

41. Kansantaloustieteen päivät

Finnish Economic Association 41st Annual Meeting

Oulu
7.-8.2.2019

Programme

Thursday 7.2.2019

9:15-17:00	Registration
9:15-10:00	Coffee (Kahvitori)
9:45-10:00	Opening words
10:00-12:00	Parallel Sessions I
	1a: Financial Stability and Crises
	1b: Political Economy
	1c: International Macroeconomics
	1d: Corporate Taxation
	1e: Labour 1
12:00-13:00	Lunch Break
13:00-15:00	Parallel Sessions II
	2a: Time Series Econometrics
	2b: Growth and Inequality
	2c: Environmental and Energy Economics 1
	2d: Industrial Organisation
	2e: Microeconomics 1
15:00-15:30	Coffee break (Kahvitori)
15:30-17:30	Parallel Sessions III
	3a: Development Economics
	3b: Labour Market Mismatch and Skills
	3c: Applied Macroeconomics and Policy Simulation
	3d: Firms, flows and externalities
	3e: Financial and natural resource markets
17:45-19:00	Plenary lecture by Professor Jordi Galí (Universitat Pompeu Fabra) (Ylläs & Äkäslompolo)
19:30-	Welcome reception & Conference dinner at Lapland Hotels Oulu

Friday 8.2.2019

- 10:00-12:00 Parallel Sessions IV
4a: Production and Growth
4b: Health
4c: Regional Economics and Economics of Education
4d: Labour 2
4e: Environmental and Energy Economics 2
4f: Monetary policy and Financial Markets
- 12:00-13:00 Lunch Break
- 13:00-15:00 Parallel Sessions V
5a: Economic Policy and Growth
5b: Migration
5d: Microeconomics 2
5e: Taxation
5f: Macroeconomics
- 15:00-16:00 Coffee (Kahvitori)

Parallel sessions I: Thursday 7.2.2019 10:00-12:00 (2h)

Room
Hetta

Session 1a: Financial Stability and Crises

Chair: Helinä Laakkonen (Bank of Finland)

What makes emerging markets more resilient to large external shocks? Evidence from global financial crisis

Riikka Nuutilainen (Bank of Finland), Iikka Korhonen

Discussant: Saara Tuuli (University of Helsinki)

Banking Crisis Prediction with Differenced Relative Credit

Karlo Kauko (Bank of Finland), Eero Tölö

Discussant: Matthijs Lof (Aalto University)

Macroprudential Policy Spillovers and International Banking - Taking the Gravity Approach

Anni Norring (Bank of Finland)

Discussant: Anni Marttinen (Ministry of Finance)

Room
Kappeli

Session 1b: Political Economy

Chair: Paolo Fornaro (ETLA)

Party Factions and Political Competition: Theory and Quasi-Experimental Evidence

Tuukka Saarimaa (Aalto University), Simon Lapointe, Konstantinos Matakos, Janne Tukiainen, Dimitrios Xefteris

Discussant: Paolo Fornaro (ETLA)

Microdynamics, granularity and populism: the Finnish case.

Paolo Fornaro (ETLA)

Discussant: Tuukka Saarimaa (Aalto University)

Parallel sessions I: Thursday 7.2.2019 10:00-12:00 (2h) (cont.)

Room
Tapuli

Session 1c: Macroeconomics

Chair: Mika Nieminen (University of Jyväskylä)

Welfare Multiplier of Public Investment

Juha Tervala (University of Helsinki), Giovanni Ganelli

Discussant: Mika Nieminen (University of Jyväskylä)

**Exchange rate pass-through to inflation in Finland and the aggregate euro area:
A DSGE approach**

Suvi Kangasrääsio (Oulu Business School), Juha Kilponen, Mikko Sariola

Discussant: Juha Tervala (University of Helsinki)

China's macroeconomic policies and spillover effects

Julia Niemeläinen (University of Helsinki)

Discussant: Suvi Kangasrääsio (Oulu Business School)

**Multidimensional Financial Development, Exporter Behavior and Export Di-
versification**

Mika Nieminen (University of Jyväskylä)

Discussant: Julia Niemeläinen (University of Helsinki)

Room Ku-
vernööri

Session 1d: Corporate Taxation

Chair: Olli Ropponen (VATT)

**Tax deferral and investment incentives: the optimal design of a tax-deductible
reserve**

Jussi Laitila (Ministry of Finance), Seppo Kari, Olli Ropponen

Discussant: Jukka Pirttilä (University of Helsinki, VATT)

Combatting debt bias in South African firms: The case for an ACE

Seppo Kari (VATT), Londiwe Khoza, Namgamso Manjezi, Kyle McNabb

Discussant: Tuomas Matikka (VATT)

**Profit-shifting and investment under interest limitation rules: Does the
EBITDA rule outperform the EBIT rule?**

Olli Ropponen (VATT), Seppo Kari

Discussant: Niku Määttänen (ETLA)

Parallel sessions I: Thursday 7.2.2019 10:00-12:00 (2h) (cont.)

Room
Ylläs

Session 1e: Labour 1

Chair: Marko Terviö (Aalto University)

Personality traits and occupational choice

Mikko Vaaramo (Oulu Business School), Marko Korhonen

Discussant: Marko Terviö (Aalto University)

Social-Skill Biased Demographic and Technological Change

Marko Terviö (Aalto University), Tuomas Pekkarinen, Matti Sarvimäki, Roope Uusitalo

Discussant: Mikko Vaaramo (Oulu Business School)

Parallel sessions II: Thursday 7.2.2019 13:00-15:00 (2h)

Room
Hetta

Session 2a: Time Series Econometrics

Chair: Annika Lindblad (University of Helsinki)

Identification of independent structural shocks in the presence of multiple Gaussian components

Simone Maxand (University of Helsinki)

Discussant: Bernd Funovits (University of Helsinki)

Identification and Estimation of SVARMA models with Independent and Non-Gaussian Inputs

Bernd Funovits (University of Helsinki)

Discussant: Simone Maxand (University of Helsinki)

Assessing US aggregate fluctuations across time and frequencies

Fabio Verona (Bank of Finland), Thomas Lubik, Christian Matthes

Discussant: Annika Lindblad (University of Helsinki)

Exploring the economic drivers of the dynamic co-movement of exchange rate and equity returns

Annika Lindblad (University of Helsinki)

Discussant: Fabio Verona (Bank of Finland)

Parallel sessions II: Thursday 7.2.2019 13:00-15:00 (2h) (cont.)

Room
Kappeli

Session 2b: Growth and Inequality

Chair: Toni Juuti (University of Jyväskylä)

Income inequality regimes and economic growth

Tuomas Malinen (University of Helsinki, GnS Economics), Leena Kalliovirta

Discussant: Toni Juuti (University of Jyväskylä)

Poverty and Inequality in Nordic Comparison - a Microsimulation Analysis

Heikki Palviainen (Tampereen yliopisto)

Discussant: Tuomas Malinen (University of Helsinki, GnS Economics)

Consumption and wealth in the long run: the impact of financial liberalization

Malin Gardberg (Research Institute of Industrial Economics (IFN)), Lorenzo Pozzi

Discussant: Heikki Palviainen (Tampereen yliopisto)

Economic growth and top earners: new evidence

Toni Juuti (University of Jyväskylä)

Discussant: Malin Gardberg (Research Institute of Industrial Economics (IFN))

Room
Tapuli

Session 2c: Environmental and Energy Economics 1

Chair: Anni Huhtala (VATT)

Optimal management of district heat production – Is waste-to-energy plant a source of inefficiency?

Hannu Savolainen (Finnish Environmental Institute SYKE, Oulu Business School), Hannu Huuki, Santtu Karhinen

Discussant: Anni Huhtala (VATT)

The effect of household characteristics on the choice of using electricity company online services

Teemu Meriläinen (University of Oulu)

Discussant: Hannu Savolainen (SYKE, Oulu Business School)

Virtual power plant operation with solar power forecast errors and demand response

Santtu Karhinen (SYKE, Oulu Business School), Hannu Huuki, Herman Böök, Anders V. Lindfors, Maria Kopsakangas-Savolainen, Rauli Svento

Discussant: Teemu Meriläinen (University of Oulu)

Metal extraction with environmental effects – economic rationale for regulation and resource policy

Anni Huhtala (VATT), Olli Ropponen

Discussant: Santtu Karhinen (SYKE, Oulu Business School)

Parallel sessions II: Thursday 7.2.2019 13:00-15:00 (2h) (cont.)

Room

Ku-
vernööri

Session 2d: Industrial Organisation

Chair: Jan Jääskeläinen (Aalto University)

The impact of banking regulation on the real economy

Saara Tuuli (University of Helsinki)

Discussant: Karlo Kauko (Bank of Finland)

How do competition policy and data brokers shape product market competition?

Heli Koski (ETLA, Aalto University)

Discussant: Jan Jääskeläinen (Aalto University)

Anatomy of Public Procurement

Jan Jääskeläinen (Aalto University), Janne Tukiainen

Discussant: Heli Koski (ETLA, Aalto University)

Room

Ylläs

Session 2e: Microeconomics 1

Chair: Hannu Vartiainen (University of Helsinki)

Folk Theorem for Approximate Equilibria

Mitri Kitti (University of Turku)

Discussant: Hannu Vartiainen (University of Helsinki)

Learning in boycott dynamics

Yi Zheng (University of Helsinki)

Discussant: Mitri Kitti (University of Turku)

Coalition Formation and History Dependence

Hannu Vartiainen (University of Helsinki), Bhaskar Dutta

Discussant: Yi Zheng (University of Helsinki)

Parallel sessions III: Thursday 7.2.2019 15:30-17:30 (2h)

Room

Hetta

Session 3a: Development Economics

Chair: Jukka Pirttilä (University of Helsinki, VATT)

Identifying the Behavioral Aspects Behind Missing Microinsurance Market - Evidence from India

Anustup Kundu (University of Helsinki)

Discussant: Jukka Pirttilä (University of Helsinki, VATT)

The Tax Elasticity of Formal Work in African Countries

Jukka Pirttilä (University of Helsinki, VATT), Andy McKay, Caroline Schimanski

Discussant: Anustup Kundu (University of Helsinki)

Parallel sessions III: Thursday 7.2.2019 15:30-17:30 (2h) (cont.)

Room
Kappeli

Session 3b: Labour Market Mismatch and Skills

Chair: Lauro Carnicelli (University of Helsinki, Labour Institute for Economic Research)

Increasing demand for social skills in European labor markets

Juho Jokinen (University of Jyväskylä), Roope Uusitalo, Antti Sieppi

Discussant: Lauro Carnicelli (University of Helsinki, Labour Institute for Economic Research)

Multi-dimensional Mismatch in EU Labour Markets

Aspasia Bizopoulou (VATT)

Discussant: Juho Jokinen (University of Jyväskylä)

Unemployment, incentives to education and the macroeconomy

Lauro Carnicelli (University of Helsinki, Labour Institute for Economic Research)

Discussant: Aspasia Bizopoulou (VATT)

Room
Tapuli

Session 3c: Applied Macroeconomics and Policy Simulation

Chair: Elias Oikarinen (Tampereen yliopisto)

Analysis of consumers' quantitative inflation perceptions and expectations in Finland and Poland

Maritta Paloviita (Bank of Finland), Tomasz Łyziak, Ewa Stanisławska

Discussant: Elias Oikarinen (Tampereen yliopisto)

Modeling labor supply as part of economic policy evaluations using Finnish data

Tuomas Matikka (VATT), Jarkko Harju, Tomi Kyyrä, Olli Kärkkäinen, Lauri Ojala

Discussant: Maritta Paloviita (Bank of Finland)

Kiss Me Deadly. From Finnish Great Depression to Great Recession

Adam Gulan (Bank of Finland)

Discussant: Tuomas Matikka (VATT)

Financial accelerator and housing prices – an instrumental variable SVECM approach

Elias Oikarinen (Tampereen yliopisto), Vance L. Martin

Discussant: Adam Gulan (Bank of Finland)

Parallel sessions III: Thursday 7.2.2019 15:30-17:30 (2h) (cont.)

Room

Ku-
vernööri

Session 3d: Firms, flows and externalities

Chair: Kristine Koponen (University of Helsinki)

How the drivers of labor mobility differ over industry life-cycle?

Jaakko Simonen (Oulu School of Business), Santtu Karhinen, Rauli Svento, Philip McCann

Discussant: Kristine Koponen (University of Helsinki)

The demography of zombies – what keeps them alive?

