EcoMod2016

International Conference on Economic Modeling

Lisbon, Portugal

July 6-8, 2016

Program

Welcome to Lisbon!

Dear Participant,

On behalf of the Local Organising Committee (LOC) and the Program Committee, we would like to welcome you to the 2016 EcoMod Conference.

It is our pleasure to host you at ISEG - Lisbon School of Economics & Management of *Universidade de Lisboa* and UECE – Research Unit on Complexity and Economics. ISEG is the oldest school of economics and related areas in Portugal. It was founded in 1911, but its origins date back to the mid-18th century. It is part of *Universidade de Lisboa* (University of Lisbon), the largest and most prestigious university in Portugal. UECE is a research centre of ISEG, but also including members from other universities and institutions, and it is one of the top economics centres in Portugal.

Lisboa (Lisbon) is one of the oldest cities in Europe. Permanent settlements date back at least to 2500 BC, but human occupation in the city area is much older. Despite that fact, really old builds are a rare sight in Lisbon's urban landscape, as a consequence of the devastating 1755 earthquake. Still, any travel guide to the city will point you towards the Roman theatre, the medieval castle, cathedral, and adjacent quarters, the renaissance Jerónimos monastery, and the numerous baroque churches downtown. Furthermore, the area around Lisbon, especially Sintra and Cascais, will seduce you with a mix of romantic monuments and mountain woodland landscapes, and the seaside. On the south bank of the Tagus River (Tejo) you will find Costa da Caparica, one of the top 10 city beaches in the world.

Anyway, the immaterial feature of Lisbon are probably what will impress you the most: Portuguese will make you feel welcome everywhere you go, English is spoken by a large proportion of the urban population, streets are safe, food is delicious and vibrant, and there is the sunlight… yes, Lisbon's sunlight will turn you into a professional postcard photographer.

The 2016 conference programme looks very promising, indeed. You will find nearly 200 excellent papers in areas such as agent-based modelling, agricultural issues, business cycles, developing countries, energy and environmental policy, finance, forecasting and projection methods, game-theoretical models, general-equilibrium modelling, growth, impact and scenario analysis, labour-market issues, macroeconometric modelling, microsimulation models, monetary issues, optimisation models, public finance, regional modelling, tax policy, trade issues, and several other modelling-related topics. Opportunities to exchange ideas and debate scientific and professional issues with economists from 38 nationalities from all continents will abound in a nicely restored and refurbished 17th century historic building.

We wish you an enjoyable and productive conference!

Yours sincerely,

Margarida Abreu & Luís F. Costa
Co-chairs of the LOC

Acknowledgements

Firstly, we would like to thank EcoMod and especially Ali Bayar for entrusting us the organization of the 2016 conference. We are also grateful to Melinda Shaw and Theresa Leary for all their support.

Secondly, we thank UECE and especially António Afonso for encouraging us to take this task and for backing this conference wholeheartedly. A special acknowledgment to Sandra Araújo that was tireless.

We gratefully acknowledge ISEG and especially Mário Caldeira for providing all the conditions to host EcoMod 2016. We have also to mention Miguel Robles, José Veríssimo, Paula Monteiro, Mafalda Santos, and Jesualdo Fernandes for logistic, marketing, and IT support. We are also in debt with our students who volunteered to give us a very strong hand: Rodrigo Barradas, Sofia Escária, Vasco Pinto, and Mariana Vieira.

We thank Cláudia Pacífico, Célia Araújo, and the Leading team for their professional support to the event. The same applies to Luís Antunes, Ana Bernardino, and Maria Helena of Narest.

We are particularly grateful to Mário Centeno, José Mata, Sergey Paltsev, and Sherman Robinson who generously accepted the invitation to be the keynote speakers.

We gratefully acknowledge financial support from our sponsors: *Banco de Portugal*, *Caixa Geral de Depósitos*, *Fundação para a Ciência e Tecnologia*, and *Fundação Económicas*.

Last, but by no means the least, we thank all the conference participants, who contribute with their work for the high standard of this conference.

Margarida Abreu & Luís F. Costa.

Sponsors:

Organising institutions:

EcoMod2016 Timetable

Room		Session A Anf. 1	Session B Novo Banco	Session C Anf. 4	Session D CTT	Session E Delta	Session F Staples
Beginning	End				**Wednesday, 6 July 2016**		
08:00:00	08:45:00				Registration (cloister)		
08:45:00	09:00:00				Welcome (Aud. CGD): Dean of ISEG, President of UECE, President of EcoMod, LOC		
09:00:00	10:30:00				Plenary session (Aud. CGD): **José Mata** (U. Lausanne), **Sergey Paltsev** (MIT), **Sherman Robinson** (IFPRI)		
10:30:00	11:00:00				Coffee break (cloister)		
11:00:00	12:30:00	A1. Monetary Issues	B1. Finance	C1. Energy and Environment	D1. General Equilibrium	E1. Labor	F1. Macroeconometric Modeling
12:30:00	14:00:00				Lunch (cloister)		
14:00:00	15:30:00	A2. Growth	B2. Finance	C2. Energy and Environment	D2. General Equilibrium	E2. Labor	F2. Macroeconometric Modeling
15:30:00	16:00:00				Coffee break (cloister)		
16:00:00	18:00:00	A3. Growth	B3. Finance	C3. Energy and Environment	D3. General Equilibrium	E3. Labor	F3. Macroeconometric Modeling
18:00:00	20:00:00				Reception (Salão Nobre)		
					Thursday, 7 July 2016		
09:00:00	10:30:00	A4. Growth	B4. Finance	C4. Energy and Environment	D4. General Equilibrium	E4. Labor	F4. Macroeconometric Modeling
10:30:00	11:00:00				Coffee break (cloister)		
11:00:00	12:30:00	A5. Agricultural Issues	B5. Forecasting	C5. Energy and Environment	D5. General Equilibrium	E5. Public Finance	F5. Macroeconometric Modeling
12:30:00	14:00:00				Lunch (cloister)		
14:00:00	20:00:00				Free Afternoon		
20:00:00	23:00:00				Gala dinner (Páteo da Galé)		
					Friday, 8 July 2016		
09:00:00	10:30:00	A6. Growth	B6. Microsimulation	C6. Energy and Environment	D6. Trade	E6. Public Finance	F6. Regional Modeling
10:30:00	11:00:00				Coffee break (cloister)		
11:00:00	12:30:00	A7. Monetary Issues	B7. Health Economics	C7. Energy and Environment	D7. Trade	E7. Public Finance	F7. Macroeconometric Modeling
12:30:00	14:00:00				Lunch (cloister)		
14:00:00	15:30:00	A8. Business Cycles	B8. New Developments		D8. Trade	E8. Public Finance	F8. Regional Modeling
15:30:00	16:00:00				Coffee break (cloister)		
16:00:00	17:30:00				Plenary session (Aud. CGD): **Mário Centeno** (Minister of Finance)		
17:30:00	17:45:00				Closing (Aud. CGD): Dean of ISEG, President of UECE, President of EcoMod, LOC, Durmus Ozdemir (U. Yasar)		

All rooms are located in the **Quelhas 6** building, also known as the *Convento das Inglesinhas*, a 17th century building overlooking the rest of the campus [lat. N38°42'35.734", long. W9°09'27.184"].

Participants without mobility problems are advised to use the main entrance at Rua das Francesinhas [lat. N38°42'37.588", long. W9°09'17.129"], by the Francesinhas 2 building, and climb the outdoor stairs, on the left-hand side, to Quelhas 6.

Participants with mobility problems may use either the car-park entrance at Rua Miguel Lupi [lat. N38°42'39.229", long. W9°09'21.672"] or the one at Rua do Quelhas [lat. N38°42'34.607", long. W9°09'20.671"].

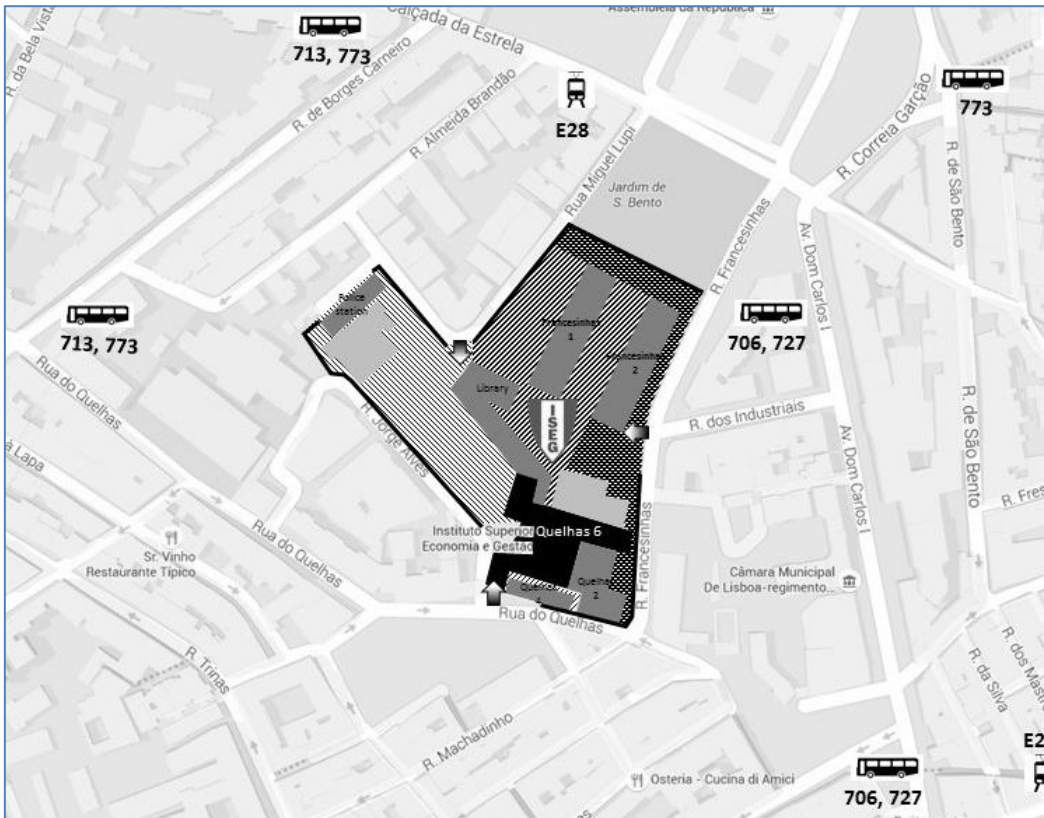| Room	Floor	Room	Floor
Auditório CGD	2	Staples	3
Edifer (secretariat)	2	Anfiteatro 1	4
308 (EcoMod)	3	Anfiteatro 4	4
CTT	3	Novo Banco	4
Delta	3	Salão Nobre	4

Fig. 1 above shows you ISEG campus in greater detail and nearby bus and tram stops. From Rato underground station you can catch either bus 706 towards Cais do Sodré or bus 727 towards Restelo (4 stops). From Cais do Sodré underground station you can catch bus 706 towards Estação Sta. Apolónia (5 stops).
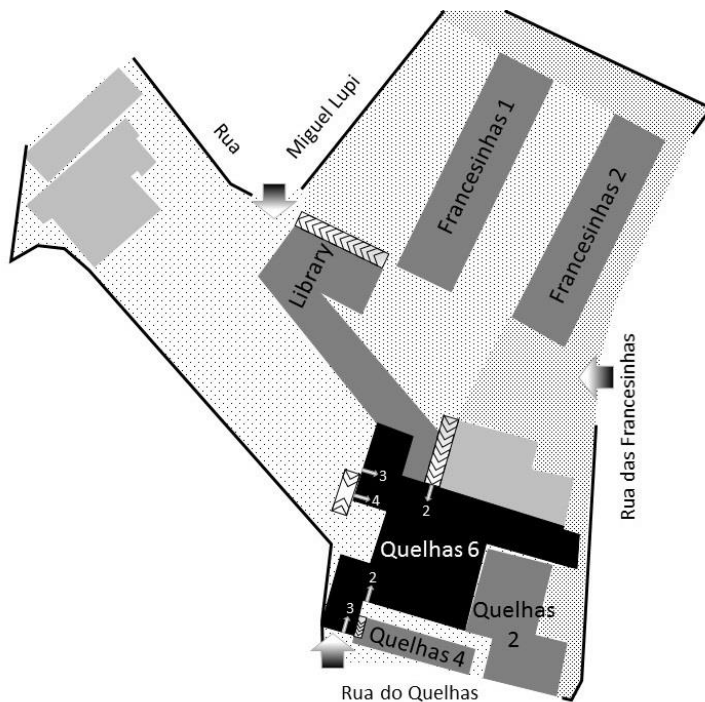

Fig. 2 shows you the detailed ISEG campus map. The three main entrances are signalled with large arrows. Doors to the Quelhas 6 building are signalled with small arrows and the associated numbers correspond to the floors to which the doors lead. Outdoor stairs are also represented with chevrons standing for the upwards direction.

Wednesday July 6th

8:15-8:45   Registration (Cloister)

8:45-9:00   Welcome and Opening Session (Auditorium CGD)

Dean of ISEG, President of UECE, President of EcoMod, LOC

9:00-10:30   Plenary Session (Auditorium CGD)

Chair: Margarida Abreu (ISEG and UECE)

Modelling the Impact of Economic Policy upon Economic Outcomes: the Role of Neglected Heterogeneity
José Mata (University of Lausanne)

Energy Scenarios: the Value and Limits of Scenario Analysis
Sergey Paltsev (MIT)

Concepts of Equilibrium and Their Role in Economic Simulation Models
Sherman Robinson (IFPRI)

10:30-11:00 Refreshment Break (Cloister)

11:00-12:30 Parallel Sessions
Session A1: Monetary Issues (Room: Anf. 1)

Chair: Slaven Mićković

How the Central Banks' Reaction Function in SOE Evolved During the Crisis
Aleksandra Hałka

European and Global Financial Integration: Some Panel Evidence of the Convergence of Interest Rates
Cândida Ferreira

Bank Business Model Assessment – Case of Integrated Risk, Management with Cash-Flow-At-Risk
Slaven Mićković

Session B1: Finance (Room: Novo Banco)

Chair: Mustafa Caglayan

Cost Efficiency of the Hong Kong Banking Sector: A Two-Stage DEA Window Analysis
Robert Alexander, Hien Thu Phan, Sajid Anwar

Investor Attention and Stock Market Activity. We'll Google It for You!
Ana Brochado

Sentiment Volatility and Bank Lending Behavior
Mustafa Caglayan, Bing Xu

Session C1: Energy and Environment (Room: Anf. 4)

Chair: Lilian de Menezes

Economy-Wide Effects of Climate Change in Ethiopia
Amsalu Woldie Yalew

The Economics of Water Infrastructure Investment Timing and Location under Climate Change in Vietnam
David Corderi Novoa, Jay R. Lund & Jeffrey Williams

Identifying Drivers of Liquidity in the NBP Month-Ahead Market
Lilian de Menezes, Marianna Russo & Giovanni Urga

Session D1: General Equilibrium Modeling (Room: CTT)

Chair: Johanes Agbahey

Can Paris Deal Boost SDGS Achievement? An Assessment of Climate-Sustainability Co-Benefits or Side-Effects
Lorenza Campagnolo, Fabio Eboli & Marinella Davide

Climate Change Adaptation in Agriculture: A General Equilibrium Analysis of Land Re-Allocation in Nepal
Sudarshan Chalise & Athula Naranpanawa

Consequences of Conflict: the Impact of the Closure Regime on the Economy of the West Bank
Johanes Agbahey, Khalid Siddig, Ole Boysen & Harald Grethe

Using a CGE Model for analyzing the Macroeconomic impact of the Grand Paris Express project on the Ile-de-France Region
Haykel Hadj Salem, Aboulkacem El-Mehdi, Hubert Jayet, Quentin David, Hakim Hammadou and Moez Kilani

Session E1: Labor Market Issues (Room: Delta)

Chair: Marek Radvanský

What Drives the Labour Wedge? A Comparison between CEE Countries and the Euro Area
Malgorzata Skibinska

Labor Market Fluctuations in Developing Countries
Sevgi Coskun

Estimating Long Term Structural and Educational Changes of Labour Demand Using CGE Model – Case of Slovakia
Marek Radvansky & Tomas Miklosovic

Session F1: Macroeconometric Modeling (Room: Staples)

Chair: Nazim Hajiyev

Determinants of International Consumption Risk Sharing in Emerging Markets and Developing Countries
Malin Gardberg

To Bi, or Not to Bi? Differences in Spillover Estimates from Bilateral and Multilateral Multi-Country Models
Georgios Georgiadis

Econometric Evaluation of the Factors Influencing Oil Prices
Yadulla Hasanli, *Nazim Hajiyev* & Adalat Muradovd

12:30-14:00 Lunch (Cloister)

14:00-15:30 Parallel Sessions

Session A2: Growth (Room: Anf. 1)

Chair: Reyno Seymore

Determinants of the Contemporary Inequality Among MENA and African Countries: What Are in the Variation of Land and Natural Resource Ownership?
Ece Guleryuz

Is the "Beckerian" Quantity-Quality Tradeoff Regarding the Offspring Always True? Analysis of NTA Data
Izabella Kuncz & Éva Berde

Alternative Growth Industries in Gabon: An Input-Output Analysis
Reyno Seymore & Martin Combrinck

Session B2: Finance (Room: Novo Banco)

Chair: António Santos

International Stock Return Predictability: On the Role of the United States in Bad and Good Times
Boriss Siliverstovs

Investigating the Presence of Long Memory in Debt Series and its Relation with Growth
João Sousa Andrade & Irina Syssoyeva-Masson

Static and Dynamic Portfolio Allocation with Nonstandard Utility Functions
António Santos

Session C2: Energy and Environment (Room: Anf. 4)

Chair: Ulrike Lehr

What Are the Effects of Oil Price Shocks on the Real Exchange Rates of Oil Exporting Countries? A Nonlinear Smooth-Transition Approach
Alfred Haug, Syed Basher & Perry Sadorsky

Active Learning and Optimal Climate Policy
In Chang Hwang

Towards the Green Economy Economic Effects of the Transition to a More Efficient World
Ulrike Lehr

Session D2: General Equilibrium Modeling (Room: CTT)

Chair: Haykel Hadj Salem

A Financial Social Accounting Matrix for the Spanish Economy
Luis Enrique Pedauga, Henry Aray & Agustín Velazquez

SAM for Azerbaijan
Suat Lemi Sisik, Malik Mehdiyev & Vilayat Waliyev

The Real and the Financial SAM Multipliers: the Tunisian Case
Haykel Hadj Salem & Manel Ayadi

Session E2: Labor (Room: Delta)

Chair: Ali Marouani

Transition from Secondary to Higher Education: A Multilevel Model for Students Graduating from Technical and Vocational Secondary Education
Mike Smet

Modelling the Ambulant Health-Care Sector in Germany
Britta Stoever

The Labor Market Effects of Skill-Biased Technological Change in Malaysia
Ali Marouani & Bjorn Nilsson

Session F2: Macroeconometric Modeling (Room: Staples)

Chair: Yulia Vymyatnina

Disinflation Period in Poland. A Hybrid New Keynesian Phillips Curve Perspective
Karol Szafranek

Economic Effects of E-Mobility Scenarios in the Context of Intermediate Interrelations and Consumption
Philip Ulrich

Credit Dynamics of Various Entities in Russia: Impact of Oil Prices and Sanctions
Yulia Vymyatnina

15:30-16:00 Refreshment Break (Cloister)

16:00-17:30 Parallel Sessions

Session A3: Growth (Room: Anf. 1)

Chair: Can Erbil

Dutch Disease and Change of the Productive Structure in Morocco. An Analysis Using A VECM Model
Karim Mohamed & Lotfi Bilal

Incorporating Gender and Time Use into NTA Turkey
Nazli Şahanoğulları

Educate Or Adjudicate? Coping with Socio-Economic Heterogeneity
Bilin Neyapti

Mall Flicks: The Mall Boom in Turkey with an Unexpected Byproduct: The Movie Sector Expansion
Can Erbil, Emin Köksal & Çağlar Yurtseven

Session B3: Finance (Room: Novo Banco)

Chair: Angi Rösch

Retail Investor Sentiment: Can We Google It?
Ana Brochado

Design Risk of CPPIs
Raquel Gaspar

Historical Stock Market Connectedness: The Case of the USA, France, and Germany during the Interwar Period
Angi Rösch, Bertrand Blancheton & Harald Schmidbauer

Session C3: Energy and Environment (Room: Anf. 4)

>**Chair: Leszek Kąsek**

>**Development Perspectives of Sub-Saharan Africa under Climate Policies**
>*Marian Leimbach*

>**The Potential Impact of Industrial Energy Savings on the New Zealand Economy**
>*Milad Maralani*, Basil Sharp & Golbon Zakeri

>**Low Oil Prices: Long-Term Economic Effects for the EU and Other Global Regions Based on the CGE Place Model**
>*Leszek Kąsek* & Jakub Boratyński

Session D3: General Equilibrium Modeling (Room: CTT)

>**Chair: Patrizio Lecca**

>**Intra-Regional Versus Inter-Regional Trade Liberalization in Central America**
>*Adolfo Cristobal Campoamor*, Olexandr Nekhay, Manuel Alejandro Cardenete Flores

>**Is Value Added Tax Progressive? Evidence from Egypt Using A CGE Model**
>*Abeer Elshennawy*

>**Studying the Structure of Income with Social Accounting Matrices**
>*Susana Santos*

>**Increased Energy Efficiency in Scottish Households: Trading-Off Economic Benefits and Energy Rebound Effects?**
>*Patrizio Lecca*, Gioele Figus, Karen Turner & Peter McGregor

Session E3: Labor (Room: Delta)

Chair: Motaz Khorshid

Economic Shocks and Their Effects on Unemployment in the Euro Area Periphery Under the EMU
Antonio Ribba & Pietro Dallari

Macroeconomic Stability and the Single European Labor Market
Timo Baas & Marjan Aikimbaeva

Assessment of Egypt's Population and Labour Supply Policies - Results from a Population Economy Interaction Model
Motaz Khorshid, Abdel Ghany & Mohamed Wafaa Abdel Aziz

Session F3: Macroeconometric Modeling (Room: Staples)

Chair: Niall McInerney

Government Failure Redux: Why Did Federal Spending Lose Stimulative Traction?
Chulho Jung & Jay E. Ryu

The Nonlinear Nature of Country Risk
Jacek Kotlowski & Michał Brzoza-Brzezina

A Structural Model of Macroprudential Policy: The Case of Ireland
Niall McInerney

18:00-20:00 Welcome Reception (Salão Nobre)

Thursday July 7th

9:00-10:30   Parallel Sessions

Session A4: Growth (Room: Anf. 1)

Chair: Lucian-Liviu Albu

Product and Labor Market Regulations, Production Prices, Wages and Productivity
Jimmy Lopez, Gilvert Cette & Jacques Mairesse

A Thresholds Analysis of Growth, Convergence and Structural Change in the EU: Insights for Portugal
João Sousa Andrade, Marta Simões & Adelaide Duarte

Modelling of the Relation Between Financial Market and Growth in EU: Convergence and Behavioural Regimes
Lucian-Liviu Albu

