

**PROGRAM**

**14TH RGS  
DOCTORAL  
CONFERENCE  
IN ECONOMICS**

**DIGITIZATION: OPPORTUNITIES  
AND CHALLENGES FROM A  
EUROPEAN PERSPECTIVE**



**ALL DIGITAL**

**03-04**

**MARCH 2021**

A large red speech bubble graphic with a white outline, pointing downwards. The text is centered within the bubble.

**14TH  
DOCTORAL  
CONFERENCE IN  
ECONOMICS**

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# DEAR PARTICIPANTS

It is our pleasure to welcome you to the “14th RGS Doctoral Conference”.

We are excited about the high-quality contributions to this year’s conference program and honored that you are joining us - to present your work and discuss your research with other doctoral students.


The conference is organized annually by the Ruhr Graduate School in Economics (RGS Econ), usually rotating locations between those of RGS Econ’s initiators; Bochum, Duisburg, Dortmund, and Essen. Due to COVID 19, this year’s conference takes place online.

The conference serves as a platform for young talented economists – just like you – to engage in fruitful discussions, to learn and share knowledge, to build networks, and, ideally, to initiate joint research projects. RGS Econ’s faculty members, who will chair the sessions, are also more than happy to discuss research ideas and give comments. Engage!

As a particular highlight, the conference features two keynote lectures by highly prominent researchers. This year we are proud to present Dr. Reinhard Ploss (CEO, Infineon) and Prof. Dr. Irene Bertschek (Efi, ZEW and Uni Gießen). These keynotes highlight this year's special headline topic "Digitization". Some sessions are also dedicated to this topic.

We hope that the conference persistently contributes to the advancement of economic research and research-based policy advice, through dialogue and mutual understanding, by bringing together early-career researchers and prospective leaders from across Europe and the world. Comments and suggestions for improvement are highly welcome.

Kind regards,



Prof. Dr. Ludger Linnemann,  
Director RGS Econ



Prof. Dr. Dr. h. c. Christoph M. Schmidt, PhD,  
Director RGS Econ



# ABOUT



Ruhr Graduate School in Economics

# ABOUT RGS ECON

The Ruhr Graduate School in Economics (RGS Econ) provides internationally competitive research-oriented doctoral training in economics in the form of a structured program. It combines and builds on expertise of the three economics departments of the University Alliance Ruhr (TU Dortmund University, University of Duisburg-Essen, and Ruhr-University Bochum), as well as one of Germany's leading economic research institutes, the RWI – Leibniz-Institute for Economic Research.

RGS Econ funds around eight excellent entering doctoral students per year with scholarships or teaching and research assistant positions. Advanced coursework, appropriate guidance, a cooperative learning environment, and an extensive research network and infrastructure are geared to support our students in conducting first-rate research and our graduates in obtaining excellent positions in academia, in research and policy institutions, and in the private sector.

The program covers all major areas of economics, from theory to empirical analysis, and from policy design to its evaluation. Faculty members of the RGS Econ group themselves into three major research clusters listed below. Interactions and cooperation within and across clusters are intense; doctoral students are invited to contribute to these exchanges by following their own interests.

## **CLUSTER 1:**

Applied Microeconometrics, Labour, Population, and Health Economics

## **CLUSTER 2:**

Macroeconomics, Monetary and International Economics, Financial Markets, Econometrics

## **CLUSTER 3:**

Microeconomics, Game Theory, Mechanism Design, Public Finance



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COMMITTEES**

# ORGANIZERS & COMMITTEES

This event would not have been possible without the time and effort of:

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## **GRAPHICS & DESIGN**

Sarah Rühl (RWI)



**GENERAL  
INFORMATION**

# GENERAL INFORMATION

- No registration is required.
- No recordings are allowed.
- The “Zoom Room” information below corresponds to the meeting links provided via email to you. Please do not share these links. If you want to suggest an external guest (e. g. co-author) for the conference, please email us at [info@rgs-econ.de](mailto:info@rgs-econ.de).
- Each session consisting of three papers will begin with presentations and discussions lasting a total of 1.5 hours. This will be followed by 30 minutes of paper-specific break-out rooms for each session. The break-out room names correspond to the order of papers in the session.
- In the “Mainstage” Zoom Room we provide various breakout rooms at specific time intervals. These can be used for network activities during the conference.

## CONTACT IN CASE OF URGENT MATTERS

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**SPECIAL  
EVENTS & KEY-  
NOTE SPEECH**



# SPECIAL EVENTS & KEYNOTE SPEECH

## WEDNESDAY, MARCH 03

### Opening Remarks

**08:30 - 9:00 (Zoom Room: Mainstage)**

Prof. Dr. Ludger Linnemann

Prof. Dr. Wilhelm Löwenstein (Research Academy Ruhr,  
Ruhr Universität Bochum)

### Keynote speech by Dr. Reinhard Ploss

**11:00-12:00 (Zoom Room: Mainstage)**

Digitization: Opportunities and Challenges from a European Perspective

### About the Speaker

Reinhard Ploss is CEO of Infineon Technologies AG, a world leader in semiconductor solutions that enable smart mobility, efficient energy management and the secure capture and transfer of data. He studied process engineering at the Technical University of Munich and received his doctorate in 1990. Ploss began his career at Infineon in 1986 (Siemens AG until 1999) and has been a member of the Management Board since 2007.

In addition to his role with Infineon, Reinhard Ploss is involved in various functions promoting Germany's technological competitiveness. He is member of the Steering Committee at the Innovation Dialogue, which supports the federal government as an independent council of experts on all aspects of innovation and innovation policy. At acatech, the German Academy of Science and Engineering, he serves as a member of the Presidential Board. Ploss is Chairman of the „Working Group Silicon

Germany“, in which representatives from industry, science, politics and administration work together to ensure Germany’s long-term competitiveness with market-leading semiconductor products. Ploss is particularly committed to strengthening EU-wide cooperation on key enabling technologies. He is a member of the Supervisory Board of the European nanotechnology association AENEAS.

### **Speech by Prof. Dr. Dr. h. c. Christoph M. Schmidt**

**12:00-12:30 (Zoom Room: Mainstage)**

The Digital Future of Labor

### **Lunch Break**

**12:30-13.30 (Zoom Room: Mainstage)**

## **THURSDAY, MARCH 04**

### **Keynote speech by Prof. Dr. Irene Bertschek**

**10:30-11:45 (Zoom Room: Mainstage)**

The Digital Transformation – A Research Agenda

### **About the Speaker**

Irene Bertschek is head of the ZEW Research Department “Digital Economy” and professor of economics of digitalisation at Justus Liebig University Giessen. In May 2019, she was appointed as a member of the Commission of Experts for Research and Innovation (EFI), advising the Federal German government.

Irene Bertschek studied economics at the University of Mannheim and at the Université catholique de Louvain/Louvain-la-Neuve, Belgium, focusing on industrial economics and econometrics. She attended the European Doctoral Program and obtained a doctoral degree in economics from the Université catholique de Louvain. In her research, she investigates how digitalisation changes economic processes and how it affects firms’ labour productivity and innovation activity. Her methodological expertise lies in the field of microeconometrics and the analysis of firm-level data.

**Lunch Break**

**11:45-12.45 (Zoom Room: Mainstage)**

**Best Paper Award and Closing Remarks**

**16:45-17:15 (Zoom Room: Mainstage)**

**Prof. Dr. Ludger Linnemann**

**The conference ends March 4th, 17:15.**





# CONFERENCE PROGRAM

# CONFERENCE PROGRAM

## MARCH 03, WEDNESDAY

08:30 - 9:00	Opening Remarks, Prof. Dr. Ludger Linnemann, Prof. Dr. Wilhelm Löwenstein	Mainstage
9:00 - 11:00	Digitization: Infrastructure / Innovation	Digitization
	Labor Economics I	Labor Econ
	Finance I	Finance
	Macroeconomics I	Macro
11:00 - 12:00	Keynote Speech, Dr. Reinhard Ploss	Mainstage
12:00 - 12:30	Speech, Prof. Dr. Dr. h. c. Christoph M. Schmidt	Mainstage
12:30 - 13:30	Lunch	Mainstage
13:30 - 15:30	Digitization: News and Information	Digitization
	Labor Economics II	Labor Econ
	Applied Economics I	Applied Econ
	Macroeconomics II	Macro

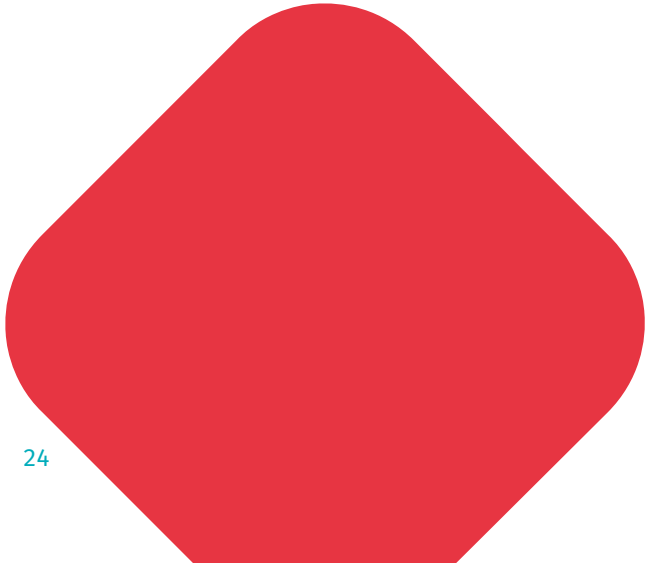
15:30 - 17:30	Digitization: Industrial Organization	Digitization
	Labor Economics III	Labor Econ
	Applied Economics II	Applied Econ
	Finance II	Finance
	Macroeconometrics I	Macro
17:30 - 19:30	Digitization: Labor Economics	Digitization
	Experimental / Behavioral Economics	Applied Econ
	Industrial Organization	Micro
	Macroeconomics III	Macro

## MARCH 04, THURSDAY

8:30 - 10:30	Energy and Resource Economics I	Energy
	Applied Economics III	Applied Econ
	Micro Theory	Micro
	Finance III	Finance
	Macroeconometrics II	Macro
11:30 - 11:45	Keynote Speech, Prof. Dr. Irene Bertschek	Mainstage
11:45 - 12:45	Lunch	Mainstage
12:45 - 14:45	Digitization: Health Economics	Digitization
	Political Economy I	Micro
	Macroeconomics IV	Macro

14:45 - 16:45	Digitization: Cryptocurrencies Labor Economics IV Political Economy II Energy and Resource Economics II Macroeconomics V	Digitization Labor Econ Micro Energy Macro
16:45 - 17:15	Best Paper Award and Closing Remarks, Prof. Dr. Ludger Linnemann	Main Stage









**ABSTRACTS**

**WEDNESDAY  
MARCH 3,  
2021**

# SESSION 1

## DIGITIZATION: INFRASTRUCTURE / INNOVATION

09:00 - 11:00

Zoom Room: Digitization

Chair: Prof. Christiane Hellmanzik, PhD

### 1. **GDPR AND THE LOST GENERATION OF INNOVATIVE APPS**

Rebecca Janßen (ZEW Mannheim, Germany), Reinhold Kesler, Michael Kummer, and Joel Waldfogel

The General Data Protection Regulation (GDPR), enacted with the goal of protecting user privacy, imposed compliance costs on app developers and may have inhibited revenue generation. Using data on 4.1 million apps at the Google Play Store from 2016 to 2019, we document that GDPR induced the exit of about a third of available apps. Moreover, in the quarters following implementation, entry of new apps fell by over half. While the exiting apps had very little usage, the reduction in entry was more consequential for consumers. Because app success is unpredictable at launch, the missing apps would have been nearly as useful, on average, as those that still entered: Post-GDPR entry cohorts, less than half as large as their pre-GDPR counterparts, account for just over half as much usage as average pre-GDPR cohorts at the same ages. After documenting these descriptive facts, we estimate a structural model of demand and entry in the app market. Comparing equilibria with and without GDPR, we find that GDPR reduces consumer surplus by 32 percent and aggregate app usage by 26 percent. We conclude that, whatever the privacy benefits of GDPR, they come at substantial costs to consumers and producers.