Juuso Vanhala (Bank of Finland), Satu Nurmi, Matti Virén

Discussant: Rauli Svento (Oulu School of Business)

Endogenous Firm Entry and International Debt with Occasionally Binding Constraints

Kristine Koponen (University of Helsinki)

Discussant: Juuso Vanhala (Bank of Finland)

Room
Ylläs

Session 3e: Financial and natural resource markets

Chair: Gene Ambrocio (Bank of Finland)

Carry Trade and Sentiments

Kari Heimonen (University of Jyväskylä), Heikki Lehkonen, Kuntara Punkthuanthong

Discussant: Gene Ambrocio (Bank of Finland)

Stress Test Precision, Bank Stability, and Welfare

Tuomas Takalo (Bank of Finland), Diego Moreno

Discussant: Kari Heimonen (University of Jyväskylä)

Option Prices and Implied Volatility in the Crude Oil Market

Vesa Soini (University of Stavanger), Sindre Lorentzen

Discussant: Tuomas Takalo (Bank of Finland)

Political ties and raising capital in global markets: Evidence from Yankee Bonds

Gene Ambrocio (Bank of Finland), Xian Gu, Iftekhar Hasan

Discussant: Vesa Soini (University of Stavanger)

Parallel sessions IV: Friday 8.2.2019 10:00-12:00 (2h)

Room
Hetta

Session 4a: Production and Growth

Chair: Hannu Koskinen (Tampereen yliopisto, Johtamiskorkeakoulu)

Evaluating potential output and output gap in the presence of structural changes

Hannu Koskinen (Tampereen yliopisto, Johtamiskorkeakoulu), Arto Luoma

Discussant: Ilkka Kiema (Palkansaajien tutkimuslaitos)

The dilemma of increasing returns to scale in neoclassical theory

Matti Estola (Itä-Suomen yliopisto)

Discussant: Hannu Koskinen (Tampereen yliopisto, Johtamiskorkeakoulu)

The CES production function and the European Commission's production function methodology

Ilkka Kiema (Palkansaajien tutkimuslaitos), Sami Jysmä

Discussant: Matti Estola (Itä-Suomen yliopisto)

Room
Kappeli

Session 4b: Health

Chair: Aarni Soppi (Kela)

Geographical availability and health care utilisation: Evidence using changes in contract periods

Visa Pitkänen (Kela)

Discussant: Aarni Soppi (Kela)

The Long-Run Effects of Cesarean Sections

Mika Kortelainen (VATT), Ana Costa-Ramón, Ana Rodríguez-González, Lauri Sääksvuori

Discussant: Visa Pitkänen (Kela)

Low risk, high reward? Frequent competitive biddings with multiple winners in health care

Signe Jauhiainen (Kela), Visa Pitkänen

Discussant: Mika Kortelainen (VATT)

Impact of a personal letter on opioid prescriptions

Aarni Soppi (Kela), Iiro Ahomäki, Visa Pitkänen ja Leena Saastamoinen

Discussant: Signe Jauhiainen (Kela)

Parallel sessions IV: Friday 8.2.2019 10:00-12:00 (2h) (cont.)

Room
Tapuli

Session 4c: Regional Economics and Housing

Chair: Essi Eerola (VATT)

Tax Compliance in the Rental Housing Market: Evidence from a Field Experiment

Tuomas Kosonen (Palkansaajien tutkimuslaitos), Essi Eerola, Kaisa Kotakorpi, Teemu Lyytikäinen, Jarno Tuimala

Discussant: Tuomas Pekkarinen (VATT)

Social assistance and rental housing

Essi Eerola (VATT), Teemu Lyytikäinen, Tuukka Saarimaa, Janna Öhberg

Discussant: Tuomas Kosonen (Palkansaajien tutkimuslaitos)

Do centralized post-compulsory student admissions lead to better education and career outcomes?

Tuomo Suhonen (VATT), Hannu Karhunen

Discussant: Essi Eerola (VATT)

The economic consequences of Norway's 1935 primary school reform

Tuomas Pekkarinen (VATT), Kjell G. Salvanes, Matti Sarvimäki

Discussant: Tuomo Suhonen (VATT)

Room Ku-
vernööri

Session 4d: Labour 2

Chair: Jouko Verho (VATT)

Physical activity, economic determinants and behavioral factors: results from the Northern Finland Birth Cohort 1966

Sanna Huikari (Oulun yliopiston kauppakorkeakoulu), Marko Korhonen, Hanna Juntila, Rauli Svento

Discussant: Jouko Verho (VATT)

Do childhood infections affect labor market outcomes in adulthood and, if so, how?

Jutta Viinikainen (Jyväskylän yliopiston kauppakorkeakoulu), Alex Bryson, Petri Böckerman, Marko Elovainio, Nina Hutri-Kähönen, Markus Juonala, Katja Pahkala, Suvi Rovio, Laura Pulkki-Råback, Olli Raitakari, Jaakko Pehkonen

Discussant: Sanna Huikari (Oulun yliopiston kauppakorkeakoulu)

Unemployment & Physical Activity

Henri Salokangas (Turun yliopisto), Petri Böckerman, Marko Korhonen, Sanna Huikari, Rauli Svento

Discussant: Jutta Viinikainen (Jyväskylän yliopiston kauppakorkeakoulu)

Administrative barriers in social benefits: A proposal for a randomized field experiment

Jouko Verho (VATT), Jarkko Harju, Ohto Kanninen, Hannu Karhunen, Tuomas Kosonen, Tuomas Matikka

Discussant: Henri Salokangas (Turun yliopisto)

Parallel sessions IV: Friday 8.2.2019 10:00-12:00 (2h) (cont.)

Room
Ylläs

Session 4e: Environmental and Energy Economics 2

Chair: Chao Ding (Oulu School of Business)

The economic value of hydropower operation constraints under reduced price volatility

Hannu Huuki (Suomen ympäristökeskus (SYKE), Oulun yliopiston kaup-
pakorkeakoulu), Santtu Karhinen, Faisal Bin Ashraf, Hannu Marttila

Discussant: Chao Ding (Oulu School of Business)

Determinants of solar power system adoption decisions

Enni Ruokamo (University of Oulu), Marita Laukkanen, Santtu Karhinen,
Maria Kopsakangas-Savolainen, Rauli Svento

*Discussant: Hannu Huuki (Suomen ympäristökeskus (SYKE), Oulun yliopiston
kauppakorkeakoulu)*

Natural Gas Market Globalization Revisited

Evangelos Kyritsis (VATT), Anne Neumann

Discussant: Enni Ruokamo (University of Oulu)

Testing the effect of transmission charge on annual electricity consumption of Finnish households

Chao Ding (Oulu School of Business)

Discussant: Evangelos Kyritsis (VATT)

Room
Äkä-
lompolo

Session 4f: Monetary policy and Financial Markets

Chair: Matthijs Lof (Aalto University)

**Debt Overhang and Monetary Policy Transmission: an International Per-
spective**

Eleonora Granziera (Bank of Finland)

Discussant: Helinä Laakkonen (Bank of Finland)

**Monetary Policy, Agent Heterogeneity and Inequality – Insights from a
Three-Agent New Keynesian Model**

Maria Eskelinen (European Central Bank)

Discussant: Eleonora Granziera (Bank of Finland)

Heterogeneous households, quantitative easing, and inequality

Samu Kärkkäinen (University of Jyväskylä)

Discussant: Maria Eskelinen (European Central Bank)

Discount Rates and Cash Flows: A Local Projection Approach

Matthijs Lof (Aalto University), Henri Nyberg

Discussant: Samu Kärkkäinen (University of Jyväskylä)

Parallel sessions V: Friday 8.2.2019 13:00-15:00 (2h)

Room
Hetta

Session 5a: Economic Policy and Growth

Chair: Johan Willner (Åbo Akademi)

Näkymättömien taakkojen kertyminen ja huomiointi terveydenhuollon menetelmien arvioinneissa

Juha Laine (Pfizer), Miika Linna, Petri Mankinen, Erkki Soini, Juha Turunen, Janne Martikainen

Discussant: Johan Willner (Åbo Akademi)

Vähintään 75 %:n työllisyysasteeseen lähivuosina – työllisyyspolitiikan, väestö- ja työaikakehityksen keinot kun talouskasvu ei riitä.

Pekka Tiainen (Helsingin yliopisto & Työ- ja elinkeinoministeriö)

Discussant: Juha Laine (Pfizer)

Schumpeterian growth or socialism: where governance matters

Johan Willner (Åbo Akademi), Marcus Miller

Discussant: Pekka Tiainen (Helsingin yliopisto & Työ- ja elinkeinoministeriö)

Room
Kappeli

Session 5b: Migration

Chair: Ilpo Kauppinen (VATT)

How exposure to asylum seekers affects voting behaviour

Tuuli Tähtinen (European University Institute)

Discussant: Ilpo Kauppinen (VATT)

Intergenerational Effects of an Integration Policy

Hanna Pesola (VATT), Matti Sarvimäki

Discussant: Tuuli Tähtinen (European University Institute)

Preferences for Redistribution and International Migration

Ilpo Kauppinen (VATT), Panu Poutvaara

Discussant: Hanna Pesola (University of Vaasa)

Parallel sessions V: Friday 8.2.2019 13:00-15:00 (2h) (cont.)

Room Ku-
vernööri

Session 5d: Microeconomics 2

Chair: Saara Hämäläinen (University of Helsinki)

Directed search with multi-unit demands

Mats Godenhielm (University of Helsinki)

Discussant: Saara Hämäläinen (University of Helsinki)

Learning to agree over infinite state spaces

Michele Crescenzi (University of Helsinki)

Discussant: Mats Godenhielm (University of Helsinki)

Intrafirm comparison shopping

Saara Hämäläinen (University of Helsinki)

Discussant: Michele Crescenzi (University of Helsinki)

Room
Ylläs

Session 5e: Taxation

Chair: Kaisa Kotakorpi (VATT)

How corporate owners respond to dividend taxes?

Aliisa Koivisto (VATT)

Discussant: Kaisa Kotakorpi (VATT)

Evidence from risk based tax audits on firms

Annika Nivala (Turun yliopisto, VATT), Jarkko Harju, Kaisa Kotakorpi, Tuomas Matikka

Discussant: Aliisa Koivisto (VATT)

The effects of tax audits on firms

Kaisa Kotakorpi (VATT), Jarkko Harju, Tuomas Matikka, Lauri Ojala

Discussant: Annika Nivala (Turun yliopisto, VATT)

Parallel sessions V: Friday 8.2.2019 13:00-15:00 (2h) (cont.)

Room

Äkäs-

lompolo

Session 5f: Macroeconomics

Chair: Markus Haavio (Bank of Finland)

A model of macro-financial linkages and bank regulation

Markus Haavio (Bank of Finland)

Discussant: Nigel McClung (Bank of Finland)

Two-Sided Capital Taxes

Markus Sihvonen (Bank of Finland)

Discussant: Markus Haavio (Bank of Finland)

Performance of Simple Interest Rate Rules Subject to Fiscal Policy

Nigel McClung (Bank of Finland)

Discussant: Markus Sihvonen (Bank of Finland)

Abstracts

Room
Hetta

Session 1a: Financial Stability and Crises

What makes emerging markets more resilient to large external shocks? Evidence from global financial crisis

Riikka Nuutilainen (Bank of Finland), Iikka Korhonen

In this paper we assess empirically the pre-existing factors that facilitated emerging market countries' recovery from the Global Financial Crisis (GFC) of 2008 and 2009. We use high-income countries as a comparison group. We measure recovery from the GFC in three ways: i) level of GDP in 2016 compared to 2007, ii) level of GDP in 2016 compared to 2009 and iii) speed of recovery. We find that emerging markets' recovery was weaker if i) their domestic banking sector was large and ii) participation of foreign banks was high. We also find some evidence that rapid increase in credit-to-GDP ratio before the GFC made recovery slower. Also, floating exchange rate helped the recovery, as did probably membership in the euro area. Being a fuel exporter was net positive during the recovery period as well.

Banking Crisis Prediction with Differenced Relative Credit

Karlo Kauko (Bank of Finland), Eero Tölö

Indicators based on the ratio of credit to GDP have been found useful predictors of banking crises in several studies. Here, we focus on the difference of the credit-to-GDP ratio. This indicator is easy to calculate without long time series and its predictive power is good. We test a large number of slightly different versions of this indicator with data on Euro area members. The optimal performance is attained when the time interval of the difference is at least two years. Otherwise, the predictive power is relatively robust to changes in specifications. Consequently, controlling the cyclicity by using the moving average of GDP over several years instead of latest annual data does not add predictive performance.

Macroprudential Policy Spillovers and International Banking - Taking the Gravity Approach

Anni Norring (University of Helsinki)

In this paper I study whether the effects macroprudential policy leak across borders through international banking. I combine data on bilateral bank asset holdings between 117 countries with a recently compiled dataset on the use of macroprudential tools. I consider a gravity equation of trade in financial assets, where the use of different macroprudential tools enter as friction variables. My findings from a PPML estimation support the gravity approach and the existence of rather limited cross-border spillovers from macroprudential policies.

Abstracts

Room
Kappeli

Session 1b: Political Economy

Party Factions and Political Competition: Theory and Quasi-Experimental Evidence

Tuukka Saarimaa (Aalto University), Simon Lapointe, Kostantinos Matakos, Janne Tukiainen, Dimitrios Xefteris

We present a formal model of candidate selection and party factions. In our model, geographic factions compete within-party with policy objectives related to the location of local public services, while parties engage in between-party competition over the left-right policy dimension. The key trade-off is that candidate selection that is useful for the between-party competition such as inclusive lists may be harmful for the within-party competition. We test the model predictions on how candidate selection depends on the size of factions and between-party competition using quasi-experimental variation from municipal mergers, where the pre-merger municipalities form factions within the parties.