Methodological Bases and the New Principles of the Development of the Economic Laws of the Market Relations
Saule SAGINTAYEVA, S.Baizakov, A.Oinarov

Session B4: Finance (Room: Novo Banco)

Chair: Zbynek Stork

Animal Spirits vs Contagion: Which One Is the Main Driver of Sovereign Yields in Europe?
Miguel Ferreira, Luís Catela Nunes & José Tavares

Analysis of the Effect of Oil Price Shock on Industry Stock Returns in Nigeria
Magnus Abeng

Term Structure of Interest Rates: Macro-Finance Approach
Zbynek Stork

Session C4: Energy and Environment (Room: Anf. 4)

Chair: Lyazzat Nugumanova

A CGE Analysis of the Macroeconomiceffects of Carbon Dioxide Emission Reduction on the Algerian Economy
Touitou Mohammed

Modelling Long-Run Energy Development Plans: The Case of Barbados
Winston Moore, Mika Korkeakoski, Jyrki Luukkanen, Laron Alleyne, Abdullahi Abdulkadri, Noel Brown, Therese Chambers, Orlando Costa, Alecia Evans, Sidonia McKenzie, Dwight Reid & Luis Vazquez Seisdedos

Analysis of Environmental Policy in Kazakhstan
Lyazzat Nugumanova

Session D4: General Equilibrium Modeling (Room: CTT)

Chair: Keshab Raj Bhattarai

Sensitivity of Modeling Results to Technological and Regional Details: The Case of Italy's Carbon Mitigation Policy
Gabriele Standardi, Yiyong Cai & Sonia Yeh

Understanding the Effects of Fiscal Policy on the Shadow Economy
Alejandro C. Garcia-Cintado, Celso Jose Costa Junior & Carlos Usabiaga Ibáñez

A Dynamic Multi-Sectoral CGE Model for Azerbaijan Economy
Suat Lemi Sisik, Ali Bayar, Vilayat Waliyev & Masudi Opese

Economic Growth and Development in India and SAARC Countries
Keshab Raj Bhattarai

Session E4: Labor (Room: Delta)

   Chair: Abdulaziz Mosa

   Labor Market Effects of Pension Reform: An Overlapping Generations General Equilibrium Model Applied to Tunisia
   Mouna Ben Othman & Mohamed Ali Marouani

   Modelling Nature-Based Tourism's Impact on Rural Livelihoods and Natural Resources in Sikunga Conservancy, Namibia
   Steven Gronau, Etti Maria Winter & Ulrike Grote

   Water Fetching and Firewood Collection in Ethiopia: Economy-Wide Effects of Improved Efficiency
   Abdulaziz Mosa, Khalid Siddig & Harald Grethe

Session F4: Macroeconometric Modeling (Room: Staples)

   Chair: Durmus Ozdemir

   The Growth Drag of the Agriculture in China
   Junbo Xue, Zhao Mengzhen & Chen Zhenhua

   Analyzing Macroeconomic Imbalances in the EU
   Filip Ostrihoň, *Maria Širaňová*, Tomas Domonkas & Ivana Šikulová

   Computing the Cross-Sectional Distribution to Approximate Stationary Markov Equilibria with Heterogeneous Agents and Incomplete Markets
   Elisabeth Pröhl

   A Macroeconometric Model of Turkey: Impact of Exchange Rate Shocks under a High International Borrowing
   Durmus Ozdemir & Mustafa Kemal Gundogdu

10:30-11:00 Refreshment Break (Cloister)

11:00-12:30 Parallel Sessions

Session A5: Agricultural Issues (Room: Anf. 1)

Chair: Zuzana Smeets-Kristkova

Land Use and Freshwater Ecosystems in France
Basak Bayramoglu, Raja Chakir & Anna Lungarska

Modeling the Distributive Effects of an Agricultural Shock on Household Income in South Africa: A SAM Multiplier Decomposition and Structural Path Analysis
Julius Mukarati & Makombe Godswill

The Role of Market Fundamentals and Trade Policy in Past Wheat Price Fluctuations
Jacob Schewe, Christian Otto & Katja Frieler

Agricultural R&D Investments, Biofuel Policy and Food Security – a CGE Analysis
Zuzana Smeets-Kristkova, Edward Smeets & Hans van Meijl

Session B5: Forecasting (Room: Novo Banco)

Chair: Britta Stoever

Does Foreign Sector Help Forecast Domestic Variables in DSGE Models?
Marcin Kolasa & Michal Rubaszek

Real World Scenarios for Interest Rates Based on the LIBOR Market Model
Sara Lopes

Measuring the Conditions of Capability in Germany for the Next Few Years
Britta Stoever, Marc Ingo Wolter & Thomas Drosdowski

Session C5: Energy and Environment (Room: Anf. 4)

> **Chair: Ionut Purica**
>
> **Combining Price and Quantity Controls under Partitioned Environmental Regulation**
> *Sebastian Rausch* & Jan Abrell
>
> **Simulating the Macroeconomic Impact of Future Water Scarcity**
> *Roberto Roson* & Richard Damania
>
> **Hazard Risks and Their Impact on Critical Infrastructures (Case Analysis of Natural Gas Networks of Italy and Romania)**
> *Ionut Purica*
>
> ***Pathways from Paris: an assessment of national climate plans to limit global warming***
> *Bram Smeets*

Session D5: General Equilibrium Modeling (Room: CTT)

> **Chair: Antti Simola**
>
> **The Effects and Implications of Green Public Procurement with Economy-Wide Perspective: A Computable General Equilibrium Approach**
> *Yeongjun Yeo*, Ki-yoon Shin & Jeong-Dong Lee
>
> **An Agriculture Economy Interaction Model for Egypt - Analysis of the Proposed Free Trade Agreement with USA**
> *Motaz Khorshid*, Saad Nassar & Victor Shaker
>
> **Contaminants and Pathogens in Waterways - Economic Assessment   of Risks**
> *Antti Simola*, Janne Juntunen & Päivi Meriläinen

Session E5: Public Finance and Tax Policy (Room: Delta)

Chair: Panos Tsakloglou

Manipulability of Voting Procedures, Strategic Voting Ad Strategic Nomination
Frantisek Turnovec

Input vs Output Taxation - A DSGE Approach to Modelling Resource Decoupling
Marek Antosiewicz, Piotr Lewandowski, & Jan Witajewski-Baltvilks

Mobility into and Out of Poverty in Europe Before, During and after the Economic Crisis
Panos Tsakloglou & Eirini Andriopoulou

Session F5: Macroeconometric Modeling (Room: Staples)

Chair: Ute Volz

EAGLE-FLI: A Macroeconomic Model of Banking and Financial Interdependence in the Euro Area
Sandra Gomes, Nikola Bokan, Andrea Gerali, Massimiliano Pisani & Pascal Jacquinot

ECB-Global: Introducing the ECB's Global Macroeconomic Model for Spillover Analysis
Georgios Georgiadis, Alistair Dieppe, Martino Ricci, Ine Van Robays & Bjorn van Roye

The Economic Integration of Spain: A Change in the Inflation Pattern
Carlos Usabiaga-Ibáñez, Alejandro C. García-Cintado & Diego Romero-Ávila

Heterogeneity in Euro Area Monetary Policy Transmission: Results from a Large Multi-Country BVAR
Ute Volz, Martin Mandler & Michael Scharnagl

20:00-23:00 Gala Dinner

Páteo da Galé
Praça do Comércio (Terreiro do Paço)

Friday July 8th

9:00-10:30   Parallel Sessions

Session A6: **Growth (Room: Anf. 1)**

Chair: Chair: Amaia Iza

R&D Heterogeneity and Implications for Growth
Sigurd Galaasen & Alfonso Irarrazabal

Adopting Egovernment as a Strategic Tool for Economic Development: Insights from Governmental Websites in Egypt
Riem M. Hamdi AbdelAzim & Doaa Ismail

Entrepreneurial Skills, Firms' Age-TFP Profile and Aggregate TFP
Amaia Iza

Session B6: **Microsimulation (Room: Novo Banco)**

Chair: Miriam Frey

Household Expenditures on Transport Services: An Econometric Analysis Using A Mixture of Multivariate Tobit Models
Hana Bruhova Foltynova & Jan Brůha

Modelling Replacement Demand for Labour Using Microsimulation Approach - Case of Slovakia
Marek Radvansky and Miroslav Stefanik

Income Inequality Effects of Ukraine's Trade Liberalization With the EU. Are There 'Two Ukraines'?
Miriam Frey

Session C6: Energy and Environment (Room: Anf. 4)

Chair: Michał Antoszewski

How Large and Uncertain Are Costs of 2030 Emission Reduction Target for the European Countries? Sensitivity Analysis in A Global CGE Model
Magdalena Zachlod-Jelec & Jakub Boratyński

The Economy-wide Effects of Global Climate Policy on the Russian Economy
Anton Orlov

Allocation Rules of Free Allowances in the EU ETS System. A CGE Analysis
Michał Antoszewski & Krzysztof Wójtowicz

Session D6: Trade Issues (Room: CTT)

Chair: Elena Ianchovichina

Is FTA/EPA Effective for a Developing Country to Attract FDI? The Knowledge-Capital Model Revisited
Kazuhiko Oyamada

Decomposing the Measure of Ignorance: TFP and Fundamental Productivity in the World Economy
Frank Pothen & Edward J. Balistreri

The Lifting of Economic Sanctions on Iran: Global Effects and Strategic Responses
Elena Ianchovichina, Shantayanan Devarajan & Csilla Lakatos

Session E6: Public Finance and Tax Policy (Room: Delta)

Chair: Jonathan Pycroft

Child Deprivation and Social Benefits: Europe in Cross National Perspective
Maite Blazquez, Elena Bárcena-Martín, Ana I. Moro-Egido & Santiago Budria

Tax Potential and Tax Effort: An Empirical Estimation for Non-Resource Tax Revenue and VAT's Revenue
Maimouna Diakite & Jean-François Brun

Tax Simplification and Tax Efficiency
Nihal Bayraktar

Corporate Income Tax Reform in the EU
Jonathan Pycroft, María Teresa Álvarez-Martinez, Salvador Barrios, Maria Gesualdo & Dimitris Pontikakis

Session F6: Regional Modeling (Room: Staples)

Chair: Pierre Polzin

Regional Policy and Industrial Relocation in China: A Panel Data Analysis
Robert Alexander, Rui-cong Sang, & Sajid Anwar

Measuring the Flemish Competitivity through Total Factor Productivity
Dirk Hoorelbeke

Applying an Extended Kernel Density 4-Step Floating Catchment Area Method to Identify Priority Districts to Promote New Publicly Financed Supply of Gastroenterology Exams
Pierre Polzin, José Borges & António Coelho

10:30-11:00 Refreshment Break (Cloister)

11:00-12:30 Parallel Sessions

Session A7: Monetary Issues (Room: Anf. 1)

      Chair: Giacomo Candian

      Impact Evaluation of Scenario With Local Currencies: DSGE Model
      Katerina Gawthorpe

      Determination of the Dynamic Interaction between of Macro-Prudential and Monetary Policy Mix in Nigeria: A Structural Analysis
      Sikiru Abidemi Abdulsalam, Moses K. Tule, Eunice N. Egbuna & Joseph Tawose

      Information Frictions and Real Exchange Rate Dynamics
      Giacomo Candian

Session B7: Health Economics (Room: Novo Banco)

      Chair: Cyrine Hannafi

      The Socioeconomic Gradient in Health: the Role of Intra-Household Resource Allocation
      Maite Blazquez, Ana I. Moro-Egido & Elena Bárcena-Martín

      Decomposing Socioeconomic Inequality of Health
      Guido Erreygers, Roselinde Kessels, Linkun Chen & Philip Clarke

      The Poverty-Economic Growth-Health Triangle
      Cyrine Hannafi & Christophe Muller

Session C7: Energy and Environment (Room: Anf. 4)

Chair: Dirk Willenbockel

Stochastic Equilibrium Modeling: the Impact of Uncertainty on the European Energy Market
Rolf Golombek, Kjell Arne Brekke, Michal Kaut, Sverre A.C. Kittelsen & Stein W. Wallace

Macroeconomic Impact of Electric Power Outage: Simulation Results from A CGE Modelling Experiment for Hungary
Klára Major, Drucker & Luca Flóra

Irrigation Freshwater Withdrawal Stress in Future Climate and Socio-Economic Scenarios
Victor Nechifor-Vostinaru & Matthew Winning

Climate Policy and the Energy-Water-Food Nexus: A Model Linkage Approach
Dirk Willenbockel, Claudia Ringler, Nikos Perez, Mark Rosegrant, Tingiu Zhu & Nathanial Matthews

Session D7: Trade Issues (Room: CTT)

Chair: Mário Fortuna

Tariff Induced Licensing Contracts and Consumer's Welfare
Tarun Kabiraj

An Innovative CGE Assessment of the Impact of the TTIP Including Multinationals and Foreign Direct Investment
Maria C. Latorre & Hidemi hi Yonezawa

The Effects of the TPP in the Mexican Economy: CGE Assessment
Gabriela Ortiz Valverde, María de la Concepción & Latorre Muñoz

Modelling the Impact of the Transatlantic Trade and Investment Partnership (TTIP) on a Small Regional Economy
Mário Fortuna & Masudi Opese

Session E7: Public Finance and Tax Policy (Room: Delta)

    Chair: Viliam Páleník

    Redistribution, Polarization, and Ideology
    Rosalia Greco

    Evaluating Macroeconomic and Distributional Impacts of Current and Alternative Tax Reforms in Spain: An Applied General Equilibrium Approach
    Ana-Isabel Guerra, Laura Varela-Candamio, & Jesús López-Rodríguez

    Modeling Macroeconomic Effects of Environmental Taxes as an EU Own Resource Using the CGE Model
    Viliam Páleník & Tomáš Miklošovič

Session F7: Macroeconometric Modeling (Room: Staples)

    Chair: Christopher Baum

    Sovereign Default and Public Debt Sustainability
    Michel Guillard & Hubert Kempf

    Optimal Fiscal Simple Rules for Small and Large Countries of a Monetary Union
    Paulo Vieira, Celsa Machado & Ana Paula Ribeiro

    Empirical Estimation of Elasticities and Their Use
    Murat Genc

    Estimating a Dose-Response Function with Heterogeneous Response to Confounders when Treatment is Continuous and Endogenous
    Christopher Baum & Giovanni Cerulli

12:30-14:00 Lunch (Cloister)

14:00-15:30 Parallel Sessions

Session A8: Business Cycles (Room: Anf. 1)

Chair: Harald Schmidbauer

Expectation-Driven Cycles: Time-Varying Effects
Caterina Mendicino & Antonello Dágostino

The"New" Normal Is "Old" in China: Very Late Catching Up and Return to the (Pre-WTO) Old Normal
Harry X. Wu & Eric Girardin

Are American and European Equity Markets in Phase? Frequency Aspects of Return and Volatility Spillovers
Harald Schmidbauer, Angi Rösch, Erhan Uluceviz & Narod Erkol

Session B8: New Developments (Novo Banco)

Chair: Martina Sartori

Value Function Iteration Toolkit: In Matlab, on the GPU
Robert Kirkby

PAMS.Py: A GAMS-Like Modeling System Based on Python and SAGE
Roberto Roson

Estimation of Climate Change Damage Functions for 140 Regions in the GTAP9 Database
Martina Sartori & Roberto Roson

Session D8: Trade Issues (Room: CTT)

Chair: Jan Hagemejer

Tieboutian Market Structure and Collective Decision Process within a Global Competition Policy
Ermelinda Lopes Silva

The First Great Liberalization: Competition, Quality and Productivity
Bertrand Blancheton, *Stephane Becuwe* & Chrispother Meissner

Productivity Spillovers in the GVC: the Case of Poland and the New EU Member States
Jan Hagemejer

Session E8: Public Finance and Tax Policy (Room: Delta)

Chair: António Afonso

Informal Sector Heterogeneity and Tax Compliance in Cameroon
Melaine Yoffo & Jean François Brun

The Effectiveness of a Fiscal Transfer Mechanism in a Monetary Union: A DSGE Model for the Euro Area
Loes Verstegen & Lex Meijdam

Post-2008 Brazilian Fiscal Policy: An Interpretation through the Analysis of Fiscal Multipliers
Alejandro C. Garcia-Cintado, Celso José Costa Júnior & Armando Vaz Sampaio

Fiscal Activism and Price Volatility: Evidence from Advanced and Emerging Economies
António Afonso & João Tovar Jalles

Session F8: Regional Modeling (Room: Staples)

Chair: Alper Duman

Nimbyism, Pigouvian Equilibrium, Spatial Correlation or All Three? Modelling the Distribution of Residential Land and Its Impact in 27 EU Countries
Lasse de la Porte Simosen & Stephen Wright

Regional Growth and Convergence in Spain: Is the Decentralization Model Important?
Carlos Usabiaga-Ibáñez & E. Hernández-Salmerón

The Macroeconomic Impacts of the European Investment Bank Investments: Evidence from the RHOMOLO Model
Patrizio Lecca, Francesco Di Comite & d'Artis Kancs

Inter-City Trade Networks in Turkey: Shocks and Spillovers
Alper Duman

15:30-16:00 Refreshment Break (Cloister)

16:00-17:30 Plenary Session (Auditorium CGD)

Chair: Luís F. Costa (ISEG and UECE)

Mário Centeno (Minister of Finance)

17:30-17:45 Closing session (Auditorium CGD)

Dean of ISEG, President of UECE, President of EcoMod, LOC & Durmus Ozdemir (Yasar University)

Web Presentations

Scale Gains in Household Consumption and Their Modeling Implications in Poverty and Distribution Analyses
Carolina Grottera, Franck Nadaud, Emmanuel Combet & Carine Barbier

The EU-Ukraine Free Trade Agreement and Russia's Retaliation: A Negative Side of Free Trade Agreements?
Olexandr Nekhay, Manuel Alejandro Cardenete Flores, Adolfo Cristobal Campoamor & Olexandr Nekhay

Economic Computation and SFEcon Model 0
Kurt Roemer

Are There Positive Impacts for Adopting Lesser Duty Rule in Anti-Dumping Investigations
Noura Abdelwahab

Economic Impact Assessment of Food Waste on European Countries throughout Social Accounting Matrices
Pilar Campoy-Muñoz, Manuel Alejandro Cardenete Flores & Maria Carmen Delgado

International Shocks and Macroeconomics: A New Multi-Country DSGE Platform for Policy Analysis in OECD Countries
Edgar Mata Flores

Structural Shift and Increasing Variety of Korea, 1960-2010: Empirical Verification of the Economic Development Model by the Creation of New Sectors
Jung-In Yeon, Andreas Pyka & Tai-Yoo Kim

Abstracts

Adopting Egovernment as a Strategic Tool for Economic Development: Insights from Governmental Websites in Egypt

Riem M. Hamdi ABDELAZIM, Doaa Ismail

Electronic Government services (E-government) play a vital role in measuring the economic development in any country. Public administrations pursue online existence to provide services and information to their stakeholders. Challenges in implementing these E-government services have always been of great interest for research studies in the field. This explains why government websites are under continuous evaluation, from different perspectives, worldwide. The Egyptian government has acknowledged the importance of providing E-government services since 2004. By applying E-government services amongst its public administration, the Egyptian government has been seeking economic and social development. This research paper will provide a comprehensive evaluation of the online progress of the Egyptian ministries using the five staged E-government Model outlined by the United Nations - UN Web Presence Measurement Model (2001). The new application of the model is considered the benchmark to evaluate the progress of these E-government websites. Findings revealed that out of the thirty four ministries, and other government agencies functioning under cabinet, in this administration, a total of four ministries have reached the "Transactional presence", stage four, while fifteen ministries have reached the "Interactive Presence", stage three, in the model provided. The remaining fifteen ministries are still in stage two, "Online Presence", and stage one, "Emerging Presence" with no real services provided to the citizens. Finally, the results also revealed that none of the governmental websites have reached the "Seamless Interaction", stage five. Thus, the Egyptian government websites are considered an undeveloped websites. They are still incapable of effectively interacting or delivering services to the citizens. Furthermore, reaching the "Seamless Interaction" stage is foreseen as unattainable in the near future.

Determination of the Dynamic Interaction between of Macro-Prudential and Monetary Policy Mix in Nigeria: A Structural Analysis

Sikiru Abidemi ABDULSALAM, Moses K. Tule, Eunice N. Egbuna, Joseph Tawose

This study develops and estimates a structural open economy model using Bayesian technique to examine the outcomes of monetary policy, financial policy and the interaction between financial and monetary policy instruments on key macroeconomic variable in Nigeria. The study utilizes quarterly data covering the period of 2007Q1 - 2015Q4. The results indicate that shocks to oil price, cash reserve ratio, macro-prudential index (capital adequacy ratio, liquidity ratio and loan-to-deposit ratio), monetary policy rate and fiscal deficit impacted on output growth, inflation, external reserves, exchange rate and credit conditions in Nigeria. It therefore implies that a positive shock to the policy rate and cash reserves ratio in Nigerian will cause a temporary appreciation in the exchange rate, increase external reserves and inflation, while output growth and credit would decline in the short run. Our findings reveal that oil price shocks tend to heighten economic agents' sensitivity to exchange rate and drive the motivation for excessive fiscal spending. Similarly, external reserves and output growth tend to worsen as a result of downward oil price shocks.

Analysis of the Effect of Oil Price Shock on Industry Stock Returns in Nigeria

Magnus ABENG

This study focus on the impact of oil price fluctuation on the sector level activities of the stock market in Nigeria. Five industry sectors were examined based on availability of data while included macroeconomic factors were selected guided by economic theory and existing literature. Study results suggest that changes in oil prices significantly affect stock returns of all the sectors, except food beverages and tobacco. Consistent

with the findings of McSweeney and Worthington (2007) and Agusman and Deriantino (2008) for the Australian and Indonesian stock markets, respectively, the parameter estimates of market returns for the banking, insurance, food beverages and tobacco, oil and gas and industrial sectors significantly exceeded unity, suggesting a high risk exposure of these sectors vis-à-vis market returns. The food beverages and tobacco and oil and gas sectors exhibit significantly negative sensitivity to exchange rate risk, indicating the debilitating effect of the depreciation of the domestic currency on the returns of these sectors. The implications are enormous. First, the negative response of all sectors to exchange rate movement calls for prudent management of reserves plus informed and timely intervention in the market by the monetary authority to keep the rate stable. Secondly, the insensitivity of the food beverages and tobacco to oil price movement is an indication of the inefficiency instituted by the subsidy on petroleum products that insulate domestic consumption from market fundamentals. Subsidies distort the efficient allocation of resources by the market and in the case of Nigeria abet and aid corruption.

Fiscal Activism And Price Volatility: Evidence From Advanced And Emerging Economies
António AFONSO, João Tovar Jalles

Using a panel of 54 countries between 1980 and 2013, we find empirical support for the view that changes in the fiscal policy stance (year-on-year change in the cyclically adjusted primary balance) have a significant positive correlation with inflation volatility. An increase in the volatility of discretionary fiscal policies by one standard deviation raises inflation volatility between 5 and 6 percent. Moreover, results using alternatively different inflation volatility proxies confirm that an expansionary fiscal stance increases price volatility. Another relevant outcome is that during an economic boom the harmful impact of fiscal activism on price volatility is soften (heightened), while the negative impact of fiscal activism on price stability is higher when fiscal policy is expansionary. Finally, fiscal activism fuels inflation volatility much more pronouncedly in emerging market economies vis-a-vis advanced economies.