## **2. DIGITAL INFRASTRUCTURE AND LOCAL ECONOMIC GROWTH: EARLY INTERNET IN SUB-SAHARAN AFRICA**

Moritz Goldbeck and [Valentin Lindlacher \(Ludwig-Maximilians-University Munich & ifo Institute, Germany\)](#)

Digital infrastructure enables widespread access to modern information and communication technologies – most prominently the Internet – promising to stimulate economic growth. We analyze Sub-Saharan African (SSA) countries in the early 2000s and ask if Internet availability even at basic speeds contributes to regional economic development. Exploiting quasi-random variation in Internet availability induced by submarine cable arrivals in a difference-in-differences setting, we measure the growth of SSA cities using nighttime light data. We find that availability of Internet at basic speeds leads to three percentage points higher economic growth of SSA cities in the years after connection compared to the control group: similar cities not (yet) connected.

## **3. ICT, COLLABORATION, AND SCIENCE-BASED INNOVATION: EVIDENCE FROM BITNET**

Markus Nagler, [Kathrin Wernsdorf \(Max Planck Institute for Innovation and Competition, Munich; Ludwig-Maximilians-University Munich, Germany\)](#), and [Martin Watzinger](#)

Does access to information and communication technologies (ICT) increase innovation? We examine this question by exploiting the staggered adoption of BITNET across U.S. universities in the 1980s. BITNET, an early version of the Internet, enabled e-mail-based knowledge exchange and collaboration among academics. After the adoption of BITNET, university-connected inventors increase patenting substantially. The effects are driven by collaborative patents by new inventor teams. The patents induced by ICT are exclusively science-related and stem from fields where knowledge can be codified easily. In contrast, we neither find an effect on patents not building on science nor on inventors unconnected to universities.

# SESSION 2

## LABOR ECONOMICS I

09:00 - 11:00

Zoom Room: Labor Econ

Chair: Prof. Dr. Thomas Bauer

### 1. **TOTAL WORK TIME DISPARITY BETWEEN SPOUSES AND GENDER NORMS IN MEXICO**

Paloma Carrillo (Toulouse School of Economics, France)

Mexican labor force participating women dedicate significantly more total work hours (paid and unpaid) compared to their husbands. This paper examines to what extent can this gender disparity in total work time may be explained by gender norms. To do so, we extend the collective labor supply model with household production proposed by Cherchye, De Rock, and Vermeulen (2012) to include gender norms. Within the model, gender norms are allowed to affect preferences, household productivities, and bargaining power. The couple's gender norms index is constructed using the community's gender norm perceptions and the labor force participation of the couple's mothers. Gender norms are able to explain a portion of the total work time disparity between spouses through changes in the bargaining power. For example, if all couple's had mothers who participated in the labor force while keeping community gender norms constant, the average bargaining power of the husband in the household would shift from 55% to 53%, and the total work time disparity would shift from women working 15 hours more per week to 5 hours per week, a sizable 10 hour reduction.

## **2. EU ENLARGEMENT AND (TEMPORARY) MIGRATION: EFFECTS ON LABOUR MARKET OUTCOMES IN GERMANY**

Luisa Hammer ([Freie Universität Berlin, Germany](#)) and

Matthias S. Hertweck

Based on administrative SIAB (2005-2017) data, we quantify the dynamic impact of recent immigration on employment and wages in Germany. After identifying recent immigrants, we find that a large share of recent EU immigration is of temporary nature. We, therefore, take the labour market impact of stayers and outmigration explicitly into account, estimating short- and longer-run effects on wages and employment of natives and earlier migrants. First, we find significant negative effects on native wages in the lower parts of the wage distribution. While this effect is temporary for natives, it is more persistent for earlier migrant populations. Second, we find a temporary negative effect on part-time employment, but positive effect on full-time employment for natives. For earlier migrants, however, we find evidence for more adverse effects on employment. Third, the wage gap of new immigrants decreases substantially during the first few years in Germany, suggesting that outmigration is selective.

## **3. WHY DO TEMPORARY WORKERS HAVE HIGHER DISABILITY INSURANCE RISKS?**

Pierre Koning, Paul Muller, and [Roger Prudon \(Vrije Universiteit Amsterdam, The Netherlands\)](#)

While the prevalence of temporary employment contracts has been growing steadily over the past two decades in the Netherlands, workers in these contracts show substantially higher risk of applying for Disability Insurance (DI) benefits. This raises the question whether higher disability risks are inherent with the contract type of workers – with less employer commitment – or the type of work and health of workers in flexible jobs. To shed light on this, we decompose the observed risk differential into: (i) sorting effects into temporary work arrangements; (ii) the causal impact of flexible work arrangements on worker health; (iii) the impact of differential employer incentives to re-integrate sick employees with temporary and permanent contracts; and (iv) the degree to which labor market prospects affect the decision to apply for disability insurance benefits. We find that selection is less important than expected, while the other three mechanisms all contribute to the higher DI risk for temporary workers and explain approximately 80% of the gap in risk.

# SESSION 3

## FINANCE I

09:00 - 11:00

Zoom Room: Finance

Chair: Prof. Dr. Peter Posch

### 1. THE EFFECT OF CTA' MANAGER GENDER ON RISK SHIFTING BEHAVIOR

[Kobra Ahmadpour \(University of Ghent, Belgium\)](#) and  
Michael Frömmel

In this paper we analyze the risk-shifting behavior among CTAs with respect to funds managers' gender by using both pooled regression and contingency table test. The results indicate that female funds on average display more propensity to shifting risk following poor mid-year performance and they present a significantly higher degree of risk-shifting than male funds. Our analysis also suggests that CTAs fund engage more in risk shifting for funds with the higher portion of the management fee to the total fee but it can be moderated by taking into account the funds gender. Male funds have lower motivation for changing the return volatility for funds with a higher ratio of the management fee to the total fund fee. Finally, although we document a significantly negative relation between flows and current fund performance, however, this negative relation mitigates for male funds.

## **2. IT TAKES TWO TO BORROW: THE EFFECTS OF THE EQUAL CREDIT OPPORTUNITY ACT ON HOMEOWNERSHIP AND MORTGAGE DEBT OF MARRIED COUPLES**

Alina Kristin Bartscher (University of Bonn, Germany)

Until the 1970s, U.S. mortgage lenders commonly discounted the wife's income in couples' joint mortgage applications. This changed with the introduction of anti-discrimination legislation in the 1970s. The Equal Credit Opportunity Act (ECOA) of 1974 prohibited credit discrimination related to marital status and sex, providing a natural experiment to study the relaxation of income-related borrowing constraints. I examine the effects of the reform based on data from the Panel Study of Income Dynamics, and find positive effects on mortgage borrowing and homeownership rates of married households with working wives. Difference-in-difference results at the national level are supported by event study regressions exploiting variation in hand-collected state laws. My results imply that upon its introduction, the new equal credit opportunity legislation enabled 1.4 million couples to move into their own home. I further built a life-cycle model of married households' homeownership and mortgage choices to explore the labor supply incentives of relaxing debt-to-income constraints via the creditable share of the wife's labor income. The model shows that the reform incentivized married women to join the labor force, strongly amplifying the positive effect on married couples' homeownership in the medium to long run.

## **3. SIMPLE IS SIMPLY NOT ENOUGH – FEATURES VERSUS LABELS OF COMPLEX FINANCIAL SECURITIES**

Martin Hibbeln, Werner Osterkamp, and Fabian Rendchen  
(University of Duisburg-Essen, Germany)

Based on a unique data set of European residential mortgage-backed security (RMBS) deals with 31 million quarterly loan observations, we examine how design features and labels of complex financial securities affect tranches' spreads and loan performance. Exploiting the features required by the European Union's Securitization Regulation and the STS (Simple, Transparent, Standardized) label, we find that the features of the security design and not the label are crucial for the loan performance. However, investors hardly consider the features but simply rely on the existence of the label.



# SESSION 4

## MACROECONOMICS I

09:00 - 11:00

Zoom Room: Macro

Chair: Prof. Dr. Philip Jung

### 1. 1. PRECAUTIONARY SAVINGS AND SHORT-TIME WORK

Thomas Dengler (Humboldt University Berlin, Germany)  
and Britta Gehrke

In the Covid-19 crisis, most OECD countries use short-time work schemes (subsidized working time reductions) that aim to preserve employment relationships. This paper studies whether short-time work can save jobs in an economic crisis with a focus on demand stabilization. We build a New Keynesian model with incomplete asset markets and labor market frictions, featuring a firing as well as a short-time work decision. In recessions, short-time work reduces the unemployment risk of workers, which mitigates their precautionary savings motive. As a result, aggregate demand falls by less. Using a quantitative model analysis, we show that this channel increases the stabilization effect of short-time work over the business cycle.

### 2. RISKY FINANCIAL COLLATERAL, FIRM HETEROGENEITY, AND THE IMPACT OF ELIGIBILITY REQUIREMENTS

Matthias Kaldorf (University of Cologne, Germany) and  
Florian Wicknig

How does the eligibility of corporate bonds as collateral in Central Bank Operations affect financial intermediation and corporate financial policy? While a large strand of literature suggests that relaxing collateral constraints on interbank markets is beneficial (the money market channel), a thorough assessment of collateral policies must also account for endogenous responses of the non-financial sector (the bond market channel). The latter channel arises because banks are willing to pay premia on

corporate bonds if they are eligible as collateral, and firms adjust their debt and default policies in response. To jointly analyze both channels, we construct a model of the money market collateralized with corporate bonds, and heterogeneous firms that may default on their bonds. In this setup, eligibility premia distort the trade-off between tax advantages of leverage and bankruptcy costs that determines corporate borrowing: newly eligible firms pay lower spreads and increase their leverage, consistent with empirical evidence. Adding this friction to an otherwise standard dynamic capital structure model, we identify a policy trade-off between increased money market functionality and increased risk-taking on the corporate bond market. To quantify this trade-off, we calibrate the model to Euro Area data and subject the model economy to shocks to money market conditions, and to firm fundamentals. We find that relaxing eligibility standards is more effective at mitigating money market shocks. At the same time, adverse side effects, such as counterparty default risk borne by the central bank and costs associated with firm risk-taking, are larger in the case of fundamental shocks. However, in all our experiments, adverse side effects are smaller in magnitude than the benefits of increased money market functionality.

### **3. THE EFFECTS OF GOVERNMENT SPENDING IN THE EUROZONE**

Ricardo Duque Gabriel, Mathias Klein, and [Ana Sofia Pessoa](#)  
([University of Bonn, Germany](#))

Using a novel rich dataset at the regional level, this paper provides new empirical evidence on the fiscal transmission mechanism in the Eurozone. Our baseline estimates reveal a government spending relative output multiplier of 2.9, an employment multiplier of 1.9, and a cost per job created of €24,000. Moreover, we find that a regional fiscal stimulus leads to a significant increase in private investment, productivity, durable consumption, and real wages together with a significant rise in total hours worked driven by changes in the extensive margin (total employment), whereas the intensive margin (hours per worker) barely reacts. We estimate only small regional fiscal spillovers but detect notable state dependencies. Regional fiscal multipliers are larger in economic recessions, during fiscal consolidations, and in the core countries of the Eurozone.

# SESSION 5

## DIGITIZATION: NEWS AND INFORMATION

13:30 - 15:30

Zoom Room: Digitization

Chair: Prof. Eugen Kováč, PhD

### 1. DO PEOPLE VALUE MORE INFORMATIVE NEWS?

Felix Chopra (University of Bonn, Germany), Ingar Haaland, and Christopher Roth

Drawing on representative samples of the U.S. population with more than 15,000 respondents in total, we measure and experimentally vary people's beliefs about the informativeness of news. Inconsistent with the desire for more information being the dominant motive for people's news consumption, treated respondents who think that a newspaper is less likely to suppress information reduce their demand for news from this newspaper. Furthermore, treated respondents who think that a news outlet is more likely to make false claims do not reduce their demand for this outlet. These findings strongly suggest that people have other motives to read news that sometimes conflict with their desire for more information. We discuss the implications of our findings for the regulation of media markets

### 2. DETRIMENTAL COMPETITION IN INFORMATION PROVISION

Federico Innocenti (University of Mannheim, Germany)

Polarization affects information provision. An expert might have incentive to supply low quality information in order to leverage on believers' credulity. Competition is detrimental if attention is limited. Unbiased and Bayesian decision makers rationally devote attention to like-minded experts. Echo Chambers arise endogenously but decision makers would be weakly better off with a monopoly. A large share of the population is

sceptical about vaccinations. If they are allowed to devote attention exclusively to deniers, herd immunity will be unachievable.