Microdynamics, granularity and populism: the Finnish case.

Paolo Fornaro (ETLA)

We investigate the relationship between microdynamics and the prevalence of populism, in the Finnish context. By microdynamics, we mean the indicators of jobs' and workers' flows, computed by looking at establishments and individual-level data, and the indicator of churning in the labour market. In addition, we test how job flows among large establishments affect the rise of populist support, accounting for the granularity of the local economy. To measure populism, we look at the municipal-level support toward the True Finns, the Finnish right-wing populist party, during the 2011 and 2015 parliamentary elections. Moreover, we exploit the information contained in the elections' candidates surveys to create proxies of populist values for each Finnish municipality. We do this to allow for shifts in parties' values across time and take into account candidates heterogeneity. We find that labour market churning has a negative effect on the votes share toward the populist party and we find a similar result when looking at the employment growth among large establishments. Hirings in continuing establishments are negatively correlated with local populist values and the share of votes to the True Finns, while hirings due to the entry of new establishments are positively related with populism, a possible consequence of economic restructuring.

Abstracts

Room
Tapuli

Session 1c: International Macroeconomics

Welfare Multiplier of Public Investment

Juha Tervala (University of Helsinki), Giovanni Ganelli

We analyze the welfare multipliers of public spending—the consumption equivalent change in welfare for a one dollar change in public spending—in a DSGE model. The welfare multiplier of public investment depends crucially not only on the productivity (output elasticity) of public capital, as shown by earlier studies, but also on the depreciation rate of public capital and the efficiency of public investment defined as a fraction of public investment spending that translates into the public capital stock. When the key parameter values are set based on the empirical estimates for advanced economies and the output multipliers are consistent with the empirical estimates, the welfare multiplier is positive and sizable. The welfare multiplier is roughly zero when the key parameter values are set to match the features of developing economies. A public infrastructure push in advanced economies makes sense, but developing economies should enhance the efficiency and/or productivity of public investment.

Exchange rate pass-through to inflation in Finland and the aggregate euro area: A DSGE approach

Suvi Kangasrääsiö (Oulu Business School), Juha Kilponen, Mikko Sariola

In this paper, we study exchange rate pass-through in general equilibrium framework. We investigate what is the extent of exchange rate pass-through to inflation in Finland compared to that of the rest of the euro area, and the shock dependency of the responses. This study aims at developing an estimated two-country DSGE model, which describes the Finnish economy and the rest of the euro area. This type of framework allows for, firstly, a coherent analysis of the international transmission of the shocks. Secondly, we are able to study the differences of pass-through in the monetary union. As a preliminary analysis, we simulate two open economy New-Keynesian DSGE models: a model by Lindé, Nessén and Söderström (2009), which we calibrate for the euro area, and the Aino model by Kilponen, Orjasniemi, Ripatti and Verona (2016) estimated for the Finnish economy. Our first set of results indicate that the exchange rate pass-through is shock dependent. Furthermore, we find that the Finnish economy and the rest of the euro area respond asymmetrically to some shocks. Our results are partly in line with the existing literature, but still some conflicting results remain.

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Tapuli

Session 1c: International Macroeconomics (cont.)

China's macroeconomic policies and spillover effects

Julia Niemeläinen (University of Helsinki)

This paper analyzes the effects of demographic changes and macroeconomic policies, including capital controls, interest rate policy, exchange rate policy and tax policy, on the dynamics of the real interest rate and China's trade balance 2000s with a dynamic, two-country general equilibrium model. According to our simulations, both demographic changes and macroeconomic policies have contributed to the decline in the real interest rate in the 2000s. The impact of the demographic changes has been larger (50 basis points) than the impact of the policies (0 - 30 basis points). Furthermore, both demographic changes and the macroeconomic policies, especially the undervaluation of the real exchange rate and the positive interest rate spread, have induced a positive trend on China's trade balance. The impact of the exchange rate undervaluation is qualitatively sensitive to the assumption about the elasticity of intertemporal substitution, whereas the impact of demographic change and the other macroeconomic policies are qualitatively robust to this assumption.

Multidimensional Financial Development, Exporter Behavior and Export Diversification

Mika Nieminen (University of Jyväskylä)

We provide novel and detailed empirical evidence for a positive relationship between financial development and export product diversification in the context of international trade model with firm heterogeneity and credit constraints. To our knowledge, this study is the first to combine data measuring the complex multidimensional nature of financial development and comprehensive firm-level data on exporter behavior with global data on export diversification. Export diversification is increasing in the number of small exporters. The development of the domestic banking sector is important especially for small exporters. This results from the positive correlation between entrant survival rate and banking sector development as banks screen the entrants. Overall, there is a strong positive relationship between the depth of the domestic banking sector and the product scope of exporters. Carrying out our statistical analysis step-by-step from cross-country variation in multidimensional financial development via firm-level exporter behavior to cross-country variation in export diversification makes a unique contribution to the empirical literature on international trade.

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Ku- Session 1d: Corporate Taxation

vernööri

Tax deferral and investment incentives: the optimal design of a tax-deductible reserve **Jussi Laitila** (Ministry of Finance), Seppo Kari, Olli Ropponen

The quality and level of investments are known to be important for economic growth. In many tax systems, different kinds of tax-deductible reserves have been implemented. Investment reserves are designed to provide incentives for investment, whereas other reserves may purely be means of tax deferral and do not include an investment incentive component. In this paper, we first study investment incentives of different types of reserves in a framework of dynamic model of the firm. We describe how tax-deductible reserves affect investment decisions of a firm and how they affect the firm's cost of capital. We further analyze the optimal design of an investment reserve from the society point of view. In particular, the aim is to construct a model to study the trade-off between the increased investment incentives for the companies and the reduction in the tax revenue.

Combatting debt bias in South African firms: The case for an ACE **Seppo Kari** (VATT), Londiwe Khoza, Nangamso Manjezi, Kyle McNabb

According to a recent study (World Bank, 2015), the South African Corporate Income Tax includes elements that distort investment decisions across sectors, asset types and financing forms. A number of these distortions emanate from generous depreciation allowances and debt bias. High inflation - a deeply-rooted property of the South African economy - is a factor that aggravates the problem further. We consider the feasibility of introducing an allowance for corporate equity (ACE) which, whilst going some way toward tackling the debt bias issue, may lead to sharp reductions in revenue for the government. We consider both incentive and revenue implications of an incremental ACE reform, where the allowance is calculated only on new equity increases after some benchmark year. We find that the reform would broadly abolish the distortions. A substantial share of the implied revenue loss could be covered by measures that would broaden the tax base but not all of it.

Profit-shifting and investment under interest limitation rules: Does the EBITDA rule outperform the EBIT rule?

Olli Ropponen (VATT), Seppo Kari

This paper employs a dynamic investment model to study some of the key design aspects of interest limitation rules proposed to prevent profit-shifting by multinational enterprises (MNEs). The focus is on how the two main alternative designs of Earnings Stripping Rules (ESR) - the EBIT rule and the EBITDA rule - affect profit-shifting and investment incentives, and which of the two is preferable from society's point of view. We find that the rules affect incentives differently. Under the EBITDA rule the cost of capital is lower and more sensitive to the fixed ratio. Under this rule the cost of capital also depends on the useful life of assets, while the EBIT rule is neutral in this respect. We show a condition for the optimality of the EBITDA rule assuming homogenous capital and discuss the case of several assets with diverging useful lives.

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Ylläs

Session 1e: Labor 1

The Costs of Job Loss, Occupational Mobility and Task Usage

Personality traits and occupational choice

Mikko Vaaramo (Oulu Business School), Marko Korhonen

We study how different personality traits presented by Cloninger's Temperament and Character Inventory (TCI) influence individual's occupational choice. Our focus is in self-employment, managerial jobs and professional jobs. We use the Northern Finland birth cohort 1966 (NFBC1966) data from 2012 and combine it with income and occupational data from statistic Finland. Our results give evidence that individuals with low dependence (RD4) are more probable self-employed. Self-employed score also higher in patience and risk-taking and trust less to other people. Individuals with higher impulsiveness (NS2) and lower sentimentality (RD1) are more likely managers. Individuals with higher dependence (RD4) are more likely to be professional workers.

Social-Skill Biased Demographic and Technological Change

Marko Terviö (Aalto University), Tuomas Pekkarinen, Matti Sarvimäki, Roope Uusitalo

A simple supply and demand framework can be used to explain the bulk of observed time trends in wage gaps between education levels. However, Carneiro and Lee (2011) argued that previous literature using this framework had overstated the increase in effective educated labor supply, due to the implicit assumption of unchanging ability levels, because increases in educational attainment should dilute the quality of individuals at higher educational levels. We use data on Finnish military conscripts' cognitive and non-cognitive test results, matched with later life completed education and labor market outcomes. We find that positive cohort trends in both cognitive and non-cognitive ability dampen and even reverse any such dilution in quality. Despite the increase in their supply, the returns to social skills increase over time, which points to a large increase in the demand for social skills. By contrast, the returns to cognitive skills have been relatively stable. We also find that the returns to cognitive skills are high at all levels of education, while the returns to social skills are strongly increasing in the level of education, even though there is only a weak complementary between cognitive and social skills.

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Session 2a: Time Series Econometrics

Identification of independent structural shocks in the presence of multiple Gaussian components

Simone Maxand (University of Helsinki)

Several recently developed identification techniques for structural VAR models are based on the assumption of non-Gaussianity. So-called independence based identification provides unique structural shocks (up to scaling and ordering) under the assumption of at most one Gaussian component. While non-Gaussianity of certain interesting shocks appears rather natural, not all macroeconomic shocks in the system might show this clear difference from Gaussianity. Identifiability can be generalized by noting that even in the presence of multiple Gaussian shocks the non-Gaussian ones are still unique. Consequently, independence based identification allows to uniquely determine the (non-Gaussian) shocks of interest irrespective of the distribution of the remaining system. Furthermore, studying settings close to normality or with multiple Gaussian components highlights the performance of normality diagnostics and their applicability to decide on the identifiability of the structural shock components. In an illustrative five dimensional model the identified monetary policy and stock price shock confirm the results of previous studies on the monetary policy asset price nexus.

Identification and Estimation of SVARMA models with Independent and Non-Gaussian Inputs

Bernd Funovits (University of Helsinki)

This paper analyzes identifiability properties of structural vector autoregressive moving average (SVARMA) models driven by independent and non-Gaussian shocks. It is well known, that SVARMA models driven by Gaussian errors are not identified without imposing further identifying restrictions on the parameters. Even in reduced form and assuming stability and invertibility, vector autoregressive moving average models are in general not identified without requiring certain parameter matrices to be non-singular. Independence and non-Gaussianity of the shocks is used to show that SVARMA models driven by independent and non-Gaussian shocks are identified up to permutations and scaling. In this way, typically imposed identifying restrictions are made testable. Furthermore, we introduce a maximum-likelihood estimator of the non-Gaussian SVARMA model which is consistent and asymptotically normally distributed.

Assessing US aggregate fluctuations across time and frequencies

Fabio Verona (Bank of Finland), Thomas Lubik, Christian Matthes

We study the behavior of key macroeconomic variables in the time and frequency domain. For this purpose, we decompose US time series into various frequency components using wavelet analysis. This allows us to identify a set of stylized facts: GDP growth is largely a high frequency phenomenon whereby inflation and policy rates are characterized largely by low-frequency components. In contrast, unemployment is a medium-term phenomenon. We use these decompositions jointly in a structural VAR where we identify monetary policy shocks using a sign restriction approach. We find that policy shocks affect these key variables in a similar manner across all frequency band. We assess the ability of standard DSGE models to replicate these findings

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Session 2a: Time Series Econometrics (cont.)

Exploring the economic drivers of the dynamic co-movement of exchange rate and equity returns **Annika Lindblad** (University of Helsinki)

I study the time-varying correlation between the stock market and the exchange rate, determining the macro-finance drivers of the long-term correlation. I use the DCC-MIDAS-X framework, which allows economic data to drive correlations. My results suggest that for the US the correlation is affected by the business cycle, risk environment and central bank balance sheet expansion, while for Japan the correlation is driven by interest rate differentials. For the UK and the Euro area results are less clear, but similar factors, such as interest rate differentials and monetary policy decisions seem to influence the correlation.

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Kappeli

Session 2b: Growth and Inequality

Income inequality regimes and economic growth

Tuomas Malinen (University of Helsinki, GnS Economics), Leena Kalliovirta

Why do we not know how income inequality affects economic growth? More than 20 years of active empirical research has produced a formidable number of controversial results. Could it be helpful to take a step back? Here, we do that by using time-series methods to analyze the relationship between inequality and growth in rich economies. In addition to allowing full country-specific heterogeneity we also account possible inequality-specific nonlinearities. We find that the effect of inequality on growth depends on regimes of inequality and it is very heterogeneous across countries.