Consequences of Conflict: The Impact of The Closure Regime on The Economy of the West Bank
Johanes AGBAHEY, Khalid Siddig, Ole Boysen, Harald Grethe

The signing of the Oslo peace accord in 1993 and the Paris protocol on economic relations in 1994 created high expectations for economic growth in Palestine and integration of the Palestinian economy with Israel. However, these expectations have in large part not materialized (Akkaya et al., 2008). Political tension have progressively led to the implementation of restrictions imposed by Israel in response to security incidents or perceived risks (Fischer et al., 2001). The restrictions are multi-faceted. They include a work permit policy, which strongly affects labor mobility for Palestinian workers into Israel. They also include a physical barrier between the Palestinian territories and Israel as well as a policy of closure, which distorts trade.

The closure policy was initiated in the mid-90s and is composed of two types of closures. External closures restrict the movement of goods and people between the Palestinian territories and Israel and between the West Bank and the Gaza Strip. Internal closures limit the movement of goods and people within the West Bank. Between these two types of closures, the most recurrent are the internal closures. Saleh (2004) reports that more than 80% of the staffed checkpoints are within the West Bank. The fixed and mobile checkpoints combined with a multitude of roadblocks divide the economic space of the West Bank into small pieces. As a result, trade flows are disrupted and transaction costs are excessive (Fischer et al., 2001). Although the Palestinian-Israeli conflict has been subject to various studies, the impact of the closure regime on the West Bank economy has barely been investigated.

The Palestinian-Israeli conflict has for a long time been covered by media reporters and researchers. The political, sociological and psychological dimensions of the conflict are well documented (e.g. Jaeger and Paserman 2008). On the economic dimension of the conflict, there is a growing literature (e.g. Benmelech et al., 2010). However, the consequences of the policies enacted in response to the conflict have only occasionally been investigated. Some recent research addresses the impact of the work permit policy on labour markets. Mansour (2010) analyses the effects of increased labour supply in the West Bank market following limited access to the Israeli market on wages and unemployment. Etkes (2012) assesses the impact of the permit policy on the overall Palestinian labour force. Flaig et al. (2013) investigate the impact of relaxing the restrictions on Palestinian labour mobility for the Israeli economy.

The literature assessing the consequences of the restrictions on trade is very limited. Ihle and Rubin (2013) address the consequences of closures on bilateral trade and on price transmission, while Madi et al. (2009) assess the performance of domestic food markets and imported food in the Palestinian territories under the closure regime. Akkaya et al. (2008) study the impact of the closure regime on trade and estimate the trading costs associated with the closure regime. A limitation of these three studies is that they either focus on only a few traded commodities or they omit the multiplier effects in the estimation of the costs. Having identified these research gaps, this study makes the following contributions to the literature. First, it covers the effects on the economy at large represented by macroeconomic indicators and households welfare using a well disaggregated database and a computable general equilibrium model. Second, it sheds light on the consequences of the closure regime on trade for all goods and services within the West Bank and between the West Bank and Israel and the rest of the world.

Modelling of the Relation Between Financial Market and Growth in EU: Convergence and Behavioural Regimes
Lucian-Liviu ALBU

Generally in specialised literature it is accepted that, in a modern economy, between financial market and growth should be a strong relation. Consequently, the real convergence in EU (already demonstrated during last two decades) should be followed by a convergence in matter of financial market development.

Unfortunately, today still there are huge discrepancies among countries or groups of countries in EU in matter of financial market, this being apparently irregular correlated with real economy development.

Chronic underdevelopment of financial market in eastern countries of EU is doubled by an apparently atypical mismatch between financial market and macroeconomic dynamic even in case of western countries.

Cost Efficiency of the Hong Kong Banking Sector: A Two-Stage DEA Window Analysis
Robert ALEXANDER, Hien Thu Phan, Sajid Anwar

The paper addresses two questions: (i) how efficient is Hong Kong's banking sector? and (ii) what are the determinants of banking sector efficiency in Hong Kong? The cost efficiency of the Hong Kong Banking sector over the period 2004 to 2014 is estimated by both traditional DEA and DEA window analysis. The determinants of the efficiency scores are then investigated using a truncated regression model.

Regional Policy and Industrial Relocation in China: A Panel Data Analysis

Robert ALEXANDER, Rui-cong Sang, Sajid Anwar

An important part of Chinese economic development, especially of the Eastern Coastal provinces, has been the relocation of industry from Western countries. More recently, the Chinese Government has encouraged the development of Central, Western and Northern provinces and local governments in these regions have been making efforts to attract investment from companies from Eastern China. We investigate the factors that drive the investment decisions of such companies.

Corporate Income Tax Reform in The EU

María Teresa ÁLVAREZ-MARTINEZ, Salvador Barrios, Maria Gesualdo, Dimitris Pontikakis, Jonathan Pycroft

Corporate tax reforms in the EU are motivated by evidence that the current system is unfair and inefficient. Uncoordinated national tax regimes can feature tax loopholes and inconsistencies in the treatment of corporate profits across borders that give rise to strategic tax planning by multinational corporations. There is growing recognition of these issues and a renewed impetus to address them. Attempts to improve international coordination of national corporate tax policies are being undertaken through the OECD Base Erosion and Profit Shifting (BEPS) Project.

In this paper, we evaluate the effects that changing the corporate income tax (CIT) rate may have on EU countries using a Computable General Equilibrium (CGE) model. The model captures the key features of the corporate tax regimes including investment decisions, loss compensation, multinational profit shifting and the debt-equity choice of firms. This is a multi-regional model including all 28 EU member states, the USA and Japan. It encapsulates the behaviour of all economic agents, reflecting both the direct and indirect effects of policy changes on macroeconomic variables, such as GDP, investment and employment.

Input vs. Output Taxation - A DSGE Approach to Modelling Resource Decoupling

Marek ANTOSIEWICZ, Piotr Lewandowski, Jan Witajewski-Baltvilks

Environmental taxes constitute a crucial instrument aimed at reducing resource use 8 through lower production losses, resource-leaner products and more resource efficient production 9 processes. In this paper we focus on material use and apply a multisector dynamic stochastic 10 general equilibrium model of an open economy to study two types of taxation: tax on material 11 inputs used by the industry, energy, construction and transport sectors, and tax on the output of 12 these sectors. We allow for endogenous adaption of resource saving technologies by firms. We 13 calibrate the model for the EU area using Input Output matrix. We consider taxation introduced 14 from 2021 and simulate its impact on GDP, national accounts, labour market, resource use, and 15 public finances until 2050. We compare the taxes along their ability to induce reduction in material 16 use and the amount of tax income that they generate. We also consider several uses of tax revenue – 17 standard transfer to household closure and reduction of labour taxation. We find that input and 18 output taxation create contrasting incentives and have an opposite effect on resource efficiency, 19 which implies different dynamics of material use, and macroeconomic outcomes. The material 20 input tax induces investment in efficiency improving technology which in the long term results in 21 GDP and employment that is 15-20% higher comparing to the scenario with output tax. The tax on 22 output reduces industrial activity but also discourages investment in resource efficiency improving 23 technology. We also find that using revenues for reducing taxes on labour has larger beneficial 24 effects for the input tax. This leads us to the conclusion that material input tax being a more 25 efficient instrument to achieve resource decoupling.

Allocation Rules of Free Allowances in the EU ETS System. A CGE Analysis

Michał ANTOSZEWSKI, Krzysztof Wójtowicz

Unilateral emission reduction policy conducted by the EU may undermine competitiveness of European industries. In order to mitigate this risk, these industries are granted with free emission allowances based on their historical production ("historical allocation"). However, another option which is currently discussed could be the linkage of free allowances amount to the current production level ("dynamic allocation"). Such a rule which would not "punish" companies for output increases.

Macroeconomic Stability And The Single European Labor Market

Timo BAAS, Marjan Aikimbaeva

The Single European Labor Market is seen more and more as an instrument to face short-term challenges like diverging unemployment rates and asymmetric business cycles. Most labor economists, however, agree that the common labor market is far from completion even though migration has increased strongly after EU-enlargement. It is, therefore, an open question to which extent this unfinished common market performs its function. In this paper, we analyze the impact of economic conditions on bilateral migration from Poland to Germany by estimating a two-country DSGE model using Bayesian methods. Our findings imply that migration, indeed, follows cyclical patterns and that it fosters economic stability. This, however, only holds true for the country of origin, as macroeconomic shocks of the destination country have a minor impact on migration.

Estimating a Dose-Response Function with Heterogeneous Response to Confounders when Treatment is Continuous and Endogenous

Christopher BAUM, Giovanni Cerulli

This paper presents an original econometric model for estimating a dose-response function when: treatment is continuous but with a "spike" at zero; individuals may react heterogeneously to observable confounders; and selection-into-treatment may be endogenous.
The goal is to provide program evaluators with a model able to enlarge the set of program evaluation methods to use in continuous treatment settings.
Two estimation procedures are suggested: OLS under Conditional Mean Independence; and Instrumental-Variables (IV) under treatment endogeneity.
Two applications to real data are proposed. The first investigates the effect of public R&D support on companies' R&D expenditure for Italy using the OLS procedure; the second application uses US data to assess the effect of job tenure on wages. Results in the light of model's assumptions are discussed.

Tax Simplification And Tax Efficiency

Nihal BAYRAKTAR

Tax simplification has always been in the agenda of policymakers to increase the efficiency of the tax system and tax compliance burdens for taxpayers. At the same time, less complex tax systems can contribute to higher tax revenues with minimum negative distortions to economies. The link between tax simplification and tax efficiency is especially important for policymakers in the era of high government budget deficits, which require collecting higher tax revenues. In the literature, empirical studies on this link between simpler tax systems and tax efficiency are considerably limited. The aim of this paper is the empirical study of the impact of tax

simplification on the efficiency of tax systems in a cross-country setting. Simpler tax laws contribute to more efficient administration with less discretion leading to greater efficiencies in tax collection. Similarly, lower corruption associated with simpler tax systems is also expected to yield higher tax efficiency and revenues.

Land Use And Freshwater Ecosystems In France
Basak BAYRAMOGLU, Raja Chakir, Anna Lungarska

Freshwater ecosystems have experienced over the last three decades larger declines in biodiversity than terrestrial and marine ecosystems. This is due to alterations of habitat, water pollution problems, overexploitation of water resources, exotic invasions, water extraction and flow regulation (Mantyka-Prigel et al., 2014). These human-induced pressures are mainly driven by land use changes. The increased urbanization and development cause the alteration of habitat in rivers. The agricultural sector is at the origin of diffuse pollution problems due to discharges of nitrogen, phosphorus and pesticides in soil and water. Some rivers in France are highly degraded because of these various land uses and their changes. This degradation is represented by a decline in the quality and quantity of water, and by changes in the distribution and structure of aquatic biota for some rivers in France (Oberdorff et al., 2002). This has led us to ask what land uses are at the origin of the spatial heterogeneity of the "health" of water bodies in France, and which public policies are best in improving it. The previous work on France has studied exclusively the effects of land uses on the chemical status of water quality. In this work, we close the gap in the literature by analyzing how alternative land uses affect freshwater ecosystems in France.

Labor Market Effects Of Pension Reform : An Overlapping Genenrations General Equilibrium Model Applied To Tunisia
Mouna BEN OTHMAN, Mohamed Ali Marouani

This article develops an overlapping general equilibrium framework to capture the interactions among pension reform, labor market and inter-generational distribution issues in Tunisia. The impact on the labor market is addressed at the aggregate level but also by distinguishing different age categories. The three reform scenarios implemented to reduce the social security deficit consist in increasing social security contributions, reducing the replacement rate and postponing the retirement age. The main result obtained is that increasing contribution rates is the worst solution in terms of welfare and unemployment, particularly for the youth. The best option is postponing the retirement age. Contrary to the traditional wisdom, it does not entail an increase of youth unemployment. For the two scenarios where aggregate welfare increases, the middle-aged are those that benefit the most from the reforms.

Economic Growth And Development In India And SAARC Countries
Keshab Raj BHATTARAI,

Momentum of economic growth in India and other South Asian economies is analysed based on stylized facts of these economies along with trends of their fiscal, monetary, trade, education and income distribution policies. Macroeconomic, general equilibrium, trade and game theoretic models have been identified that could be applied to analyse micro, macro and sectoral issues of economic growth. Achieving higher rates of economic growth requires more systematic and scientific analysis of potentials, existing strengths and comparative advantages of these economies so that they can march ahead in the growth competition in the global economy. Policies should be consistent and comprehensive to link various sectors, regions and nations in this road for long run growth. A strong pro-growth government in India with a good vision for the regional integration and development is instrumental in turning this region as another example of economic miracles in

the global economy within the next few decades. By maintaining average 8 percent growth, it is possible that India will catch up the countries in the Western Europe in per capita income within a generation. Other SAARC members may be able to converge to India in per-capita income if they are able to become more stable and ready to march single-minded on the highway of economic growth.

The First Great Liberalization : Competition, Quality And Productivity
Bertrand BLANCHETON, Stephane Becuwe, Chrispother Meissner

How did an advanced industrial country react face a great liberalization?

How did this country adapt itself to global markets in the face of rapidly rising foreign productivity and falling trade costs.
How an early starter adapt it insertion strategy in international trade in long run perspective?

The Socioeconomic Gradient In Health: The Role Of Intra-Household Resource Allocation
Maite BLAZQUEZ, Ana I. Moro-Egido, Elena Bárcena-Martín

This paper aims to analyse the impact of different household financial regimes on the health status of males and females in a number of European countries. Using the EU-SILC 2010 on intra-household sharing of resources, we find that each member of the couple is worse off if his/her partner has most decision-making responsibilities. Additionally, the presence of children in the household plays a role in the effect that household financial regimens exert on individual self-assessed health, especially among females. We conclude that family arrangements regarding resource allocation and decision-making have important consequences and should be given some attention in the task of identifying individuals predisposed to health problems.

Child Deprivation and Social Benefits: Europe in Cross National Perspective
Maite BLAZQUEZ, Ana I. Moro-Egido, Santiago Budria

This paper explores the relevance of the financial regimen in the general level of deprivation and also in different domains of deprivation: economic strain, durables and housing. We conclude that contributing incomes to the household, either totally or partially, reduces general deprivation, specifically economic strain. This reduction is even more obvious in the presence of children. We also find that sharing responsibility on decision-making reduces deprivation. In particular, there is no gender effect concerning decisions on durables; sharing decisions on borrowing and about children always reduces the level of deprivation; and if the woman decides about everyday shopping deprivation reduces, unless if she is the one who earns more in the couple, while when the man decides about saving deprivation decreases, when he is the most educated in the household, and even more in economic strain.

Investor Attention And Stock Market Activity. We'll Google It For You!
Ana BROCHADO

The aim of this work is to analyze the influence of investor attention on the Portuguese stock market activity and volatility. As a proxy of investor attention, we use investors' online search behavior, both at the individual stock and the overall market level, provided by Google Trends.

Retail Investor Sentiment: Can We Google It?

Ana BROCHADO

As Internet searches are generated by the spontaneous behavior of agents, these search patterns may possess signaling properties. This study tests whether Internet search-based data have the potential both to reveal directly populations' underlying beliefs and to affect the Portuguese stock market.

Household Expenditures on Transport Services: An Econometric Analysis Using A Mixture of Multivariate Tobit Models

Hana BRUHOVA FOLTYNOVA, Jan Brůha

In this paper, we aim at characterising the distribution of expenditures of Czech households on transport services. This distribution is different not only across various households´ types, but there is non-trivial in-group heterogeneity. We ask how such heterogeneity can be modelled.

Sentiment Volatility And Bank Lending Behavior

Mustafa CAGLAYAN, Bing Xu

Using a panel of commercial, co-operative and savings banks from G7 countries, we investigate whether change in sentiment and its volatility affect banks' lending behavior. Sentiment indicators, which gauge the state of the economy from the perspective of the economic agents, are widely considered as a critical component by academics, policy makers and media in the transmission of shocks into the economic activity. We also know that leading indicators usually change before the economic activities change as a whole and provide useful information on the state of the economy. Surprisingly, earlier studies have not examined the impact of the level and volatility of economic agents sentiment on banks' lending behavior. As each type of agent acts on a specific set of (imperfect) information that emanate from the state of the economy, rational inattention, or their own asymmetric goals and strategies, it is important find out whether bank managers respond to changes and variability in sentiment.

Can Paris Deal Boost Sdgs Achievement? An Assesment Of Climate-Sustainabilty Co-Benefits Or Side-Effects

Lorenza CAMPAGNOLO, Fabio Eboli, Marinella Davide

The fall of 2015 will see a redefinition of international policy environment with the 21th UNFCCC Conference Of Parties (COP 21) in Paris and the adoption of the Sustainable Development Goals (SDGs) by United Nations. SDGs, the Millennium Development Goals follow-up, will set broader and more ambitious targets for both developed and developing countries encompassing all sustainability dimensions (economic, social, and environmental) and designing the pathway towards an inclusive green growth. The COP 21 agreement, defining new emission targets (Intended Nationally Determined Contributions - INDCs), will directly affect countries' environmental performance, but also social and economic dimensions if we consider the possible use of climate policy revenues to reduce poverty prevalence (SDG 1) and malnutrition (SDG 2) or to extend access to electricity (SDG 7) or to lower the pressure on public debt (SDG 8). This paper aims at giving an ex-ante assessment of the co-benefits and side effects of this new policy setting and, in particular, to shed some light on the influence of COP21 agreement on achieving SDGs. Our analysis relies on a recursive-dynamic Computable General Equilibrium (CGE) model developed and enriched with indicators representative of each SDGs. CGE models have a flexible structure, and can capture trade-offs and higher-order implications across sectors and countries that follows a shock or a policy. These models are well suited to assess the performance of economic indicators such as sectoral value added, GDP per capita, and public debt evolution; moreover, the

CGE modelling literature of the past decades has highlighted that this is also a powerful tool to assess the evolution of some key environmental indicators, such as land use determined by land owners' revenues maximisation or GHG and CO_2 emissions directly linked to agents' production and consumption choices (Böhringer and Löschel, 2006).

Information Frictions and Real Exchange Rate Dynamics
Giacomo CANDIAN

I provide a novel explanation for the observed large and persistent fluctuations in real exchange rates using a flexible-price model with dispersed information among firms. When firms face strategic complementarities in price-setting, the continuing uncertainty about their competitors' beliefs results in sluggish price adjustment that can generate large and long-lived real exchange rate movements. I estimate the model using real output and output deflator data from the US and the Euro Area and show, as an out-of-sample test, that the model successfully explains the observed volatility and persistence of the Euro/Dollar real exchange rate. A Bayesian model comparison strongly favors the dispersed information model relative to a sticky-price model `a la Calvo. The model also accounts for the persistenteffects of monetary shocks on the real exchange rate that I document using a structural VAR.

Climate Change Adaptation In Agriculture: A General Equilibrium Analysis Of Land Re-Allocation In Nepal
Sudarshan CHALISE, Athula Naranpanawa

Despite the growing body of literature on the economic impact of climate change, quantification of climate-change adaptation practices is limited. Therefore, this paper investigates the feasibility of crop land re-allocation as an adaptation strategy to minimise the economy-wide costs of climate change on agriculture in Nepal by developing a multi-household Computable General Equilibrium (CGE) model. Nepal makes an interesting case study as it is one of the most vulnerable agricultural economies within South Asia.

Top-down CGE models are often used in economy-wide investigations because they enable researchers to evaluate the overall impact of climate change, including income distribution and employment. Operating at the micro-level, individual farmers and households in developing countries make most of the land-use decisions to adapt to the threats of climate change. Therefore, this paper attempts to map these decisions by using a simple model designed specifically for the Nepalese economy that modifies the ORANI-G generic CGE model (Dixon et al, 1982). Specifically, the model modifies the widely assumed fixed land supply for a given industry by allowing farmers to supply land to crops that are less affected by climate change subject to any agronomic constraints.

The Economics of Water Infrastructure Investment Timing and Location under Climate Change in Vietnam
David CORDERI NOVOA, Jay R. Lund, Jeffrey Williams

The Dong Nai Delta in Vietnam has been projected to face long-term changes in physical conditions stemming from climate change. Sea level rise combined with changes in the hydrologic cycle will result in increased salinity conditions, causing significant damage to the current style of agricultural production. Adapting to these changes in salinity will require not only adjusting the cropping patterns, but also new water infrastructure investments. Two important questions arise for planners and practitioners. First, a balance needs to be found with regards to the appropriate timing of the investment. An important amount of investment is needed for new water infrastructure while salinity will increase gradually over time. Second, considerable trade-offs exist with respect to the location of the investment arising from the morphological characteristics of the delta. Constructing water infrastructure closer to the sea implies a higher investment cost. However, the additional

benefits will be reduced since regions closer to the sea already have lower agricultural productivity due to greater salinity. This paper develops an economic model to analyse the optimal timing and location of water infrastructure investments in the Dong Nai Delta of Vietnam.

Labor Market Fluctuations In Developing Countries
Sevgi COSKUN

The aim of this study is to explore the labor market properties of business cycle fluctuations for a group of 17 developing economies from 1970 to 2013 and compare these results to findings from the USA. Then, we build 7 RBC models without nominal frictions driven by temporary and permanent shocks following Aguiar and Gopinath (2007) to explain whether real business cycle models can successfully account for the labor market properties of business cycle fluctuations in these economies. Lastly, we would like to understand the fluctuations of labor wedge are mostly coming from the fluctuations of the household component of labor wedge or the fluctuations of the firm component of labor wedge in these economies.

Intra-Regional Versus Inter-Regional Trade Liberalization In Central America
Adolfo CRISTOBAL CAMPOAMOR, Olexandr Nekhay, Manuel Alejandro Cardenete Flores

The countries in the Central American region (henceforth CA: Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama) have signed multiple trade agreements in the recent past. Sometimes the whole CA worked as a unified agent, for instance vis a vis the United States or the European Union. In other cases, some individual countries took the initiative to extend their list of freely tradable goods and services. CA exports and imports very extensively with the United States (39% of the aggregate exports). However, the recent growth of the intra-regional trade has been especially remarkable: the experts emphasize that such trade generates more internal value added than the inter-regional one, which may allow for higher local welfare and a more favorable external balance for CA. That happens because most of the CA world exports are agricultural goods or products intensive in the use of natural resources. On the other hand, in the intra-regional markets these countries exchange more elaborate preparations (organic agents, medicines, electrical devices, specialized clothing...). Our simulations try to evaluate which alternative is locally preferable, taking into account that any intra-regional trade liberalization would stimulate sectors that compete for productive resources with the world exports. To that purpose, our first shock will be an extension of the freely tradable sectors at the intra-regional level. In our second simulation, we will keep in the benchmark model the current number of freely tradable products within CA, while reducing with the shock the barriers to the inter-regional transactions. Our intention is then advising the CA authorities as to which range of trade negotiations should be prioritized today.