### **3. THE NEW NEWS MARKETS: A MODEL WITH SOCIAL NETWORKS AND COMPETITION**

Melika Liporace (Bocconi University, Italy)

The news market has changed. Producers are paid per view. News propagate thanks to consumers through social networks. The presence of a communication network radically modifies the effect the usual news market environment has on the quality of news. This paper investigates how competition shapes the incentive of producers to invest in news quality when a news sharing network mediates the spread of news articles. We use a model in which the producer relies on a subset of consumers (called influencers) to spread news' articles. We find that a monopolist's incentive to invest in quality decreases when uncertainty about the state of the world increases. Therefore, topics for which information is the most needed are generally those for which the least precise information is generated. We then compare news' precision in a monopolist's market to that in a duopoly. We find that duopolies are not necessarily preferable to monopolies; competition helps only if the communication network is dense enough. In such a case, the dupolist's need to convince more of his influencers in order for his article to survive in the network outweighs the lower returns of his investment in quality due to having less influencers. However, any equilibrium outcome is still Pareto inefficient. To study possible Pareto improvements, we analyze an alternative business model, where consumers subscribe to news outlets.

# SESSION 6

## LABOR ECONOMICS II

13:30 - 15:30

Zoom Room: Labor Econ

Chair: Prof. Dr. Thomas Bauer

### 1. **HOW DO FIRMS ADJUST TO NEGATIVE LABOR SUPPLY SHOCKS? EVIDENCE FROM MIGRATION OUTFLOWS**

Emanuele Dicarlo (University of Zurich, Switzerland)

The quality of workers in a country positively relates to productivity of firms, adoption of new technologies, and growth. This paper studies adjustments of Italian firms to negative labor supply shocks in the context of workers' outflows from Italy to Switzerland. My Diff-in-Diff leverages the implementation of a policy in which Switzerland granted free labor market mobility to EU citizens and different treatment intensity of Italian firms based on their distance to the Swiss border. Using detailed social security data on the universe of Italian firms and workers, I document large outflows of workers and fewer surviving firms in the treatment group. Despite replacing workers and becoming more capital intensive, treated firms are less productive and pay lower wages.

I explain this evidence through the lens of a simple production function with high and low-skilled labor. In line with the brain drain literature, I show how adverse effects of large outflows of workers operate through firms that workers leave. I provide suggestive evidence that high-skill intensive firms are the main driver of the negative results on wages and productivity. I also show that low skill intensive firms instead suffer less from losing workers and provide new job opportunities for the workers who do not migrate.

## **2. A GENDER GAP IN GENDER GAPS: SOCIAL NORMS AND HOUSEWORK REPORTING**

Martin Acht and [Mara Rebaudo \(Albert Ludwig University of Freiburg, Fraunhofer Institute for Applied Information Technology FIT, Germany\)](#)

Gender differences in the amount of housework performed and the role of gender norms in explaining these persistent gender gaps have received increasing attention by both politics and researchers over the last years. While “doing gender” behavior to adhere with social norms may indeed be present, it could well be in terms of overreporting of housework hours in interviews rather than in terms of actual behavior. We study how retrospective responses about time-use in face-to-face interviews are influenced by the gender of the interviewer and find that the reporting of housework hours is indeed a gendered process. Women in cohabiting couples tend to report significantly more hours of housework when interviewed by a woman instead of a man. A similar effect for men is not observable, which in turn leads to an interviewer gender gap in the housework gender gap. Our results are evidence for the fact that gender norms play a large role in the reporting of housework hours and gender gap estimates on the basis of face-to-face interviews therefore should be interpreted with great caution. In addition to yielding valuable new information about the credibility of questionnaire-based estimates potentially influenced by social norms in general, our findings also shed light on how the desire to adhere to a social role differs by a person’s counterpart.

## **3. THE EFFECT OF THE INCENTIVIZED GRADUAL RETIREMENT PLANS ON MUNICIPALITIES’ EMPLOYMENT RATE**

[Albert Rutten \(Tilburg University, the Netherlands\)](#), M.G. Knoef, and D.J. van Vuuren

We investigate the effect of incentivized gradual retirement plans (GRPs) on the retirement behavior of older civil servants and the employment levels of younger civil servants at municipalities. The GRP wants to establish that older workers remain employed up to the pension eligibility age, by offering older-employees a reduction in working hours with only a limited decrease in net earnings and little to no reduction in pension accrual. Municipalities use this freed-up capacity by hiring younger employees.

Using variation in the availability of GRPs between Dutch municipalities, we use a differences-in-differences design to test whether GRPs succeeded in achieving its goals. We find that this is not the case. More precisely, we find that the adoption of a GRP has a minor significant effect (close to zero) on the exit age of older civil servants. We as well find that GRPs do not increase the hiring rate of young civil servants in the age group 18-30.

# SESSION 7

## APPLIED ECONOMICS I

13:30 - 15:30

Zoom Room: Applied Econ

Chair: JProf. Dr. Sanne Kruse-Becher

### 1. NAFTA AND EXPANSION OF DRUG-RELATED VIOLENCE IN MEXICO

[Eduardo Hidalgo \(University of Cologne, Germany\)](#), Eric Hornung, and Pablo Selaya

This paper investigates how the introduction of the North American Free Trade Agreement (NAFTA) in 1994 contributed to the expansion of drug-related violence in Mexico. We hypothesize that municipalities located on optimal drug-trafficking routes saw increases in drug-related violence after the introduction of NAFTA. This hypothesis is in line with literature suggesting that NAFTA's open border policy increased drug trafficking through Mexican routes, resulting in higher profits for drug trafficking organizations, leading to an increase in violent competition over smuggling routes. Using a flexible dif-in-dif model, we compare drug-related homicides per 100.000 inhabitants in municipalities with and without an optimal drug-trafficking route, before and after the introduction of the trade agreement. Trafficking routes are determined via the least-cost-paths

between U.S. points of entry and regions suitable for opium production. Results show that post-NAFTA introduction, homicides increase by an additional 1.18 deaths per 100,000 inhabitants in municipalities with an optimal drug-trafficking route, equivalent to an increase of 14% relative to the pre-NAFTA mean.

## **2. THE EFFECTS OF MUTUAL RECOGNITION AGREEMENTS ON FIRM-LEVEL INTERNATIONAL TRADE**

Thomas Prayer (University of Cambridge, United Kingdom)

Mutual recognition agreements (MRAs) make it easier for exporters to demonstrate that their products satisfy all regulations required for access to a foreign market. This paper examines the effects of MRAs on firm-level international trade. It finds, using a new identification strategy, that the direct effects of MRAs on firms increase firm-product export values by around 15 percent. The probabilities that a firm exports, starts to export or continues to export an affected product also increase.

## **3. INFORMATION FRICTIONS, GLOBAL CAPITAL MARKETS, AND THE TELEGRAPH**

Benjamin Wache (VU Amsterdam and Tinbergen Institute, The Netherlands)

Do information frictions have a causal impact on the international flow of financial capital? Using the international rollout of telegraph cables in the 19th century, I show causal evidence that reductions in information frictions had a significant and positive impact on the bilateral international flow of financial capital from the UK. For identification I use a geographic instrument, the ruggedness of the seabed. The effect of the telegraph is concentrated in capital flows to private recipients (and not distinguishable from zero for flows to public recipients), and particularly sizeable for flows to producers of tradeables (industrial firms and raw material producers). However, the telegraph also had a direct and sizeable impact on capital flows that was independent of the trade channel. Using data on newspaper mentions in the British press, I show that the mechanism through which the telegraph affected capital flows is partially captured by newspaper mentions.



# SESSION 8

## MACROECONOMICS II

13:30 - 15:30

Zoom Room: Macro

Chair: Dr. Edgar Preugschat

### 1. PROGRESSIVE PENSIONS AS AN INCENTIVE FOR LABOR FORCE PARTICIPATION

Fabian Kindermann and [Veronika Püschel \(University of Regensburg, Germany\)](#)

In this paper, we challenge the conventional idea that an increase in the progressivity of old-age pensions unanimously distorts the labor supply decision of households. So far, the literature has argued that higher pension progressivity leads to increased redistribution and insurance provision on the one hand, but increases implicit taxes and therefore distorts labor supply choices on the other. We show that a well-designed reform of the progressivity of a pension system, which introduces a progressive pension component linked to the employment decision of households, has the potential to encourage labor force participation, and could therefore lead to more instead of less employment. We evaluate the strength of this positive employment effect in a quantitative stochastic overlapping generations model with productivity and longevity risk, and show that it can be sizable.

### 2. ENDOGENOUS LONGEVITY AND OPTIMAL TAX PROGRESSIVITY

Burkhard Heer and [Stefan Rohrbacher \(University of Augsburg, Germany\)](#)

We study the impact of endogenous longevity on optimal tax progressivity and inequality in an overlapping generations model with skill heterogeneity. Higher tax progressivity decreases both the longevity gap and net income inequality, but at the expense of lower average lifetime and lower aggregate labor supply and income. We find that the welfare-maximizing

income tax is less progressive than in the case of exogenous longevity and that the present US income tax should redistribute less. Our result is robust to the empirically observed range of labor supply elasticity and the assumptions of both missing annuity markets and tax deductibility of private health expenditures.

### **3. REDISTRIBUTION OF RETURN INEQUALITY**

Karl Schulz (University of Mannheim, Germany)

Wealthier households obtain higher returns on their investments than poorer ones. How should the tax system account for this return inequality? I study capital taxation in an economy in which return rates endogenously correlate with wealth. The leading example is a financial market, where the rich acquire more financial information than the poor. Contrary to conventional wisdom, rather than calling for more redistribution, the presence of this scale dependence provides a rationale for lower marginal tax rates. The endogeneity of returns generates an inequality multiplier effect between wealth and its returns. Therefore, standard elasticity measures that determine the responsiveness of capital to taxes must be revised upwards. At an aggregate level, a rise in redistribution induces a compression effect on the distribution of pre-tax returns. In the financial market, I identify general equilibrium trickle-up externalities that provide a force for more redistribution relative to the partial equilibrium. Using a panel of US foundations, I estimate the quantitative importance of scale dependence for tax policy.

# SESSION 9

## DIGITIZATION: INDUSTRIAL ORGANIZATION

15:30 - 17:30

Zoom Room: Digitization

Chair: Prof. Dr. Lars Metzger

### 1. **BATMAN FOREVER? THE ECONOMICS OF OVERLAPPING RIGHTS**

Alexander Cuntz and [Franziska Kaiser \(HEC Lausanne \(UNIL\) & WIPO, Switzerland\)](#)

When copyrighted comic characters are also protected under trademark laws, intellectual property (IP) rights can be overlapping. Arguably, registering a trademark can increase transaction costs for cross-media uses of characters, or it can help advertise across multiple sales channels. In an application to book, movie and video game publishing industries, we thus ask how creative reuse is affected in situations of overlapping rights, and whether ‘fuzzy boundaries’ of right frameworks are in fact enhancing or decreasing content sales.

### 2. **THE IMPACT OF DIFFERENT SALES MODELS ON THE PRICE OF DIGITAL BOOKS: EVIDENCE FROM THE UK**

Maximilian Maurice Gail and [Phil-Adrian Klotz \(Justus Liebig University Giessen, Germany\)](#)

This paper empirically analyzes the effect of the widely used agency model on the retail prices in the market for e-books in the United Kingdom. Using a unique cross-sectional data set of e-book prices for a large sample of book titles across all major publishing houses, we exploit cross-genre and cross-publisher variation to identify the mean effect of the agency model on e-book prices. Thereby, we use a Latent Dirichlet Allocation (LDA) approach to determine detailed book genres based on the book’s descriptions. We find that e-book prices for titles that are sold under the agency model are 35% cheaper than titles sold under the wholesale model on average. Our results are robust to different specifications, a Lewbel

instrumental variable approach, and machine learning techniques. In addition, we provide a structural estimation to show that the price elasticity of demand for e-books is inelastic.

### **3. A SIMPLE ECONOMIC MODEL OF THE BITCOIN MINING MARKET**

Jona Stinner (Witten/Herdecke University, Germany)

Bitcoin mining has flourished into a sophisticated industry with annual revenues of ≈\$4 billion. Although the incentive compatibility of mining is vital for maintaining the network trustworthy and immutable, its economic composition remains opaque. The lack of a robust theoretical framework and the unknown distribution of miners and technology prevented structured estimates. This paper proposes a model that leverages innovation-driven convergence in the network to reconstruct market conditions. The theoretical implications are corroborated with empirical evidence for the years 2016-2020, using numerical simulation and a set of 10,000 random samples. The results specify miners' daily profits on a range from \$43.7 to \$-5.5 million, trace an increase in average daily costs from \$1.4 (2016) to \$14.6 million (2020) and demonstrate that the observed behavior in the mining ecosystem is in line with the proposed theory. Thus, the findings empirically underpin the incentive compatibility of Bitcoin mining and can be generalized to other proof-of-work cryptocurrencies.