Poverty and Inequality in Nordic Comparison - a Microsimulation Analysis

Heikki Palviainen (Tampereen yliopisto)

Nordic countries differ significantly in social transfer levels and in how active labour market policies are implemented across the countries. This paper compares poverty and inequality in Nordic countries and examines how policy choices have affected poverty and inequality measures in Nordic countries. Since poverty is a multidimensional phenomenon, the usual relative income risk-of-poverty measures are supplemented with multidimensional indicators. The trade-off between labour market efficiency and inequality is studied using the EUROMOD tax-benefit microsimulation model. The results indicate that the Swedish "work-line" model has increased poverty and inequality. The increased employment does not off-set the increased poverty. Microsimulation analyses and poverty indicators show that risk-of-poverty is at a lower level in Denmark and Finland than in Sweden.

Consumption and wealth in the long run: the impact of financial liberalization

Malin Gardberg (Research Institute of Industrial Economics (IFN)), Lorenzo Pozzi

The ratio of consumption to total household wealth (i.e., tangible assets plus unobserved human wealth) is commonly calculated from the estimation of a log-linear version of the household intertemporal budget constraint as a cointegrating relationship between consumption, assets and earnings (i.e., the variable "cay"). The evidence in favor of a stable cointegrating relationship between these variables in the US is weak however. This paper follows an alternative empirical approach using an unobserved component model applied to US data over the period 1951Q4-2016Q4. The regression of consumption on assets and earnings is augmented with an unobserved stochastic trend, i.e., an integrated component. The results strongly support the presence of such a component in the consumption equation. We provide evidence that this component is related to financial liberalization which, by relaxing liquidity constraints of consumers, has permanently increased the consumption-to-wealth ratio over the sample period. We calculate an alternative "cay" variable, i.e. the stationary part of the consumption-to-wealth ratio, and find that its predictive ability for future (excess) stock returns is comparable to that of the standard "cay" variable.

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Kappeli Session 2b: Growth and Inequality (cont.)

Economic growth and top earners: new evidence

Toni Juuti (University of Jyväskylä)

This study examines the interplay between the pre-tax top income shares and GDP per capita using a panel cointegration approach to evaluate the long-run dependencies between the focal variables. While recent literature suggests that income inequality hurts growth and that economic growth has been pro-rich, the results of this study point in a somewhat different direction. First, the concentration of income to the top percentile or decile seems to support economic growth measured as the percentage change of GDP per capita. The results therefore claim that increasing levels of income inequality, measured as the top income shares instead of the Gini coefficient, does not inevitably dampen economic growth. Second, the allocation of income generated by economic growth shows a dependency on both the level of productivity and financial development. Moreover, the finding of a pro-rich economic growth is reversed when the falling labor share of income is controlled for thus indicating that the fruits of economic growth do not unavoidably funnel to the top earners. These two results apply to a sample of developed countries and should not be generalized to account for underdeveloped economies.

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Session 2c: Environmental and Energy Economics 1

Optimal management of district heat production – Is waste-to-energy plant a source of inefficiency?

Hannu Savolainen (Finnish Environment Institute SYKE, Oulu Business School), Hannu Huuki, Santtu Karhinen

This paper studies the interaction between combined heat and power (CHP) and waste-to-energy (WTE) plants in a district heat (DH) network. We develop a deterministic, discrete-time dynamic optimization model, which considers the dynamics of district heat system and municipal solid waste streams. District heat energy stock (DH temperature) is a state variable, which evolves according to outside temperature (DH demand) and DH supply. DH temperature must stay within given limits depending on time. Another state variable is the waste stock in WTE plant waste storage. It evolves according to waste flows into the plant storage and the waste flows incinerated in the plant. The maximum capacity of waste storage limits the waste stock. We begin with presenting optimal CHP plant schedule for a profit-maximizing district heat producer. Secondly, we introduce a WTE plant investment and study the optimal allocation of CHP and WTE plant co-production. We analyze the shadow cost of waste storage and possible inefficiencies deriving from WTE plant production schedule. We provide analytical solutions using both Lagrange and dynamic programming methods and discuss the economic interpretation of the first-order conditions. In further work, we provide a numerical example and study the effects of changes in waste flows (both volume and heating value).

The effect of household characteristics on the choice of using electricity company online services

Teemu Meriläinen (University of Oulu)

Online services for following electricity consumption are one possible channel to disseminate pertinent information to households for controlling and decreasing electricity consumption. Such services usually provided by energy companies already help households get a better picture of the overall size and timing of their consumption. The aim of this study is to determine possible factors affecting the adoption of an online service of this type and increase our understanding of differences between its user groups. In this paper, I study the household preferences and characteristics that influence the adoption and use of electricity company online services. I examine the usage choices of households using survey data (N=1278) gathered in 2018 from customers of a Finnish energy company Porvoon Energia. The data was gathered through an online survey. The participants were sampled from the company's customers and received either email or SMS invitations to the survey. In the analysis, I utilize microeconomic discrete choice modelling to investigate factors that affect the adoption of the online services. An ordered choice model will also be estimated to gauge the determinants of how often the respondents use the service. In addition to socio-demographic characteristics of the respondents and the physical characteristics of the housing, the survey data also includes household's opinions on energy conservation, environmental questions and factors affecting their consumption decisions. I utilize the diffusion of innovation theory by Rogers (2003) and previous literature to identify possible factors influencing the adoption process. Alongside the dwelling characteristics and socio-demographic factors, I also consider diffusion and information related factors to study what affects the likelihood of using the online service. By evaluating and understanding the household and dwelling characteristics that affect households' follow their electricity usage and their activity level, it is possible to get a clearer picture of how to increase awareness of electricity usage and to target relevant policy measures.

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Session 2c: Environmental and Energy Economics 1 (cont.)

Virtual power plant operation with solar power forecast errors and demand response

Santtu Karhinen (Finnish Environment Institute SYKE, Oulu Business School), Hannu Huuki, Herman Böök, Anders V. Lindfors, Maria Kopsakangas-Savolainen, Rauli Svento

Intermittent renewable energy production, determined by weather conditions, is increasing in power markets. Their efficient integration calls for flexible participants in smart power grids. It has been acknowledged that a huge underutilized flexibility resource lies on the electricity consumer-side. The activation of this demand flexibility is, however, a big challenge. Despite the recently risen interest towards demand flexibility, there is a gap in the literature investigating the incentives for consumers to offer their flexibility to power markets. It has been proposed that there needs to be a third-party operator aggregating and controlling this flexibility. In this paper we examine a concept of virtual power plant, which simultaneously optimizes the use of solar power forecast error imbalances and controllable electric hot water heaters. Uncertainty is included in the optimization in terms of solar power day-ahead forecast errors and balancing power market conditions. We show that the virtual power plant can add value from optimizing the combination of these resources. The results indicate that while the total profits are increasing, the marginal revenues are diminishing with the number of participating households. From a policy perspective, our results imply that market efficiency can be increased by allowing the aggregated resources to participate more freely in the markets.

Metal extraction with environmental effects – economic rationale for regulation and resource policy

Anni Huhtala (VATT), Olli Ropponen

Growing demand for materials required in the construction of renewable technologies and zero-emission infrastructure has potentially significant changes for the minerals and metals market. Increasing demand for the key materials may amplify the social and environmental risks associated with the mining industry. Here, we recognize the new operating environment of the mining industry, and investigate the nature of policy intervention, or new type of regulation needed. Our study builds upon previous literature where a general theory of the mining firm has been developed. We consider a profit maximization problem of a mine operating under uncertainty related to 1) world market prices of metals, 2) production technology, and 3) environmental impacts, or water discharges in particular. We analyze whether the mine should remain open or closed down when closing is costly due to, e.g., land rehabilitation and environmental monitoring. The problem is solved by simulations for a prototype mine. Moreover, we carry out simulations with alternative policy instruments that can be used for internalizing externalities that generate social costs. Given our parameter values based on the prototype mine, metal markets, and experiences with an unconventional (heap leaching) technology, metal (nickel and zinc) extraction may turn out unprofitable. Only when operating costs are rather low or metal prices initially higher than the historical average prices, it pays off to continue mining activities. Furthermore, government intervention by ad valorem tax on output, fines on discharges, royalty on the amount of ore extracted, Pigou tax on effluents, and insurance payments to cover closure and reclamation costs weigh further down firm finances even in a low-cost case. In sum, adopting a new technology to bring non-renewable, relatively poor ore content resources into production is challenging and may turn out unprofitable. In situ value and externalities play an important role from a social point of view.

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Ku- Session 2d: Industrial Organisation
vernööri

The impact of banking regulation on the real economy

Saara Tuuli (University of Helsinki)

This paper investigates the impact of model-based bank capital regulation on real economy outcomes. As opposed to the literature focusing on the impact of regulatory capital requirements, the focus here is on an inherent feature of regulation that leads to changes in capital requirements and corresponding adjustments in the real economy. This paper also departs from the rest of the literature in terms of the nature of the dataset, based on a merger of firms' survey and balance sheet data, used. A differences-in-differences approach is used given that the model-based approach, introduced as part of Basel II, was gradually phased in across the Finnish banking sector.

How do competition policy and data brokers shape product market competition?

Heli Koski (ETLA, Aalto University)

This paper empirically analyzes how a data broker affects competition in oligopolistic product markets. It examines a unique case concerning the two dominant Finnish food retail companies' voluntary withdrawal from information exchange via a data broker. Moreover, the companies jointly approached the Finnish antitrust authority, originating an investigation whether their prior horizontal information exchange was illegal. This resulted in the permanent termination of a data broker's business in the Finnish food retail sector. The empirical analysis employs quarterly data from the food retail sector of the old EU-15 countries for 2005-2017. The difference-in-differences model is used to explore the competitive impacts of a termination of vertical and horizontal information exchange via a data broker in the food retail sector of one of the sample countries. The empirical findings suggest that competition tends to be fiercer and product prices lower when firms buy horizontal market information from a data broker or when only one of the two competing firms buys horizontal market information from a data broker than it would be without the presence of the data broker. Data further indicate that the discontinuation of data exchange from the downstream to the upstream firms facilitates downstream bargaining power and increases the gap between retail and producer prices.

Anatomy of Public Procurement

Jan Jääskeläinen (Aalto University), Janne Tukiainen

We study public procurement auctions using comprehensive Finnish data. We provide novel stylized facts about bidders, entry and competition across wide spectrum of public procurement auctions. Competition in Finnish public procurement is relatively low with median bidder count being three while the benefits from competition seem to increase at least until six bidders. Having access to registrations as well as bids, we are able to show that the ratio of potential bidders to actual bidders tends to be between 1.5 and 2 and doesn't vary across number of bidders. We also show that being present in procurer's municipality and province increases the probability that a firm will bid and win a contract.

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Session 2e: Microeconomics 1

Folk Theorem for Approximate Equilibria

Mitri Kitti (Turun yliopisto)

This paper studies limit payoffs of approximate subgame perfect equilibria in discounted repeated games with perfect monitoring. The equilibrium payoff set converges when the players' discount factors converge to one and the players have constant discount rates. It is shown that the limit set contains all the equilibrium payoffs of a continuous-time repeated game. Moreover, letting the approximation error, ϵ reflecting the largest violation of players' incentive compatibility conditions, go to zero, the limit set is exactly the aforementioned payoff set. The result is valid without full dimensionality or related assumptions for the stage game payoffs.

Learning in boycott dynamics

Yi Zheng (University of Helsinki)

Coalition Formation and History Dependence

Hannu Vartiainen (University of Helsinki), Bhaskar Dutta

Farsighted formulations of coalitional formation, for instance by Harsanyi (1974) and Ray and Vohra (2015), have typically been based on the von Neumann-Morgenstern (1944) stable set. These farsighted stable sets use a notion of indirect dominance in which an outcome can be dominated by a chain of coalitional 'moves' in which each coalition that is involved in the sequence *eventually* stands to gain. Dutta and Vohra (2016) point out that these solution concepts do not require coalitions to make optimal moves. Hence, these solution concepts can yield unreasonable predictions. Dutta and Vohra (2016) restricted coalitions to hold common, history independent expectations that incorporate optimality regarding the continuation path. This paper extends the Dutta-Vohra analysis by allowing for history dependent expectations. The paper provides characterization results for two solution concepts corresponding to two versions of optimality. It demonstrates the power of history dependence by establishing non-emptiness results for all finite games as well as transferable utility partition function games. The paper also provides partial comparisons of the solution concepts to other solutions.

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Session 3a: Development Economics

Identifying the Behavioral Aspects Behind Missing Microinsurance Market - Evidence from India

Anustup Kundu (University of Helsinki)

Microinsurance or in other words insurance for the poor which has been considered as the next big phenomenon in addressing the risk and vulnerability in developing nations has lately drawn the attention of practitioners and researchers. In the current research, we conducted two rounds of survey. In the first round that we conducted, we investigated the effect of prior shock on risk behavior and time preference and found that prior shocks make individual more risk averse and present biased. If individuals are risk averse, expected utility theory suggests that the microinsurance market operations should increase significantly. However, empirical findings provide contrary results. In the current follow-up survey, we examine the stability of these preferences using not only from general economic framework but also from a behavioral economics standpoint.