Identifying Drivers Of Liquidity in The NBP Month-Ahead Market
Lilian DE MENEZES, Marianna Russo, Giovanni Urga

The liberalization of the natural gas market in the European Union has created incentives for the development of hubs and gas-to-gas competition. With increasing spot trading, there has been a progressive shift in pricing mechanisms from the traditional oil-linked pricing towards hub-linked pricing. In 2014, the share of gas traded that was indexed to hubs reached 61%, which can be compared to 15% in 2005 and 36% in 2010 (IGU, 2015). In addition, as energy companies respond to their exposure to the spot market, a greater use of forward contracts is made. In this context, liquidity, which can be described as the ability to match buyers and sellers at the lowest transaction cost (O'Hara, 1995) is of particular interest for researchers, participants and policy makers. Liquidity affects the cost of hedging and investment decisions and is a barometer of market quality. The

importance of liquidity is reflected in a vast literature that focuses on different classes of financial assets such as stocks and bonds (e.g. Chordia et al. 2000, 2005) or foreign exchanges (e.g. Bessembinder, 1994; Danielsson and Payne, 2012). There are reports that liquidity may impact other measures of market quality, as for example, price volatility (e.g. Subrahmanyam, 1994) and trading activity (e.g. Chordia et al., 2002). Nevertheless, when academic studies of energy markets are considered, to date liquidity appears to have been neglected. In the present study, what may drive liquidity in the European natural gas market is considered. The National Balancing Point (NBP) forward market, which is the largest in Europe, is used as a proxy for the European natural gas forward market. The link between liquidity, trading activity and volatility is examined within the period 2010-2014, which includes when the EU Regulation on Market Integrity and Transparency (REMIT) came into effect. Therefore, the question of whether changes in link between these measures of market quality could reflect REMIT is also investigated.

Tax Potential And Tax Effort: An Empirical Estimation For Non-Resource Tax Revenue And VAT's Revenue
Maïmouna DIAKITE, Jean-François Brun

Taxation is one of the main components of a country's fiscal space. Its internal origin and the accountability it creates between rulers and populations make it a key element in financing public expenditure. Tax capacity differs between countries and depends on structural factors. A number of empirical studies attempted to determine countries' overall tax potential and tax effort (Lotz and Morss, 1967 ; Stotsky and WoldeMariam, 1997 ; Fenochietto and Pessino, 2013). However, the methodologies used tend to underestimate or overestimate countries' tax potential and thereby their tax effort. The purpose of this study is to better assess countries' non-resource tax potential and VAT's tax potential independently using a more appropriate method. It is in line with the study of Brun et al. (2014) and rests on a large sample of developing countries over the period 1980/2014. We first employ the previous models and discuss about their shortcomings, after we use the stochastic frontier model of Kumbhakar, Lien and Hardaker (2014). This model allows to disentangle the overall tax effort into a persistent tax effort due to policy economy decisions and a time-varying tax effort relating to tax administration efficiency. The results are more realistic. Low income countries have higher tax effort along the period even if their tax effort decline at the end of period on the opposite of resource depending countries. In fact, the latter characterized by lower tax effort compared to non-resource countries improved the efficiency of their system since 2010. The results also suggest that inefficiency in taxation depends more on policy decisions than on tax administration performance.

Inter-City Trade Networks in Turkey: Shocks And Spillovers
Alper DUMAN

Trade among the cities of a country is similar to international trade in various aspects. Recently there is a surge of studies focusing on the network characteristics of international trade. We extend the main idea and the methodology of these studies to the inter-city trade network in Turkey in order to model and trace the network spillovers of a given shock (i.e. intensification of Syrian conflict and hence the drop of income in Southeastern cities) on the overall income and intercity trade volume.

Is Value Added Tax Progressive? Evidence From Egypt Using A CGE Model
Abeer ELSHENNAWY

The objective is examine the effect of value added tax in Egypt on income distribution and inflation.

Mall Flicks: The Mall Boom in Turkey with an Unexpected Byproduct: The Movie Sector Expansion
MOVIE SECTOR EXPANSION

Can ERBIL, Emin Köksal, Çağlar Yurtseven

Turkey has been experiencing a mall boom since the end of the 1990s. This boom's impacts are obvious on the construction, real estate and shopping sectors. However, surprisingly, this boom encouraged significant enlargement of the movie sector as well. This enlargement affects the cultural life of people, in addition to creating urbanization economies. In this paper, for the first time in the literature, effects of shopping mall expansion on the movie sector are studied. We construct a theoretical model and support our theoretical findings empirically, by employing a dynamic panel data estimation method and utilizing a unique dataset from Turkey. We show that without the mall boom, the recent fast expansion in the movie sector in Turkey would not be possible. Our findings may apply to similar metropolitan development booms in other emerging markets.

Decomposing Socioeconomic Inequality Of Health

Guido ERREYGERS, Roselinde Kessels, Linkun Chen, Philip Clarke

We consider three different types of decomposition analysis: decomposition by health components, decomposition by subgroups, and regression-based decomposition. We show that level-dependent indices perform better than rank-dependent indices.

Animal Spirits Vs Contagion: Which One Is The Main Driver Of Sovereign Yields In Europe?

Miguel FERREIRA, Luís Catela Nunes, José Tavares

Our paper evaluates the relative importance of contagion and investors' risk aversion in determining sovereign debt yield during the fi nancial crisis in Europe. In the existing literature, pure contagion and investors risk aversion are often treated as indistinguishable, a possibly signifi cant conceptual shortcoming. In this paper we distinguish the impact of both variables on sovereign yields and clarify which had a more important role in the spread of financial crisis through Eurozone countries.

European And Global Financial Integration: Some Panel Evidence Of The Convergence Of Interest Rates
Candida FERREIRA

This paper aims to contribute to the literature on financial integration, providing empirical evidence of the convergence of interest rates across the EU member states during the 1999-2014 period and comparing these results with the convergence of the interest rates of other developed European and non-European countries.

Increased Energy Efficiency In Scottish Households: Trading-Off Economic Benefits And Energy Rebound Effects?
Gioele FIGUS, Patrizio Lecca, Karen Turner, Peter McGregor

Energy rebound effect from increased energy efficiency has been generally considered as an undesired consequence of increasing energy efficiency policies that needs to be accounted when assessing the ability of such policies to decrease the demand for energy. However, recent studies have associated the energy rebound effect to a wider range of economic benefits coming from the higher energy efficiency. In computable general equilibrium (CGE) setting Lecca et al. 2014 show that a more efficient use of energy could lead to a reallocation of household's expenditure towards non-energy sectors, which could stimulate the economy through a shift in

the aggregate demand. However this would crowd out export due to an increased pressure on domestic consumption price. Here we use a regional (CGE) model for the Scottish economy to analyse the economic response of household - and of the wider economy - to an increase in household energy efficiency. We follow the approach of Lecca et al. 2014 but we focus on the regional case of Scotland. This allows us to understand some of the implications of moving from a national to a regional CGE modelling framework in the analysis of the impacts household energy efficiency improvements in the whole economy.

Modelling the Impact of The Transatlantic Trade and Investment Partnership (TTIP) on a Small Regional Economy
Mario FORTUNA, Masudi Opese

The current study analyses the impact on the Azores, a small island regional economy, of the TTIP agreement between the EU and the US. To this effect a dynamic CGE model detailing six household categories, forty five sectors and four trading partners is used. Previous studies used aggregate variables and were largely based on the structure of the national economy. For a small integrated economy, looking at foreign trade statistics comprises an underestimation given that a good part, if not most, of the trade is channeled through bigger national logisticcenters. This limitation is overcome contemplating direct and indirect trade impacts. It is found that the potential impact on this small island economy is similar to what was found for the mainland, contrary to what had previously been estimated, pointing to a much lower impact.
Relative to the business as usual (BAU) scenario, GDP is estimated to be 0,4 to 0,77 percentage points higher by 2030. Based on a static model, a previous estimate of François and Manchin (2014) had pointed to an increase between 0,19 and 0,35 percentage points. Using equivalent variation, the estimated impact is positive for all six household categories with relatively higher gains for the middle income categories. The lowest impact is in the lowest income categories.
Using the change in value added, the primary production sectors are all negatively impacted. Except for fish processing, the main industrial activities are not hurt. For the case of the economy under study, there is a positive impact on the very important dairy industry as well as in retail activities, services associated to tourism and air transportation. Suggesting an overall positive impact, the model also points to negative, even if small, impacts on the primary production sectors of agriculture and fisheries, which might warrant specific policy attention.

Income Inequality Effects Of Ukraine's Trade Liberalization With The EU. Are There 'Two Ukraines'?
Miriam FREY

This paper asks whether concerns about income inequality are one of the reasons, why in the western part of Ukraine there is more public support for the trade integration with the EU than in the eastern part. To answer this question, between- and within-parts income inequality effects are analyzed.

R&D Heterogeneity And Implications For Growth
Sigurd GALAASEN, Alfonso Irarrazabal

R&D surveys report substantial and persistent heterogeneity in R&D intensities. In fact, most firms report zero R&D investment, with some firms reporting some R&D and a few firms reporting large investment in R&D relative to size. In this paper we seek to understand the source of this heterogeneity and its implications for growth and R&D policy. In particular, we explore how important is it to allow innovative firms to grow at the expense of less innovative firms and the growth effect of R&D policy (e.g. innovation subsidies) in an environment with heterogeneous firms.

Understanding The Effects Of Fiscal Policy On The Shadow Economy

Alejandro C. GARCIA-CINTADO, Celso José Costa Júnior, Carlos Usabiaga-Ibáñez

In these article we set out to assess how the shadow economy's output and labor typically respond to different fiscal shocks. To that end, we calibrate and estimate a DSGE model featuring two sectors,formal and informal, sticky prices and wages, to the Spanish economy. We focus on the transmission mechanisms which appear to account for the reaction of these variables to a group of tax-based and spending-based fiscal measures.

Post-2008 Brazilian Fiscal Policy: An Interpretation Through The Analysis Of Fiscal Multipliers

Alejandro C. GARCIA-CINTADO, Celso José Costa, Júnior, Armando Vaz Sampaio

The global crisis that erupted in 2007 led many countries to embark on countercyclical fiscal policies as a way to cushion the blow of a depressed aggregate demand. Advocates of discretionary measures emphasize that fiscal policy can indeed stimulate the economy. The main goal of this work is to assess whether the fiscal policies pursued by the Brazilian government in the aftermath of the 2008 crisis succeeded in bringing the economy back on track in a sustainable fashion. To this end, the fiscal multipliers of five different shocks are studied in a small open-economy New Keynesian framework. Our results point to the government spending and public investment as the most effective fiscal tools for combating the crisis. However, the highest fiscal multiplier turned out to be the one associated with excise tax reductions. Interestingly, contrary to the government's expectations, this policy of lowering taxes on manufactured durable goods (IPI) was found to be neutral at a longer horizon as it was not applied horizontally to all sectors of the economy.

Determinants Of International Consumption Risk Sharing In Emerging Markets And Developing Countries

Malin GARDBERG

The first objective of the paper is to identify determinants of international consumption risk sharing with a focus on developing countries. International consumption risk sharing is generally lower in developing countries, but the main constraints on international risk sharing in these countries have so far not been identified. As consumption growth in developing countries is generally volatile, and much more so than in advanced economies, there are high potential welfare gains from increased consumption smoothing especially in less developed countries.

The second aim of my paper is to exploit the cross-sectional dependence when estimating the degree of international consumption risk sharing between individual countries and country groups.

Design Risk Of Cppis

Raquel GASPAR

This paper evaluates the path-dependency/independency of the most widespread Portfolio Insurance strategies. In particular, we look into various Constant Proportion Portfolio Insurance (CPPI) structures and compare them to the classical Option Based Portfolio Insurance (OBPI) and with naive strategies such as Stop-loss Portfolio Insurance (SLPI).
The paper is based upon conditional Monte Carlo simulations and we show that CPPI strategies with a multiplier higher than 1 are extremely path-dependent and that they can easily get cash-locked, even in scenarios when the underlying at maturity can be worth much more than initially. This likelihood of being cash-locked increases with maturity of the CPPI as well as with properties of the underlying's dynamics and is a major drawback to investors.
To emphasise path dependency of CPPIs, we show that even in scenarios where the investor correctly

"guesses" a higher future value for the underlying, CPPIs can get cash-locked and lead to losses. This path-dependency problem is specific of CPPIs, it goes against the
European-style nature of most traded CPPIs, and it does not occur in the classical case of OBPI strategies.
We expect that this study will contribute to reinforce the idea that CPPI strategies suffer from a serious design problem.

Impact Evaluation Of Scenario With Local Currencies: DSGE Model
Katerina GAWTHORPE

This paper presents a dynamic stochastic general equilibrium model developed to conduct a monetary analysis of a scenario with local currencies. The popularity of the alternative currency initiatives has remarkably increased during the last three decades. Despite their widespread proliferation with thousands of them currently circulating, there is a lack of quantitative analysis. This absence worsens the ability of central banks to choose the most appropriate position towards such movement. Presented study proposes an impact evaluation of these initiatives with a unique New Keynesian version of DSGE model extended for capital and labor market along with comparison of different monetary policies from a side of the local currencies. Co-existence of multiple currencies enters the model in the form of a Dixit-Stiglitz index. Simulation of the model suggests a positive effect of the alternative currencies in terms of increase of income but also inflation rate in absolute terms. This outcome appears to be highly sensitive to monetary policy from the side of issuers of the local currencies.
The aim of this study is to construct a New Keynesian version of a DSGE model for impact evaluation of local currencies. This model simulates a local economy within the United States with an assumption of price and wage stickiness. Monopolistic competition between firms as well as on the labor market allows a derivation of the traditional New Keynesian Phillips curve.
The appearance of the model assimilates the classical New Keynesian DSGE model of GalÃ (2008) enhanced for a capital variable.
In contrast to this traditional textbook model, a local currency variable enters the utility function of the model in a form of a Dixit-Stiglitz aggregate famously applied for consumption bundle. Wage and price setting behaviors are in turn affected by the existence of multiple currencies. In the end, two potential monetary policies of issuing institutions for local currencies allow a comparison these policies might have on the circulation of the local currency as well as on the local economy itself. This model may additionally serve as a tool for a researcher to answer inquiries about the macro impact of these currencies on an economy.

Empirical Estimation Of Elasticities and Their Use
Murat GENC

Applied research in economics contains many papers that empirically estimate an elasticity (or a set of elasticities) and uses the estimate(s) for policy analyses. These estimates are typically based on an estimated relationship (such as a demand function). If the specific functional form used in the estimation yields a constant elasticity in the form of an estimated coefficient alone, that coefficient represents the elasticity. If, on the other hand, the formula for the elasticity involves other regressors and coefficients, empirical estimation of the elasticity is based on applying the calculus-based definition of elasticity to this expression. However, a dierential change in a variable is only an approximation to the actual discrete change for small changes, and the approximation can may be quite poor when large changes are considered. This paper advocates using the actual percentage change in the predicted value of the dependent variable when the variable with respect to

which the elasticity is estimated changes by one percent. The example provided shows that the difference can be substantial when elasticities are estimated this way.

ECB-Global: Introducing the ECB's Global Macroeconomic Model for Spillover Analysis
Georgios GEORGIADIS, Alistair Dieppe, M. Ricci, Ine Van Robays, Bjorn van Roye

In a highly interlinked global economy a key question for policy makers is how foreign shocks and policies transmit to the domestic economy. We develop a semi-structural multi-country macro model featuring rich real and nancial channels of international shock propagation for the euro area, the US, Japan, the UK, China, oil-exporting countries and the rest of the world: ECB-Global (ECB-G). The model allows to analyze cross-country spillovers following a rich set of policy-relevant scenarios. We illustrate the usefulness of ECB-G for policy analysis by simulating global spillovers from a US monetary policy tightening, an drop in oil prices, as well as a growth slowdown in China.

To Bi, Or Not To Bi? Differences In Spillover Estimates From Bilateral And Multilateral Multi-Country Models
Georgios GEORGIADIS

Asymptotic analysis and Monte Carlo simulations show that spillover estimates obtained from widely-used bilateral (such as two-country VAR) models are significantly less accurate than those obtained from multilateral (such as global VAR) models. In particular, the accuracy of spillover estimates obtained from bilateral models depends on two aspects of economies' integration with the rest of the world. First, accuracy worsens as direct bilateral transmission channels become less important, for example when the spillover-sender accounts only for a small share of the spillover-recipient's overall integration with the rest of the world. Second, accuracy worsens as indirect higher-order spillovers and spillbacks become more important, for example when the spillover-recipient is more integrated with the rest of the world overall. Empirical evidence on the global output spillovers from US monetary policy is consistent with these generic results: Spillover estimates obtained from two-country VAR models are systematically smaller than those obtained from a global VAR model; and the differences between spillover estimates obtained from two-country VAR models and a global VAR model are more pronounced for economies for which the US accounts for a smaller share of their overall trade and financial integration with the rest of the world, and for economies which are more integrated with the rest of the world overall.

The "New" Normal Is "Old" in China: Very Late Catching Up and Return to the (Pre-WTO) Old Normal
Eric GIRARDIN, Harry X. Wu

The recent slowdown in Chinese growth is often viewed as a new (lower) growth normal. The prior three decades of catching-up-based accelerated growth would be followed by regression to the world mean growth (Prittchett and Summers, 2014). While other observers view this slowdown as a mere temporary deviation from the previous trend (Justin Lin) a consensus seems to exist on the persistence of accelerated growth during the previous three decades, as documented in official Chinese macroeconomic activity data. Increasing doubts have been raised on the reliability of such data in the most recent period (the slowdown would be much larger than officially reported) which make necessary to reassess the validity of the three-decade long episode of accelerated growth to determine if this was indeed China's old normal.

Stochastic Equilibrium Modeling: the Impact of Uncertainty on the European Energy Market
Rolf GOLOMBEK, Kjell Arne Brekke, Michal Kaut, Sverre A.C. Kittelsen, Stein W. Wallace

We present a simple approach to transform a deterministic numerical equilibrium model – where several agents simultaneously make decisions - into a stochastic equilibrium model. This approach is used to build a large stochastic numerical equilibrium model of the Western European energy markets where investment decisions must be taken before the uncertainty is revealed. We use the stochastic model to analyze the impact of economic uncertainty on the Western European energy markets; it is demonstrated that the equilibrium under uncertainty differs significantly from the deterministic outcome..

EAGLE-FLI: A Macroeconomic Model of Banking and Financial Interdependence in the Euro Area
Sandra GOMES, Nikola Bokan, Andrea Gerali, Massimiliano Pisani, Pascal Jacquinot

We aim to properly assess domestic and cross-country macroeconomic effects of financial shocks. To do so, we introduce a number of new features in a model previously developed by some of the authors. which together with the full characterization of trade balance and real exchange rate dynamics and with a rich array of financial shocks – allow a detailed analysis of the transmission of financial shocks.

Redistribution, Polarization, and Ideology
Rosalia GRECO

Why doesn't rising inequality encourage income redistribution? The standard model posits that the more concentrated are income and wealth, the more the median voter values redistribution. Yet despite the marked increase in U.S. inequality, redistribution has barely changed. I approach this puzzle from a fresh angle by considering the role and nature of polarization for the politics of redistribution. While inequality increases voting elasticity with respect of redistribution, polarization has the opposite effect, thus reducing parties' accountability towards voters. But without further structure, inequality and polarization's effects on redistribution cannot be determined. I demonstrate that for polarization to discourage redistribution, ideology must be a "normal good'', i.e. its importance for the voters needs to rise with income. Using data from the American National Election Study and the Census, I verify that this is indeed the case. Armed with this result, I use the model to assess the effects of inequality and polarization on redistribution within no-inequality and no-polarization counterfactuals. Effects of "income elastic'' ideology can account for the stability of redistribution policy, and shed light on the economic implications of political extremism.

Modelling Nature-Based Tourism's Impact On Rural Livelihoods And Natural Resources In Sikunga Conservancy, Namibia
Steven GRONAU, Etti Maria Winter, Ulrike Grote

Nature-based tourism is growing globally and seen as an economic development path for many countries. Namibia links nature-based tourism into the Community Based Natural Resource Management (CBNRM) concept; combining conservation, tourism and the improvement of livelihoods of rural communities that are yet not always complementary. They can also be conflicting. Through the CBNRM program local population is registered as a 'conservancy' (a territorial unit) which officially owns and manages collectively their natural resources, for finally encouraging and supporting tourism. Thus, communities have an incentive to manage their wildlife and natural resources sustainable to derive an economic benefit from tourism. Economic benefits from tourism can be mainly generated through enterprises, offering employments and cash incomes to rural communities. However, the degree of participation in tourism depends on the suitability with their existing

livelihood system, involving trade-offs on the farm like households land and labor allocation, subsistence requirements and expenditures as well as the choice of different activities affected by seasonality. Finally, subject to different opportunity costs, leading to the question: (i) Is nature-based tourism a means to improve livelihoods of rural communities? Further, the number of tourists entering natural sites, like Zambezi, and spending cash in rural environments is influenced by regional attractiveness, which is conflicting with the increasing exploitation of natural resources from and within rural communities. This double sided demand for same resources also implies trade-offs, which are tried to be harmonized with the CBNRM program, thus arising the question: (ii) Does nature-based tourism have the potential to reduce overfishing?

Evaluating Macroeconomic and Distributional Impacts of Current and Alternative Tax Reforms in Spain: An Applied General Equilibrium Approach

Ana-Isabel GUERRA, Laura Varela-Candamio, Jesús López-Rodríguez

This paper carries out a quantitative assessment of actual and alternative tax reforms in the context of the Spanish economy. In doing so, we have used a static applied general equilibrium model. The tax reforms considered in our approach affect the structure of both the value-added tax and the personal income tax. With this objective we have constructed a novel data set that consists in a Microeconomic Spanish Social Accounting Matrix for the year 2010. This data set distinguishes between different households" categories according to their taxable income levels. Furthermore, for each household group, we have disaggregated total taxable income by major income sources i.e. labor income (salaries and wages, unemployment benefits and pensions), capital and property income. Our approach and the way we have built the Microeconomic Social Accounting Matrix enable us to offer two important contributions. First, changes in the degree of progressivity derived from the tax reform can be evaluated in a more comprehensive manner than previous analyses in this line in the context of the Spanish economy. Second, from our static comparative exercises we have extracted useful information not only in terms of the degree of effectiveness and efficiency reached by the tax reforms but also in terms of their potential distributive effects i.e. changes in welfare levels and the tax wedge that approximates fiscal pressure on labor income for each household category.

Sovereign Default and Public Debt Sustainability

Michel GUILLARD, Hubert Kempf

We address sovereign default in a stochastic macroeconomic model with infinite horizon and the presence of a debt recovery rule. Sovereign default is defined as a market event which can be observed when the fiscal policy is constrained by a tax rate ceiling. It occurs when the fiscal authority does not find on the market the funds necessary to reimburse its previous debt net of the primary surplus of the period. We analyze the pricing of public debt in relation with the debt recovery rule and prove the existence of a threshold default. Except in a specific case, this threshold is lower than the traditional solvency ratio. Using the dynamic implications of the model, we clarify the notion of sustainability and we disentangle it by defining a sustainability threshold and an un-sustainability threshold: A public debt is said to be " γ - sustainable" at date t when its trajectory does not reach the default threshold at any future date, assuming that there is no realization of the gross rate of growth lower than $\gamma \leq 1$. A public debt is said to be " γ - unsustainable" at date t when its trajectory reaches the default threshold at some finite date, assuming that there is no realization of the gross rate of growth higher than $\gamma \geq 1$. When a public debt is neither " γ '- unsustainable", nor " γ "- sustainable", with γ '<1< γ ", it is in a zone of financial fragility. When a sovereign default occurs, a too large recovery ratio is not able to insure the sustainability of the post-default debt.