# SESSION 10

## LABOR ECONOMICS III

15:30 - 17:30

Zoom Room: Labor Econ

Chair: Dr. Edgar Preugschat

### 1. **COMPARATIVE EFFECTS OF NATURAL DISASTERS ON EDUCATIONAL ATTAINMENT**

Anousheh Alamir (Université libre de Bruxelles, Belgium) and  
Tillmann Heidek

Which disasters are most detrimental to schooling and why? Focusing on Mexican municipalities, we explore the differential effects of geological and climatic disasters on attainment rates. While both types show significant negative impacts, climatic disasters yield the strongest ramifications. The difference is most pronounced in highly urbanized areas. The effects seem partly driven by changes to parental labor outcomes following all disaster types, added to a rise in teenage pregnancies and a drop in the share of teachers following climatic shocks. This paper therefore calls for specific policy measures according to disaster type, and enhanced alertness towards climatic events especially.

### 2. **INDUSTRIAL WAGE BARGAINING, FIRM GROWTH AND REALLOCATION**

Emil Bustos (Stockholm School of Economics, Sweden)

I study the effect of centrally bargained changes in labor costs on firm outcomes in Sweden. Every firm in an industry is given a lowest allowed increase in average wages. Since these centralized wage increases are bargained centrally, they are detached from the growth prospects of individual firms. Thus, they will distort wage-setting for some firms. This creates plausibly exogenous variation in labor costs over time. I combine data on centralized wage increases for the years from 2001 to 2006 with administrative panel data on firms. Higher centralized wage increases cause the average firm to increase labor costs and employment. These

effects come from increased hiring, both of skilled and unskilled labor, and from lower separations among skilled labor. Moreover, the effect on wage growth is concentrated at the higher end of the wage distribution. Next, I show that the effects on employment are larger for large firms. This suggests that higher centralized wage increases also cause reallocation of labor. These results are consistent with frictions and imperfect competition on the labor market.

### **3. INTERGENERATIONAL TRANSMISSION OF UNEMPLOYMENT - CAUSAL EVIDENCE FROM AUSTRIA**

[Dominik Gröbl](#) (Johannes Kepler University, Austria),  
Mario Lackner, and Rudolf Winter-Ebmer

We estimate the causal effect of parents' unemployment on unemployment among their children in their own adulthood. We use administrative data for Austrian children born between 1974 and 1984 and apply an instrumental variables (IV) identification strategy using parents' job loss during a mass layoff as the instrument. We find evidence of unemployment inheritance in the next generation. An additional day of unemployment during childhood causally raises the average unemployment days of the adult child by 1 to 2%. The greatest effects are observed for unmarried parents, young children, children of low-education parents, and in families living in capital cities. We also explore various channels of intergenerational unemployment, such as education, income, and job matching by parents.

# SESSION 11

## APPLIED ECONOMICS II

15:30 - 17:30

Zoom Room: Applied Econ

Chair: Prof. Dr. Tobias Seidel

### 1. **THE EMPEROR'S GEOGRAPHY - CITY LOCATIONS, NATURE, AND INSTITUTIONAL OPTIMIZATION**

[Christian Düben \(Hamburg University, Germany\)](#) and Melanie Krause

The emergence and growth of cities are shaped by both geographical features and institutional factors. We are able to analyze their interplay at different levels of the urban hierarchy by exploiting a unique data set on cities in imperial China from 221 BCE to 1911 CE, a geographically diverse empire with a long history of centralized rule. Developing a stylized theoretical model, we combine econometrics with machine learning techniques. Our results suggest that the higher a city is in the urban hierarchy, the less important are geographical compared to institutional factors. At the other end of the scale, market towns without government responsibilities are most strongly shaped by geographical characteristics. We also find evidence that many cities of political importance in imperial times still enjoy a special status nowadays, underlining the modern relevance of these historical factors.

### 2. **REVISITING THE CONSEQUENCES OF CIVIL CONFLICT: EVIDENCE FROM A NEW MEASURE FOR REGIONAL CONFLICT EXPOSURE**

[Tobias Korn \(Leibniz University Hannover, Germany\)](#)

This paper proposes a new way to account for subnational conflict exposure and provides new evidence on the longevity of conflict's detrimental effects. The literature disagrees whether civil conflicts have long-lasting negative effects on economic development. I trace this disagreement to different approaches in measuring conflict exposure. The common practice

to use subnational aggregates of conflict intensity ignores essential intra-regional variation. As a more accurate measure, I propose the share of economic activity in proximity to conflict events. Estimating a Bartik-like IV model at the district level covering 70 countries, I provide causal evidence that conflict exposure significantly decreases economic activity up to four years after conflict, and that this effect aggravates over time.

### **3. COUPLES, CAREERS, AND SPATIAL MOBILITY**

[Lea Nassal \(University of Duisburg-Essen, Germany\)](#) and Marie Paul

We examine the employment and earnings effects of long-distance moves for married couples based on a new administrative data set from Germany. Using difference-in-difference propensity score matching, we estimate the average treatment effect for moving couples while precisely accounting for pre-move employment dynamics. Our results show that men's earnings increase significantly after the move, while women suffer large losses in the first years after the move. We explore effect heterogeneity by relative earnings of women and find evidence for gender asymmetries.



# SESSION 12

## FINANCE II

15:30 - 17:30

Zoom Room: Finance

Chair: Dr. Yannick Hoga

### 1. STRATEGIC INVESTORS AND EXCHANGE RATE DYNAMICS

Marco Errico (Boston College Economics Department, USA) and  
Luigi Pollio

The huge trading volumes in the foreign exchange rate markets are highly concentrated among few financial players. Differently from standard models of exchange rate determination, we reject the assumption of perfectly competitive financial markets and assume traders to be imperfect competitors. We develop an international portfolio choice model with noise shocks and traders' heterogeneity in market power. Large non-competitive traders internalize the impact of their portfolio decisions on the determination of prices. We show that the presence of strategic investors leads to the amplification (dampening) of the impact of non-fundamentals (fundamental) trade on the exchange rate, reducing its informativeness. The implications of the models are that the presence of strategic investors: i) increases exchange rate volatility; ii) reduces the role of fundamentals in explaining exchange rate movements (exchange rate disconnect); and iii) increases foreign asset excess return and makes it more predictable. Our theoretical predictions are empirically confirmed using trading volume concentration data from the NY Fed FXC Reports for 18 currencies from 2005 to 2019. Welfare analysis suggests that the consolidation in the financial sector in the last three decades increased investors' welfare by 30%.

## **2. POST-CRISIS BANKING REGULATION AND CREDIT RATING ADJUSTMENTS. HOW DID THE BAIL-IN AFFECT EUROZONE BANKS' CREDIT RATING?**

Lavinia Franco (Cass Business School, City University of London, United Kingdom)

This paper looks at the credit rating adjustments on Eurozone banks that followed the post-crisis regulation of bank resolution in Europe in 2014. The empirical assessment analyses within-bank variation using the credit ratings of the major Eurozone banks. The analysis shows that with the introduction of the bail-in: 1) the ratings of Eurozone banks, as expected, were subject to downward pressures; 2) however, credit rating agencies (CRAs) reacted in a variety of ways, moving to post bail-in ratings for Eurozone banks that were more homogenous across CRAs than pre bail-in ratings. While the credit rating adjustments are rightly justified by the rating methodologies used, the convergence among CRAs suggests some degree of discretion in assigning the rating. These results are consistent with herding behaviour among CRAs.

## **3. EXCHANGE RATES, STOCK PRICES, AND STOCK MARKET UNCERTAINTY**

Fatemeh Salimi Namin (Aix-Marseille University, France)

While the reference framework for international portfolio choice emphasizes a mean-variance framework, uncovered parity conditions only involve mean stock or bond returns. We propose to augment the empirical specification by using the relative stock market uncertainty of two countries as an extra determinant of their bilateral exchange rate returns. A rise in the relative uncertainty of one stock market will lead capital to flow to the other stock market and generate an appreciation in the currency of the latter. By focusing on the JPY/USD exchange rate returns during the most recent decade (2009-2019) and relying on a nonlinear framework, we provide evidence that the Japanese-US differential stock market uncertainty affects the JPY/USD returns both contemporaneously and with weekly lags. This finding is robust when we control for the stock returns differential and the differential changes in Japanese and US unconventional monetary policy measures.

# SESSION 13

## MACROECONOMETRICS I

15:30 - 17:30

Zoom Room: Macro

Chair: Prof. Dr. Carsten Jentsch

### 1. **FINANCIAL SHOCKS, UNCERTAINTY SHOCKS, AND MONETARY POLICY TRADE-OFFS**

[Marco Brianti \(Boston College, USA\)](#)

This paper separately identifies financial and uncertainty shocks using a novel SVAR procedure and discusses their distinct monetary policy implications. The procedure relies on the qualitatively different responses of corporate cash holdings: after a financial shock, firms draw down their cash reserves as they lose access to external finance, while uncertainty shocks drive up cash holdings for precautionary reasons. Although both financial and uncertainty shocks are contractionary, my results show that the former are inflationary while the latter generate deflation. I rationalize this pattern in a New-Keynesian model: after a financial shock, firms increase prices to raise current liquidity; after an uncertainty shock, firms cut prices in response to falling demand. These distinct channels have stark monetary policy implications: conditional on uncertainty shocks the divine coincidence applies, while in case of financial shocks the central bank can stabilize inflation only at the cost of more unstable output fluctuations.

### 2. **INHERITANCES AND WEALTH INEQUALITY: A MACHINE LEARNING APPROACH**

[Juan Gabriel Rodríguez](#) and [Pedro Salas-Rojo \(Complutense University of Madrid, Spain\)](#)

This paper explores how the inheritances received influence the distribution of wealth (financial, non-financial and total) in four developed –but substantially different– countries: the United States, Canada, Italy and

Spain. Following the inequality of opportunity literature, we first group individuals into types based on the inheritances received. Then, we estimate the between-types wealth inequality to approximate the part of overall wealth inequality explained by inheritances. After showing that traditional approaches lead to non-robust and arbitrary results, we apply Machine Learning methods to overcome this limitation. Among the available computing methods, we observe that the random forests is the most precise algorithm. By using this technique, we find that inheritances explain more than 65% of wealth inequality (Gini coefficient) in the US and Spain, and more than 40% in Italy and Canada. Finally, for the US and Italy, given the availability of parental education, we also include this circumstance in the analysis and study its interaction with inheritances. It is observed that the effect of inheritances is more prominent at the middle of the wealth distribution, while parental education is more important for the asset-poor.

### **3. ABOVE, BUT CLOSE TO TWO PERCENT. EVIDENCE ON THE ECB'S INFLATION TARGET USING TEXT MINING**

Johannes Zahner (Philipps-University Marburg, Germany)

Due to its official mandate, the European Central Bank (ECB) is assumed to maximize an implied objective function that leads it to pursue inflation with a subordinate focus on supporting the general economic policy of the European Union. This objective is – by its very nature – difficult to quantify. My paper tries to decipher information regarding the ECB's objective through the use of text mining on all public speeches between 2002 and 2020. The estimation of a sentiment index through a 'bag-of-words'-approach yields the following results. First, the findings of my analysis suggest a concave objective regarding the inflation rate. The implied inflation target is best summarized as an inflation rate of 'above, but close to 2%'. Deviations from this target lead to a reduction in the sentiment of the institutions' communication. Second, my findings suggest a convex objective towards output growth and a linear objective towards the unemployment rate, with a preference for higher GDP growth and employment independently of the current level. Furthermore, the hierarchical order in the the European Central Bank (ECB)'s mandate does not always appear to be consistent with my findings. Deviations from its primary objective, the inflation rate, appear to be of no greater concern than deviations in its

subordinate objective. Third, in periods of heightened uncertainty, there is an additional decrease in the sentiment of speech. Last, over the last two decades, speeches have become more pessimistic, even when controlling for macroeconomic conditions.

# SESSION 14

## DIGITIZATION: LABOR ECONOMICS

17:30 - 19:30

Zoom Room: Digitization

Chair: Prof. Dr. Ronald Bachmann

### 1. **MINIMUM WAGES IN AN AUTOMATING ECONOMY**

[Marcel Steffen Eckardt \(Technical University of Darmstadt, Germany\)](#)

We explore the suitability of the minimum wage as a policy instrument for reducing emerging income inequality created by new technologies and automation. For this, we implement a binding minimum wage in a task-based framework, in which tasks are conducted by machines, low-skill, and high-skill workers. In this framework, an increasing minimum wage reduces the inequality between the low-skill wage and the other factor prices, whereas the share of income of low-skill workers in the national income is nonincreasing. We analyze the impact of an automating economy that implies different results than approaches without a minimum wage. In the new setting, automation at the extensive margin and creating new, labor-incentive tasks do not increase the aggregate output in general as the displacement of low-skill workers counteracts the positive effects of cost-savings. Finally, we highlight the trade-off between less inequality of the factor prices and larger inequality of the income distribution.