The Tax Elasticity of Formal Work in African Countries

Jukka Pirttilä (University of Helsinki, VATT), Andy McKay and Caroline Schimanski

A key policy problem in most developing countries is the size of the informal sector and its persistence over time. At the same time, these countries also need to increase their tax take. However, this may slow down the formalization of the economy. Evidence on the wages and characteristics of jobs in different sectors and on the impact of tax changes on the size of the informal sector in developing countries is, however, very limited. This paper therefore estimates the tax responsiveness of the extensive margin of formality, i.e. the propensity to participate in formal work as opposed to working as an informal worker, for four Sub-Saharan African countries. Using repeated cross-sections of household data and applying grouping estimator techniques, this paper finds only very small or statistically insignificant effects of taxes on the extent of formal work.

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Session 3b: Labour Market Mismatch and Skills

Increasing demand for social skills in European labor markets

Juho Jokinen (University of Jyväskylä), Roope Uusitalo, Antti Sieppi

We use skill requirements in different occupations derived from the OECD Survey of Adult Skills (PIAAC) and data on employment growth between 1997 and 2016 in these occupations in 21 European countries based on the European Labor Force Survey to examine changes in the demand for skills. According to our results, in almost all countries employment growth has been particularly rapid in occupations that require good social skills while less social skill intensive occupations have shrunk in their employment share. At the same time, both the most and the least cognitive skill intensive occupations have expanded in their labor market share.

Multi-dimensional Mismatch in EU Labour Markets

Aspasia Bizopoulou (VATT)

I study the extent and consequences of multi-dimensional mismatch across OECD countries. I test a set of predictions from theory including the expected levels of mismatch early and later in the career; the effect of mismatch on wages relative to one's career stage; the effect of contract type on the prevalence of mismatch and the prevalence of mismatch in countries with more versus less regulated labour markets. I construct a new measure of multi-dimensional mismatch taking advantage of individual-level information on both skills and tasks and subsequently compare the results with previous measures from the literature. The economic intuition does not significantly change when using different measures, although the magnitudes of the coefficients vary. The effects of mismatch predicted by theory are largely born out in the data: mismatch is larger earlier in one's career and it is more likely to affect wages of more experienced individuals. Mismatch is much more prevalent among those with temporary contracts and there is weak evidence that mismatch is more present in countries with higher levels of labour market regulation. Furthermore, there are significant differences in the types of mismatch one observes between men and women in all countries.

Unemployment, incentives to education and the macroeconomy

Lauro Carnicelli (University of Helsinki, Labour Institute for Economic Research)

Why is the cyclicality of schooling different across countries? This article investigates the schooling responses to business cycles and how this decision impacts the economy. A model with directed search, overlapping generations and endogenous schooling shows that the income insurance of potential students determines the cyclicality of schooling and the speed of recovery of the economy. Furthermore, economies with procyclical school enrollment have a higher consumption volatility. An extension with job destruction shocks presents the same results.

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Session 3c: Applied Macroeconomics and Policy Simulation

Analysis of consumers' quantitative inflation perceptions and expectations in Finland and Poland

Maritta Paloviita (Bank of Finland), Tomasz Łyziak, Ewa Stanisławska

Analysis of inflation expectations is crucial in monetary policymaking, since expectations are important determinants of actual inflation and they affect monetary policy effectiveness. The financial crisis and low inflation regime contributed to puzzling price developments, which emphasized the need to monitor and examine inflation expectations in greater detail. The focus of our research paper is on measuring consumers' inflation perceptions and expectations in Poland and Finland. For both economies, we have access to a rich micro data set based on the European Commission Consumer survey. It covers all harmonised individual responses to both qualitative and quantitative survey questions. As the results from quantitative survey questions has been so far treated as experimental, the European Commission has never published their results, even in terms of aggregated figures. However, recent studies show increased interest in inflation perceptions and expectations based on quantitative survey questions. Our paper attempts to contribute to this area of research. The aim of the research project is twofold. The first part of the project aims at measurement and testing of qualitative and quantitative data on inflation perceptions and expectations of individual consumers in Finland and Poland, while the second part of the project assess the usefulness of quantitative and qualitative survey data in macroeconomic analysis. So far quantitative survey data on inflation expectations in Poland and Finland have been analysed only in few publications.

Modeling labor supply as part of economic policy evaluations using Finnish data

Tuomas Matikka (VATT), Jarkko Harju, Tomi Kyyrä, Olli Kärkkäinen, Lauri Ojala

We discuss how to model labor supply using Finnish micro-level data, and report some preliminary results based on a structural discrete choice model. Structural labor supply models offer a coherent tool for analyzing the labor supply impact of economic policies, and their implications on, for example, the income distribution. In addition to policy analysis and preparation, these models can be used in academic research, and they provide a method to analyze the effects of policy changes for which there is no credible quasi-experimental or experimental variation available. We find that the discrete labor supply model describes Finnish labor market conditions rather well, and preliminary results using Finnish data are broadly in line with previous literature. For future development of the model, we find that the most important step is to link the discrete labor supply model to the SISU-microsimulation model, which would enable a more straightforward policy preparation using the model, and increase the usability of the structural model in academic policy analysis.

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Session 3c: Applied Macroeconomics and Policy Simulation (cont.)

Kiss Me Deadly. From Finnish Great Depression to Great Recession

Adam Gulan (Bank of Finland)

We investigate the causes of the Finnish Great Depression, 1990-1993. We find that the collapse of the overheated financial and banking sectors starting in 1989 was the trigger of the economic crisis. The usual suspect, i.e. the collapse of trade with USSR in 1991, can account for only a part the slump, and it occurred only when the economy was already in free fall. Soviet Union's contribution was also dominated by external shocks originating in Western Europe and in the rest of the world.

Financial accelerator and housing prices – an instrumental variable SVECM approach

Elias Oikarinen (Tampereen yliopisto), Vance L. Martin

Existing empirical analysis provides evidence of a financial accelerator mechanism operating between housing prices and credit. Despite identifying this linkage, a common problem is being able to distinguish between credit supply and credit demand shocks, with the former shocks being particularly difficult to identify. In this paper a structural vector-error correction model (SVECM) is specified which allows for both permanent and transitory shocks with identification of the structural shocks based on instrumental variables. Estimating the SVECM using quarterly data for the Finnish market from 1975 to 2016, the empirical model is able to identify the effects of credit supply and demand shocks on housing prices. This contrasts with previous research largely based on sign restrictions for example, where identification of credit shocks, and in particular credit supply shocks, has been problematic. Historical decompositions of the contribution of loan supply shocks to housing price movements in different time periods are also investigated. The empirical results are shown to have a number of practical implications for understanding the linkages between loan supply and house prices.

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Ku- Session 3d: Firms, flows and externalities
vernööri

How the drivers of labor mobility differ over industry life-cycle?

Jaakko Simonen (Oulu School of Business), Santtu Karhinen, Rauli Svento, Philip McCann

Labour mobility between firms forms an important potential source of externalities. Yet, although the technological spillovers, possibilities for better matching and adjusting associated with local labour pool are often emphasised as one of the most important reasons for the agglomeration of firms, there actually exist very few empirical studies where labour mobility has been clearly linked to the spatial distribution of activities, especially over the industry life cycle. In this paper we analyse how regional features, e. g. regional amenities, industrial structures as well as individual characteristics of employees affect regional labour mobility along the industry life-cycles of high technology sector. In order to do this we employ panel data on the regional and industrial labour mobility of the Finnish high technology firms and regional economies on a period of 1988-2013. Our findings show that structure of the high technology sector as well as regional economic and amenity variables and individual characteristics of employees have an influence on the migration decisions of the high technology workers, although their roles vary in within-region and across-region mobility as well as at the different stages of the industry life-cycles.

The demography of zombies – what keeps them alive?

Juuso Vanhala (Bank of Finland), Satu Nurmi, Matti Virén

We study firm dynamics behind the secular increase of insolvent zombie firms and the congesting effects of zombies on the economy. Using firm-level data from Finland (1999-2016), we document a broad based rise in the proportion of zombies across sectors, firm size and age. As a novelty, we analyze zombie demographics, i.e. entry and exit to zombie status and the duration of zombie periods. We show that the rise in the proportion of zombie firms has mainly been driven by a decline in the zombie exit rate, as opposed to an increase in the zombie entry rate, implying an increase in 'long term zombies'. Furthermore, the different exit destinations (death or recovery to becoming a healthy firm) appear to be driven by different factors and point to the persistence of the zombie status being more relevant for old and large capital-intensive firms: both zombie exit risks, death and recovery to becoming a healthy firm, decrease with firm size and capital intensity and the risk of death also decreases with firm age. We also find that in both young and older firms a significant proportion of zombies are growing firms, suggesting that the zombie status may reflect a temporary investment phase in the life-cycle of the firm. There is hardly any difference between declining and growing firms in the recovery hazards, but the death hazards are considerably lower for growing firms than for the declining firms. Moreover, the analysis shows that the share of zombie firms affects output and employment growth negatively. This is particularly true for zombies which do not grow. Finally, we provide evidence that firms receiving subsidies are more likely to recover but less likely to die. The existence of subsidies provide one explanation to why these firms can survive over time.

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Session 3d: Firms, flows and externalities (cont.)

Endogenous Firm Entry and International Debt with Occasionally Binding Constraints

Kristine Koponen (University of Helsinki)

This paper studies the effects of an occasionally binding borrowing constraint in a business cycle model where the number of firms is allowed to fluctuate endogenously. Firm entry and equity price declines when the constraint is binding and these effects are amplified as the access to international financial markets is reduced. The presence of an occasionally binding constraint adds a strong non-linearity to the model. To capture it, the model is solved using time iteration on policy functions and linear interpolation.

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Session 3e: Financial and natural resource markets

Carry Trade and Sentiments

Kari Heimonen (University of Jyväskylä), Heikki Lehkonen, Kuntara Punkthuanthong

This study examines the determinants of the carry trade risk premiums utilizing a novel TRMI sentiment data on market sentiments. Our results indicate that sentiments have forecasting power over carry trade returns and sentiments serves as a measure of risk in carry trade. Constructed currency portfolio were not reacting unanimously to publicly available sentiment data. High interest rate, high inflation, high exchange rate volatility and high volatility portfolios have high beta exposure to market sentiments whereas higher currency turnover decreased the beta of sentiments. Carry trade returns in emerging market economies were more exposed to sentiments than in the developed economies. An increase in the length of the forecasting period and the flexibility of the exchange rate also increased the beta of sentiments over the carry trade excess returns. In sum, we provide multiple new evidence on the usefulness of the publicly available sentiment data in explaining the risks in the carry trade.

Stress Test Precision, Bank Stability, and Welfare

Tuomas Takalo (Bank of Finland), Diego Moreno

We show that the riskiness of banks' assets and social welfare are non-monotonic functions of the precision of a stress test. When the social cost of bank failure is sufficiently high, a stress test of an intermediate precision maximizes both banks' stability and welfare. However, if the social cost of bank failure is small, a stress tests of maximal precision is socially optimal, even though it induces maximal risk taking.

Option Prices and Implied Volatility in the Crude Oil Market

Vesa Soini (University of Stavanger), Sindre Lorentzen

This paper studies the determinants of WTI crude oil call option prices with a special emphasis on the relationship between implied volatility and moneyness. Our first-stage regression estimates a second-order approximation of implied volatility as a function of moneyness, while our second-stage regression investigates correlations between the estimated parameters and a list of explanatory variables. The first-stage regressions show a positive coefficient on the quadratic term, suggesting that the market exhibits 'Implied Volatility Smile' and hence violates the Black-Scholes predictions. The main results of our paper concern the determinants of these violations. We find that the curvature of implied volatility as a function of moneyness is: (i) positively and significantly correlated with basis and hedging pressure of the underlying crude oil futures contract (ii) positively and significantly correlated with various measures of transaction costs on the options market. We explore various explanations for these results. The paper also contains a variety of robustness checks, mostly related to the assumed functional forms.

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Session 3e: Financial and natural resource markets (cont.)

Political ties and raising capital in global markets: Evidence from Yankee Bonds

Gene Ambrocio (Bank of Finland), Xian Gu, Iftekhar Hasan

This paper examines whether state-to-state political ties help to get better terms in raising capital in global capital markets. Focusing on publicly issued Yankee bonds, we observe that firms from countries with closer political ties with the US have been successful in reducing borrowing costs. A one standard-deviation improvement in political ties can lead to a 30 to 90 basis points reduction of at-issue yield spreads. Such an association is more pronounced for firms in highly-indebted home countries, in government-related industries, and during home-country recessions. Our study sheds light on the importance of country-level political relationships in international fund raising.

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Session 4a: Production and Growth

The dilemma of increasing returns to scale in neoclassical theory

Matti Estola (Itä-Suomen yliopisto)

Increasing returns to scale at firm level have been observed in several studies. However, increasing returns in a firm's production cannot be modeled by using the static neoclassical framework because in that case a profit maximizing flow of production would not exist. Another problem in the neoclassical framework is that by using a static model we cannot forecast unstable time paths of economic quantities. As a solution to these problems, we present a dynamic theory of a firm and show that firms' profit-seeking adjustment of production may be stable or unstable. We show that the proposed dynamic model of a firm's behavior is mathematically identical with Newtonian model of a particle moving in a resisting medium. On this basis, we explain the reasons why physics is more important for the development of economics than pure mathematics.