Determinants Of The Contemporary Inequality Among MENA And African Countries: What Are In The Variation Of Land And Natural Resource Ownership?
Ece GULERYUZ

This paper examines the fundamental determinants of the contemporary income inequailty and economic growth in MENA and African countries in a panel data estimation during the period 1970-2013 for 24 countries. It is hypothesized that the variation in oil rents, human capital accumulation, and initial inequality in land ownership have significant impacts on contemporary income inequality in different countries. Furthermore, various political economy factors are included in the regression in order to measure the effect of institutional quality. The estimation results show that the oil rents levels, initial inequality in land ownership, rule of law and property rights affect income inequality and growth performance with a statistical significance.

Using a CGE Model for analyzing the Macroeconomic impact of the Grand Paris Express project on the Ile-de-France Region
Haykel HADJ SALEM, Hubert Jayet, Moez Kilani, Quentin David, Hakim Hammadou, Aboulkacem El-Mehdi

This paper presents the first version of a new Computable General Equilibrium (CGE) model aiming at analyzing the expected macroeconomic impacts of a new infrastructure project, the so-called "Grand Paris Express" (GPE), on the Ile-de-France region. The GPE consists in a new high-speed circular underground train linking suburbs around Paris.

We present a new Social Accounting Matrix (SAM) developed for the model. This SAM provides a detailed representation of the transportation system and includes the land markets. This first version focuses on the public transportation sector.

The simulations focus on the impact of a shock in the transportation sector on the various sector of the economy of Ile-de-France. The objective of this analysis is to identify public policies that can improve the implementation of the Grand Paris Express. These policies will be related to transportation reforms itself, but also to real estate market and to the labor market.

The Real And The Financial SAM Multipliers: The Tunisian Case
Haykel HADJ SALEM, Manel Ayadi

This scientific research aims to build economic and financial multipliers in order to identify, from the input-output model, the relationship between the real activity and the financial activity of the Tunisian economy. Based on a Financial Social Accounting Matrix of the Tunisian economy during 2006, this multiplier analysis allows to highlight the interdependence of both real and financial spheres, and to measure the effects trained by each sphere on the other.

The study has a great importance since it provides a realistic description of the characteristics of the Tunisian economy. It enables us to identify the different transmission channels of the economic policies and the impact of their changes on the whole economy. This study helps us to define the scenarios of a Financial Computable General Equilibrium Model.

Productivity Spillovers In The GVC: The Case Of Poland And The New EU Member States
Jan HAGEMEJER

The New Member States have been experiencing firm internationalization not only through inward foreign direct investment but also through exporting, importation of foreign technology in investment goods and increased use of imported intermediates. We argue that there are important productivity spillovers within the global value chains, ie. FDI alone does not tell the whole story of the reallocation processes going on in the economies of the NMS. We augment the standard TFP spillover empirical model with modern measures of GVC participation to contribute to the debate on the 'desired' country/sector/firm position in the GVC.

Econometric Evaluation Of The Factors Influencing Oil Prices
Nazim HAJIYEV, Adalat Muradovd, Yadulla Hasanli,

It is for a long time oil since an energy source has got crucial role for the development of the countries. Economy of the all countries create demand to oil and oil products. It has been already extracting oil in more than hundred countries. Oil volume and its prices is always in the limelight of the consumers and producers. Changing of the oil prices affects production indicators in all areas of the economy as well as the level of the prices.Political issues also affect oil prices taking into account the reason of the neccesity of oil and oil prices in the vital fields of the economy.Therefore prediction of the oil prices is always in the limelight of the oil producer and consumer countries as well as the politicians. From this point of view prognosis of the oil prices is in the agenda as a urgent problem. Oil prices also have got impact on the formalization of the prices of the alternativ energy products.

Exact prediction of the oil prices is very complex. Prediction of the well-known international institutions about the oil prices has been considerably deviation from the real facts. Nevertheless investigations is continuning in this direction. Complexity of the prognosis of the oil prices is related the impact of political issues to oil prices as well as economic factors. More deviation of the prognosis of the oil prices is observing in the crises and the political ambitions.

How The Central Banks' Reaction Function In SOE Evolved During The Crisis
Aleksandra HAŁKA

The outbreak of the global financial crisis made the central banks to admit that keeping inflation within the target is not sufficient to stabilize the economy. Apart from price stability they should also care about financial and macroeconomic stability. To achieve this central banks should look not only at inflation but also at other variables. Economists agree broadly that inflation targeting framework should be realized in more flexible way in terms of both: paying more attention to output growth and allowing inflation to return to the target in longer horizon. The central bankers admitted that in some cases stabilizing the economy, may require inflation

to deviate from the target for an extended period of time. This more flexible approach may be reflected in the modification of the way monetary policy is conducted and hence in the central banks' reaction function.

The aim of this paper is to check empirically whether selected European central banks in small open economies outside the euro area, conducting autonomous monetary policy changed the way the monetary policy is conducted - whether central banks enhanced the flexibility of their inflation targeting strategy during the crisis.

The Poverty-Economic Growth-Health Triangle
Cyrine HANNAFI, Christophe Muller

We identify the dynamic interactions existing between Poverty, Economic Growth and Health using country-level panel data from developing countries. We treat endogeneity and the selectivity issues coming from unavailability of poverty indicators. We develop innovative econometric methods that we apply to an original set of indicators at country level. We find that the data generation through household surveys depends on crucial socio-economic factors and that our new method of selectivity correction has a massive impact on our estimation results casting doubt on previous findings in the literature and changing fundamentally the picture and the interpretation of development process

Econometric Evaluation Of The Factors Influencing Oil Prices
Yadulla HASANLI, Adalat Muradovd, Nazim Hajiyev

It is for a long time oil since an energy source has got crucial role for the development of the countries. Economy of the all countries create demand to oil and oil products. It has been already extracting oil in more than hundred countries. Oil volume and its prices is always in the limelight of the consumers and producers. Changing of the oil prices affects production indicators in all areas of the economy as well as the level of the prices.Political issues also affect oil prices taking into account the reason of the neccesity of oil and oil prices in the vital fields of the economy.Therefore prediction of the oil prices is always in the limelight of the oil producer and consumer countries as well as the politicians. From this point of view prognosis of the oil prices is in the agenda as a urgent problem. Oil prices also have got impact on the formalization of the prices of the alternativ energy products.

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What Are The Effects Of Oil Price Shocks On The Real Exchange Rates Of Oil Exporting Countries? A Nonlinear Smooth-Transition Approach
Alfred HAUG, Syed Basher, Perry Sadorsky

This paper contributes to the literature on the effects of oil price changes for developed and emerging oil-exporting countries by looking at the effects on real exchange rates, which affect a country's terms of trade and hence its competitiveness. In contrast to previously used Markov-switching models where the adjustment process is abrupt and in a way a "black box," we employ smooth transition models that specify the functional form of the adjustment process and are explicit about what variables drive the process. These types of smooth transition models have been successfully used to model the time series behaviour of exchange rate movements but have not yet been used to explain how exchange rates react to changes in oil prices, as far as we know.

Measuring The Flemish Competitivity Through Total Factor Productivity
Dirk HOORELBEKE

The competitivity of the Flemish economy is a continuously ongoing priority of policymakers. Very often the focus is only on labour costs in comparison with the neighbouring countries (measured as labour cost per unit

of output, for instance total labour cost divided by value added). A wider analysis also takes into account labour productivity (measured as value added divided by employment). A comprehensive measure of productivity is total factor productivity. Total factor productivity does not focus only on the production factor labour but also takes into account the other production factors, such as capital and energy.

Active Learning And Optimal Climate Policy
In Chang HWANG

This paper develops a climate-economy model with uncertainty, irreversibility and active learning. Whereas previous papers assume passive learning from one observation per period, or experiment with control variables to gain additional information, this paper considers active learning from research investment in improved observations. We restrict ourselves to improving observations of the global mean temperature. We find that the decision maker invests a significant amount of money in climate research, far more than the current level, in order to increase the rate of learning about climate change. This helps the decision maker take improved decisions. The level of uncertainty decreases more rapidly in the active learning model with research investment than in the passive learning model only with temperature observations. As a result, active learning reduces the optimal carbon tax. The greater the risk, the larger is the effect of learning. The method proposed here is applicable to any dynamic control problem where the quality of monitoring is a choice variable.

The Lifting Of Economic Sanctions On Iran: Global Effects And Strategic Responses
Elena IANCHOVICHINA, Shantayanan Devarajan, Csilla Lakatos

This paper quantifies the global economic effects and strategic responses to the lifting of economic sanctions on Iran. The proposed lifting of sanctions, following its July 14, 2015 nuclear agreement with the permanent members of the UN Security Council and Germany ("P5+1"), will have consequences for the global, regional, and Iranian economies. The global effects will be felt mostly through the oil channel. The resumption of Iranian oil exports to pre-2012 levels could eventually add one million barrels per day on the world oil market, bidding down world prices. There will also be regional effects on Iran's major trading partners, including the United Arab Emirates and other countries in the Middle East and Central Asia, through an expansion of oil and non-oil trade, as sanctions-induced trading costs come down. Finally, there will be effects on Iran's economy as barriers to trade are relaxed, the production mix shifts in favor of goods that fetch high prices abroad and its consumption towards cheaper imports, with attendant effects on economic growth, efficiency and household welfare.

Adopting Egovernment As A Strategic Tool For Economic Development: Insights From Governmental Websites In Egypt
Doaa ISMAIL, Riem M. Hamdi AbdelAzim

Electronic Government services (E-government) play a vital role in measuring the economic development in any country. Public administrations pursue online existence to provide services and information to their stakeholders. Challenges in implementing these E-government services have always been of great interest for research studies in the field. This explains why government websites are under continuous evaluation, from different perspectives, worldwide. The Egyptian government has acknowledged the importance of providing E-government services since 2004. By applying E-government services amongst its public administration, the Egyptian government has been seeking economic and social development. This research paper will provide a comprehensive evaluation of the online progress of the Egyptian ministries using the five staged E-government

Model outlined by the United Nations - UN Web Presence Measurement Model (2001). The new application of the model is considered the benchmark to evaluate the progress of these E-government websites. Findings revealed that out of the thirty four ministries, and other government agencies functioning under cabinet, in this administration, a total of four ministries have reached the "Transactional presence," stage four, while fifteen ministries have reached the "Interactive Presence," stage three, in the model provided. The remaining fifteen ministries are still in stage two, "Online Presence," and stage one, "Emerging Presence" with no real services provided to the citizens. Finally, the results also revealed that none of the governmental websites have reached the "Seamless Interaction," stage five. Thus, the Egyptian government websites are considered an undeveloped websites. They are still incapable of effectively interacting or delivering services to the citizens. Furthermore, reaching the "Seamless Interaction" stage is foreseen as unattainable in the near future.

Entrepreneurial Skills, Firms' Age-TFP Profile And Aggregate TFP
Amaia IZA

In this paper we want to quantify the role of the manager's skills over their life-cycle on individual production dynamics. Faster growing economies, even in rich economies, may be suffering from higher technological obsolescence of older production units.

Government Failure Redux: Why Did Federal Spending Lose Stimulative Traction?
Chulho JUNG, Jay E. Ryu

Using structural VAR Model, we show that federal spending in the U.S. after 2008 financial crisis mainly contributed to an increase in the profits of U.S. financial industry through financial derivative assets. It made a limited contribution to the stimulation of the real sector of the economy.

Tariff Induced Licensing Contracts And Consumer's Welfare
Tarun KABIRAJ,

In a duopolistic trade model we have shown that a tariff can influence the optimal licensing strategy of the foreign firm. A high tariff will induce fee licensing and a low tariff will result in a royalty licensing. From the viewpoint of the consumers both high tariff and high royalty are distortaionary; hence there is a trade-off between a tariff and a royalty. Then the local government can suitably choose a tariff rate that will induce fee licensing, then consumers' welfare is maximized.

The Macroeconomic Impacts of the European Investment Bank Investments: Evidence from the RHOMOLO Model
d'Artis KANCS, Francesco Di Comite, Patrizio Lecca

The EIB aims to support investment projects that can make a significant contribution to growth and employment in Europe. The macroeconomic impact assessment of its investment policy therefore plays a key role both ex ante, to allocate optimally the resources, and ex post, to monitor the effects on the economy. The present study makes use of the recursively dynamic spatial general equilibrium model of the European Commission – RHOMOLO – to assess the social and macroeconomic impacts of the European Investment Bank investments. Our simulation results suggest that, in the long-run, the EIB-financed investments both boost EU's GDP and create employment. In addition, also the total factor productivity increases due to the EIB investments.

Low Oil Prices: Long-Term Economic Effects for the EU And Other Global Regions Based on the Cge Place Model

Leszek KĄSEK, Jakub Boratyński

Oil prices on global markets have plunged from US$115 per barrel in mid-June of 2014 to US$48 at end-January 2015, and around US$30 in January 2016. Oil prices that remain low over the long-term would give a positive boost to the global economy, but the effects will vary across countries. While net oil (fossil fuel) importers are expected to win (Europe, Japan, China, India), net oil exporters (OPEC countries, EFTA, Russia, Canada) are set to lose. However, in the EU, with carbon emission constraints in place, the possible benefits for oil users will be restricted because of climate regulations. This paper quantifies the economic effects of lower fossil fuel prices in the 2020 time horizon, modeled as a supply shock, and emphasizes their interaction with EU climate policy.

Out-Migration In Venezuela In The XXI Century: An Assessment Of The Potential GDP Loss By Using A Computable General Equilibrium

Ramón E. KEY-HERNANDEZ, Claudina Villarroel

Venezuela has traditionally been a country receiving immigrants. These migrants contributed to the economic development of the country particularly during the 1950 - 1970. During the various economic crises of the 80s and 90s this role of receiver of immigrants has been giving to the role of exporter of skilled human resources. This character exporter of qualified human resources has been strengthened since 2000 to the present. According to the World Bank (a figure that can be considered as conservative) population of Venezuelans abroad in 2013 reached 655,400 people, doubling the figures of 2000. Other authors estimate that by 2015 the total population of Venezuelans abroad it may have reached 1,500,000 people. The aim of the paper is to estimate the effects of outmigration in the 21st Century on potential gdp.

An Agriculture Economy Interaction Model for Egypt - Analysis of the Proposed Free Trade Agreement with USA

Motaz KHORSHID, Saad Nassar, Victor Shaker

Permitted under the Article (XXIV) of GATT/WTO, Free Trade Agreements (FTAs) have become a prominent feature in the current trading system. Its share in total world trade has increased tremendously. Although it may be considered an easy substitute for a more difficult multilateral arrangement, it goes further beyond what is agreed upon in the world trade organization. In this regard, FTAs may provide lessons and suggest good practices that could be used to enhance economic policy debate. The current research is directed to assess and quantify the economy wide consequences of the proposed FTA between Egypt and the United States, which represents an important stepping stone towards a regional free trade agreement with the countries of the Middle East and North Africa (MENA) following the bottom-up approach in negotiation. Unlike the previous studies, which are mainly based on qualitative analysis, partial equilibrium or general equilibrium static models, the present research develops a dynamic computable general equilibrium (CGE) model that captures the interaction between the agriculture sector and the rest of the economy in a consistent and comprehensive manner.

Assessment Of Egypt's Population And Labour Supply Policies - Results From A Population Economy Interaction Model

Motaz KHORSHID, Abdel Ghany Mohamed Wafaa Abdel Aziz

The interrelationship and interactions between population policies and the economic performance of a country has been traditionally investigated by several researchers and scholars. Some of them used computational

models to assess the impact of population on medium and long term behaviour of macroeconomic and economy wide variables. Nevertheless, there is no common agreement among them about the size or magnitude of this impact over time as well as the most appropriate analytical tool to apply, in this respect. Although Egypt is typically suffering from an increasing natural population growth rate, especially after the revolution of January 2011(with an annual growth rate of 2.58% in 2013/14), a significantly high unemployment rate among young population reaching 26.3% on the average in 2014 (20.2% for males, and 44.2% for females) and a growing poverty level accounting for 26% of the domestic population in 2012 , population economy interaction studies are limited to a great extent.

Based on the above rationale, a major strategic concern facing Egypt is to develop appropriate analytical tool directed to assess the impact of alternative population policies on the performance of the whole economy. Economy wide models based on Computable General Equilibrium (CGE) tradition and social accounting matrix principles represent an efficient toolkit to achieve this analytical purpose. They are generally used to assess the impact of alternative policy measures and external conditions on medium term performance of the economy as a whole. In this paper, a dynamically adjusted population economy interaction model is constructed, implemented and used to assess the impact of population policies on the performance of the Egyptian economy.

Value Function Iteration Toolkit: in Matlab, on the GPU
Robert KIRKBY

As part of evaluating economic policies Economists often want to solve Value Function Iteration problems, and then simulate various model outputs. The VFI Toolkit allows the user to easily solve these problems, automatically taking advantage of parallelization on the GPU and CPUs. Using the VFI Toolkit allows Economists to concentrate on the economics of the problem at hand.

Does Foreign Sector Help Forecast Domestic Variables In DSGE Models?
Marcin Paweł KOLASA, Michal Rubaszek

Estimated dynamic stochastic general equilibrium (DSGE) models are now used around the world for policy analysis. They have become particularly popular in central banks, some of which successfully applied them to generate macroeconomic forecasts. Arguably, one of the key drivers behind this trend was growing evidence that DSGE model-based forecasts can be competitive with those obtained with flexible time series models such as vector autoregressions (VAR), and also with expert judgement.See e.g. Smets and Wouters (2007), Edge et al. (2010), Kolasa et al. (2012) and Del Negro and Schorfheide (2012). The vast majority of these studies focus on the US economy as it allows to evaluate the forecast quality over a relatively large number of periods, and also makes the convenient closed economy assumption acceptable. The open economy applications that use the New Open Macroeconomics (NOEM) framework originating from Obstfeld and Rogoff (1995) and extended by Devereux and Engel (2003) and Gali and Monacelli (2005) do exist, but usually base their conclusions on a rather short evaluation sample. The earliest contribution to this literature is Bergin (2003) who tests small open economy DSGE models for Australia, Canada and the United Kingdom, and Bergin (2006) where a two-country model for the US and G7 is considered. However, only in-sample forecasts are evaluated in these papers. The literature testing open economy DSGE model-base forecasts out of sample include: Adolfson et al. (2007) and Christoffel et al. (2010) for the euro area, Adolfson et al. (2008) for Sweden, Matheson (2010) for Australia, Canada and New Zealand, Gupta et al. (2010) and Alpanda et al. (2011) for South Africa, Marcellino et al. (2014) for Luxemburg within the euro area.

Following the literature working with closed economy models, the common practice is to evaluate forecasts generated with a NOEM framework relative to those obtained with some variants of Bayesian VARs. The overall finding is that open economy DSGE models are quite competitive, even though the conclusions differ by variables and countries. However, none of these studies tells us how much we actually gain by accounting for a foreign block in DSGE models. Since this question is essentially about the empirical validity of the key NOEM ingredients, i.e. those theoretical additions over the standard quantitative business cycle framework that are related to an open economy dimension, we argue that not having an aswer to it can be considered an important gap.

Actually, there are reasons to be sceptical about the empirical success of the NOEM framework. In an influential paper Justiniano and Preston (2010) demonstrate that estimated small open economy DSGE models fail to account for the substantial influence of foreign shocks identified in many reduced-form studies. They show that capturing the observed comovement between domestic and foreign variables generates counterfactual implications for other variables, especially for the real exchange rate and terms of trade. It is also well-known that NOEM models have difficulties in explaining swings in the exchange rates and current account balances (Engel, 2014; Gourinchas and Rey, 2014). On the bright sight, Ca'Zorzi et al. (2016) show that real exchange rate forecasts from small open economy DSGE models beat the random walk at medium and long horizons and are very competitive with tougher benchmarks.

The Nonlinear Nature Of Country Risk.

Jacek KOTLOWSKI, Michał Brzoza-Brzezina

In this paper we focus on the nonlinear relationship between the risk premium and the NFA position of a country. We see two important contributions, one for policy and one for modeling. Both are not offered by linear models. First, from the policy perspective our estimates help to determine the regions where an economy risks falling into a self fulfilling debt trap. From the modeling perspective, we offer a ready-to-use calibration of the risk premium - NFA relationship that can be applied in DSGE models. We show that adjusting the usually applied calibration to the one offered in our paper has the potential to substantially affect the model dynamics. From this perspective our results could also be considered as motivation to provide a structural derivation of this link in the DSGE literature. Our results could then serve as a check whether the derived link is in line with empirics.

Is The "Beckerian" Quantity-Quality Tradeoff Regarding The Offspring Always True? Analysis Of NTA Data.

Izabella KUNCZ, Éva Berde

The "Beckerian" theory of the quantity-quality tradeoff between the number of children and their quality is deeply permeates all the literature dealing with fertility rate analysis. It has great influence to the new direction of growth models, which derives the growth opportunities from the number and "quality" of the population growth (or decrease). In these models human capital investments play crucial role (see Lee and Mason (2010) 1). In our paper we argue that Lee and Mason (2010) could not lead to a precise interpretation because they deal only with average data. We show that by calculating the correlation between the human investment and fertility rate using a continuous relationship between the two variables, a modified result is obtained. In the first part of our paper we build an overlapping generation (OLG) model, similar to that in Lee and Mason (2010), but with altered human capital elasticity. Additionally we include two other modifications: i) four overlapping generations instead of three are introduced, and ii) transfer to oldest generation is provided by the second and the third generations. We seek answers to the following question: How much consumption is provided for the youngest and

the oldest generations as a function of the fertility and survival rates? The different paths of our model show that there are difficulties if the fertility rate is extremely high or extremely low. In both cases elderly could improve their own situation if they work and receive labour income. Children can consume at a proper level only if the fertility rate is not remarkably high.

An Innovative CGE Assessment Of The Impact Of The TTIP Including Multinationals And Foreign Direct Investment

Maria C. LATORRE, Hidemi hi Yonezawa

This paper analyzes the impact of the Transatlantic Trade and Investment Partnership (TTIP) on the EU and the US. The outcomes are derived at the microeconomic, as well as at the macroeconomic level in a consistent framework by using a computable general equilibrium (CGE) model. With respect to the sectoral results, the effects on production, exports and imports are derived for the twenty one sectors (including manufactures and services) in which the economies are split. Regarding the macroeconomic outcomes the impact for GDP, aggregate exports and imports, wages, capital rates of return and welfare will be obtained. We will consider that both moderate or ambitious scenarios (regarding tariff and non-tariff barriers reductions) could be reached in the negotiations that are actually taking place. One important characteristic of our model is that, contrary to the few previous analyses of the TTIP, it includes the impact of the operations of foreign multinationals in a context of imperfect competition and increasing returns to scale.