## 2. FIRMS THAT AUTOMATE: EVIDENCE AND THEORY

Joel Kariel (University of Oxford, United Kingdom)

Advanced technologies have the potential to boost productivity, and both create and displace jobs. Research on automation has typically looked at aggregates. This paper dives deeper into the heterogeneity among the agents making the adoption choice: firms. I compile a set of novel findings regarding firm adoption across a range of cutting-edge technologies, such as Artificial Intelligence and Cloud Computing. Leveraging the panel dataset, I investigate the relationship between technology, employment, and productivity. I find that technology adopters grow faster than non-adopters, but it seems this effect is for skilled employment only. I embed technology adoption in a heterogeneous firm model to investigate the general equilibrium implications of automation. Dynamic feedback through labour markets, entry, and exit provides a rich environment to study the overall impact of new technologies and their impact on firm distributions. The calibrated model suggests that cheaper automation technology allows productive firms to expand, encouraging entry and pushing down price in the product market. Reallocation towards large firms leads to productivity gains, but these are somewhat offset by the entry of relatively less-productive firms.

## 3. TECHNOLOGICAL CHANGE AND LABOR MARKET OPPORTUNITIES

Melanie Arntz, Căcilia Lipowski (ZEW – Leibniz Centre for European Economic Research, Germany), Guido Neidhöfer, and Ulrich Zierahn

The wage penalty of a disadvantaged family background declined in the past decades in Germany, even though wage inequality rose. The role of skill-biased technological change for overall wage inequality is well documented. This paper shows that technological progress can also explain the decline of the wage penalty of a disadvantaged family background in Germany between 1986 and 2012, and the rising share of workers with disadvantaged parental background in high-wage jobs. Intuitively, technological change increases returns to individual ability relative to the returns to parental background, as parents' occupation specific knowledge and networks depreciate during rapid technological transformations.

# SESSION 15

## EXPERIMENTAL / BEHAVIORAL ECONOMICS

17:30 - 19:30

Zoom Room: Applied Econ

Chair: JProf. Dr. Lilia Zhurakhovska

### 1. PREFERENCES FOR REDISTRIBUTION AND COGNITIVE ABILITY

Martin Brun (Universitat Autònoma de Barcelona, Spain) and  
Xavier Ramos

Individuals with higher cognitive ability have been found to be more political influent and more pro-social. But how does higher cognition relate to their preferences for redistribution? Related insights seem to point towards a positive link, but the sole empirical study available gives contrasting evidence. We expand on the existing estimates by exploiting two rich cohort studies from the United Kingdom that measure cognitive ability during childhood and outcomes and preferences during adulthood. We find that incorporating sufficient controls yields the initial negative relationship as statistically insignificant. By allowing a non-linear relationship we observe that support for redistribution effectively increases with cognitive ability among the more able.

### 2. MOTIVATING BELIEFS IN A JUST WORLD

Max Lobeck (Paris School of Economics, France)

This paper studies whether individuals distort their beliefs about the relative importance of effort and luck to motivate themselves to exert effort. To that end, I develop a novel experimental design where past experience of success or failure serves as a noisy signal about the true importance of effort in success. To test whether beliefs are distorted to motivate future effort, I vary the moment in time when subjects are informed about a real effort task to be performed later in the experiment. Subjects who receive the information before belief elicitation can, hence, distort beliefs to motivate effort in the later task. The results show that, in this case, individuals are more likely to believe that their effort is important for success.

Motivating belief distortion is particularly pronounced for subjects who receive discouraging news about the true state of the world. I additionally test whether motivating belief distortion affects subjects' willingness to distribute money between two other individuals as a third-party spectator. I do not find evidence that distributive behavior differs across the two treatment groups. The results of this paper advance our understanding of how individuals form luck-effort beliefs by showing that they do not only depend on past or current events but also on what they expect from the future.

### **3. IGNORANCE, INTENTION AND STOCHASTIC OUTCOMES**

Jana Friedrichsen, Katharina Momsen, and [Stefano Piasenti](#)  
([Humboldt University of Berlin, Germany](#))

Intentions play a fundamental role in many situations characterized by non-simultaneous interaction from principal-agent settings in firms to the international task of protecting the environment and the climate. We experimentally investigate how decision makers (DMs) respond to perceived intentions of a matched partner and a stochastic, imperfectly informative outcome when choosing a reciprocating action. We vary if the DM observes their partner's action or only the outcome before taking their own decision. Observing no evidence of an outcome bias, we find that the DM reciprocates good intentions under full information. However, reciprocity of DMs is lower in the treatment where information on the partner's action is hidden. Our analysis suggests that this is driven by the partners' behavior. DMs select into being informed or uninformed based on their inclination to behave more or less prosocially. While information avoidance is frequent, we do not find evidence for moral wiggling. In line with the absence of moral wiggling, an analysis of subjects' beliefs speaks against strategic cynicism.



# SESSION 16

## INDUSTRIAL ORGANIZATION

17:30 - 19:30

Zoom Room: Micro

Chair: Prof. Dr. Julio Robledo

### 1. UNAWARE CONSUMERS AND DISCLOSURE OF DEFICIENCIES

[Dominik Bruckner \(University of Bamberg, Germany\)](#) and [Stefanie Y. Schmitt](#)

We analyze a model where consumers have imperfect information about deficiencies of goods. We distinguish two types of imperfect information: First, some consumers are unaware that deficiencies, which reduce the quality of a good, can exist. Second, some consumers are able to infer the true level of deficiency if they are aware of the existence of deficiencies. If a firm discloses its deficiency, all consumers become aware of the existence of deficiencies. We show that firms' disclosure decisions depend on the composition of the consumers. In addition, if firms can invest to reduce the probability of deficiencies, firms invest more the higher the deficiency compared to the base value of the good. We show that increasing the transparency in the market is beneficial. We highlight the trade-off a market authority has to account for when implementing a minimum standard compared to an information campaign.

### 2. SELLING MULTIPLE COMPLEMENTS WITH PACKAGING COSTS

[Simon Finster \(University of Oxford, United Kingdom\)](#)

I consider a package assignment problem where multiple units of indivisible objects are allocated to individuals. The seller can specify additional costs or cost savings on certain packages of objects: e.g. a manufacturer may incur cost savings if they obtain a range of products or services from a single supplier. The objective is to find a socially efficient allocation among buyers. I propose a sealed-bid auction with a novel cost function graph to express the seller's preferences. The graph structure facilitates

the use of linear programming to find anonymous, competitive, and package-linear prices. If agents act as price takers, these prices support a Walrasian equilibrium, and I provide necessary and sufficient conditions for the existence of an equilibrium. I also provide sufficient conditions for the existence of an equilibrium in terms of the agents' preferences. The auction design guarantees fairness and transparency in pricing, and it admits preferences of the seller or auctioneer over the type and degree of concentration in the market.

### **3. CONSUMER PROTECTION OR EFFICIENCY? THE CASE OF PARTITIONED PRICING**

Simon Dato, Andreas Klümper, and [Fabian Schmitz \(Bonn Graduate School of Economics, Germany\)](#)

In a duopoly with imperfect competition and naive consumers, this paper analyzes how regulating partitioned pricing, i.e., the practice to split a good's price into a headline and an additional price, affects consumer surplus and welfare. A fundamental trade-off between consumer protection and efficiency arises. Full consumer protection maximizes consumer surplus but is never welfare-optimal. However, in markets with an unrestricted headline price, any bound on the additional price increases welfare and consumer surplus compared to an unregulated additional price. In markets with non-negative headline prices, capping additional prices at the firms' costs is welfare neutral and increases consumer surplus. Moreover, we characterize and study the interplay between the optimal level of price transparency and optimal regulations of additional prices.

# SESSION 17

## MACROECONOMICS III

17:30 - 19:30

Zoom Room: Macro

Chair: Prof. Dr. Ludger Linnemann

### 1. **MONETARY POLICY & ANCHORED EXPECTATIONS. AN ENDOGENOUS GAIN LEARNING MODEL**

Laura Gáti (Boston College, USA)

This paper analyzes monetary policy in a behavioral model with potential unanchoring of expectations. The extent to which expectations are anchored is determined in an adaptive learning setting by the private sector's endogenously time-varying learning gain. Within the context of an otherwise standard macro model with nominal rigidities and natural-rate and cost-push shocks, I find that optimal policy involves an aggressive interest rate response to any threat of expectations unanchoring. This stabilizes both inflation expectations and inflation, allowing the central bank to accommodate inflation fluctuations when expectations are well anchored. Furthermore, I estimate the model-implied relationship that determines the extent of unanchoring. The data suggest that the expectation process is nonlinear: expectations exhibit a higher sensitivity to large forecast errors than to smaller ones.

### 2. **ENDOGENOUS PRODUCTION NETWORKS AND NON-LINEAR MONETARY TRANSMISSION**

Mishel Ghassibe (University of Oxford, United Kingdom)

I develop a tractable sticky-price New Keynesian model, where empirically realistic input-output linkages across sectors are formed endogenously through heterogeneous firms' optimizing decisions. My model is able to jointly rationalize several of the empirically documented non-linearities associated with monetary transmission, which cannot be explained by work-horse models. First, the magnitude of real GDP's response to a monetary

shock is procyclical in my model. This cycle dependence occurs because in expansions the level of productivity is high, encouraging firms to connect to more suppliers, which in turn facilitates stronger downstream propagation of price rigidity. Second, short-run non-neutrality of real GDP is higher following periods of loose monetary policy. The latter path dependence happens as under nominal rigidities, higher supply of money erodes the real prices charged by suppliers, encouraging more connections and hence a stronger contagion of stickiness to customer firms. Third, large monetary expansions make the production network denser, and hence have a disproportionately larger effect than small monetary expansions; on the other hand, large monetary contractions break the network and hence have a disproportionately smaller effect on GDP. The latter size dependence holds even under fully time-dependent pricing.

### **3. HAS THE EURO AREA TRANSITIONED TO A ZERO INTEREST RATE AND LOW INFLATION EQUILIBRIUM? EMPIRICAL EVIDENCE AND POLICY OPTIONS**

Dominik Hecker (University of Würzburg & Bavarian Graduate Program in Economics, Germany) and Maik H. Wolters

Persistently low inflation rates and the liquidity trap in the euro area have caused concerns of a transition to a new equilibrium with the interest rate remaining near zero for a prolonged period and inflation remaining below target. Using a structural model, we estimate the probability of such an equilibrium transition in the euro area. The model includes a discount factor shock that moves the natural real rate of interest. Further, the representative agent's expectation formation follows a forecast averaging process. Based on past forecast performance, the agent assigns probabilities to forecasts which endpoints are either based on inflation returning to target and the nominal interest rate returning to positive values or inflation remaining below target and the interest rate remaining at zero. The combination of negative discount factor shocks and decreasing inflation expectations can induce a transition to the low inflation and zero interest rate equilibrium. Based on the probabilities that agents assign to the two equilibria, we find that the probability of an equilibrium transition has increased from 33% in 2008 to around 80% in 2020. Besides negative demand shocks, the secular decline in the natural real interest rate contributed to the partial disanchoring of

inflation expectations. We simulate policies that may reduce the risk of transitioning to the low inflation equilibrium and that are promising for transitioning back to the targeted inflation equilibrium.

**THURSDAY  
MARCH 4,  
2021**

# SESSION 18

## ENERGY AND RESOURCE ECONOMICS I

08:30 - 10:30

Zoom Room: Energy

Chair: Prof. Dr. Colin Vance

### 1. SWITCHING IT UP: THE EFFECT OF ENERGY PRICE REFORMS IN OMAN

Juergen Amann (University of Nottingham, United Kingdom),  
Nicola Cantore, Massimiliano Cali, Charles Fang Chin Cheng, and  
Valentin Todorov

For the most part the public debate on fossil fuel energy subsidies has been governed by two arguments. The economic one has gravitated towards the rationale of cost-competitiveness: The reduction of emissions requires a cutback of energy consumption which, when operating through the pricing mechanism, drives up the cost of inputs; increases in fossil fuel prices may therefore harm competitiveness. On the other hand, the environmental argument stresses the importance of cost transparency and externalities.