The CES production function and the European Commission's production function methodology

Ilkka Kiema (Palkansaajien tutkimuslaitos), Sami Jysmä

We apply a normalized CES production function to the Finnish economy. The function allows us to produce estimates for labor and capital augmenting productivity. It turns out that the capital augmenting productivity series is highly procyclical but the labor augmenting series is slightly contracyclical. In its output gap estimates, which are based on a production function methodology, European Commission divides the observed total factor productivity into a trend and a cyclical component using a capacity utilization indicator as a signal variable. We apply the Commission's method separately to the capital augmenting and labor augmenting productivity series that we have constructed. We address the question to which extent the shift from Cobb-Douglas to a CES production function would help to mitigate a major problem of the Commission's method, the procyclicality of potential output estimates. Taking the difference of the output gap series that are based on CES and Cobb-Douglas functions, we note that the differences between the estimates are substantial: during the financial crisis for example, the CES-based output gaps are around one percentage point lower (i.e. more negative) than the Cobb-Douglas ones.

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Session 4a: Production and Growth (cont.)

Evaluating potential output and output gap in the presence of structural changes

Hannu Koskinen (Tampereen yliopisto, Johtamiskorkeakoulu), Arto Luoma

The level of potential output could be affected by factors that alter the performance or the demand structure of the economy. When this is the case there have happened structural changes in the relationships between variables which defines the steady state of these variables / relations in the period under scrutiny. Then, usually, the assumption of linearity of the steady state is violated and nonlinearities are present. If this is the case, it could have implications for the estimation and statistical inference concerning the parameters of interest. Focus on the evolution of potential output per worker, this study empirically estimate the possible nonlinearities in the steady state levels of the Finnish macroeconomic data during 1995:Q1 – 2018:Q1. The theoretical identification scheme follows that of Koskinen and Vilmunen (2017), a micro founded two sector DSGE model allowing for sector specific parameters within an economy. We analyse and compare manufacturing industry to the rest of the Finnish economy. We identify and test the possible timing and form of structural changes in the potential output. Correct specification of the underlying steady state, then, enables one to perform more precise policy analyses for the influence and evolution of the shocks that hit the economy and the underlying macro variables.

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Session 4b: Health

Geographical availability and health care utilisation: Evidence using changes in contract periods

Visa Pitkänen (Kela)

Equal access to health care is a central objective of many organizers of health services. I analyse the effects of geographical availability on health care utilisation in a Finnish rehabilitation service, where providers are selected every four years in a competitive bidding. The procurement often changes providers and their location between the contract periods. I exploit this geographical variation and analyse the effects of distance to the nearest provider using difference-in-differences method with continuous treatment intensity. I show that an increase in the distance to the nearest service provider decreases both the service applications and utilisation. In addition, a counterfactual policy analysis shows a trade-off between costs and service availability when providers are acquired using a competitive bidding.

The Long-Run Effects of Cesarean Sections

Mika Kortelainen (VATT), Ana Costa-Ramón, Ana Rodríguez-González, Lauri Sääksvuori

Numerous recent studies have shown an association between cesarean birthing and several adverse outcomes for the mother and the child, with potentially long-run consequences. However, there is a lack of knowledge regarding the causal nature of this relationship. In this paper, we try to help fill this research gap by providing credible causal evidence of the long run effects of cesarean sections on policy relevant health outcomes using large and precise administrative data registers. To do so, we use exogenous variation in the probability of having an unplanned cesarean birth. In particular, our instrumental variable estimation exploits the fact that obstetricians are more likely to perform unplanned C-sections during their normal shift on Fridays and working days preceding public holidays, when incentives for leisure become more salient. We investigate the causal effects of cesarean sections on child health outcomes using a rich data resource which includes birth and health records for all children born in Finland between 1990 and 2014. Using our instrumental variable strategy, we do not find unplanned C-sections to have significant effects on various neonatal health outcomes. While we find unplanned C-section to have positive impact on the probability of infant having a Type I diabetes diagnosis, the effects for other long-term outcomes seem to be negligible or zero. Overall, our results paint a more nuanced picture about the long-term consequences of cesarean deliveries than previous literature based mostly on correlations, which had associated C-sections with a wide array of worse health outcomes.

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Session 4b: Health (cont.)

Low risk, high reward? Frequent competitive biddings with multiple winners in health care **Signe Jauhiainen** (Kela), Visa Pitkänen

We study physiotherapy firms' price bids in frequent competitive biddings where multiple bidders are accepted in each district's pool of providers. Historically only very few districts rejected any firms in the studied service. We show that this practice increased prices and analyze the effects of risk of rejection on prices using data from three subsequent competitive biddings. Our results show that rejecting at least one firm in a district decreased prices by 5.5 percent in the next round. The results also indicate that firms have learned to calculate their optimal bids, which has also increased the growth rate of prices. Further, we perform counterfactual policy analysis of a capacity-rule of acceptance. The analysis shows that implementing the regulation results into a trade-off between financial savings and forced switching of a provider.

Impact of a personal letter on opioid prescriptions

Aarni Soppi (Kela), Iiro Ahomäki, Visa Pitkänen, Leena Saastamoinen

In May 2017, the Social Insurance Institution of Finland sent a personal information letter to all physicians who had prescribed a large package, containing at least 100 tablets, of paracetamol-codeine to new patients who had no paracetamol-codeine purchases in previous three years. The aim of the letter was to draw physicians' attention to their prescribing practices and decrease the package size of the first codeine prescription. We use individual level register data on drug purchases to study the effect of the letter to physicians' prescribing of paracetamol-codeine to new patients. Using differences in differences strategy, we estimate that the letter decreased the probability of prescribing a large package of paracetamol-codeine to new patient about 10 percent. Furthermore, we find that the letter also had a negative, although smaller, effect on tramadol and benzodiazepine prescriptions.

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Session 4c: Regional Economics and Economics of Education

Tax Compliance in the Rental Housing Market: Evidence from a Field Experiment

Tuomas Kosonen (Palkansaajien tutkimuslaitos), Essi Eerola, Kaisa Kotakorpi, Teemu Lyytikäinen, Jarno Tuimala

We study rental income tax compliance using a large-scale randomized field experiment and register data with third-party information on the ownership of apartments. We analyze the responses of potential landlords to treatment letters notifying them of stricter tax enforcement. We examine both reporting and real responses (in terms of real estate holdings). We also study spillover effects of tax enforcement in local rental markets. We find an increase in reported income after an enforcement letter is sent to landlords. We also find a reduction in real estate holdings in the following year by treated landlords.

Social assistance and rental housing

Essi Eerola (VATT), Teemu Lyytikäinen, Tuukka Saarimaa, Janna Öberg

Most governments subsidize housing consumption of low-income households through various, often overlapping housing programs. When assessing the relative merits of these programs, it is important to understand their effects on the rents recipients pay and on their housing consumption choices. This paper studies the rent and housing choice effects of the Finnish social assistance program. Social assistance (SA) is a last-resort form of financial assistance for individuals and households. As such, it is intended to be short-term and help recipients overcome or avoid temporary difficulties. Among other things, the SA covers reasonable housing costs. The SA program co-exists with a housing allowance (HA) program and covers housing costs over and above those covered by HA. The SA program features limits which determine the maximum rent covered by SA. The limits for these reasonable housing costs vary by municipality and household size. If the housing costs of a recipient exceed the limit, Kela may instruct the recipient to seek for more affordable accommodation. These limits can be used to identify the effect of SA on market rents. In particular, we will use bunching methods to assess whether there is excess and missing mass around the limits. In addition, we can study whether the rents paid by recipient households around the limits are unexpectedly high given the characteristics of the housing unit. We use data from Kela from 2017 and 2018. The data include all social assistance recipients and contains detailed information on the nature of the costs covered (in particular, the housing costs) as well as information on the characteristics of the housing unit.

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Session 4c: Regional Economics and Economics of Education

Do centralized post-compulsory student admissions lead to better education and career outcomes?

Tuomo Suhonen (VATT), Hannu Karhunen

Centralized systems matching students with post-compulsory schools and programs have recently gained popularity, whereas it is unknown whether individuals benefit from these systems in the long term. Our paper provides unique evidence on both school- and individual-level effects of access to centralized admissions by utilizing a differences-in-differences design arising from the regional rollout of the Finnish joint admission reform in the 1970s. We find that, in the short term, the adoption of the centralized system increased the number of applications and intake at vocational secondary schools. In the longer term, individuals appear to have benefited from the new system in terms of a higher average probability to obtain a post-compulsory degree, whereas the estimated income effects up to age 50 are small and vary from positive to negative. However, significant variation in the effects of the reform by family background suggests that the reform successfully reduced socioeconomic differences in education and career outcomes.

The economic consequences of Norway's 1935 primary school reform

Tuomas Pekkarinen (VATT), Kjell G. Salvanes, Matti Sarvimäki

This paper examines the effect of increasing instruction time on long-term outcomes such as final educational attainment and lifetime earnings. Norway's primary school reform in 1935 increased the amount of mandatory instruction time in rural primary schools as a step to harmonize the standards of primary education across rural and urban areas. We exploit the fact that newly legislated minimum instruction time was binding only in the municipalities where instruction time was lower than the new minimum before the law change. Combining register data on the instruction time at the municipality level and educational attainment and earnings at the individual level, we estimate the effect of the reform on completed years of schooling, lifetime earnings and on the test score results of the children of the affected individuals. Our findings suggest that increasing mandatory instruction time by 28 weeks during primary school increased male final educational attainment by 0.4 years and lifetime earnings by 4 percent. Effects on women were smaller.

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Ku- Session 4d: Labour 2

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Physical activity, economic determinants and behavioral factors: results from the Northern Finland Birth Cohort 1966

Sanna Huikari (Oulun yliopiston kauppakorkeakoulu), Marko Korhonen, Hanna Junntila, Rauli Svento

We provide a detailed empirical investigation into the economic, behavioral and health status factors that determine leisure time physical activity. We utilize the most recent Northern Finland birth cohort 1966 (NFBC1966) data from year 2012. Our data consists of 7071 45-46 years old North-Finns (3276 men and 3804 women). We employ logistic regression methods for estimating the how the probability of being physically active is related to choice of time allocation, income level, occupational status and self-rated health. Evidence shows that income seems to be related to the decision to engage oneself in physical activities, at the aggregate level. Examining physical activity across different income levels, we find some support for positive association between income and leisure time physical activity. However, the predictions inside the specific income groups are insignificant. In addition, we find that occupational status affect considerably on leisure-time physical activity. Especially, self-employed appear to be less physical active compared with the other occupational groups. Further, we find a negative relation between the leisure time physical activity and self-rated health, especially in low socioeconomic classes. Our results emphasize the role of occupational class and health aspects in leisure time physical activity.

Unemployment & Physical Activity

Henri Salokangas (Turun yliopisto), Petri Böckerman, Marko Korhonen, Sanna Huikari, Rauli Svento

We examine the physical activity of young adults after being exposed of unemployment during the Finnish Great Depression in 1991-1994. We exploit a combination of an extensive longitudinal survey data (Northern Finland Birth Cohort 1966) and administrative register data in studying the association between unemployment during the Finnish Great Depression (at age 25-28) and physical activity at ages 31 and 46. We contribute the literature by examining physical activity in more broader manner than before using information on frequency and time used on physical exercise as well as intensity of exercise.

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Ku- Session 4d: Labour 2 (cont.)

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Do childhood infections affect labor market outcomes in adulthood and, if so, how?

Jutta Viinikainen (Jyväskylän yliopiston kauppakorkeakoulu), Alex Bryson, Petri Böckerman, Marko Elovainio, Nina Hutri-Kähönen, Markus Juonala, Katja Pahkala, Suvi Rovio, Laura Pulkki-Råback, Olli Raitakari, Jaakko Pehkonen

A large literature indicates that poor childhood health leads to adverse health outcomes, poor cognitive performance, lower educational attainment and weaker labour market outcomes in adulthood. We focus on an under-researched area, namely the role played by childhood infections and their links to labor market outcomes in adulthood. Methods: The participants aged 35-50 in 2012 (N=3199) were drawn from the Young Finns Study which includes comprehensive register data on diagnosed infections at ages 0-18. These data are linked to longitudinal register information on labour market outcomes (2001-2012) and parental background (1980). The estimations were performed using Ordinary Least Squares (OLS). Results: Having an additional infection in childhood is associated with lower wages ($b = -0.112$, 95% confidence interval (CI): -0.212; -0.013), fewer years employed ($b = -0.016$, 95% CI: -0.029; -0.003), a higher probability of receiving any social income transfers ($b = 0.012$, 95% CI: 0.002; 0.021) and larger social income transfers conditional on receiving any ($b = 0.070$, 95% CI: 0.010; 0.129). Childhood infections affect human capital accumulation which explains a significant part of these correlations. Conclusions: Higher incidence of childhood infections leads to lower long-term earnings, fewer years employed and higher amount of social income transfers received, an association that is partly explained by the association between infections and lower educational attainment.

Administrative barriers in social benefits: A proposal for a randomized field experiment

Jouko Verho (VATT), Jarkko Harju, Ohto Kanninen, Hannu Karhunen, Tuomas Kosonen, Tuomas Matikka

There is a broad consensus in Finland that the current social security system needs a reform that would increase welfare and enable a higher employment rate. For a successful reform, we need to better understand how to reconcile part-time and temporary work with social benefits. However, reliable research on this topic is very limited.