Increased Energy Efficiency In Scottish Households: Trading-Off Economic Benefits And Energy Rebound Effects?

Patrizio LECCA, Gioele Figus, Karen Turner, Peter McGregor

Energy rebound effect from increased energy efficiency has been generally considered as an undesired consequence of increasing energy efficiency policies that needs to be accounted when assessing the ability of such policies to decrease the demand for energy.
However, recent studies have associated the energy rebound effect to a wider range of economic benefits coming from the higher energy efficiency.
In computable general equilibrium (CGE) setting Lecca et al. 2014 show that a more efficient use of energy could lead to a reallocation of household's expenditure towards non-energy sectors, which could stimulate the economy through a shift in the aggregate demand. However this would crowd out export due to an increased pressure on domestic consumption price.
Here we use a regional (CGE) model for the Scottish economy to analyse the economic response of household - and of the wider economy - to an increase in household energy efficiency. We follow the approach of Lecca et al. 2014 but we focus on the regional case of Scotland. This allows us to understand some of the implications of moving from a national to a regional CGE modelling framework in the analysis of the impacts household energy efficiency improvements in the whole economy.

Towards the Green Economy Economic Effects of the Transition to a More Efficient World

Ulrike LEHR,

The challenges of climate change led to the claim to decarbonize economic activities. Most recently, the Stern Report (2006) and AR4 of the IPCC (2007) showed that the seeming dichotomy between economic growth and environmental protection can be bridged and that climate change mitigation is an economic opportunity and

contributes to growth. Thus, UNEP 2011, OECD 2011, ILO 2012 coined the terms Green Economy, Green Growth and Green Jobs.

Resource efficiency is an important pillar of a greener economy. It comprises energy efficiency and contributes to climate change mitigation, and (raw) material efficiency; thus contributing to the protection of water, soil, landscape and biodiversity as well. While efficiency increases autonomously due to price pressures, technological change and innovation, additional incentives are needed for a better internalization of the respective external effects such as pollution, emissions, destruction of wildlife and landscapes etc. Policies for the increase of resource efficiency therefore include price instruments such as fees on the use of certain raw materials as inputs. Additionally, grants to home owners to increase the energy efficiency in buildings, standards and labels are used.

The objective of this contribution is to show the economic effects of selected resource policies on an aggregate and a sector specific level. A special focus lies on employment effects from the transition to a green, i.e. more resource efficient economy.

Development Perspectives of Sub-Saharan Africa under Climate Policies
Marian LEIMBACH,

Progress in international climate negotiations depends crucially on the contribution of developing countries. Development perspectives determine their incentive structure. This study investigates into two related research questions:

Does climate policy slow economic growth of Sub-Saharan Africa? What are interregional and intraregional distributional impacts of climate policies?

Real World Scenarios For Interest Rates Based On The LIBOR Market Model
Sara LOPES,

In this article, we present a methodology to simulate the evolution of interest rates under real world probability measure. More precisely, using the multidimensional LIBOR market model and a specification of the market price of risk vector process, we explain how to perform simulations of the real world forward rates in future, using the Euler scheme with Predictor-Corrector. The proposed methodology allows the presence of negative interest rates as currently observed in the markets.

Tieboutian Market Structure and Collective Decision Process Within a Global Competition Policy
Ermelinda LOPES-SILVA,

The Pareto optimally has been supported by perfect competition as a market structure where efficiency is sustainable, but it is imperfect competition where there are higher increasing returns and better redistribution, through innovation and growth, promoted by the market size. The optimal size within the Tieboutian perspective can be reached through the decentralization of production process that increases the market accessibility and promotes the price competition by international trade. The marginal rate of transformation between labor and capital is stronger within imperfect competition market, benefiting from larger markets and investment in R&D. The results are a diminishing in management decision time (MDT) and a lower optimal market size (M*), as we explain analytically using the theory of collective decision.

Product And Labor Market Regulations, Production Prices, Wages And Productivity

Gilbert CETTE, Jimmy Lopez, and Jacques Mairesse

This study is to our knowledge the first attempt to infer the consequences on productivity entailed by anticompetitive regulations in product and labor markets through their impacts on production prices and wages. Results are encouraging showing that changes in production prices and wages at country*industry levels are informative about the creation of rents impeding productivity in different ways and to different extents. A simulation based on these results and on OECD regulation indicators suggests that nearly all countries, in particular European countries, could expect sizeable gains in multifactor productivity over the years from an economic policy that would be able to reform product and labor market regulation practices.

Macroeconomic Impact Of Electric Power Outage: Simulation Results From A CGE Modelling Experiment For Hungary

Klára MAJOR, Drucker, Luca Flóra

This paper presents the results of a CGE application that is used to measure and understand how sectoral shocks might influence the Hungarian economy, its economic agents and its different industries. The electricity outages are modelled by the decrease in the supply of energy.

The Potential Impact Of Industrial Energy Savings On The New Zealand Economy

Milad MARALANI, Basil Sharp, Golbon Zakeri

In New Zealand approximately 39% of electricity is consumed by large industries. In 2012, The University of Auckland engineering team proposed to develop novel heat exchanger technology to allow electricity demand shaving and load shifting in light metal industries. This technology provides significant cost savings for such companies and preserves generation capacity at peak times for other users.

The aim of this study is to represent the impact of adopting this technology in a particular, electricity intensive sector (e.g. steel or light metals manufacturing), on the electricity market and economic system as a whole.

The Labor Market Effects Of Skill-Biased Technological Change In Malaysia

Ali MAROUANI, Bjorn Nilsson

Against a background of massification of tertiary education in Malaysia, the article intends to study the linkages between skill-biased technological change, educational dynamics and labor market outcomes, aiming to disentangle the mechanisms behind the relative stability of wage premia in Malaysia in recent years.

A Structural Model Of Macroprudential Policy: The Case Of Ireland

Niall MCINERNEY,

We build a structural model of the Irish retail banking sector in which we estimate supply and demand equations for mortgage and consumer credit, corporate lending and loans to the construction sector. We find evidence that variations in non-interest rate related credit conditions have a significant effect on credit demand in the Irish case. We then examine the sensitivity of lending behaviour to changes in those variables that can be used as prudential instruments such as loan-to-income, loan-to-value, loan-to-deposit and capital adequacy ratios. Finally, we run a number of counterfactual scenarios in which these variables are held at their pre-credit

boom levels and find that changes in loan-to-income ratios were the most important factor driving credit growth in the pre-crisis period. Our results provide some evidence that the effective management of credit conditions should be an important feature of the Irish regulatory landscape.

Expectation-Driven Cycles: Time-Varying Effects

Caterina MENDICINO, Antonello Dágostino

This paper provides new insights into expectation-driven cycles by estimating a structural VAR with time-varying coefficients and stochastic volatility, as in Cogley and Sargent (2005)and Primiceri (2005). We use survey-based expectations of the unemployment rate to measure expectations of future developments in economic activity.

Bank Business Model Assessment – Case Of Integrated Risk, Management With Cash-Flow-At-Risk

Slaven MIĆKOVIĆ,

In order to define a sustainable set of conditions under which the strategic goals of Slovenian banks can be achieved, stochastic simulation model which captures the basic interactions between bank's balance sheet and income statement, was constructed (SloBankMod). Model is a powerfull tool for bank's policy decisions as it stimulates sustainable convergence and determines a reasonable time horizon to achieve bank's strategic goals. SloBankMod enables to build different scenarios and to test under which assumptions and constrains strategic goals can be met.

The results of analysis show that in order to meet the RoE values in the upcoming years, sufficient to cover Cost of Equity, high volumes of new financing is to be issued to the top rated clients. As these assumptions might be difficult to meet, especially in the case of the less favourable macroeconomic environment, the results can be interpreted as a warning signal to the Slovenian banks, that to provide sustainable returns for the investors, addressing income risk exposure by reinvigorating existing business models, might be necessary.

Dutch Disease And Change Of The Productive Structure In Morocco. An Analysis Using A VECM Model

Karim MOHAMED, Lotfi Bilal, Ghizlane Saad, Redouane Ahnyne

The concept of the Dutch Disease is not new but it always remains of topicality because the expansion of the surge of capital coming from the export of the natural resources can produce perverse effects on the unit of the economy of the countries rich in these resources.Indeed, this situation can lead, in the case of a developing country, with a contraction of the sectors producing of the exchangeable goods apart from the sector in boom and the producing development of the sectors of the nonexchangeable goods.However, several authors underline the existence of a similarity between the increase in incomes coming from the exploitation from the natural resources, the transfers of the residents abroad [Fajnzylber and López, (2007)], the entry of foreign assistance [Edwards and vanWijnbergen, (1989)] and the receipts tourist [Hazari and Ng, 1993, Nowak and Al, 2003)].
In this paper, one proposes to treat advisability of resorting to the theory of the "Dutch disease" to analyze the phenomenon of the disindustrialization which characterizes the economic trajectory of Morocco in the last few years, considering the importance of the share that have these resources in the interior Product rough Moroccan, in order to give recommendations to neutralize the effect of the Dutch disease on the Moroccan economy.After a brief talk on the contents and the theoretical statute of the models of the dutchdisease, we will proceed, on the basis of empirical checking, to a critical analysis of the theory using a vectorial model with

correction of error, with an aim of identifying the transmission channels of the Dutch disease in the heart of the Moroccan economy and of explaining blockings with which industrialization is confronted.

A CGE Analysis of the Macroeconomiceffects of Carbon Dioxide Emission Reduction on the Algerian Economy
Touitou MOHAMMED

This study analyzes the macroeconomic effects of limiting carbon emissions using computable general equilibrium (CGE) model in the Algerian economy. Doing so, we developed an environmental computable general equilibrium model and investigate carbon tax policy responses in the economy applying exogenously different degrees of carbon tax into the model. Three simulations were carried out using anAlgerian Social Accounting Matrix.

Modelling Long-Run Energy Development Plans: The Case Of Barbados
Winston MOORE, Mika Korkeakoski, Jyrki Luukkanen, Laron Alleyne, Abdullahi Abdulkadri, Noel Brown, Therese Chambers, Orlando Costa, Alecia Evans, Sidonia McKenzie, Dwight Reid, Luis Vazquez Seisdedos

Barbados spends approximately seven percent of annual gross domestic product (GDP) on imported fuel, a significant amount in a foreign exchange constrained economy. In addition, to the foreign exchange burden of imported fuel, the relatively high cost of electricity is a major constraint impacting on the external competitiveness of local businesses.

Water Fetching And Firewood Collection In Ethiopia: Economy-Wide Effects Of Improved Efficiency
Abdulaziz MOSA, Khalid Siddig, Harald Grethe

Water fetching and firewood collection activities are among home activities which are part of the daily routine of many households in rural Ethiopia. The majority of Ethiopian households have no access to drinking water and energy infrastructure. Hence, households travel long distances and spend large amounts of time every day to collect water and firewood. Furthermore, water fetchers and firewood collectors are mostly agricultural laborers in Ethiopia. In other words, fetching drinking water and firewood collection reduces labor time available for market related activities such as agriculture which affects production and productivity in these sectors negatively. With a better access to the service, they might not need to collect water and firewood at all. Better access to water and energy services is expected to increases agricultural productivity. This can be achieved by releasing labor to be reallocated to market related activities (e.g. agriculture) or simply increase households leisure time. An improved efficiency of water fetching and firewood collection activities can be potentially attained via public expenditure on water infrastructure and household energy saving technologies. This study investigates the economy wide effects of improved efficiency of water fetching and firewood collection activities.

Modeling The Distributive Effects Of An Agrciultural Shock On Household Income In South African: A Sam Multiplier Decomposition And Structural Path Analysis
Julius MUKARATI, Makombe Godswill

Natural resource redistribution and ownership transfer programs are introduced as a way of improving income distribution and alleviating poverty in rural areas of most developing countries. These programs ranges from land tenure ownership to land redistribution programs under which the land redistribution is the most dominant and common transfer policy in developing countries as agriculture is the main source of rural

households livelihood. In the case of South Africa, these redistributive policies are implemented in line with the national development plan targeting extreme poverty alleviation and reduction of wide income disparities by 2030. This paper analyses the distributive effects of the land redistribution policy which is a shock in the agriculture sector on poor household income in South Africa. In carrying out this study, a multiplier decomposition and structural path analysis is applied to trace the various channels through which income is transmitted from the agriculture sector to poor households. The study contributes to the existing literature by providing a microscopic analysis of the global multiplier to show the transmission mechanism of household income from a shock into the agriculture sector and show how income moves across sectors, factors and households by dividing the multiplier effects into all its components. Results of the structural path show that a significant portion of the global influence of the shock in agriculture is transmitted through the path of factor income which in turn increases poor household income.

Irrigation Freshwater Withdrawal Stress in Future Climate and Socio-Economic Scenarios
Victor NECHIFOR-VOSTINARU, Matthew Winning

Although perceived as an abundant resource, freshwater is disproportionally distributed across the globe determining 8% of the current population to live in severely water scarce regions. Irrigated agriculture, currently representing 70% of all freshwater withdrawals and thus a major source of water stress, could continue to expand its water requirements as a consequence of expected economic and population growth. In this research, future pressure over freshwater resources coming from irrigated crop production is captured by an Irrigation Withdrawal to Availability (IWA) indicator derived through a global Computable General Equilibrium framework. The metric is calculated for several socio-economic development pathways and considers technological evolution through differentiated irrigated and rainfed crop yield changes. The RESCU model employed explicitly uses freshwater as a factor in crop production, whilst clearly distinguishing between irrigated and rainfed production functions. Two scenarios are applied to three alternative SSPs (SSP1, SSP2, SSP5) - inherent yield improvements under a 'no climate change' assumption and yield changes due to climate change in the A1B carbon emissions pathway. Results show that freshwater withdrawals continue to expand in most of the regions that are currently water-stressed with the IWA increasing in some cases by more than 50% from 2004 levels. Other regions, such as China, benefit from yield improvements and thus shift from irrigated to rainfed crop production. Climate change leads to a further increase in the IWA for India and a decrease for Northern Africa, the rest of South Asia and the Middle East.

The research uses a global dynamic recursive CGE model, RESCU (RESources CGE UCL). The opportunity to use a CGE framework is justified by the need to incorporate the effects of expected economic growth, evolution of factor supply and technological change over agricultural production. From a baseline output for each SSP scenario, the CGE model enables us to distinctly determine the impacts of productivity changes of inputs in crop production over freshwater demand. The model uses the GTAP 8.1 database for economic data. The GTAP regions are aggregated to 20 wider RESCU regions with a grouping done to reflect differences in terms of agro-ecological conditions and economic development. India and China are represented distinctly for a better distinction of their future freshwater challenges. The crop producing sectors are well represented in RESCU with each of the 8 crop types initially present in GTAP having distinct rainfed and irrigated production functions. Thus the GTAP database crop sectors are being split using rainfed and irrigated production information from the biophysical Global Crop Water Model GCWM (Siebert & Döll 2010). The value of irrigation is also disaggregated from the value of land used in irrigated crop production by using the value of lost production in a no irrigation world derived from the GCWM 'no irrigation' model run. Changes in freshwater demand in irrigation are thus captured at different levels: a) Changes in output of irrigated crops induced by

economic growth b) Relative changes in output of different crop classes each with different irrigation water intensities c) Technological changes leading to input intensification or input efficiency gains.

Educate Or Adjudicate ? Coping With Socio-Economic Heterogeneity
Bilin NEYAPTI

This paper presents a framework to explore the welfare effects of the government's choice over two types of public goods provision: domestic regulatory and security spending (adjudication) versus education. Output is a function of physical and social capital, both of which can be heterogeneous across the regions. Local social capital may change with spillover effects of the other regions. Education spending increases social capital, whereas spending on adjudication increases total factor productivity. Hence, public policy decision endogenizes the social capital accumulation that has long-term implications for income distribution and the optimal level of spending of both types.

Analysis Of Environmental Policy In Kazakhstan
Lyazzat NUGUMANOVA

Kazakhstan has one of the highest CO2 emissions per GDP in the world. Kazakhstan has taken a leadership role in the Central Asian region in terms of climate change policies and greener economy. Kazakhstan has ratified Kyoto Protocol in 2009. Kazakhstan has committed to reduce emissions by 15% below 1992 GHG levels by year 2020. In 2013 by decree of President of Kazakhstan a concept of Green Growth was adopted. Environmental regulations in Kazakhstan inherited from the planned economy need to be modified to correspond to current economic situation and climate change goals.

Carbon tax and emissions trading are two of the main instruments to curb GHG emissions. There is an ongoing debate regarding which policy instrument is the most optimal towards reduction of emissions. The main difference between the two instruments are levels of uncertainty with regards to the carbon price and thus emissions reductions. Carbon tax provides more carbon price certainty, while emissions trading carbon prices are more volatile. Carbon tax mechanism is more easily to implement and operate, than ETS.

Kazakhstan has opted and implemented emissions trading scheme in January 2013.. The ETS covers 55% of total CO2 emissions in Kazakhstan, and includes energy, mining and chemical industry. The average price of allowances was KZT 406 (US$2). Carbon tax in Kazakhstan would provide stability of carbon price, moreover carbon tax is easier to implement and monitor. The objective of this paper is using computable general equilibrium (CGE) model evaluate macroeconomic and environmental impacts of different carbon tax levels in Kazakhstan.

Modelling the Impact of the Transatlantic Trade and Investment Partnership (TTIP) on a Small Regional Economy
Masudi OPESE, Mario Fortuna

The current study analyses the impact on the Azores, a small island regional economy, of the TTIP agreement between the EU and the US. To this effect a dynamic CGE model detailing six household categories, forty five sectors and four trading partners is used. Previous studies used aggregate variables and were largely based on the structure of the national economy. For a small integrated economy, looking at foreign trade statistics comprises an underestimation given that a good part, if not most, of the trade is channeled through bigger national logistic centers. This limitation is overcome contemplating direct and indirect trade impacts.

It is found that the potential impact on this small island economy is similar to what was found for the mainland, contrary to what had previously been estimated, pointing to a much lower impact.

Relative to the business as usual (BAU) scenario, GDP is estimated to be 0,4 to 0,77 percentage points higher by 2030. Based on a static model, a previous estimate of François and Manchin (2014) had pointed to an increase between 0,19 and 0,35 percentage points. Using equivalent variation, the estimated impact is positive for all six household categories with relatively higher gains for the middle income categories. The lowest impact is in the lowest income categories. Using the change in value added, the primary production sectors are all negatively impacted. Except for fish processing, the main industrial activities are not hurt. For the case of the economy under study, there is a positive impact on the very important dairy industry as well as in retail activities, services associated to tourism and air transportation.

Suggesting an overall positive impact, the model also points to negative, even if small, impacts on the primary production sectors of agriculture and fisheries, which might warrant specific policy attention.

The Economy-wide Effects of Global Climate Policy on the Russian Economy
Anton ORLOV

COP21 meeting in Paris ended up with a global climate (non-binding) agreement, which proposes a very ambiguous, if not unrealistic, target of 2ºC. Among other countries, Russia proposed a reduction in GHG emissions. Russia's pledge submitted to the UN is a 25-30% reduction in GHG emissions by 2030 compared to 1990 (Carbon Brief , 2015). At present, Russia is one of the largest producers of GHG emissions: Russia's share in total GHG emissions accounted approximately for 5% in 2012 (WRI , 2012).

Recently, a few publications address economy-wide effects from climate and energy policy in Russia (e.g., Heyndrickx et al., 2012). Yet their analyses are based on single-country models, which are unable to depict the response of other economies. Moreover, those studies do not show how the Russian economy could be affected, when other countries implement stricter climate policies. This study aims to fill this knowledge gap. From an economic point of view, what matter is overall welfare costs arising from climate policy. Therefore, many CGE studies typically focus on welfare effects from climate policy. But competitiveness, sectoral effects, and income distribution effects are also vital to policy-makers. It also should be noted that, according to results from CGE models, welfare costs of climate policy are typically moderate. In this study, we focus on competiveness and sectoral effects from climate policy. Therefore, the main objective of this paper is to quantify the sectoral effects resulting from a stricter climate policy in Russia and the rest of the word (RoW).

The Effects Of The TPP In The Mexican Economy: CGE Assessment.
Gabriela ORTIZ VALVERDE, María de la Concepción Latorre Muñoz

The Trans-Pacific Partnership (TPP) is an ambitious multilateral agreement. Only a few studies have comprehensively evaluated the effects of TPP in different regions or have compared it with other Free Trade Agreements (TTIP, RCEP) using a CGE methodology. The TPP was signed in October 2015. That is why previous studies were done in a framework of uncertainty about the final outcome of the negotiations. The goal of this paper is to offer an updated analysis based on the TPP that has been signed.

We focus in Mexico because it plays an important role to consolidate the bridge, between North American region and the Pacific Alliance. By contrast, previous studies have mainly focused on Asian countries. In addition, given the relative increase of services in the trade, we will pay particular attention to the impact of lowering those specific barriers. We want to analyze the effects of reduction in non-tariffs barriers and evaluate its effects at the microeconomic and macroeconomic level.

Analyzing Macroeconomic Imbalances In The EU
Filip OSTRIHOŇ, Tomas Domonkas, Ivana Šikulová, Maria Širaňová

This research aims to evaluate the efficiency of the currently applied MIP Scoreboard's indicators. The question we want to answer is that: If this procedure had been applied before the crisis, would it have been able to effectively and on time identify potential macroeconomic imbalances in the EU countries?

Is FTA/EPA Effective For A Developing Country To Attract FDI? The Knowledge-Capital Model Revisited
Kazuhiko OYAMADA,

To prepare an answer to the question of how a developing country can attract foreign direct investment (FDI), this paper explored the factors and policies that may help bring FDI into a developing country by utilizing an extended version of the knowledge-capital model developed by Markusen (1997). Although models with heterogeneous firms are widely utilized for both theoretical and empirical studies that explore motives behind FDI since Melitz (2003), the knowledge-capital model still is useful when we comprehensively handle every operational pattern of multi-national enterprises (MNEs) in one uniform framework.

A Macroeconometric Model Of Turkey: Impact Of Exchange Rate Shocks Under A High International Borrowing
Durmus OZDEMIR, Mustafa Kemal Gundogdu

This paper examines the Marshall-Lerner condition under the simultaneity of exports and import flows in the Turkish economy. Due to the high interdependence between rations of export and impot flows to GDP, the traditional version of the Marshall-Lerner condition is not sustained. In the case of Turkey, the long-term estimations of the price elasticities of exports and imports, and the respective cross elasticities lead us to conclude that currency devaluation would, in the long run, improve the balance of trade.

Modeling Macroeconomic Effects Of Environmental Taxes as an EU Own Resource Using the CGE Model
Viliam PÁLENÍK, Tomáš Miklošovič

Own resources of the European Union are the base of the European budget revenues. The classical resources are decreasing. Resource based on the proportion of gross national income is increasing. Current status of own resources is inconvenient and confusing. A new concept of environmental taxes can serve as a new EU own resource. It would lead to a better envi-ronmental protection and more transparent financing of the EU budget. In combination with the application of the principle of fiscal neutrality, which consists of a collateral reduction of certain direct taxes, the tax could accelerate economic growth.