However, there has also emerged a body of research which introduces a second layer to the economic argument and shows that an increase in energy prices may not necessarily be detrimental to economic performance. This study adds to this strand by providing unique insights into the effect of a change in fossil fuel subsidies on the manufacturing industry of an oil-rich Middle Eastern economy. Using a novel firm-level micro data set on Omani manufacturing enterprises, our work shows that increases in fossil fuel energy factor prices lead to improvements in productivity as well as efficiency and notable business upgrading. The findings in this paper indicate that subsidy reforms may not only be used to achieve environmental goals but may also drive upgrading and modernization processes of firms that can, ultimately, also improve economic performance.

## **2. ECONOMIC VALUATION OF BENEFITS FROM THE PROPOSED REACH RESTRICTION OF INTENTIONALLY ADDED MICROPLASTICS**

Richard Dean, Stavros Georgiou, Alistair Hunt, [Peter King \(University of Bath, United Kingdom\)](#), and Caroline Rainsford

This study elicited the willingness to pay (WTP) for measures to control the release of intentionally added microplastics. Although microplastics accumulate in the marine environment and are practically unrecoverable, there is considerable scientific uncertainty about their environmental and health effects. This study used both a Choice Experiment (CE) and Contingent Valuation (CV) to evaluate where it was more beneficial to target restrictions at source or emissions. The CE investigated source-control in evaluating how respondents accept a trade-off between the price and performance of cosmetic products when reformulated to reduce the use of microplastics. Two CV tasks then estimated the benefits of research to resolve the uncertainty, and the benefits of upgrading Wastewater Treatment Plants (WWTP) to retain more microplastics. The difference in the annual CV WTP; £53.24 for research and £73.71 respectively, suggests that respondents are willing to pay a substantial premium for the precautionary abatement of microplastics.

## **3. POWER OUTAGES, FIRM PRODUCTIVITY, AND GENERATOR OWNERSHIP IN EAST AFRICA**

[Nina Kupzig \(Ruhr-University Bochum, Germany\)](#)

Unreliable electricity supply is a widespread problem in developing countries. This paper examines the impact of power outages on firm productivity in East Africa considering the effect of generator ownership in general and during blackouts. The results show large negative effects of power outages on productivity and a mitigating effect of self-generating during power outages of approximately the same size. However, self-generation is also found to generally reduce productivity due to the idle capital effect of unused generators during blackout-free times. This highlights that self-generation is only profitable for firms if the experienced power outages are severe enough.



# SESSION 19

## APPLIED ECONOMICS III

08:30 - 10:30

Zoom Room: Applied Econ

Chair: Prof. Dr. Tobias Seidel

### 1. **MULTI-PRODUCT FIRMS, NETWORKS AND QUALITY-UPGRADING: EVIDENCE FROM CHINA IN INDIA**

Alexander Copestake (University of Oxford, United Kingdom)

This paper exploits China's accession to the WTO to investigate the propagation of a supply shock across the Indian production network. Consistent with a model of multi-product manufacturers gaining access to higher-quality components, a fall in input tariffs raises revenue, quality and prices whilst lowering quality-adjusted prices and the probability of product exit. Upgrading persists for at least ten years; at the peak in 2010, products with a 10% higher pre-accession input tariff, and hence a larger post-accession fall in tariffs, have 5.3% higher quality. Broader input-output linkages then amplify this effect by up to 75%, with the first two links down the supply chain most significant. In contrast to existing literature focused on negative demand effects of the 'China shock', these results highlight a potential beneficial impact in developing countries, namely supply-driven quality upgrading.

### 2. **PRODUCTIVITY SLOWDOWN AND MNES' INTANGIBLES: WHERE IS PRODUCTIVITY MEASURED?**

Jean-Charles Bricongne, Samuel Delpeuch (SciencesPo, Paris, France), and Margarita Lopez Forero

Based on French firm-level data over 15 years we evaluate the contribution of the microlevel profit shifting – through tax haven foreign direct investments (FDI), may it be in or outward – to the aggregate productivity slowdown in France and the role that intangible investments play in this relation. We show that firm productivity in France experiences a decline

over the immediate years following the establishment in a tax haven, with an average estimated drop by 3.5% in labor productivity. We argue that this productivity decline, following a presence in a tax haven, is most likely explained by MNEs' fiscal optimization, where domestic productivity is underestimated as profits are not recorded anymore in the home country. The fall in productivity is especially strong for firms that are intensive in intangible capital and is equivalent to 4.1% (versus 2.7% for low intangible intensive firms), reflecting the fact that these type of assets are more easily transferred across countries and facilitate fiscal optimization. Our results additionally suggest that the mismeasurement has strong dynamic effects, as the decline becomes more important the longer the firm remains in a tax haven. Due to possible attenuation biases, we argue that our estimates provide a lower bound of the productivity mismeasurement. Finally, given these firms' weight in the economy, our results imply an 8% loss at the aggregate in terms of the level of the labor productivity throughout the whole sample period, which is equivalent to an annual loss of 9.5% in terms of the aggregate annual labor productivity growth.

### **3. THE INDIRECT EFFECT OF IMPORT COMPETITION ON CORPORATE TAX AVOIDANCE**

Baptiste Souillard (Université Libre de Bruxelles, Belgium)

The role played by competition in corporate tax avoidance is theoretically unclear in the existing literature. This paper empirically examines this, with a focus on import competition. I exploit financial statements to measure tax avoidance of US-listed firms and the conferral of the Permanent Normal Trade Relations status on China as a quasi-natural experiment to establish causality. The results, supported by a series of sensitivity tests, reveal a positive effect of import competition on corporate tax avoidance. Furthermore, they are entirely driven by multinational enterprises. In response to the China shock, these firms invested in intangible assets to escape competition but these intangibles also allowed them to shift more profits towards low-tax countries. These findings shed light on the determinants of corporate tax avoidance. More generally, they help understand the decline in the average effective tax rate of US publicly listed firms and the recent backlash against large corporations and globalization.

# SESSION 20

## MICRO THEORY

08:30 - 10:30

Zoom Room: Micro

Chair: Prof. Eugen Kováč, PhD

### 1. VERTICAL PRODUCT DIFFERENTIATION REVISITED

Christina Brinkmann (University of Bonn, Germany)

I revisit an established model on oligopolistic competition in price and quality (as in Tirole's *The Theory of Industrial Organization*). There, two competitors choose products that are maximally differentiated in quality in order to soften price competition. But highly-specialized markets where few firms compete, e.g. the market for computer chips, rarely exhibit this pattern. I lift the assumption of full market coverage and introduce per-unit costs, convex in quality, to show that the principle of product differentiation still holds for small differences in quality, but for larger differences an incentive to move qualities closer together enters (pull and push factors). Regarding the question whether the optimally-distanced qualities lie in the upper or lower quality range, I find that there can be upward pressure on the qualities, and that without pre-assigned roles the threat of being overtaken adds to this.

### 2. SEQUENTIAL CHEAP TALK WITH IMPERFECTLY INFORMED EXPERTS

Nektaria Glynia (University of Bologna, Italy)

This paper studies a cheap talk game between two imperfectly informed experts and one decision maker. The experts receive noisy signals about the state and sequentially communicate the relevant information to the decision maker. In environments where the experts perfectly observe the state, the information is fully transmitted to the decision maker. Krishna and Morgan (2001b) show that there exists a fully revealing equilibrium supported by the self-serving belief if the experts are biased in opposite directions. However, the presence of noise renders a fully revealing equilibrium impossible. Nevertheless, we characterise the most inform-

ative equilibrium that might arise in such environments. We extend the self-serving belief system under uncertainty and we show that there are two necessary and sufficient conditions for a semi-revealing equilibrium to exist: a) the noise structure is common knowledge and b) the experts are biased in opposite directions.

### **3. COALITION FORMATION WITH OPTIMAL TRANSFERS WHEN PLAYERS ARE HETEROGENEOUS AND INEQUALITY AVERSE**

Marco Rogna (Bochum University of Applied Sciences, Germany)  
and Carla J. Vogt

Obtaining significant levels of cooperation in public good and environmental games, under the assumption of players being purely selfish, is usually prevented by the problem of free-riding. Coalitions, in fact, generally fail to be internally stable and this causes a serious under-provision of the public good together with a significant welfare loss. The assumption of relational preferences, capable of better explaining economic behaviors in laboratory experiments, helps to foster cooperation, but, without opportune transfers scheme, no substantial improvements are reached. The present paper proposes an optimal transfers scheme under the assumption of players having Fehr and Schmidt (1999) utility functions, whose objective is to guarantee internal stability and to maximize the sum of utilities of coalition members. The transfers scheme is tested on a public good contribution game parameterized on the data provided by the RICE model and benchmarked with other popular transfers scheme in environmental economics. The proposed scheme outperforms its benchmarking counterparts in stabilizing coalitions and sensibly increases cooperation compared to the absence of transfers. Furthermore, for high but not extreme values of the parameter governing the intensity of dis-utility from disadvantageous inequality, it manages to support very large coalitions.

# SESSION 21

## FINANCE III

08:30 - 10:30

Zoom Room: Finance

Chair: Prof. Dr. Peter Posch

### 1. **CLEAR(ED) DECISION: THE EFFECT OF CENTRAL CLEARING ON FIRMS' FINANCING DECISION**

Maximilian Jager (University of Mannheim, Germany) and  
Frederick Zadow

We empirically investigate the implications of the implementation of central counterparties (CCPs) in the corporate CDS market on the balance sheet of affected companies. We find – using a propensity-score matched difference-in-differences setup – that firms whose CDS contracts become eligible for clearing via CCPs reduce their debt levels compared to firms whose CDS are not (yet) eligible by 2.8%. Instead of balancing this shift in debt levels by increasing equity, eligible firms shrink their size distinctly with assets decreasing by 1.5%. We theoretically found and empirically describe two potential mechanisms through which CCPs affect firm debt levels: i) the hedging channel – less counterparty risk on the CDS market increases the cost of insurance for creditors ('hedging'), which decreases creditors' demand for firm debt; ii) the arbitrage channel – CDS and corporate debt markets are linked through a no-arbitrage condition. The market efficiency properties of CCPs make CDS investment more attractive and channel funds away from debt markets. We find evidence consistent with both channels. By further showing that firms cut investment and employment as a response to becoming eligible, our results highlight the possibility of unintended real economic consequences of derivative market regulation.

## **2. MANDATORY COUNTERPARTY DEFAULT INSURANCE IN THE OTC DERIVATIVES MARKET**

Natalie Kessler (European University Institute, Italy)

This paper analyzes the effect of mandatory counterparty default insurance of over-the-counter (OTC) derivatives on aggregate financial risk exposure, focusing on the trade-off between decreased credit risk and increased market risk. I develop a model populated by risk-averse buyers that use derivatives to hedge their exposure to market risk; risk-neutral derivative sellers that may strategically default; and a monopolistic for-profit central counterparty (CCP) offer counterparty default insurance. In this framework I show that a for-profit monopolistic CCP fails to internalize the risk-mitigating objective. Therefore, mandatory default insurance results in lower downstream competition, strictly higher prices and reduced hedging activities. Thus buyers are strictly worse off under the new regime. The overall effect on financial risk is however ambiguous, as the benefits from increased seller safety must be weighted against the reduced hedging activities.

## **3. TO INVEST OR NOT TO INVEST? THE RELEVANCE OF COUNTRY SHARES OF ZERO: EVIDENCE FROM MUTUAL FUNDS**

Simon Tièche (University of Lausanne, Switzerland)

Using large data on international equity portfolio allocations of international mutual funds, I identify a sizable fraction of country shares of zeroes. I discuss how to find those relevant zeroes and motivate them with a model of optimal portfolio choice. This model relates the portfolio share to past and buy-and-hold portfolios, expected future excess returns and entry cost. Given the structure of the data, I develop an econometric model able to estimate this portfolio equation. Specifically, it estimates a dynamic panel model with corner solutions (i.e. the zeroes), high dimensional fixed effects and endogenous variables. I find that linear estimators underestimate the impact of excess returns by a factor of 3.5 to 5. In a final exercise, I simulate data and discuss how to treat original country shares reported by the funds when we observe a subset of countries.

# SESSION 22

## MACROECONOMETRICS II

08:30 - 10:30

Zoom Room: Macro

Chair: Prof. Dr. Christoph Hanck

### 1. PANDEMIC SHOCKS AND HOUSEHOLD SPENDING

David Finck (University of Giessen, Germany) and Peter Tillmann

We study the response of daily household spending to the unexpected component of the COVID-19 pandemic, which we label as pandemic shock. Based on daily forecasts of the number of fatalities, we construct the surprise component as the difference between the actual and the expected number of deaths. We allow for state-dependent effects of the shock depending on the position on the curve of infections. Spending falls after the shock and is particularly sensitive to the shock when the number of new infections is strongly increasing. If the number of infections grows moderately, the drop in spending is smaller. We also estimate the effect of the shock across income quartiles. In each state, low-income households exhibit a significantly larger drop in consumption than high-income households. Thus, consumption inequality increase after a pandemic shock. Our results hold for the US economy and the key US states. The findings remain unchanged if we choose alternative state-variables to separate regimes.