This report presents a proposal for a randomized field experiment that allows analyzing different mechanisms that affect the employment of benefit recipients. The aim of the experiment is to identify the impact of administrative barriers (bureaucracy), monetary incentives and the lack of information. This would provide reliable estimates of employment effects for different mechanisms and allow comparing the effectiveness of alternative policy measures. Thus, the experiment provides relevant and easily applicable information for social policy about the major problems of the current system and to what direction the social security should be developed.

The report contains practical proposals from the research group how the field experiments could be implemented. The experiment would include treatment groups that are subject to different interventions and a control group that would remain in a current benefit system. The experiment can be carried out in one or two years, and the preliminary results can be evaluated after the first year of the experiment.

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Session 4e: Environmental and Energy Economics 2

The economic value of hydropower operation constraints under reduced price volatility

Hannu Huuki (Suomen ympäristökeskus (SYKE) / Oulun yliopiston kauppakorkeakoulu),
Santtu Karhinen, Faisal Bin Ashraf, Hannu Marttila

Besides technical constraints, hydropower operation is constrained by the restrictions based on aquatic ecosystem and recreational value protection. An efficiently designed regulation considers both the improved ecological state of the river system (benefit) and the lost hydropower revenues (cost) related to the environmental operation restrictions. This paper studies how the cost of these restrictions changes when electricity price volatility decreases. The effects of tighter maximum flow and flow ramp constraints and an introduction of fishway flow requirement on hydropower profits are studied theoretically. Additionally, the effects are quantified by a case study simulation. We use hydropeaking indices as a proxy for the negative externality of hydropower operation on river ecosystem. We show that tightening the restrictions with respect to maximum flow, flow ramp and minimum fishway flow lower the hydro plant's profits less when price volatility is decreased. On the other hand, when the flow ramp constraint is binding, hydropower plant can use the fishway flow to slack the turbine flow ramping constraints. Thus, decreased price volatility has an ambiguous effect on the economic cost of requiring a certain amount of water to be allocated through the fishway.

Determinants of solar power system adoption decisions

Enni Ruokamo (University of Oulu), Marita Laukkanen, Santtu Karhinen, Maria Kopsakangas-Savolainen, Rauli Svento

Generating electricity from solar energy is one way for households to participate in the ongoing transformation into decarbonized energy systems. This study examines the key drivers and barriers associated with household solar power system adoption decisions. To date, studies on this topic have mostly focused on the influence of socio-demographic factors, dwelling characteristics, peer-effects, technology characteristics, and other motivational factors. A simultaneous account of these factors is largely lacking from the existing literature. In addition, many of the previous studies rely solely on prevalence of solar panel ownership. We extend the literature to consider also individuals who have considered purchasing this technology, but have not yet done so. That is, we do not focus solely on the discrete decision of installing or not of solar power systems, but also perform an in-depth analysis of the complex adoption processes. Our empirical analysis is based on 1554 survey responses collected in May 2018. The data consists of randomly selected residential customers of the largest distribution system operator in Finland. The results show that the examined classes of factors play different roles among non-adopters, considering adopters and adopters. For instance, adopters are likely to account for environmental aspects in decision-making. The individual thus far only considering adoption perceive the investment costs to be too high. Thus, an investment subsidy would increase the likelihood of making the investment. Unreliable or inadequate information may also slow down the adoption processes. Surprisingly, the effects of age and education are against the typical view in technology-diffusion literature, as adopters are likely older and less educated than the non-adopters.

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Session 4e: Environmental and Energy Economics 2 (cont.)

Natural Gas Market Globalization Revisited

Evangelos Kyritsis (VATT), Anne Neumann

The global natural gas market undergoes radical restructuring through the development of major emerging LNG buyers led by China, and entrance of new suppliers such as the US and Australia, and raises new challenges for the global security of energy supplies. In this paper, we investigate the globalization of natural gas market and contribute to the literature in two ways. First, we consider the cointegrating relationship between import natural gas prices and investigate simultaneously the short-run dynamics and long-run relationship, while accounting for any potential asymmetric and nonlinear linkages. We expect to find a time-varying cointegrating relationship between the import natural gas prices. Second, we consider carefully structural breaks and parameter instabilities. To the best of our knowledge only a few studies so far have paid particular attention to this. Agerton (2017), for instance, allows for structural breaks in the relationship between LNG and oil prices. The motivation for doing so stems from the fact that LNG market has been subject to many reforms, for instance, changing Asian and LNG demand projections, pronounced decrease in the European domestic production and growing import dependency, and shale gas developments in the U.S, which could further reshape global gas markets.

Testing the effect of transmission charge on annual electricity consumption of Finnish households

Chao Ding (Oulu School of Business)

This study analyzes the relationship between electricity transmission charge and residential electricity use in Finland. Transmission charge accounts for around one third of the electricity bill of a typical Finnish household while three quarters of transmission charge is independent of the volume of electricity transmitted. To examine the relationship we have constructed a panel data of 368 Finnish households for years 2014-2016. We utilize annual electricity consumption data along with other household- and building-specific attributes from varying regions of Finland. We control for heated area, primary heating system, family size and gross family income. We test the null hypothesis that the coefficient of transmission charge is different from zero with a linear regression model.

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Session 4f: Monetary policy and Financial Markets

Debt Overhang and Monetary Policy Transmission: an International Perspective

Eleonora Granziera (Bank of Finland)

We investigate how the level of household indebtedness affects the monetary transmission mechanism in advanced economies, using state-dependent local projection methods. In particular, we explore whether the impact of monetary policy shocks on output, bank credit and other macroeconomic and financial variables are less pronounced during periods of high household debt, reminiscent of a debt overhang. We exploit the time-series variation within countries, as well as the cross-sectional variation across countries such as the prevalence of fixed- versus adjustable-rate mortgages, to investigate this issue. We then build a small-scale model, where households face collateral and debt-service constraints and are subject to income shocks, to rationalize these facts. The model points to the weakening of the home equity loan channel and increased debt aversion, especially during recessions, as a possible reason for the decline in monetary policy effectiveness when initial debt levels are high.

Monetary Policy, Agent Heterogeneity and Inequality – Insights from a Three-Agent New Keynesian Model

Maria Eskelinen (European Central Bank)

In this paper I develop a New Keynesian dynamic stochastic general equilibrium model which features three different types of agents: the poor hand-to-mouth, the wealthy hand-to-mouth and the non-hand-to-mouth households. Compared to a full-scale HANK model, this model is easier to compute while reproducing many of the same monetary policy shock transmission channels. I show that monetary policy transmission takes place through a redistribution channel, as emphasised by Auclert (2017). In particular, the effects of a monetary policy shock are amplified as resources are redistributed from high-MPC households to low-MPC households. Monetary policy therefore becomes more effective compared to models with homogeneous MPC rates. Consumption inequality is countercyclical in this setting and a high degree of leverage amplifies the redistribution channel. These findings have important implications for understanding the effects of both macroprudential policy and the normalisation of the accommodative monetary policy stance.

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Session 4f: Monetary policy and Financial Markets (cont.)

Heterogeneous households, quantitative easing, and inequality

Samu Kärkkäinen (University of Jyväskylä)

This paper analyzes the macroeconomic effects of quantitative easing (QE) in a small-scale New Keynesian DSGE model with a simple form of household heterogeneity. In the model, a fraction of households are excluded from the financial markets and consume all of their current period disposable income in a hand-to-mouth fashion. The central bank conducts monetary policy by setting the short-term interest rate according to a conventional Taylor rule, and as a supplement it can also affect aggregate demand by buying long-term government bonds from the households participating in the asset market. The aim of the paper is twofold: Firstly, to find out if QE has implications for consumption inequality across different types of households, and secondly, whether or not the inclusion of these "hand-to-mouth" households alters the transmission and macroeconomic effectiveness of quantitative easing. First results indicate that the short-term effects of QE shocks on consumption inequality depend on how the fiscal authority distributes government transfers (taxes) across households. In qualitative terms, including hand-to-mouth households in the model does not seem to have no drastic effects on the monetary transmission mechanism.

Discount Rates and Cash Flows: A Local Projection Approach

Matthijs Lof (Aalto University), Henri Nyberg

We apply flexible local projections incorporating potentially large datasets of economic and financial variables to predict stock market returns and dividend growth in order to quantify the relative contributions of expected discount rates and cash flows to the variation of stock prices. Local projections enable the development of data-rich model averaging and LASSO-based novel volatility decompositions and the use of monthly data frequency in addition to annual data. While expected discount rate variation is the dominant contributor to market volatility, the contribution of expected cash flows is non-negligible when moving beyond the standard model used with the dividend yield as the single state variable.

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Session 5a: Economic Policy and Growth

Näkymättömien taakkojen kertyminen ja huomiointi terveydenhuollon menetelmien arvioinneissa

Juha Laine (Pfizer), Petri Mankinen, Erkki Soini, Juha Turunen, Janne Martikainen, Miika Linna

Hyötyjen ja kustannusten yhteismitallisuuden (eurot) vuoksi kustannus-hyötyanalyysi on taloustieteessä vakiintunut yhteiskunnallisten kustannuksien ja hyötyjen arviointimenetelmä tutkittaessa vaihtoehtoisia toimintatapoja tai investointihankkeita. Terveydenhuollon menetelmien arvioinnissa (health technology assessment, HTA) taloudellinen arviointi on keskeinen osa-alue, jossa sovelletaan tyypillisesti kustannusutiliteetti- tai kustannusvaikutavuusanalyysia. Taloudellisen arviointimenetelmän valinta riippuu muun muassa siitä, mikä on tavoite ja millä tavalla terveyshyödyt on mitattu. Arvioinnissa joudutaan tekemään myös muita keskeisiä valintoja, jotka vaikuttavat arvioinnin tuloksiin. Suomessa terveydenhuollon päätöksenteossa käytettävien taloudellisten arviointien kustannusten laskennassa suppea terveydenhuollon näkökulma on yleinen. Tämä pätee sekä korvattavien lääkkeiden, sairaalalääkkeiden ja rokotteiden kohdalla. Nykyisin taloudellisessa arvioinnissa käytettävän näkökulman osalta keskeisiä kysymyksiä ovat, miten eri tasoilla aikaansaavat vaikutukset ovat mahdollisesti yhteydessä toisiinsa ja millaiseen voimavarojen kohdentamiseen näkökulma johtaa. Erityisesti Suomessa näillä asioilla on merkitystä, koska lopulta suurimman osan yhteiskunnan hyödyksi tuotetuista sote-palveluista maksavat yksittäiset veronmaksajat ja yhteisöt. Näkökulmaerojen taakkavaikutuksien havainnollistamiseksi käytämme esimerkkinä pneumokokkrokottamiseen liittyvää HTA-arviointia. HTA-arvioinnin tulosten mukaan riskiryhmien rokottaminen pneumokokkitautia vastaan on perusteltua. Taloudellisissa arvioinneissa yhteiskunnalliset vaikutukset tulevat yleensä systemaattisesti aliarvioitua ja siitä syystä esimerkiksi rokotteiden hyödyt tulevat aliarvioitua. Esimerkiksi lääkkeiden, laitteiden ja rokotteiden HTA:ssa tulisi vertailuasetelmien tarkastella esiin tulevia hyötyjä ja kustannuksia useammista tarkastelutasoista, jotta eri toimijoiden tavoitteet, tarpeet ja näkökulmat tulee huomioida. On päätöksenteon asia, mikä osuus kustannuksista huomioidaan päätöksenteossa. HTA-arviointien tehtävänä on esittää tieteellisesti validia ja riittävän kattavaa tietoa päätöksen tueksi. Pelkän kapean näkökulman käyttö tutkimuksessa voi jättää näkymättömiin merkittävimmän osan terveys- ja kustannusvaikutuksista. Esimerkiksi tuoreen suomalaisen selvityksen perusteella epäsuorat yhteiskunnalliset kokonaiskustannukset ovat pitkäaikaissairaudessa moninkertaiset verrattuna siihen mitä pelkistä työstä poissaoloista yhteiskunnalle aiheutuu.

Abstracts

Room
Hetta

Session 5a: Economic Policy and Growth (cont.)

Vähintään 75 %:n työllisyysasteeseen lähivuosina – työllisyyspolitiikan, väestö- ja työaikakehityksen keinot kun talouskasvu ei riitä.