Energy Scenarios: The Value And Limits Of Scenario Analysis
Sergey PALTSEV,

A need for low-carbon world has added a new challenging dimension for the long-term energy scenarios development. In addition to the traditional factors like technological progress, demographic, economic, political and institutional considerations, there is another aspect of the modern energy forecasts related to the coverage, timing, and stringency of policies to mitigate greenhouse gas emissions and air pollutants.

A Financial Social Accounting Matrix For The Spanish Economy
Luis Enrique PEDAUGA, Henry Aray, Agustín Velazquez

This article goes beyond the traditional methodology of Social Accounting Matrix (SAM) at building a Financial Social Accounting Matrix for Spain (FSAM). It has had to overcome the difficulties that arise at consolidating the data from the National Statistics Institute (INE) and the Bank of Spain (BE). A RAS methodology is proposed to estimate the property income distribution when no official data are available.

Applying an Extended Kernel Density 4-Step Floating Catchment Area Method to Identify Priority Districts to Promote New Publicly Financed Supply Of Gastroenterology Exams
Pierre POLZIN, José Borges, António Coelho

In continental Portugal, the publicly financed supply of gastroenterology exams, including endoscopies and colonoscopies, have been restricted since the end of the last century, with a fixed set of private providers being hired by the government to complement the limited public supply. This way of contracting creates market entry barriers and is inefficient, since prices are administratively set. Besides, it produces access inequities, because of the way that the supply is geographically distributed. This paper applies an Extended Kernel Density 4-Step Floating Catchment Area – EKD4SFCA method (Polzin et al., 2015) to identify priority districts for the promotion of new supply by the government, in order to reduce access inequities via public financing of private supply, and to choose the appropriate way of contracting, as determined by Decree-Law 139/2013.

Decomposing The Measure Of Ignorance: TFP And Fundamental Productivity In The World Economy
Frank POTHEN, Edward J. Balistreri

Ricardo's classical example shows how countries realize welfare gains by specializing according to their comparative advantages. While England is relatively more productive in manufacturing cloth, Portugal has a comparative advantage in producing wine. When opening up to trade, England specializes in fabricating cloth and Portugal in wine making, yielding gains of trade for both nations. But if countries do specialize according to their comparative advantage, why not exploiting trade flows to estimate productivity?

A lack of theory clarifying the link between observable trade flows and underlying fundamental productivity prevented such empirical exercises until recently. Introducing a probabilistic representation of technologies into a Ricardian model of trade in a continuum of goods (Dornbusch et al., 1977), Eaton and Kortum (2002) provided a Ricardian model allowing for more than two regions and showing how productivity and trade costs determine the flow of goods and services. Subsequent studies have outlined the link between fundamental productivity and measured TFP (Finicelli et al., 2013), introduced theoretically sound indicators of comparative advantage (Finicelli et al., 2013), or investigated how sub-national productivity shocks translate to the national level (Caliendo et al., 2014). A number of empirical studies employed Ricardian models to identify the productivity developments empirically (Chor, 2010; Fadinger and Fleiss, 2011; Levchenko and Zhang, 2013). This study exploits the World Input-Output Database to estimate the productivity of 34 sectors in 40 countries from 1995 to 2009, using a Ricardian general equilibrium model for parameter identification.

Computing The Cross-Sectional Distribution To Approximate Stationary Markov Equilibria With Heterogeneous Agents And Incomplete Markets
Elisabeth PRÖHL

Dynamic stochastic general equilibrium models with heterogeneous agents and incomplete markets usually have to be solved numerically. Existing algorithms assume bounded rationality of the agents meaning that they only keep track of a limited number of moments of the cross-sectional distribution. In this paper, we do not take this assumption and derive a law of motion of the whole state distribution. The proposed algorithm jointly solves for a fixed point of the equilibrium's Euler equation and its distribution's law of motion. Convergence to the equilibrium's optimal policy and the stationary state distribution is shown. We compare our numerical solution to the most prominent existing algorithm, the Krusell-Smith algorithm. Apart from improved error distributions and Pareto-improved policies for our algorithm, we show that the Krusell-Smith algorithm does not converge when using the limit of its simulation step to obtain the law of motion.

Hazard Risks and Their Impact on Critical Infrastructures (Case Analysis of Natural Gas Networks of Italy and Romania)
Ionut PURICA

Interconnection of critical infrastructures represent one of the pillars of the EU Energy and climate change strategy at the horrizon of 2030. The risks associated with these networks should be analyzed based on the geographical distribution of each network by contrast to local objectives such as nuclear power plants or dams. Based on distributed hazard risks evaluation done for Italy' regions in case of seismic and landslide and for Romania's counties in case of flood, draught, snow and freeze and on the risks of mechanical failure with gas escape and ignition, the risk map is determined for each country measured in probable deaths per million inhabitants. These results may provide the needed information for optimizing the allocation of mittigation means and for implementing efficient insurance policies.

Estimating Long Term Structural and Educational Changes of Labour Demand Using CGE Model – Case of Slovakia
Marek RADVANSKÝ, Tomáš Miklošovič

Main goal of the paper is application of augmented recursive-dynamic CGE model to provide long-term forecast of labour demand. Estimation of structural and educational changes in labour demand up to 2025 requires relatively complex approach. Applied CGE model is core part of described exercise. Available datasets for Slovakia allow providing currently most detail estimation of structural changes by 60 sectors. Additionally, employment structure is divided by 5 levels of formal education (instead of more problematic occupation segmentation). Main driver of changes in demand by education in applied model are wage and productivity development. Main inputs to recursive dynamic CGE models beside the SAM matrix are information on indicators of long term macroeconomic. These are derived from applied macroeconomic econometric error-correction model. One of the main challenges was to use combination of LFS and national accounts (ESA) data on structure of employment for better utilization of obtained results. Additional use of LFS information about age and education structure within sectors leads to estimation of expansion, replacement and total demand to every individual sector. Main results of (partially restricted) labour demand are essential part for identifying possible imbalances and shortages on labour market.

Modelling Replacement Demand For Labour Using Microsimulation Approach - Case Of Slovakia
Marek RADVANSKÝ, Miroslav Stefanik

In this paper we build on an already developed labour market model (VZAM) (Tiruneh, 2012), (Lubyova, Stefanik et al., 2015), designed to project skill shortages on Slovak labour market. Within the model several relatively autonomous modules work on the supply and demand side. Existing approaches in modelling labour market development in terms of skills, differentiate between expansion demand and replacement demand for labour (CEDEFOP, Skills supply and demand in Europe, 2009, 2010 and 2011). Replacement demand captures the demand arising from transitions and implied job openings. Transitions considered are those between segments (sector/occupation) as well as into unemployment and various forms of inactivity (retirement, schooling, maternity leave and other). Replacement demand usually presents a major part of the demand created in each labour market (Kriechel and Sauermann, 2010), (Kriechel, 2013). Similar approach has been also applied in Slovakia (Radvansky, Miklosovic and Hvozdikova, 2016).

The objective of the submitted paper is to explore the possibilities of switching the module on replacement demand from a semi aggregate probability model into microsimulation framework. For this purpose open-source microsimulation software LIAM 2 will be employed (http://liam2.plan.be/).

Switching into a micro-simulation form could be related to several advantages in comparison to a simple probability model. It would, for example, allow us to consider individuals´ history in the probability functions on transitions and thus improving the quality of predictions. The functionality of LIAM 2 also allows us to consider more and multiple stage processes, relevant from the perspective of individual decision.

The objective of the paper is to explore and consider the advantages related to switching an already existing replacement module (based on age specific simple probability functions) into a microsimulation framework. Outputs will be compared to previously obtained methods and their reliability will be discussed.

Combining Price and Quantity Controls under Partitioned Environmental Regulation
Sebastian RAUSCH, Jan Abrell

This paper analyzes hybrid emissions trading systems (ETS) under partitioned environmental regulation when firms' abatement costs and future emissions are uncertain. We show that hybrid policies that introduce bounds on the price or the quantity of abatement provide a way to hedge against differences in marginal abatement costs across partitions. Price bounds are more efficient than abatement bounds due to their ability to exploit information on firms' abatement technologies while abatement bounds can only address emissions uncertainty. We find that introducing hybrid policies in EU ETS reduces expected excess abatement costs of achieving targeted emissions reductions under EU climate policy by up to 89 percent. We also find that under partitioned regulation there is a high likelihood for hybrid policies to yield sizeable ex-post cost reductions.

Economic Shocks and Their Effects on Unemployment in the Euro Area Periphery Under the EMU
Antonio RIBBA, Pietro Dallari

In this paper we aim to investigate the effects of several types of shocks on unemployment in peripheral European countries under the EMU. We use a structural near-VAR model to account for the supranational conduct of monetary policy on the one hand, and domestic fiscal policy and financial shocks on the other hand. Our main findings are: (i) the unemployment multipliers of government spending shocks are higher than the ones associated with government revenues shocks, and they vary across countries; (ii) instability in the unemployment responses over time is marked, with evidence that a regime shift took place in some countries

since 2007; (iii) fiscal and financial shocks are not among the long-term drivers of unemployment, but instead a more important role is played by Euro area-wide shocks, with a pre-eminent role for the common monetary policy shock.

Concepts Of Equilibrium And Their Role In Economic Simulation Models

Sherman ROBINSON,

This paper considers the role of equilibrium concepts in economic simulation models. The paper defines different types of equilibria and describes their importance in simulation models in terms of their power to describe empirically the results of disequilibrium adjustment processes that then need not be explicitly modelled. The paper addresses the issue of the validity of different equilibrium concepts as "descriptive" or "realistic" and considers the "domain of applicability" of different types of equilibria in different economic models. Examples are drawn from various classes of models: CGE (static and dynamic), DSGE, macroeconomic, multi-market, microsimulation, agent-based, and game theoretic.

Historical Stock Market Connectedness: The Case Of The USA, France, And Germany During The Interwar Period

Angi RÖSCH, Bertrand Blancheton, Harald Schmidbauer

The goal of our study is to measure historical stock market connectedness in the network consisting of three stock markets, namely the USA, France, and Germany, in the period between WW 1 and WW 2. This casts further light on international economic links during an important phase of world history.

Simulating The Macroeconomic Impact Of Future Water Scarcity

Roberto ROSON, Richard Damania

In this paper, the macroeconomic implications of possible future water scarcity are assessed. In order to do so, the sustainability of a number of economic growth scenarios in terms of water resources are considered. The analysis is based on a comparison between potential demand for water and estimated water availability. Water supply is calculated using the Global Change Assessment Model (GCAM). Three different climatic Global Circulation Models (GCMs) were used as inputs—CCSM, FIO, and GISS—to feed the complex hydrologic model. The main output of this model is an estimate of runoffs and water inflows for many regions in the world. Sustainable (renewable) water supply is defined as the total yearly runoff (where necessary integrated by water inflow) within a given region, and scenarios are considered in which this is the only available source of water. Therefore, the possible exploitation of non-renewable water resources (e.g., the so-called "fossil water") is implicitly ruled out, whereas the adoption of unconventional water supply means (desalination, recycling, harvesting) is indirectly accounted for as improvements in water efficiency (fresh water needed per unit of economic activity).

PAMS.Py: A GAMS-Like Modeling System Based on Python and SAGE

Roberto ROSON

This paper presents an external module for the Python programming language and for the SAGE open source mathematical software, which allows the realization of models based on constrained optimization or non-linear systems. The module, which is freely available for download, allows describing the structure of a model using a

syntax similar to that of popular modeling systems like GAMS, AIMMS or GEMPACK; in particular by allowing the automatic replication of equations, variable and parameter definitions on the basis of some specified sets.

Methodological Bases and the New Principles of the Development of the Economic Laws of the Market Relations
Saule SAGINTAYEVA, S.Baizakov, A.Oinarov

The paper presents a deep analysis of Piketty's work "Capital in the XXI Century," in particular two of its laws. The authors note that Piketty has created the conditions for the integration of the labour theory of value with marginal utility theory based on the elimination of contradictions that arise from inaccurate definitions of inflation and growth.The authors develop laws of Piketty by applying the principle of duality and offer qualitatively new equation of balanced economic growth, based on the quantity theory of money of K. Marx.

The work consist of meaningful evaluation of the contribution of scientific and technological potential of the country at the price actually spent on the production of working time, labour productivity, capital, and coefficient of scientific and technological potential.

Thus, the end result of the integration of the labour theory of value and the theory of marginal utility is a system of laws of market economy development based on proven mathematical provisions and having substantial economic ground.

Incorporating Gender And Time Use Into NTA Turkey
Nazli ŞAHANOĞULLARI, Aylin Seçkin, Patrick Georges

Using Turkish expenditures and household surveys data of Turkish Statistical Institute we first have calculated The National Transfer Accounts (NTA) for Turkey to show how people produce, consume, share and save by age for the year 2006. Then, we have extended the project to add sex as an additional characteristic. This involves two distinct efforts: disaggregating the current national accounts-based NTA by sex, and adding a satellite account for time inputs, called National Time Transfer Accounts (NTTA). Time inputs include productive activity that is not already accounted for in national accounts which is called as "household production." If we wish to understand the full age-nature of consumption and production, we should include time inputs along with market inputs. This is the first attempt to incorporate the value of time in Turkish GDP aiming to achieve a better measurement of human capital investment and the cost of youth and old age dependency.

Studying the structure of income with Social Accounting Matrices
Susana SANTOS

The Social Accounting Matrix will be presented as tools for the study of the socio-economic activity of a country, paying especial attention to the structure of income distribution. Activities (or industries), products, factors of production and institutions will be worked together in a matrix, from which networks of linkages will be identified and the structure of income distribution will also be studied. Our main objective is to research the influences of this structure on the socioeconomic activity of a country. The National Accounts will be adopted as the base source of information for the construction of numerical versions of this matrix, being described the corresponding methodologies and nomenclatures, considering the latest version of the System of National Accounts (2008 SNA). A basic version of the matrix will be presented first, with focus on the need to ensure consistency with the whole system. Such a need will then be reinforced through the analysis of possible

disaggregations and extensions to this basic version. Macroeconomic aggregates, indicators, and balancing items that can be calculated from this matrix will also be presented.

Static And Dynamic Portfolio Allocation With Nonstandard Utility Functions
Antonio SANTOS

This article builds on the mean-variance criterion and the links with the expected utility maximization to define the optimal allocation of portfolios, and extends the results in two ways, first considers tailored made utility functions, which can be non continuous and able to capture possible preferences associated with some portfolio managers. Second, it presents results that relate to static (myopic) portfolio allocation decisions connected to dynamic settings where multi-period allocations are considered and conditions are defined to rebalance the portfolio as new information arrive. The conditions are established for the compatibility of static and dynamic decisions associated with different utility functions.

Estimation Of Climate Change Damage Functions For 140 Regions In The GTAP9 Database
Martina SARTORI, Roberto Roson

This paper provides a summary of results from a series of meta-analyses aimed at estimating parameters for six specific climate change damage functions, referring to: sea level rise, agricultural productivity, heat effects on labor productivity, human health, tourism flows and households' energy demand.

The Role Of Market Fundamentals And Trade Policy In Past Wheat Price Fluctuations
Jacob SCHEWE, Christian Otto, Katja Frieler

Food grain prices have risen sharply several times within the last decade, significantly exceeding previous long-term maxima and causing humanitarian crises in parts of the world. So far, there is no agreement in the literature as to the main drivers of these recent price spikes. Some authors have invoked speculation or external factors such as oil prices or stock market crashes, ascribing only a minor role to market fundamentals. Others have cited trade policies and/or panic purchases in response to initial price rises caused by yield shortfalls. However, these analyses are either narrative or based on empirical models that do not resolve trade dynamics. Our objective is to advance the debate using a new, transparent quantitative model of agricultural commodity trade.

Are American and European Equity Markets in Phase? Frequency Aspects of Return and Volatility Spillovers
Harald SCHMIDBAUER, Angi Rösch, Erhan Uluceviz, Narod Erkol

We consider three equity markets, represented by stock indices DJIA (USA), FTSE 100 (UK), and EURO STOXX 50 (euro area). Connecting these three markets together via vector autoregressive processes in index returns (or volatilities), we construct "propagation values" to measure, on a daily basis, the relative importance of a market as a volatility creator within the network, where volatility is due to either a return shock (case ret2vol) or a volatility shock (case vol2vol) in a market.

Alternative Growth Industries In Gabon: An Input-Output Analysis
Reyno SEYMORE, Martin Combrinck

The objective of the study is to determine the necessary growth magnitudes in exogenous final demand for the alternative growth industries identified by the Gabonese government, which would directly offset the GDP decline resulting from the decrease in the production of oil.

International Stock Return Predictability: On The Role Of The United States In Bad And Good Times
Boriss SILIVERSTOVS

In this paper we document the asymmetric role that the U.S. stock market plays in the international predictability of excess stock returns during recession and expansion periods. Most of the positive evidence accrues during the periods of recessions in the United States. During the expansions there is only a limited evidence supporting the importance of lagged U.S. returns in predictability of stock returns in 10 industrialised countries.

Contaminants and Pathogens in Waterways - Economic Assessment of Risks
Antti SIMOLA, Janne Juntunen, Päivi Meriläinen

We have studied economic effects of harmful substance emissions to waterways. In order to build a plausible framework of events, we employed four separate models from different fields of study. First, two models of physical environment, which track the movement of harmful substances in lakes and rivers, respectively, from sources to the end users. Second, a statistical QMRA analysis, which assesses the public health risks. Finally, a regional CGE model that we used for assessing the economic effects.
In order to substantiate our analysis, we used an illustrative case of a recently built artificial recharge system in Southern Finland that provides water for a 300 000 inhabitant area, which includes a 180,000 inhabitant urban center, Turku. We examine the effects of various chemicals and microbes separately. Our economic calculations allow for direct effects on labor productivity, increases in health care expenditures and indirect effects for local businesses. The modeling technique incorporates economic adjustment between industries and regions on monthly basis.

Nimbyism, Pigovian Equilibrium, Spatial Correlation Or All Three? Modelling The Distribution Of Residential Land And Its Impact In 27 EU Countries
Lasse de la Porte SIMOSEN, Stephen Wright

We use a new dataset of around 1 / 4 million survey points that allows us both to derive estimates of residential land on a per capita basis for 27 EU countries, and to model its spatial distribution. There is a fairly strong negative correlation between residential land per capita and population density, despite the fact that residential shares are typically very low. There is also a striking lack of correlation between residential land and per capita consumption, but with no indication that this reflects any true economic scarcity value. We model the spatial distribution of residential land allowing both for spatial correlation and the impact of a consumption externality from nearby housing. We assume that planning policy restricts land supply to match its price to marginal social cost. Our econometric results provide qualitative support for the model; but it is very hard to match our reduced form results to plausible structural parameters unless we assume a social planner who gives a far greater weight to the impact of the externality than to the welfare gains from new housing.

SAM For Azerbaijan

Suat Lemi SISIK, Malik Mehdiyev, Vilayat Waliyev

The objective of this paper is to prepare the most relevant social accounting matrix with the latest available and compatible data for the Republic of Azerbaijan. This SAM is used as the basis of the general equilibrium model for Azerbaijan economy. SAM includes detailed tax structure of Azerbaijan.

What Drives The Labour Wedge? A Comparison Between CEE Countries And The Euro Area

Malgorzata SKIBINSKA,

The standard frictionless real business cycle model assumes that the wage should be equal to the firms' marginal product of labour and the households' marginal rate of substitution . However, the data indicates that this relationship does not hold and that the labour wedge, defined as a gap between these two objects, is characterized by large cyclical variations. This paper aims to identify the factors which might contribute to the differences in the volatilities of the labour wedge across CEE region and the EA.

Pathways from Paris: an assessment of national climate plans to limit global warming

Bram SMEETS

At the Climate Conference COP21 in Paris, in December 2015, 195 countries reached a historic agreement to reduce greenhouse gas (GHG) emissions and limit global warming. For the first time in history, all countries reached a binding agreement, committing to keep the global temperature rise 'well below 2 degrees Celsius'. As an important constituent to the treaty, almost all countries submitted national climate plans (Intended Nationally Determined Contributions, or INDCs) in which they specify how they intend to limit their emissions. This paper assesses the national climate plans of 16 countries and one region (the European Union 28) that together represent close to 80% of global energy-related GHG emissions. Existing studies show that, in order to limit global warming to well below 2 degrees, a combination of energy efficiency improvements and measures to decarbonize the total energy supply is needed. In our analysis, we assess the specific targets in the INDCs, and quantify the projected impact the plans will have on energy consumption and production, as well as GHG emissions. To assess relative future impacts, we develop baseline projections as a reference for those countries where none were specified.

Results show that the INDCs are most ambitious in decarbonizing power systems, whereas energy efficiency improvements and decarbonization of non-power sectors are usually not well defined. Even though the Paris Treaty is a clear step up in terms of ambition level and international agreement, the aggregate impact of the current set of INDCs is substantially smaller than what is required to limit warming to the intended level. Moreover, emerging economies show a strong uplift in renewables, but at the same time will depend on large fossil capacity extensions to fuel their growth. The paper identifies several opportunities for the next round of INDCs, which is anticipated in 2018.

Agricultural R&D investments, biofuel policy and food security – a CGE analysis

Zuzana SMEETS-KRISTKOVA, Edward Smeets, Hans van Meijl

There are major concerns about the impact of the large scale use of crops for energy generation on land use and food security. The objective of this study is to evaluate the possibilities and limitations of avoiding these undesirable effects by increasing the productivity of crop and livestock production through investments in R&D in agriculture. An extended version of the Modular Applied GeNeral Equilibrium Tool (MAGNET) is used to model the R&D investments in agriculture to compensate the effects of 15 EJ to 100 EJ biomass supply from woody and grassy energy crop plantations. The costs of agricultural R&D necessary to avoid the expansion of

land are estimated at 6 to 64 billion US$ for 15 to 100 EJ, respectively. Food security effects are less costly to compensate, i.e. the food security improves if the land use change effects of bioenergy are compensated. The costs of R&D investments are 0.4 to 0.6 $ per GJ biomass from plantations. The required R&D investments are higher in industrialized countries compared to developing regions, because of the longer time lag between R&D investments and productivity increases in industrialized regions. The impact of agricultural R&D investments in agriculture to avoid land use change in 2030 results in additional positive effects in 2040 and 2050, i.e. agricultural land use decreases and food security improves compared to no bioenergy plantation scenario, because of the time lag effect of R&D investments. We conclude that investments in agriculture R&D are a potentially effective and low-cost strategy to avoid undesirable land use change and food security effects of large scale use of biomass from energy crop plantations, but early planning and timing of bioenergy policies with investments in R&D in agriculture is essential.

Transition From Secondary To Higher Education : A Multilevel Model For Students Graduating From Technical And Vocational Secondary Education

Mike SMET

Mainstream secondary education in Flanders (i.e. the Dutch speaking part of Belgium) is divided into four major education forms : general education, technical education, vocational education and arts education. The focus of this paper is on pupils graduation from technical and vocational education. Although technical education is more oriented towards higher education and vocational education is more labor market oriented, both degrees allow access to higher education and should also prepare students to start working. Despite the distinction between technical and vocational education, a number of similar study fields coexist both in the technical and the vocational form. A first aim of this paper is to investigate whether students from similar study fields in technical and vocational education do have different transition probabilities from secondary to higher education. In addition we will quantify the impact of individual, school and local (labor market) characteristics on the probability of continuing their educational career after having obtained a degree in secondary education.