### 2. ACCURATE AND (ALMOST) TUNING PARAMETER FREE INFERENCE IN COINTEGRATING REGRESSIONS

Carsten Jentsch and Karsten Reichold (TU Dortmund University, Germany)

Tuning parameter choices complicate statistical inference in cointegrating regressions and affect finite sample distributions of test statistics. As commonly used asymptotic theory fails to capture these effects, tests often suffer from severe size distortions. We propose a novel self-normalized

test statistic for general linear hypotheses, which avoids the choice of tuning parameters. Its limiting null distributions is nonstandard, but simulating asymptotically valid critical values is straightforward. To further improve the performance of the test in small to medium samples, we employ the vector autoregressive sieve bootstrap to construct critical values. To show its consistency, we establish a bootstrap invariance principle result under conditions that go beyond the assumptions commonly imposed in the literature. Simulation results demonstrate that our new test outperforms competing approaches, as it has good power properties and is considerably less prone to size distortions.

### **3. SMOOTH QUANTILE PROJECTIONS**

[Josef Ruzicka \(Universidad Carlos III de Madrid, Spain\)](#)

Standard impulse response functions measure the average effect of a shock on a response variable. However, different parts of the distribution of the response variable may react to the shock differently. A popular method to capture this heterogeneity are quantile regression local projections. We study their identification by short-run restrictions, long-run restrictions, and external instruments. To overcome their excessive volatility, we introduce two novel estimators: Smooth Quantile Projections (SQP) and Smooth Quantile Projections with Instruments (SQPI). The SQPI inference is valid under weak instruments. We propose information criteria for optimal smoothing and apply the estimators to shocks in financial conditions and monetary policy.



# SESSION 23

## DIGITIZATION: HEALTH ECONOMICS

12:45 - 14:45

Zoom Room: Digitization

Chair: Prof. Dr. Ansgar Wübker

### 1. **DID YOU KNOW? THE EFFECT OF SMS REMINDERS ON HEALTH SCREENING UPTAKE IN INDONESIA**

Maja E. Marcus (University of Göttingen, Germany), Lisa Rogge, Anna Reuter, and Sebastian Vollmer

The massive improvements in living standards and life expectancy in low- and middle-income countries over the past decades are now being jeopardized by the increasing burden of non-communicable diseases. Despite being highly preventable, if detected and treated early, they are already the leading cause of death in many countries. Regular testing for diseases, such as diabetes and hypertension, can therefore have an immense impact on mortality, morbidity, and economic burdens, yet is still vastly under-utilized. We conducted a community-based RCT in Indonesia using personalized and targeted text messages aiming to increase the demand for existing public screening services for diabetes and hypertension. We find that this low-touch intervention increased screening uptake by approximately 7 percentage points compared to the control group. This effect does not appear to work through gains in knowledge, but rather as reminder. We conclude that text messages can be a cheap and easily scalable tool to reduce testing gaps in a middle-income country setting.

## **2. AN APP CALL A DAY KEEPS THE PATIENT AWAY? SUBSTITUTION OF ONLINE AND OFFICE-BASED PHYSICIAN CONSULTATIONS AMONG YOUNG ADULTS**

Lina Maria Ellegård, Gustav Kjellsson, and [Linn Mattisson \(Lund University, Sweden\)](#)

The emergence of markets for online physician consultations – direct-to-consumers telemedicine (DCT) – is transforming healthcare services in many nations. The convenience of DCT lowers the price of seeking care, thus potentially increasing demand. Yet, it is not known whether patients are satisfied with the care they receive online, or if they turn to traditional providers as well. This is the first study to causally assess the degree to which digital physician consultations substitute for traditional office-based consultations. We exploit the rapid emergence of a DCT market and exogenous changes in patient fees in a fuzzy difference-in-discontinuities analysis of young adults in two Swedish regions.

## **3. LOW EMISSION ZONES AND TRAFFIC CONGESTION: EVIDENCE FROM MADRID CENTRAL**

[Filippo Tassinari \(University of Barcelona & IEB, Spain\)](#)

The aim of this paper is to shed light on the effect of Low Emission Zones (LEZs) on traffic and car use. LEZs are areas in which the access is restricted for the most polluting vehicles. They have been found to be effective in reducing pollution, while the expected effect on traffic is not clear. Benefiting from high-frequency granular data on traffic for the city of Madrid, I test whether LEZ schemes are effective in reducing traffic within the area of implementation and if they generate a displacement effect. I deal with the endogeneity of traffic by combining different empirical strategies. First, I benefit from the exogeneity of the implementation timing to develop a city-wide analysis which can be thought of as regression discontinuity in time. Second, I exploit the causal impact analysis and aggregate the results with a meta-regression framework. Finally, I employ the Open Source Routing Machine (OSRM) project to identify representative commuting patterns. Results suggest that Madrid Central did reduce traffic inside the restricted area and generate a displacement effect (increase in traffic) to all the other areas of the city, especially to its outskirts.

# SESSION 24

## POLITICAL ECONOMY I

12:45 - 14:45

Zoom Room: Micro

Chair: Prof. Dr. Galina Zudenkova

### 1. **POLITICAL AGENCY AND LEGISLATIVE SUBSIDIES WITH IMPERFECT MONITORING**

[Benjamin Blumenthal \(Paris School of Economics, EHESS, France\)](#)

Voters are frequently ill-equipped to evaluate politicians' actions and can often only imperfectly monitor them: to wit, that a road was built is easy to see, whether shady practices were involved is harder to tell. I consider a stylised two-period political agency model with moral hazard and adverse selection to study the consequences of imperfect monitoring on politicians' behaviour and voters' welfare. I show that imperfect monitoring has an ambiguous effect on voters' welfare and that being unable to monitor politicians perfectly can be welfare improving. I also study how an interest group might subsidise policy making and show that legislative subsidies from an interest group with interests opposed to those of voters can improve voters' welfare. Finally, I endogenize the monitoring process and show that voters rationally do not monitor politicians perfectly.

### 2. **PERSUADING COMMUNICATING VOTERS**

[Toygar Kerman \(Maastricht University, The Netherlands\)](#) and  
[Anastas Plamenov Tenev](#)

This paper studies a multiple-receiver Bayesian persuasion model, where a sender communicates with receivers who have homogeneous beliefs and aligned preferences. The sender wants to implement a proposal and commits to a communication strategy which sends private (possibly) correlated messages to the receivers, who are in an exogenous and commonly known network. Receivers can observe their neighbors' private messages and after updating their beliefs, vote sincerely on the proposal.

We examine how networks of shared information affect the sender's gain from persuasion and find that in many cases it is not restricted by the additional information provided by the receivers' neighborhoods. Surprisingly, the sender's gain from persuasion is not monotonically decreasing with the density of the network.

### **3. INTEREST GROUPS' CONTRIBUTIONS, INCUMBENCY ADVANTAGE AND POLITICAL SELECTION : EVIDENCE FROM BRAZIL**

[Julieta Peveri \(Aix-Marseille School of Economics, France\)](#)

While the role of interest groups' contributions in shaping policies has been well-studied, little is known about their effects on political competition and selection. This paper exploits a Brazilian reform that banned campaign contributions made by firms. I compare the incumbency advantage and the decision of running for office across municipalities and individuals according to their degree of dependence on interest groups' contributions before the reform. I find that the reform encourages the entry of new candidates and deteriorates the electoral incumbency advantage for the less educated ones. I interpret the results as the reform had a positive effect on political selection by crowding-out incumbents who heavily relied on the financial advantage rather than on a quality-based advantage.

# SESSION 25

## MACROECONOMICS IV

12:45 - 14:45

Zoom Room: Macro

Chair: Prof. Dr. Volker Clausen

### 1. CONSUMPTION INEQUALITY IN THE DIGITAL AGE

Kai Arvai (University of Bonn, Germany) and Katja Mann

This paper measures digital technology in the consumption basket of American households and quantifies its share along the income distribution. We find that rich households have a larger digital share in their consumption basket than poor households. In a model, we quantify the effects of lower prices for digital assets on lifetime consumption for rich and poor households. Abstracting from the impact of digitalization on income inequality, we find that the reduction in prices for digital assets alone increased consumption inequality by a large margin.

### 2. MONETARY POLICY AND THE STOCK MARKET - A PARTLY RECURSIVE SVAR ESTIMATOR

Sascha Alexander Keweloh (TU Dortmund University, Germany)  
and Andre Seepe

This study analyzes the interdependence of monetary policy and the stock market in a structural VAR model. We argue that commonly used short- and long-run restrictions on the interaction of both variables might not hold and propose an estimator not requiring any of these restrictions on the interaction of monetary policy and the stock market. The proposed estimator combines a data driven and restriction based identification approach. In particular, the estimator allows the researcher to order and identify some shocks recursively, while other shocks can remain unrestricted and are identified based on independence and non-Gaussianity.

We find that a positive stock market shock contemporaneously increases the nominal interest rate, while a contractionary monetary policy shock leads to lower stock returns on impact. Furthermore, we present evidence that monetary policy is non-neutral with respect to long-run real stock prices.

### **3. DEBT CRISES, FAST AND SLOW**

Giancarlo Corsetti and [Seung Hyun Maeng \(University of Cambridge, United Kingdom\)](#)

With the Covid-19 pandemic, public debt around the world is rising to unprecedented heights in peacetime, creating vulnerability to belief-driven sovereign risk crises. We revisit the mechanisms in strategic-default and debt-limit models, showing that slow-moving and rollover (fast) crises are pervasive in both. Sovereigns may lose market access even when, in a good equilibrium, they would be able to borrow risk free. Long debt maturities may/may not shield countries from this adverse scenario. In a sunspot equilibrium, the threat of belief-driven crises is not enough to motivate deleveraging in a recession: governments will keep borrowing, gambling on economic recovery.

# SESSION 26

## DIGITIZATION: CRYPTOCURRENCIES

14:45 - 16:45

Zoom Room: Digitization

Chair: Prof. Dr. Ludger Linnemann

### 1. **BANKING CRISES UNDER A CENTRAL BANK DIGITAL CURRENCY (CBDC)**

Lea Bitter (Technische Universität Berlin & Berlin School of Economics, Germany)

One of the main concerns in the context of central bank digital currency (CBDC) is the disintermediating effect on the banking sector in normal times, and even more the risk of a bank run in times of crises. This paper extends the bank run model by Gertler and Kiyotaki (2015) to analyze the impact of a retail CBDC on financial stability. A CBDC is an additional type of liability to the central bank which, by accounting identity, must be accompanied by respective alignments on the asset side. The model compares the effects of two different asset side policies with each other and to the economy without a CBDC. I find that a CBDC reduces net worth of banks in normal times but mitigates the risk of a bank run in times of crises. The prevailing concerns about the risk of a bank run can be explained by neglecting the accompanying stabilizing asset side effects of a CBDC.

### 2. **MONEY TALKS: INFORMATION AND SEIGNORAGE**

Maximilian G. Guennewig (London School of Economics, United Kingdom)

This paper analyses the consequences for monetary policy arising from private, centralised digital currencies such as Alipay tokens or Facebook's Libra. Firms introduce private currencies to generate information on consumers and seignorage revenues. The paper highlights three important results. First, information shapes the degree of currency competition as firms do not accept their competitors' currencies. Second, producers

issuing private currency implement a variant of the Friedman rule. To maximise the sum of product profits and seignorage revenues, they either set private currency interest rates to zero or give compensating product discounts. Public currency is unable to compete unless the central bank sets their interest rate to zero, resulting in deflation. Third, inflationary pressures arise if firms form currency consortia but decision powers and seignorage claims are concentrated in the hands of one firm.

### 3. CRYPTO COVERED INTEREST PARITY DEVIATIONS

Friedrich-Carl Franz and [Alexander Valentin \(Goethe-University Frankfurt, Germany\)](#)

Studying deviations from covered interest rate parity (CIP) in the Bitcoin/US-Dollar (BTC/USD) market, we find large CIP deviations of up to 15% until Q1/2018. Afterwards, CIP deviations have been subdued, which we attribute to the market entry of high-frequency traders (HFTs). We argue that these market entries have increased efficiency of cryptocurrency markets with respect to CIP as well as liquidity, volatility, and bid-ask spreads. Remarkably, these efficiency gains are larger for the less liquid cryptocurrency Litecoin. Employing a difference-in-differences design, we show that the launch of the BTC/USD future at the Chicago Mercantile Exchange (CME) did not affect market efficiency. Finally, remaining CIP deviations after Q1/2018 seem mostly related to increased credit risk of certain crypto exchanges.