Pekka Tiainen (Helsingin yliopisto, Työ- ja elinkeinoministeriö)

2010-luvulla väestökehityksellä on ollut suuri vaikutus työllisyysasteeseen sen jälkeen kun ensimmäiset suuret ikäluokista vuonna 1946 syntyneet täyttivät 65 vuotta vuonna 2011. 65-vuoden ikä on täyttynyt tai täyttyy 2010-luvulla 2020 mennessä 1946-1955 syntyneillä. Hallituskaudella 2019-2023 työkäisen väestön vähenemisen työllisyysastetta nostava vaikutus on vähäisempi: +0,5 %-yksikköä. Osaltaan tämä tekee työllisyysasteen nostamisen päälle 75 %:n vaativammaksi sen ohella että on muita tekijöitä. Julkisen talouden rahoituksen kannalta työllisyyden nousu on työllisyysastetta keskeisempi asia. Se yhtäältä tuo lisää verotuloja. Toiseksi se lisää ansiotuloja saavien osuutta. Tällöin työttömyyden kustannukset ovat alemmat ja heikommasta työllisyydestä aiheutuvan sosiaaliturvan tarve työkäisillä vähenee ihmisten toimeentulon parantuessa kun suurempi osa saa ansiotuloja. Talouskasvu ei yksistään riitä. Työttömyyden saaminen pysyvästi alhaiseksi edellyttää pitkäaikaistyöttömyyden ratkaisemista tavoitteena nollaaminen, koska kroonisen korkea rakenteellinen työttömyys ylläpitää korkea työttömyysastetta ja on myös työvoiman saatavuuden suuri merkityksinen pullokaula. Tarvitaan vahvistettua työvoimapolitiikkaa, joka sisältää olennaisesti suuremmat panostukset työllistämiseen ja siinä suoraan työllistämiseen ja palkkatukiin, koulutuksen käyttöä työttömyyden sijasta sekä lisää vaihtoehtoja valita lyhempi työaika elämäntilanteen mukaan. Kun suurempi osa tekee lyhempää työaikaa omien valintojensa perusteella, se tasaa työllisyyden vaihteluita ja nostaa työllisyysastetta, sekä on keino saada työttömyys alhaiseksi. Tämä mahdollistaa että merkittävästi suurempi osa kuin nykyisellään on työelämässä osa lyhempää työaikaa tehden. Suuri rakenteellinen korjaus tarvitaan työllisyyttä estävään ja yritystoimintaa vaikeuttavaan ulos-ottojärjestelmään, kun työ ei kannata, kun rahat viedään, ja työpaikkoja menetetään, kun yrityksiä ajetaan nurin vaikka on toisenlaisia keinoja. Vaihtoehtoja ovat nykyisen kannustinongelmien ja haitallisen vaikuttavuusongelmien tulehduttaman ulosottojärjestelmän perusteellinen korjaaminen, jolloin myös virheellinen velkominen saadaan karsittua, tai ulosottojärjestelmän lopettaminen kokonaan nykymuodossaan ja korvaaminen velkapalvelulla. Sen perusajatus on keskittyminen lainojen järjestämiseen ja hoitamiseen ja jossa on rahoitusvälineitä laina-aikojen pidentämiseen, maksulomiin ja korkoleikkureihin, että eliminoidaan viivästyskorkojen käyttö tavoitteena pakkotoimien ja haittojen minimoiminen. Esityksessä tarkastellaan näiden eri tekijöiden merkitystä ottaen samalla huomioon tuottavuuskehitys ja kestävä kehityksen suuntaviivat. Tarkastellaan myös lainsäädännön roolia.

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Hetta

Session 5a: Economic Policy and Growth (cont.)

Schumpeterian growth or socialism: where governance matters

Johan Willner (Åbo Akademi), Marcus Miller

Acemoglu and Robinson argue that Soviet Russia generated rapid growth while resources were being reallocated out of the highly inefficient agricultural sector into industry, but not when it relied on technological progress. Why not? Could it be the ownership structure? Bös and Peters (1991) and Hart et al. (1997) argue that an innovator in the public sector retains a smaller fraction of the benefits than in the private sector: and Soviet enterprises were publicly owned from the NEP in 1920 until Perestroika in 1998. For Sakharov (1975), the incentive issues affecting scientists, engineers and factory managers reflected a far deeper problem: that of an over-bearing totalitarian state with a monopoly of capital, culture and ideology. The brutal 'carrot and stick' regime implemented by Stalin may have worked in shifting resources (Miller and Smith, 2015); but denying human rights was no way of encouraging investment in human capital - nor the development of Schumpeterian entrepreneurship. We develop an endogenous growth model based on incentives to innovate, with Schumpeterian features when applied to capitalism. In this model, however, public ownership with optimal pay schedules can outperform capitalism. But, we argue, socialism turns out to be a double-edged sword, capable of producing higher growth in principle, but liable to vitiate such promise by bad governance in practice. The argument in favour of the capitalist model of Schumpeterian growth, at least under bad governance, is not that it is faster, but that it limits the consequences of counter-productive interference by an overbearing state.

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Kappeli

Session 5b: Migration

How exposure to asylum seekers affects voting behaviour

Tuuli Tähtinen (European University Institute)

This paper examines the causal effect of exposure to asylum seekers on citizens' voting behaviour. We take advantage of the sharp increase of asylum seekers in Finland, which forced the government to quickly increase reception capacity. We consider opening a reception centre in a municipality as a treatment that facilitates exposure to asylum seekers and increases salience of immigration. To account for the non-random allocation of reception centres, we employ a difference-in-differences approach. We find that hosting a reception centre leads to increased support for the Green Party.

Intergenerational Effects of an Integration Policy

Hanna Pesola (VATT), Matti Sarvimäki

We examine whether an integration policy aimed at immigrant adults in Finland generates spillovers to the children of the target group. We exploit a discontinuity in the phase-in-rule of a reform that introduced integration plans for unemployed immigrants to show that parents' integration plans improved the education of immigrant children. The reform affected disadvantaged families whose children were initially less educated than other immigrants. Due to the parent's integration plan, the education of their children reached the level of other immigrant children. Potential mechanisms include resources and information available to the children and their parents through, for example, their school and workplace respectively.

Preferences for Redistribution and International Migration

Ilpo Kauppinen (VATT), Panu Poutvaara

The Tiebout hypothesis suggests that people who migrate from more to less redistributive countries are more negative towards redistribution than non-migrants. However, differences between migrants' and non-migrants' redistributive preferences might also reflect self-interest. We present a model incorporating these competing mechanisms and test it using survey data on Danish emigrants and non-migrants. We find strong support for the Tiebout hypothesis among men, while women's preference patterns are opposite to what the hypothesis predicts. Even though emigrants neither pay taxes nor receive benefits in their country of origin, they tend to support policies that would be beneficial for people like themselves.

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Ku- Session 5d: Microeconomics 2

vernööri

Directed search with multi-unit demands

Mats Godenhielm (University of Helsinki)

We study sellers choice of mechanisms in a large frictional economy where buyers have multi-unit demands and decreasing marginal utilities. We derive the equilibrium mechanisms with capacity constrained sellers and local demand uncertainty. We show that all equilibrium mechanisms are payoff-equivalent to multi-unit Vickrey auctions and constrained efficient. Fixed prices or auctions with reserve prices are not equilibrium mechanisms.

Learning to agree over infinite state spaces

Michele Crescenzi (University of Helsinki)

We study how a consensus emerges in a finite population of like-minded individuals who are asymmetrically informed about the realization of the true state of the world. Generalizing the classical model of rational dialogues of Geanakoplos and Polemarchakis (1982), we allow the set of possible states to be infinite. Provided that the communication structure is sufficiently rich, we show that a class of rational dialogues can be found that always lead to consensus. We give examples where dialogues of transfinite length are necessary to achieve consensus.

Intrafirm comparison shopping

Saara Hämäläinen (University of Helsinki)

We present a price competition model with intrafirm comparison shopping. In the simplest model version, firms carry two products each. Consumers are searching for a product that offers the highest net utility, i.e., the quality of the product minus the price, which is observed after some small time lag. Consumers have limited time budgets. We find that the observation lag leads to intrafirm price dispersion: firms benefit from offering a discount on a random subset of products. This discount set pricing (i) engages consumers in comparing products inside stores, decreasing the time left for comparison across stores, and (ii) enables more refined price discrimination between consumers who observe different product information. The strategy is generally more beneficial with a larger number of products.

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Ylläs

Session 5e: Taxation

How corporate owners respond to dividend taxes?

Aliisa Koivisto (VATT)

Many developed countries have reformed their capital income taxation during the last decades. A classic argument against dividend taxation is that it increases firm's cost of capital. While the current trend is to reduce the tax burden of corporations and corporate owners in order to increase real investments, the economic literature offers contradicting results of the extent of economic responses. In this paper I study how Finnish corporate owners respond to dividend taxes. I use panel data of all Finnish privately held corporations and their main owners to present new evidence on firm responses to dividend taxation. The Finnish dividend tax schedule provides exceptionally large incentives for firms to respond. Dividend taxation in Finland jumps notably at a threshold that is first 9 then 8 percent return on net assets. Moreover, there is a monetary threshold for dividends exempted from majority of the capital income tax. This discontinuity creates strong incentives and it has changed three times during the past decade. For example, the marginal tax rate on dividends (including corporate taxes) jumped from 28% to 40.5% at 90,000 euros in 2006–2011. I study the effects of 5 different dividend tax schedule discontinuities on place in 2006–2016. Using administrative data and the bunching method, I find exceptionally clear dividend responses to the dividend tax rate thresholds, implying a dividend tax elasticity of 0.5. Moreover, I show that majority of the response is due to income-shifting across time or income bases. Studying reforms in the schedule I find that especially firm owners in the upper end of the income distribution adjusted the composition of their income from dividend to wage.

Evidence from risk based tax audits on firms

Annika Nivala (Turun yliopisto, VATT), Jarkko Harju, Kaisa Kotakorpi, Tuomas Matikka

Tax evasion and enforcement policy has received a lot of attention lately in public economics and public discussion. There is a large literature exploiting randomized tax audits and field experiments but the evidence on firms' tax evasion is still quite scarce. We utilize data from the Finnish tax administration on all the operational tax audits conducted on firms in 2003–2016. The data is combined with the tax declaration panel data on all firms from 2000–2016 to follow the audited firms in time. This provides a unique opportunity to study tax audit policy and behavior of audited firms. The first subjective is to present descriptive evidence on the tax audit policy on firms and its results. Although the risk based operational tax audits lack the robust identification of random audits and field experiments, they can provide helpful evidence on the effects of audits if selection is accounted for. The second purpose is to identify effects of tax policy on firm behavior if there is enough exogenous variation in the policy. For example, the tax administration has in its campaigns targeted specific industries in audits to tackle tax evasion which could be used to study how increase in audit probability affects firms. For instance, we have data on tax audit project targeted at the construction industry in 2008–2011. Using operational audits can provide evidence on questions that cannot be answered by randomized studies and may have better external validity as most tax audits are risk based.

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Ylläs Session 5e: Taxation (cont.)

The effects of tax audits on firms

Kaisa Kotakorpi (VATT), Jarkko Harju, Tuomas Matikka, Lauri Ojala

We analyze the impacts of tax enforcement on firms using data from random audits implemented in Finland in 2014-2016. We combine information on timing of audits to detailed register data on firm performance, and analyze the development of firm performance following an audit. Mechanical (direct) effects of audits are a signal of a significant level of non-compliance, while dynamic effects of audits in subsequent years are a signal of strategic responses of firms to tax enforcement.

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Äkäslompola

Session 5f: Macroeconomics

A model of macro-financial linkages and bank regulation

Markus Haavio (Bank of Finland)

The paper analyses the two-way interaction between the financial system and the macro economy. On the one hand, the structure of banks' balance sheets affects macroeconomic (in)stability: the more banks have short-term liabilities (deposits, money market funding, etc.) in relation to equity, the more the financial system intensifies various shocks and their transmission to the macro economy. On the other hand, macroeconomic instability reinforces information and incentive problems in financial intermediation. More serious information and incentives problems are in turn translated into higher spreads (i.e. pricing margins charged by banks from their customers), and lower growth rates of the macro economy. Individual banks do not take full account of the overall economic impact of their choices and, from the viewpoint of society as a whole, banks have too little equity in their balance sheets and excessive short-term debt. These pecuniary externalities create the basis for bank regulation.

Two-Sided Capital Taxes

Markus Sihvonon (Bank of Finland)

According to standard arguments, capital income from all sources should be taxed at the same rate (Gordon and Hines, 2002). This paper suggests the contrary. I show that in economies with risk sharing frictions and aggregate demand externalities, home capital gains should be taxed at a higher rate than foreign capital gains. The differential tax rate, serving a novel Pigovian role, corrects distorted portfolios and promotes macroeconomic stability. Moreover, I argue that a constant differential capital tax can complement a generally time-varying capital control policy. Finally, I show that tax changes can take the form of beggar-thy-neighbor policies even when the amount of capital in each country is fixed and a country cannot manipulate its terms of trade.

Performance of Simple Interest Rate Rules Subject to Fiscal Policy

Nigel McClung (Bank of Finland)

This paper examines the performance and robustness of simple monetary policy rules in models with learning agents subject to: (1) permanent or occasionally non-Ricardian fiscal policy; and/or (2) the presence of long-term government debt. My analysis indicates that the "global" response of the fiscal policymaker to debt determines the optimal monetary policy response. When fiscal policy is globally passive or globally active the optimal monetary policy rule typically features time-invariant coefficients with high inflation reaction coefficients in globally passive models and interest rate pegs in globally active models. In cases where fiscal policy features balanced or strong switching between active and fiscal policy stances, the optimal monetary policy rule features switching coefficients. These results extend to models with adaptive learning, including a hidden Markov model of learning never seen before in the literature.