



23rd Annual Conference
June 8-11, 2016, Regensburg, Germany



BOOK OF ABSTRACTS



International Real Estate Business School
University of Regensburg

Dear ERES 2016 Delegates,

As President of the International Real Estate Society (IRES), I am delighted to welcome you to the 23rd ERES Annual Conference in Regensburg, Germany.

IRES is an umbrella association committed to encouraging real estate research and education on a global basis and providing a means for enhancing the interconnectivity among all the sister societies: the American Real Estate Society, the European Real Estate Society, the Pacific Rim Real Estate Society, the Asian Real Estate Society, the African Real Estate Society and the Latin American Real Estate Society.

IRES has a long and successful history of bringing international thought leaders together to address a wide diversity of issues of global relevance in a regional context through the IRES Panel, which is held at each sister society conference. This year, the IRES Panel at each sister society conference will focus on a single topic in order to catalyse an ongoing discussion around the world over the course of the year. The 2016 IRES Panel topic is "Sustainability, Liveability, Wellness and Real Estate", with the conversation starting at the Pacific Rim Real Estate Society Conference in Australia in January and continuing at the American Real Estate Society Conference in Denver in March, before being considered from a European perspective at the ERES Conference and then the Asian perspective at the AsRES Conference in India, the Latin American perspective at the LARES Conference in Brazil and the African perspective at the AfRES Conference in Addis Ababa. I look forward to seeing many of the European members at these conferences to join in the discussion.

Congratulations to the leadership team of ERES for hosting the ERES Conference in Regensburg and giving many members of sister societies an opportunity to explore Bavaria and Germany, adding significantly to the learning and fellowship opportunities traditionally enjoyed at the ERES Conference.

David Parker

President, International Real Estate Society
University of South Australia, Adelaide, Australia

Dear Participants of ERES 2016,

It is both with pride and pleasure that we present The Book of Abstracts for the 23rd Annual Conference of the European Real Estate Society. With the support of many colleagues throughout the world, and several institutions which promoted the conference, the ERES 2016 Call for Papers resulted in 346 submissions, of which finally 270 will be presented in Regensburg. This represents the work of 556 authors from the 51 countries.

As usual, a broad set of real-estate-related topics are covered at this year's conference. With 101 (32%) submissions, Economics and Housing is the most dominant field of research, followed by Investment and Finance with 79 (25%) abstracts. Other topics include Corporate Real Estate, Ethics, Education, Development, Sustainability and many others. These submissions impressively reflect the diversity of the real estate scientific community and the associated research output. As a special feature of the ERES 2016, many papers focus on African Real Estate Research, resulting in four sessions dedicated solely to this topic.

We are confident that the ERES Annual conference will offer an ideal venue for discussing preliminary ideas, as well as for polishing mature papers, and is as suitable for first-year Ph.D. students, as for experienced researchers. We wish all participants lively discussions and a fruitful academic and social exchange!

We would like to honor the support of our university board and the great contribution of the local organizing committee, namely Sandra Mück-Kullmann, Jessica Ruscheinsky and Daniel Weber, as well as the conference team, which includes Christine Lang, Sebastian Schnejdar, René-Ojas Woltering and Bing Zhu. Special thanks go to Gunther Maier for providing the conference software.

Last but not least, we owe our sponsors a debt of gratitude for their generous contributions. Without their substantial financial support, this conference would not have been possible.

Sven Bienert and Steffen Sebastian
Conference Chair

Table of Content

An Investigation of Housing Affordability In China	1
Conform or Resist? The Spatial Dynamic Effect in House Prices during the Boom and Recession period	2
Income distribution and housing affordability in Poland and in Spain.....	4
Working title: Characteristics of german foreclosed residential assets, their real values and discounts. An empirical study.....	5
Creating a Real Estate Sentiment Index through Textual Analysis of Internet Data.....	7
Forecasting the Performance of Commercial Property Market: Beyond the Primary Reliance on Econometric Models.....	9
A framework for an effective decision support system in real estate portfolio management.....	11
Evaluating government valuation department performance in developing markets	13
How do Real Estate IPOs differ from common stocks?.....	14
The Effect of Interest Rates Changes on Listed Real Estate Companies.....	15
Trading Barriers for Property Derivatives	16
The International Competitiveness of Chinese Construction Firms	18
The User Cost of Housing in the Baltic States	20
The role of the property Valuer in the Family Law system in Australia.	21
A Historical Study of Land Ownership and Landed Aristocracy in Pakistan.....	22
Which Sentiment Indicators Matter? An Analysis of the European Commercial Real Estate Market.....	23
Distributional effects of rent controls in Germany	25
Internal Valuations and Valuation Accuracy in Germany.....	27
Cognitive Biases in Property Investment.....	28
The importance of decision-making processes of a client and the early development phases in a construction project.	29