# SESSION 27

## LABOR ECONOMICS IV

14:45 - 16:45

Zoom Room: Labor Econ

Chair: Prof. Dr. Marie Elina Paul

### **1. PARENTING SKILLS AND WOMEN'S EMPOWERMENT: EVIDENCE FROM A RANDOMISED INTERVENTION IN BANGLADESH**

Clementina Crocè (University of Trento, Italy)

This paper provides an evaluation of the spillover effects on female empowerment of a randomised intervention, Save the Children's Early Childhood Stimulation Programme, which offered to Bangladeshi mothers opportunities to develop parenting skills and improve parental knowledge. Results show that the training improved mothers' autonomy and participation in decision-making: in a context in which female bargaining power is generally low, mothers' role in intra-household bargaining became more considerable not only for food- and child-related choices but also for decisions about the allocation of resources. This spillover effect is particularly remarkable because the programme did not include cash or in-kind transfers and was relatively inexpensive. Parenting-related education is the channel that underlies the impact on empowerment, since mothers with a lower pre-treatment parenting ability experienced the largest improvement. Moreover, there is evidence of a relationship between fathers' previous migration and mothers' power, since the intervention had an empowerment effect only on women whose partner had not migrated before the baseline and was absent at the time of the first round.

## **2. ARE FDI RESTRICTIONS INDUCING INTERNATIONAL MIGRATION? EVIDENCE FROM INDONESIA**

Andrea Cinque, [Anna Gasten \(Georg-August-Universität Göttingen, Germany\)](#), and [Krisztina Kis-Katos](#)

Using disaggregated dyadic panel data on international migration flows from Indonesian districts, this paper provides causal evidence for Foreign Direct Investment (FDI) and international migration being substitutes. Our empirical analysis exploits regulatory changes in the Negative Investment List, a product-specific FDI policy, that have been implemented by the Indonesian government from 2007 to 2014. Using a shift-share approach to measure the district-country-pair-level exposure to the sector-specific tightening of FDI regulation, we analyze the impact of changes in bilateral FDI inflows on international migratory movements of the population living in FDI receiving areas. We document that relative reductions in dyadic FDI inflows in the aftermath of the reform triggered an increase in emigration to the investor countries, especially among those with tertiary education.

## **3. PAYING FOR THE SELECTED SON: SEX IMBALANCE AND MARRIAGE PAYMENTS IN CHINA**

[Yuanwei Xu \(Leibniz University of Hannover & University of Münster, Germany\)](#)

This paper shows that the rising male surplus has caused marriage distortions in China by an increase in brideprice payments. The identification relies on comparison between siblings within the same natal family who are born in different birth years and thus exposed to various demographic structures. I find robust evidence that a rise in male surplus significantly increases the incidence and value of brideprices, but has no influence on dowries, suggesting that brideprices function as status goods in marriage market but dowries do not. Such a positive effect on brideprices is found predominantly for natal families characterized by low education, fewer number of children, and with more daughters than sons. Further investigations show that dowries carry a strong intergenerational function for help and care in parents' old age but brideprices do not. In addition, dowries are positively associated with female bargaining power. This paper provides the first empirical evidence showing that demographic imbalance causes marriage distortion with rising brideprices, and suggests that brideprices and dowries carry different significance in China.

# SESSION 28

## POLITICAL ECONOMY II

14:45 - 16:45

Zoom Room: Micro

Chair: Prof. Dr. Galina Zudenkova

### 1. **LEARNING-BY-LOSING: DO POLITICAL PARTIES WIDEN REPRESENTATION TO WIN ELECTIONS?**

Su-Min Lee (University of Cambridge, United Kingdom)

Although the right to vote has long been near-universal in many countries, there are still significant inequalities in political representation. These inequalities have implications for policy choices and speak to labour market inequalities in other occupations outside of politics. One contributing factor may be political parties selecting candidates to try and win elections. I argue that parties may learn to be more inclusive in their selection in the aftermath of a defeat, through a 'learning-by-losing' process. Using comprehensive hand-collected biographical data and machine-learning algorithms to classify over 2000 candidates, I find evidence of the Conservative Party choosing candidates from a wider range of backgrounds in response to electoral defeat in the UK 1906 election. I also find evidence of the targeted use of candidate characteristics to win votes.

### 2. **POPULISM AND IDEOLOGICAL CONVERGENCE IN A MULTIPARTY SYSTEM: EVIDENCE FROM FINLAND**

Tuuli Tähtinen (European University Institute, Italy)

This paper studies how political parties react to the entry and increased electoral strength of a populist party. I analyse how populist party representation in local councils affects other parties ideological positions in the same electoral district. I use individual level variation created by close elections to identify ideological shifts resulting from a change in party representation, holding other factors constant. Ideological positions are derived from a comprehensive individual level survey from a Finnish

voting advice application. Candidates' responses are modelled using item response theory to obtain measures of ideology that are comparable across election years. I show that higher populist party representation causes other parties to become more ideologically aligned with the populist party. The effect is largely due to alignment on the liberal-authoritarian dimension.

### **3. AUSTERITY AND DISTRIBUTIONAL POLICY**

Matteo Alpino, Zareh Asatryan, Sebastian Blesse, [Nils Wehrhoefer](#)  
([University of Mannheim, Germany](#))

What are the effects of austerity on distributional policy? We exploit the autonomy of Italian municipalities in setting non-linear income taxes and the exogenous introduction of a fiscal rule to show that austerity increases tax progressivity. Consistent with this municipal evidence, we find that in a panel of countries austerity correlates with higher marginal tax rates on top earners, but not on average earners. We do not find evidence for reductions either in total or redistributive spending. The increase in progressivity in Italian municipalities is driven by mayors having a college-degree or working in high-skill occupations, while less-educated or lower-skill mayors raise taxes uniformly. In the first post-reform election, mayors that increased progressivity have higher reelection odds. This suggests that politicians trying to ease the potential distributional implications of austerity are rewarded at the ballot box.

# SESSION 29

## ENERGY AND RESOURCE ECONOMICS II

14:45 - 16:45

Zoom Room: Energy

Chair: Prof. Dr. Manuel Frondel

### 1. **DETERMINANTS, PERSISTENCE AND DYNAMICS OF ENERGY POVERTY: AN EMPIRICAL ASSESSMENT USING GERMAN HOUSEHOLD SURVEY DATA**

Katharina Drescher and [Benedikt Janzen \(University of Bern, Switzerland\)](#)

Energy affordability receives increasing attention in developed countries. We examine the determinants, persistence and dynamics of energy poverty by employing a dynamic random-effects probit model on three waves of the German household survey panel data. While households that are energy poor under an expenditure-based indicator in one period are 19.8 percent more likely to be energy poor in the subsequent period, persistence of self-reported energy poverty is significantly lower. Next, we employ an identification function and a multinomial logistic regression to distinguish between chronic and transient energy poverty. Our findings suggest that energy poverty is mostly a transitory state. Differences between the determinants of energy poverty duration states can be mainly attributed to household composition, population density, labor force status, energy efficiency measures and in particular the heating system in place.

### 2. **DOES GREEN PUBLIC PROCUREMENT TRIGGER ENVIRONMENTAL INNOVATIONS?**

[Bastian Krieger \(ZEW Mannheim, Germany and University of Luxembourg, Luxembourg\)](#) and Vera Zipperer

This paper provides first empirical insights on the relationship between green public procurement and firms' environmental innovation outputs.

Considering that the public sector is a large buyer in the economy, strategic public procurement can work as demand-pull factor for new products and processes. Green public procurement aims at contributing to more sustainable production and consumption. Using a novel firm-level dataset, this paper analyses within a difference-in-differences setup whether green public procurement is able to trigger environmental innovations or not. Our results support a demand-pull effect of green public procurement on the probability of introducing environmental product innovations: The probability of introducing a new and more environmentally friendly product is on average around 19 percentage points higher for firms receiving a green public procurement contract. We find no significant relationship between green public procurement and the probability of introducing new and more environmentally friendly production processes.

### **3. PRO-ENVIRONMENTAL SPILLOVER EFFECTS IN THE RESOURCE CONSERVATION DOMAIN: EVIDENCE FROM A RANDOMIZED CONTROLLED FIELD TRIAL IN SINGAPORE**

Ximeng Fang, Lorenz Götte, [Kathrin Schmitt \(Friedrich-Alexander-University Erlangen-Nürnberg, Germany\)](#), Tien Foo Sing, Thorsten Staake, Agarwal Sumit, Verena Tiefenbeck, and Davin Wang

Many policymakers and environmental campaigners promote small pro-environmental actions in the hope that these changes will lead to larger behavioral changes. However, the empirical and theoretical literature on pro-environmental spillover effects yields mixed results. Yet, to evaluate the net benefits of a program, it is important to consider the side effects of an intervention. In a randomized controlled field trial with a fairly representative sample over a period of 4 to 6 months with real-world data from 525 households (2,220 individuals), we analyze whether real-time feedback on water consumption in the shower induces spillover effects on other domestic water uses. Overall, our findings show no significant reductions in water consumption beyond the directly targeted behavior even under fairly good conditions for pro-environmental spill-over effects as predicted by the literature. However, we find that spillover effects are less likely to occur when an initial intervention on the directly targeted behavior is difficult to achieve. Moreover, we find positive spillover effects on overall resource conservation for individuals with above-average water consumption in the shower during the baseline period.

# SESSION 30

## MACROECONOMICS V

14:45 - 16:45

Zoom Room: Macro

Chair: Prof. Dr. Volker Clausen

### 1. **FISCAL STIMULUS, CREDIT FRICTIONS AND THE AMPLIFICATION EFFECTS OF SMALL FIRMS**

Pedro Juarros (Georgetown University, USA)

I study the role of firm size heterogeneity and credit frictions on the transmission mechanism of fiscal policy. This paper shows that the local fiscal multiplier increases with the share of small firms, implying multipliers of 0.95-2.15 in the interquantile range. At micro level, I find positive spillovers for small firms and neutral for large firms. Small firms increase operating revenues, investment and financing relative to large firms after an aggregate local fiscal stimulus. I interpret these findings with a two-firm open economy New Keynesian model with the financial accelerator mechanism. The model implies that a higher share of small firms also increases the national fiscal multiplier if monetary policy does not respond aggressively to fiscal shocks.

### 2. **LASTING FOR LONGER: ON THE DECREASING ROLE OF SHORTER BUSINESS CYCLES IN OVERALL MACROECONOMIC FLUCTUATIONS**

Josefine Quast (Deutsche Bundesbank & University of Würzburg, Germany) and Maik H. Wolters

We show that the relative importance of shorter business cycles, lasting between 2 and 4 years, has decreased over time. We base our analysis on historical data on log real GDP per capita of 17 advanced economies from 1880 onward. To provide a fine-grained historical decomposition of economic activity into differently persistent cyclical components as well as a slow-moving secular trend, we employ wavelet-based filtering. We show that the decreasing importance of short business cycles cannot only

be observed for the U.S., but for a broader set of countries. While shorter business cycles are even less relevant during the postwar periods compared to the whole sample, they remain highly relevant during turbulent crisis periods associated with high GDP volatility. Hence, policies that might effectively stabilize the business cycle during crisis periods when short-term fluctuations are relatively important might increasingly lose their firepower during more tranquil times when longer cycles are more relevant for driving economic activity.

### **3. FINANCIAL CRISES AND SHADOW BANKS: A QUANTITATIVE ANALYSIS**

[Matthias Rottner \(European University Institute, Italy\)](#)

Motivated by the build-up of shadow bank leverage prior to the Great Recession, I develop a nonlinear macroeconomic model that features excessive leverage accumulation and show how this can cause a bank run. Introducing risk-shifting incentives to account for fluctuations in shadow bank leverage, I use the model to illustrate that extensive leverage makes the shadow banking system runnable, thereby raising the vulnerability of the economy to future financial crises. The model is taken to U.S. data with the objective of estimating the probability of a run in the years preceding the financial crisis of 2007-2008. According to the model, the estimated risk of a bank run was already considerable in 2004 and kept increasing due to the upsurge in leverage. I show that levying a leverage tax on shadow banks would have substantially lowered the probability of a bank run. Finally, I present reduced-form evidence that supports the tight link between leverage and the possibility of financial crises.





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