Investigating The Presence Of Long Memory In Debt Series And Its Relation With Growth

João SOUSA ANDRADE, Irina Syssoyeva-Masson

The relationship between public debt (d) and economic growth (g) has been and continue to be the subject of much empirical and theoretical attention in the literature as witnessing by the number of a growing empirical literature and very recent contributions. The policy recommendations of these studies have a great importance for governments and voters.
However, the preliminary statistical data analyses are quite often absent from these studies what may in fact invalidate the empirical results. Therefore, the main purpose of this paper is to investigate the statistical properties of d (Debt-to- GDP) series to reveal the existence of long memory in d series besides the fact that this variable is not stationary and to shed light on importance of preliminary statistical data investigations. To do so we apply several statistical methods to the new data set on Gross Government Debt-to- GDP ratios for 87 countries over long period from the historical public debt database (HPDD) built by the International Monetary Fund (IMF). The main conclusions of this study are that d series has a long memory and should not be considered as a short-run phenomena, instead, its behavior should be analyzed in a long-term context; and its non-stationarity doesn't allow researchers to apply stationary econometrics methods to model its behavior. Thess finding implies that the relation between economic growth (g) and national debt (d), g = F (d), that has been characterizing the literature on the subject has not solid econometric foundations.

A Thresholds Analysis Of Growth, Convergence And Structural Change In The EU: Insights For Portugal
João SOUSA ANDRADE, Marta Simões, Adelaide Duarte

Following the political turmoil and economic crisis of the 1970s, Portugal enjoyed some years of rapid (and above average) economic growth, accompanying the preparation and accession to the European Union and the participation as a founding member in the Euro Zone. This process, however, stopped since the beginning of the 21st century and this change in the growth rhythm was exacerbated by the Great Recession. From about 1999-2000 onwards, economic growth in Portugal slowed significantly, the non-tradables sector reinforced its role as the anchor of the economy, and productivity growth stagnated or even declined, depending on the productivity measured considered.

Sensitivity of Modeling Results to Technological and Regional Details: the Case of Italy's Carbon Mitigation Policy
Gabriele STANDARDI, Yiyong Cai, Sonia Yeh

Models' differences in technological and geographical scales are common, but their contributions to uncertainties have not been systematically quantified in the climate policy literature. This paper carries out a systematic assessment on the sensitivity of Computable General Equilibrium models to technological and geographical scales in evaluating the economic impacts of carbon mitigation policies. Taking Italy as an example, we find that the estimation for carbon price and economic cost of a de-carbonization pathway by a model with technological and regional details can be lower than a model without such details by up to 40%. Additionally, the effect of representing regional details appears to be several times more important than the effect of representing the details of electricity technology in both the estimated carbon prices and the estimated impacts on electricity production. Our results for Italy highlight the importance of modeling uncertainties of these two key assumptions, which should be appropriately acknowledged when applying CGE models for policy impact assessment. Our conclusions can be generalized to different countries and policy scenarios not in terms of magnitudes of results but in terms of economic explanation. In particular, intra-national trade and the sub-national sectoral/technological specialization are important variables to understand the economic dynamics behind these outcomes.

Measuring the Conditions of Capability in Germany for the Next Few Years
Britta STOEVER, Marc Ingo Wolter, Thomas Drosdowski

The capability approach postulated by Sen and hence wellbeing or the quality of life is not easily measured (Gaertner 1993). Within the research project soeb 3 (www.soeb.de, Sozioökonomische Berichterstattung / Socio-economic reporting) the concept of capability was adapted (Bartelheimer & Kädtler 2012) to better serve the needs of the research network. However, the operationalisation still remains a challenge. Using the idea of capabilities we wanted to construct an indicator that does not display the development of capabilities themselves but that focus on the changing conditions for them instead. The aim is to get an idea about the future possibilities for the capabilities to be realised and to assess the conditions for wellbeing to develop. Unfavourable changes or developments in the realisation opportunities could indicate the need for policy interventions and support the reduction of disparities.

Modelling The Ambulant Health-Care Sector In Germany
Britta STOEVER

The health-care sector in Germany is highly regulated. It provides ambulant and in-patient services. On the ambulant side, the National Association of Statutory Health Insurance Physicians (NASHIP) and the regional Associations of Statutory Health Insurance Physicians (ASHIPs) control the labour market for physicians: they determine the number, type and locations of medical practices in Germany relying on a demand-oriented planning method called "Bedarfsplanung". A model that equally considers supply and demand side of the medical market can improve this planning process. Only with the concurrent modelling of both market sides a supply tailored to suit the market need of medical services can be achieved. Demand depends on the size and the age structure of the population. With increasing age the probability and the number of diseases increase. Moreover, older people show different kind of diseases than younger people. The number and specialisation of physicians should hence be adapted to demographic change. This is a long-term process, because medical doctors pass a long training, starting with academic studies and ending with medical specialisation. The latter is a necessary precondition for working in the ambulant sector.
Within the research project QuMed a comprehensive model was constructed that considers the supply of and the demand for physicians in great detail. It encompasses the whole medical market, i.e. the ambulant and in-patient side.

Term Structure Of Interest Rates: Macro-Finance Approach
Zbynek STORK

The paper focus on derivation of macro-finance model for analysis of yield curve and its dynamics using macroeconomic factors. Underlying model is based on basic Dynamic Stochastic General Equilibrium (DSGE) approach that stems from Real Business Cycle theory and New Keynesian Macroeconomics. The model includes four main building blocks: households, firms, government and central bank. Log-linearized solution of the model serves as an input for derivation of yield curve and its main determinants - pricing kernel, price of risk and affine term structure of interest rates - based on no-arbitrage assumption. This study shows a possible way of consistent derivation of structural macro- finance model, with reasonable computational burden that allows for time varying term premia. A simple VAR model, widely used in macro-finance literature, serves as a benchmark. The paper also presents a brief comparison and shows an ability of both models to fit an average yield curve observed from the data. Lastly, the importance of term structure analysis is demonstrated using case of Central Bank deciding about policy rate and Government conducting debt management.

Disinflation Period In Poland. A Hybrid New Keynesian Phillips Curve Perspective.
Karol SZAFRANEK,

The principal aim of this paper is to establish the changes to the Phillips curve estimates and provide an explanation of the protracted period of the low inflation in Poland.

The identification of the determinants shaping the recent disinflation period in Poland and the protracted presence of low inflation is crucial to the monetary policy conduct. Starting in 2012, a steep disinflation process can be observed in the Polish economy. It has been followed by an unprecedentedly long period of deflation, during which the annual inflation rate has descended to as much as -1.6%, a historically low level. Although the protracted period of deflation coincides with the plummeting commodity prices, an anemic economic growth in the developed countries and struggling emerging markets, current Polish inflation rate may seem baffling when looking through the lenses of the domestic real activity developments. Surprisingly enough, in the environment of robust economic growth and steadily improving labor market conditions the recent disinflation process is not

exclusive to the headline inflation as the core inflation measures are poised to decline and currently evolve around their historically lowest levels. This, in turn, may suggest that the responsiveness of inflation to the adjustments in the domestic real activity has recently diminished leading to a flattening of the Phillips curve. Consequently, as this phenomenon unravels, only large changes in output may impact inflation. Furthermore, the economic cost of reinflation may be substantially larger. Therefore, more determined actions may be required from the monetary authorities to bring inflation back to its desired target.

Determination of the Dynamic Interaction between of Macro-Prudential and Monetary Policy Mix in Nigeria: A Structural Analysis

Sikiru Abidemi ABDULSALAM, Joseph Tawose, Moses K. Tule, Eunice N. Egbuna

This study develops and estimates a structural open economy model using Bayesian technique to examine the outcomes of monetary policy, financial policy and the interaction between financial and monetary policy instruments on key macroeconomic variable in Nigeria. The study utilizes quarterly data covering the period of 2007Q1 - 2015Q4. The results indicate that shocks to oil price, cash reserve ratio, macro-prudential index (capital adequacy ratio, liquidity ratio and loan-to-deposit ratio), monetary policy rate and fiscal deficit impacted on output growth, inflation, external reserves, exchange rate and credit conditions in Nigeria. It therefore implies that a positive shock to the policy rate and cash reserves ratio in Nigerian will cause a temporary appreciation in the exchange rate, increase external reserves and inflation, while output growth and credit would decline in the short run. Our findings reveal that oil price shocks tend to heighten economic agents' sensitivity to exchange rate and drive the motivation for excessive fiscal spending. Similarly, external reserves and output growth tend to worsen as a result of downward oil price shocks.

Mobility Into and Out of Poverty in Europe Before, During and After the Economic Crisis

Panos TSAKLOGLOU, Eirini Andriopoulou

In this paper, we analyze poverty dynamics in a number of European countries immediately before, during and (in a number of cases) after the recent economic crisis, using the data of the European Union Statistics on Income and Living Conditions (EU-SILC) for the period 2005-2013. The duration and the severity of the crisis was not the same in all EU member-states. Correspondingly, the time-frames used for the identification of the crisis period (years with negative growth rates) differ across countries.

Manipulability Of Voting Procedures, Strategic Voting Ad Strategic Nomination

Frantisek TURNOVEC

In this paper the concepts of manipulation as strategic voting (misrepresentation of true preferences) and strategic nomination (by adding, or removing alternatives) are investigated. The connection between Arrow's and Gibbard-Satterthwaite theorems is discussed from the viewpoint of dilemma between dictatorship and manipulability.

Economic Effects Of E-Mobility Scenarios In The Context Of Intermediate Interrelations And Consumption

Philip ULRICH,

The number of passenger cars with electric drives in Germany has nearly quadrupled in the last three years. Even though electric vehicles (EV) still hold less than 1% of the registrations, expectations are high for the future. E-mobility is expected to change the way cars are produced as well as households' expenditures, as EV could hold 10 to 20% of new cars in 2030. The possible impacts on the economy are manifold; but thus far most

studies use microeconomic methods to describe parts of the system changes or they analyze effects of investment in infrastructure. This ignores that manufacturing of cars with electric drives need different and fewer - inputs than a car with a combustion engine. Therefore, long-term changes in the value chain are going to occur with impacts on the whole economy.

In Germany E-mobility is pushed not only to gain or maintain the automotive industry's shares in the global market but also to use potentials for a greener mobility. The aim is to stronger diversify the energy base in the transport sector and to develop potentials for the use of renewable energies.

The objective of this contribution is to show the economic effects of both changing input-output relations and energy use by comparing two scenarios with different shares of electric or other alternative drives in passenger cars. Both indicators of resource use and employment are analyzed on an aggregate and a sector specific level.

Regional Growth And Convergence In Spain: Is The Decentralization Model Important?

Carlos Usabiaga-Ibáñez, E. Macarena Hernández-Salmerón

This work is rooted on the analysis of growth and convergence at the regional level in Spain. Our contribution to that field is concentrated on the period 1980-2014, period characterized by a weak narrowing of the income per capita gap within regions. Several factors could explain that result. We focus our attention on the role of the political decentralization process in Spain, which actually began in the early eighties, on regional economic growth, a controversial and yet not enough studied issue. In Spain there are different models of decentralization, and even for each model, the different regions involved could follow different speeds gaining new administrative roles. Our econometric methodology is based on the system Generalized Method of Moments estimator. After using a general Mankiw-Romer-Weil approach, which fits well the Spanish data, our empirical work will implement other augmented growth regressions, which allow including a large set of explanatory variables. For such purpose, we try specifications with different proxies for the decentralization variable, as well as interactions with other variables that we think are linked to it, to capture the whole effect of decentralization. To sum up, our results, reinforced by several robustness exercises, are not conclusive on the relevance and sign of the effect of the decentralization path followed by the Spanish regions on growth and convergence, and points out to the importance of alternative factors. This result can contribute to the current debate in Spain on these topics.

The Economic Integration Of Spain: A Change In The Inflation Pattern

Carlos USABIAGA-IBÁÑEZ, Alejandro C. García-Cintado, Diego Romero-Ávila

The behavior of Spanish inflation rates at the provincial level (consumption prices) differs over the two spans of time considered in our study (1955.1-1978.6, 1978.7-2014.4). We point to a long list of institutional and economic changes, at national and international levels, as the potential factors that might have led to this new pattern. In addition to confirming the remarkable persistence shown by the Spanish inflation, the PANIC (Panel Analysis of Non-stationarity in Idiosyncratic and Common Components) analysis we undertake identifies a higher importance of the common component of the series in the second period studied. Besides inflation, we draw attention to a battery of economic and labor variables, mostly through regional data, and we conclude

that they tend to converge as well, particularly in the case of our second period of analysis. There are several theoretical avenues whereby the geographic convergence of these variables and the observed inflation convergence could be related. We also relate the common factor in inflation obtained to some potential explanatory variables. Moreover, a relevant additional analysis, which is only feasible for the second period, is implemented by focusing on the weightings attributed to the different groups of goods and services that make up the Consumer Price Index (CPI). The outcome we obtain is straightforward: the shopping basket across

Spanish provinces has tended to become more homogeneous. In summary, a variety of changes, which we regard as having increased essentially since the late 70s, with the intensification of the Spanish integration in the core of European Union, among other factors, have brought about a regime shift in inflation behavior. The Spanish experience may offer lessons for other economies that follow similar paths, for instance Latin American countries.

The Effectiveness of A Fiscal Transfer Mechanism in A Monetary Union: A DSGE Model for the Euro Area
Loes VERSTEGEN, Lex Meijdam

In this paper, we incorporate a transfer mechanism into a DSGE model with a rich fiscal sector to assess the effectiveness of fiscal transfers for a monetary union, in particular for the Economic and Monetary Union. Using a heterogeneous setup, the model is estimated for the North and the South of Europe using Bayesian methods. The results show that the transfer mechanism is effective in stabilizing the economy of the southern block of countries during the financial crisis, although the total welfare effect for the EMU is negative, though small. Ex ante, a transfer mechanism would be beneficial for both the North and the South in terms of welfare and stabilization purposes.

Optimal Fiscal Simple Rules for Small and Large Countries of a Monetary Union
Paulo VIEIRA, Celsa Machado, Ana Paula Ribeiro

The paper focus on the welfare stabilization costs of alternative fiscal rules providing (i) optimal countercyclicality and debt feedback degrees for fiscal policy; (ii) comparative analysis of rules across alternative fiscal instruments; and (iii) insights on how rules should differ in low- and high-debt scenarios, for different-size countries within a monetary union.

Heterogeneity In Euro Area Monetary Policy Transmission: Results From A Large Multi-Country BVAR
Ute VOLZ, Martin Mandler, Michael Scharnagl

We analyse empirically whether the common monetary policy of the Eurosystem has heterogeneous effects on the four large member countries of the European Monetary Union (France, Germany, Italy and Spain) focussing on possible cross-country differences in the reaction of output, the price level and financial variables to changes in the Euroystem's monetary policy interest rate.

Credit Dynamics Of Various Entities In Russia: Impact Of Oil Prices And Sanctions
Yulia VYMYATNINA,

Credit is one of the most important indicators leading boom/bust periods in the economy, therefore studying its dynamics (cycles) allows for early warning of overheating. At the same time credit is important driver of economic growth, and cases of credit constraints for the country as a whole or some of its sectors of companies often become a serious obstacle for growth and development. Sanctions, especially financial, represent one possible way of constraining country's economic prospects. Recent sanctions against Russia might seem relatively mild, but Russian economy was growing at lower and lower rates with oil prices decreasing at the same time. Our aim is to decompose the effects of sanctions and oil prices on the credit dynamics of various entities in Russia.

Climate Policy And The Energy-Water-Food Nexus: A Model Linkage Approach

Dirk WILLENBOCKEL, Claudia Ringler, Nikos Perez, Mark Rosegrant, Tingiu Zhu, Nathanial Matthews

There is a growing recognition that the ambitious UN Sustainable Development Goals (SDG) to end hunger, achieve food security and promote sustainable agriculture (SDG 2), to ensure universal access to water and sanitation (SDG 6), to ensure universal access to affordable, reliable, sustainable and modern energy (SDG7) and to combat climate change and its impacts (SDG 13) are linked in complex ways. The emerging literature on the energy-water-food nexus highlights the need to take account of the trade-offs and synergies among the goals arising from these linkages, but also underscores the need for further research to understand the quantitative relevance of the various channels through which measures towards the attainment of the goals affect each other.

The presence of multiple conceivable pathways to the achievement of the SDGs by 2030 as well as the numerous uncertainties surrounding medium- to long-run projections for the global food system call for a scenario approach to development policy planning, and the development of plausible scenarios needs to be informed by quantitative modelling that captures the key linkages between energy, water, food and climate policy in a stylized form.

Dynamic standard global computable general equilibrium (CGE) models are able to capture the input-output linkages between agricultural, food processing and energy sectors and the impacts of population and economic growth on structural change, energy and food demand as well as the impacts of policy interventions, but due to their coarse regional aggregation structure they are not suitable to take account of physical water scarcity constraints in a persuasive manner. In contrast, existing partial equilibrium (PE) multi-market models of global agriculture can incorporate hydrological constraints at detailed regional scales and support a more disaggregated representation of agricultural commodities than CGE models, but fail to take systematic account of linkages between agriculture, energy and the rest of the economy.

To capture the advantages of both modelling approaches, the present study links a global dynamic multisector CGE model with a global dynamic PE multi-market model of agricultural supply, demand and trade. The linked modelling framework facilitates a quantitative analysis of the wider implications of agricultural sector scenario projections by taking systematic account of linkages between agriculture and the rest of the economy and allows a rigorous theory-grounded general equilibrium welfare analysis of shocks to agriculture. Conversely, the linked approach supports a detailed analysis of the effects of shocks that initially hit non-agricultural sectors on agricultural variables and water security. In this paper, the approach is used to assess the impact of stylised climate change mitigation scenarios on energy prices, economic growth, food security and water availability.

The Growth Drag Of The Agriculture In China

Junbo XUE, Zhao Mengzhen, Chen Zhenhua

Resource is the necessities for human survival and development. According to the hypothesis of Romer's theory, growth drag is caused by the limitation of resource and land in fact. This paper considers the influence of excessive water using on Chinese economic and farther analyses the economic growth drag of China. The results show that the growth drag from water resources is 0.437458%, growth drag from land is 0.497797%, and the drag of the energy is 0.3799%. And the total growth drag is 5.5 times as much as that of America. The growth drag is so strong, so we must rely on technology progress in order to plan human and nature as a whole and to realize the goal of economic growth. And technology progress is the only approach to resolve the question to the growth drag.

Economy-Wide Effects Of Climate Change In Ethiopia

Amsalu Woldie YALEW,

We assessed the economy-wide impacts of climate change on Ethiopian economy. We coupled global gridded crop model results with CGE model. The results of two crop simulation models were fed into CGE model as shocks to total factor productivity in grain and livestock producing agricultural activities in Ethiopia. We found that the macroeconomic, sectoral, and households' welfare effects are non-negligible. Small urban residents will relatively burnt the welfare burden compared to rural households (which produce and consume majority of their produce) and households in big urban area (which may have higher access to imported food, and the share of food expenditure is low). Impacts on overall GDP may reach up to 7%. Exports will decline. The import composition moves from non-agricultural to agricultural commodities. Agricultural activities GDP is hit hard by climate change compared to industrial and service activities. Within agricultural activities, grain and livestock activities on which the shock was introduced are those highly affected. There are also impacts on agricultural activities even if climate change impacts were not imposed directly. This calls for proactive adaptation in agriculture in the country.

The Effects and Implications of Green Public Procurement with Economy-Wide Perspective: A Computable General Equilibrium Approach

Yeongjun YEO, Ki-yoon Shin, Jeong-Dong Lee

Nowadays, with increasing interests of demand-side innovation policy, there is needs for investigating public procurement policy aiming to strengthen the industrial competitiveness by expanding new markets with innovative activities. Public Procurement is regarded as the most effective policy for stimulating innovation in relevant sectors. Under this background, each countries in OECD spends about 15~20% of its GDP on public procurement, and most of the demands in industry and technology sector such as energy, environment, health, construction is stimulated by public procurement. Especially, in order to achieve both mitigating climate change and economic revitalization, the share of green public procurement which is public procurement for green products in total public procurement is enlarging among developed countries.

Despite of the amount of public procurement, and policy significance and effectiveness, there is few study on the effects of public procurement for innovation and the macroeconomic analysis from public procurement. In addition, some empirical studies which investigated policy impact of green public procurement are also limited in partial equilibrium perspectives, and they did not show the integrated and macro-economic impact of public procurement. Therefore, with previous literature reviews, this study presents general equilibrium perspectives which can analyze environmental, economic, and social benefits from public procurement simultaneously. Based on the conceptual framework from the previous literature, this study will present empirical results of the impacts of green public procurement quantitatively by computable general equilibrium(CGE) model.

Structural Shift and Increasing Variety of Korea, 1960-2010: Empirical Verification of the Economic Development Model by the Creation of New Sectors

Jung-In YEON, Bogang Jun, Andreas Pyka

In this paper, we examine the experiences of Korean economy to verify the theoretical knowledge of economic development and structural change. To demonstrate the generalized facts in structural changes, input-output tables of Korea, from 1960 to 2015, are analyzed as a meso-level data. Our interest in taking a time series form of I-O tables originates from the following two questions. Firstly, we put our attention on whether changes of Korean industrial structure have been followed a certain pattern of increasing variety as well as qualitative change. Secondly, if so, it is questioned how the meso-level conditions for the economic development, out of

such a pattern, could be captured and embodied in the existing model of economic development.

Informal Sector Heterogeneity and Tax Compliance In Cameroon

Melaine YOFFO, Jean François Brun

Decision of tax payments in the informal sector does not depend only on economic and personal characteristics of the operators. This is the main finding the study wants to achieve. In fact as revealed social psychology scientits, every behavior take place in a specific environment where cultural, social or physical aspects can affect it (Godin, 2009). This generated interactions between environment and behaviour. So it's remained complicated to study the determinant of the behaviour omitting this «environmental» dimension. Literature on determinants of payments in the informal sector generally doesn't access this thesis. Here we analyze the relevance of spillover effects in the informal sector tax payment process. We focus on the effects inferred by the social interactions on the decision of paying or not taxes.

How Large And Uncertain Are Costs Of 2030 Emission Reduction Target For The European Countries? Sensitivity Analysis In A Global CGE Model

Magdalena ZACHLOD-JELEC, Jakub Boratyński

CGE models are popular tools for assessing the impact of economic (climate and energy, specifically) policy on the economy, yet the simulation results are sensitive to parameters assumed by the modeler. However, econometric evidence on those parameters available in the literature is often scarce or ambiguous, as well as there is difficulty in finding results tailored to a specific CGE model (with its specific sectoral and regional disaggregation, nesting structure production functions etc). In practice this makes a choice of parameter values more or less arbitrary, and in fact in many cases the modelers simply follow the perhaps equally arbitrary choices made by other authors. Although such an approach does not imply that simulation results are meaningless, it calls for at least a clear communication of uncertainties to the reader. In the paper we present mean results of simulation of the 2030 emission reduction target for the EU countries together with standard deviations of mean results. We also discuss sources of parameters uncertainty.

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