Life-cycle costing of laboratory buildings.....	30
Determining and controlling of the profitability of buildings in an early planning stage on the basis of "Building Information Modeling"	32
Disinvestment-strategy in corporate real estate management	34
The Others At The Other Side of The Buffer Zone; An Exploration on Correlation Between Geopolitics And Origins of Abandoned Properties in Conflict Zones.....	36
Improving compliance in land value taxation.A case study of Jamaica's property tax system.....	37
Cure Rates on Defaulted Junior Lien Mortgage Debt.....	39
Mortgage Liberalization, the Housing Collateral Effect, and Consumption.....	40
On the Effect of Student Loans on Access to Homeownership.....	41
Function Follows Form.....	42
Does Design Matter? An Analysis of the Economics of Design and Design Rankings.....	43
Difficult Developments Areas and the Supply of Low-Income Housing Tax Credit Units	44
Windpower and Real Estate Prices.....	45
The Value Diminution of Haunted Houses	46
How to Value Design in Real Estate Development Projects? A Design-Oriented Model Proposal	47
Spatial Effects and Non-Linearity in Hedonic Pricing – Should we Reconsider our Assumptions?.....	48
REITs and REOCs and their Initial Stock Market Performance: A European Perspective	49
The Relationship between Intraday Sentiment Data and Stock Price Behavior: A Comparison of Stocks and REITs.....	50
Institutional Investors and Home Biased REITs	51
Do Rights of First Refusal Improve the Return of Singapore REITs?.....	52
New Property Places	53
Urban planning and low-carbon cities: a comparison of german and chinese initiatives.....	54
Brownfield And The State-Owned-Enterpries.....	55
Who cares about Walk Scores? A quantile approach to residential house prices and walkability.....	56

Foreigners as buyers of real property in Poland	57
Fundamental VS. Housing Bubble	58
U.S. Metropolitan Area House Price Dynamics.....	59
The perspective of Sustainability Reporting Phenomena in the Real Estate Markets	60
Do urban tourism hotspots affect housing rents? Evidence from Berlin.	62
The impact of management structure on the performance of hotel real estate	63
Direct Tourism Property Investment in Australia	64
Sequential investments: the value of flexibility to invest in marinas	66
Disruptive Innovations in Real Estate.....	67
Integration of modern technologies and methods – Development of a BIM-target-process	68
My mother in laws refrigerator: Virtual sales – Real impacts	70
Challenges in Sustainable Heritage Conservation and Preservation of Historic Cities and National Monuments in Kenya	71
Effect of Municipal Solid Waste Dumps on Investment Property Values. A Case Study of Port Harcourt, Nigeria.	73
Johannesburg Stock Exchange Corporate Headquarters Location in South Africa’s Metropolitan Areas.....	74
The Application of Probabilistic Methods of Risk Analysis in the Investment Appraisal of Residential Properties in Enugu Metropolis, Nigeria	75
Dealing with Speculative Prices in Sub-Saharan African Land Markets	76
Shareholder Wealth Effects from the Conversion of Property Listed firms into REITs: Evidence from South Africa.....	78
Peer to Peer lending and the European real estate market: evidence from UK.....	79
Revisiting and Extending Beirne et al.’s (2011) Analysis of the Eurosystem’s Covered Bond Purchase Program on Secondary Markets	80
The effect of financial structure on net operating income: evidence from the European REITs market.....	81
Linkages between Islamic REITs and Conventional REITs in Malaysia	83

Housing Market Stability, Mortgage Market Structure and Monetary Policy: Evidence from the Euro Area.....	84
Mortgage Choice with Multiple Fixation Periods: Evidence from German Mortgage Borrowers	85
Real Estate Volatility and Mortgage Market Woes: An Analysis of Defaults and Foreclosures	86
Dubai residential valuation system: market exploration, embedded institutional participation, archival research and expert interviews.....	87
European Integration and the Nationally Segmented Real Estate Industry	88
Online reputation: real estate companies and crowd sourced online review sites - an empirical survey.....	89
Supporting decision-making on teaching and learning spaces	90
Baltic Shopping Centres' Market Development in the Context of Matured Markets and Changing Environment	92
Explaining long-term trends in housing prices.....	93
The Second Home: Financial paradox elaborated or the new(er)orthodoxy?	95
Immigration, Real Estate Prices and the Tenure Choice of Native Households	96
The effect of workplace design for energy consumption in office buildings: a case study from Sweden.....	98
Is there a business case for green office buildings?: Perspectives of institutional stakeholders in Australia.....	100
How Green Attitude and Overall Image Affect Customers' Intention to Visit Green Shopping Center.....	102
The colour of reuse: Adaptive reuse from an owner perspective.....	103
The influence of noise on net revenue and values of investment properties: Evidence from Switzerland.	104
Do Real Estate Investment Trust Investors Value Asymmetric Dependence in returns?.....	105
The Price Implications of "Standing Out".....	106
Predictors of choice of residential housing in Kampala, Uganda.....	107
Real estate in Sub-Saharan Africa for the first-time investor.....	108
An examination of rental housing contracts in Ghana: Legal versus economic perspectives	110

