	Inflationsgefahr wächst (Risk of inflation is rising)	VW
22.02.	Reuters (Der Spiegel.de)	Wirtschaftsweiser Feld: SPD blockiert dritte Amtszeit von mir (Economic expert Feld: SPD is blocking my third term)	VW
13.02.	FAZ	Angriff auf das Geldmonopol (Attacking the monopoly on money)	VW
13.02.	Junge Welt	EU hält Armutskurs (EU holds its course to poverty)	VW
12.02.	Spiegel.de	So teilen Union und SPD lukrative Spitzenjobs unter sich auf (This is how the Union parties and the SPD split up lucrative jobs among them)	VW
11.02.	Fonds Professionell	Ökonomen fordern großen Schuldenschnitt (Economists request big debt relief)	VW
11.02.	FAZ	Soll die EZB den Staaten Billionen-Schulden erlassen? (Should the ECB write off trillions in debt for the states?)	VW
05.02.	FAZ	Der Wunschkandidat der SPD (The preferred candidate of the SPD)	VW
29.01.	FAZ	Die Causa Feld (The Feld Cause)	VW
28.01.	FAZ.NET	Was hinter dem überraschenden Preissprung steckt (What's behind the surprising surge of prices)	VW
25.01.	Platow-Brief	Deutschland und die Pandemie: Unser Vorsprung schmilzt (Germany and the Coronavirus pandemic: Our lead is melting away)	VW

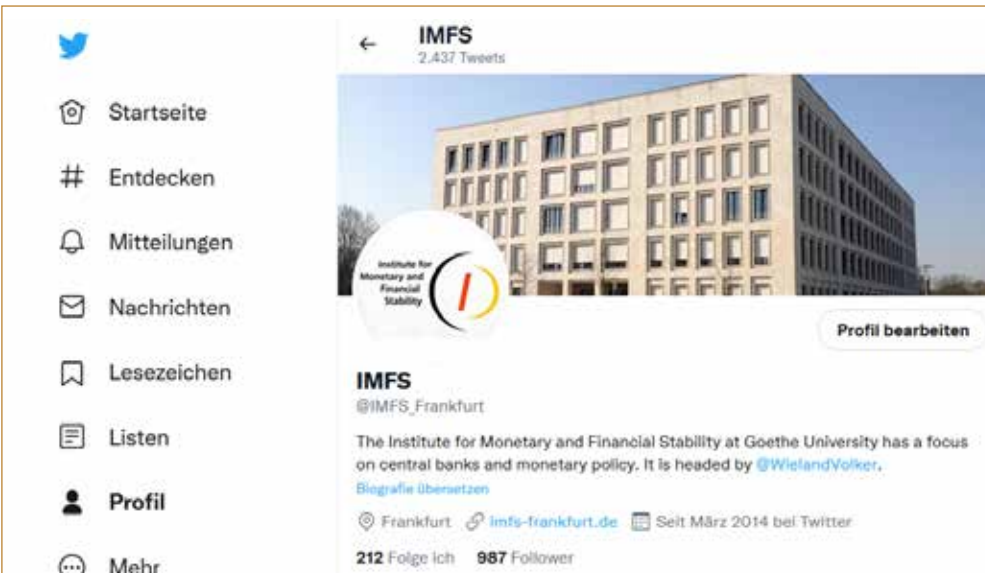
20.01.	FAZ	Darum steigen die Preise bald wieder (This is why prices will soon be rising)	VW
07.01.	Börsen- Zeitung	EU lässt Moderna-Impfstoff zu (EU approves Moderna vaccine)	VW
07.01.	Börsen- Zeitung	Laute Hilferufe und neue Sorgen (Loud calls for help and new sorrows)	VW

## TV and radio interviews

30.12.	HR-Info	Twenty years of euro banknotes and coins	VW
17.12.	Deutsche Welle TV	Why policy approaches to inflation risks differ	VW
16.12.	HR-Info	Statement regarding ECB monetary policy	VW
11.11.	YouTube – INSM	Live talk on the German economy	VW
11.11.	CNBC Europe	Live statement on economic growth in Germany	VW
21.10.	Deutschland- funk	Rücktritt des Bundesbank-Chef – wer folgt auf Jens Weidmann? (Resignation of Bundesbank head – who will follow Jens Weidmann?)	VW
28.09.	CNBC Europe	Live statement on the German elections	VW
24.08.	Deutsch- landfunk	Die Verlierer sind die Armen (The losers are the poor)	VW
30.07.	Tagesthe- men	Live interview on inflation	VW
15.07.	HR-Info	Statement regarding tax plans	VW
14.07.	Deutschland- funk-Kultur	Der digitale Euro – Konkurrenz für Kryptowährungen? (Is the digital euro a competitor for cryptocurrencies?)	VW
02.05.	ZDF-heute journal	Deutschland in der Ermüdungsschleife (Germany in the loop of weariness)	VW
17.03.	Tagesschau	Statement regarding the economic update of the Council of Economic Experts	VW

17.03.	Phönix	Statement regarding the economic update of the Council of Economic Experts	VW
11.03.	ZDF-heute	Statement regarding inflation development	VW
03.03.	HR-Info	Comment on the annual result of Deutsche Bundesbank	VW
11.02.	Hessenschau	Live talk on the economic consequences of new measures in the Corona lockdown	VW
14.01.	HR-Info	Statement regarding GDP	VW
04.01.	ZDF-Mit- tagsmagazin	Statement regarding the economic recovery	VW

## Social Media



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