The effect of housing price on housing affordability in Kampala,Uganda	112
An Examination of Agency Conflicts in Property Management in Infant Markets.....	113
Causes and Types of Building Defects in Ghana's Real Estate Industry: Perception of Private Developers and Homeowners in Accra	115
Executive Real Estate Education & Research Projects in Africa - Cooperation between Universities in SSA and IREBS.....	116
Overpricing, Market Outcomes, and Advertising Effectiveness.....	117
The House Price-Vacancy Curve.....	118
Does Hedging Matter for Household Finance? Evidence from Hedging Housing Price Risks with Exchange Traded Options.....	119
Dense urban cores: Are they becoming breeding grounds and targets of terrorists?	120
A Spatial Analysis of Office Rent Determinants	121
The distribution of retail rental value and product variety under a complex formation of urban shopping areas: the interactivity under bid-rent	122
Cross-media civic participation in the development of an integrated mission statement for a small town	123
Master Thesis Work in Real Estate Education: Status Update towards Open Access.....	125
Learning from memorable spaces – an experiment in creating student-centred teaching and learning environments	126
Leveraging real estate education with students’ real-world observations: a diary approach	128
Requirements for an Interdisciplinary Real Estate Master’s Program: A Stakeholder Approach.....	130
The significance of property fund management in India.....	132
A document classification standard for real estate management.....	134
Assessment of Business Viability in Co-working Office Spaces in India – A Study from the Provider and End-user Perspective	136
Persistent Performance Among Core Open End Funds.....	138
Smart tools on campus: a literature study connecting real estate management objectives and positioning technologies	140

Measuring the added value in Corporate Real Estate alignment by using the Preference-based Accommodation Strategy design procedure	142
A framework to identify Tangible and Intangible assets in Real Estate companies	144
CRE Strategy and decision-making within financial institutions in disrupted property markets: strategies to improve disposal of collateral real estate assets.....	145
The behaviors of flippers, rental investors and owner-occupiers in Singapore private housing market.....	147
Implications of Fiscal Policy for Housing Tenure Decisions.....	148
Housing and Mortgage Acquisition with Favors in Transition Economies	150
Are Energy Efficiency Ratings Ignored in the German Housing Market?– Evidence from a large-sample Hedonic Study.....	151
Incentives for energy conservation in rental houses in smart energy systems	152
The residential dwelling`s rental market in Poland. Slow development.	154
Energy Capitalization in the Dutch Rental Market.....	156
The status of integrating energetic qualities of buildings into valuation practice across Europe – Results from RenoValue and consequences for RentalCal.....	157
Linking the Real Estate Discipline's Body of Knowledge to Education.....	159
Multi-criteria evaluation of resources and the surroundings in the analysis of the housing market.....	160
Segmenting the Paris residential market using a Principal Component Analysis	161
Housing market segmentation and real estate bubble threat, Bogota 2006-2015	162
The Sensitivity of House Prices Under Varying Monetary Regimes - The Nordic Case	164
Future Work Environment – evaluation of an office change project.....	165
Benefits of physical office environments for employee outcomes: An interdisciplinary state-of-the-art from a corporate real estate management point of view.	166

From bricks to breeding ground: University real estate in the digital society.....	168
The Effects of Appraisal-Smoothing on Reported Real Estate Risk and Returns for Different Investment Horizons	169
Solvency II - Optimising regulatory capital required to be held against real estate assets. A Case Study.....	170
European non-listed real estate fund risk factors	171
Impact of Liquidity Risk Perception on the Real Estate Risk Premium	172
Success factors and decision making process for partnership models in project development. A case study on value-added partnerships in the private sector.....	173
The perception of critical success factors for PPP projects in different stakeholders groups	175
Public private partnerships and budget constraints – investment decisions in public sector.....	176
Stakeholder Engagement to Identify Priorities for Improving the Quality and Value of Infrastructural Project - Case Study.....	178
Which factors affect the transaction frequency of commercial properties? An analysis of the UK market	180
The Effects of Macroprudential Instruments on Real Estate Cycles.....	181
Preferences of Office Occupiers : Factors Affecting Location Decisions in Istanbul Office Market in the Post-Crisis Period	182
Real Estate Management Strategies in the Low-Interest Environment – a Roadmap for Economic Sustainability through the Market Cycle	183
An Assessment of the Impact of Investor Decision on the Spatial Characteristics of the South African Commercial Property Market.....	184
Benchmarking and Risk Analysis of Real Estate Commingled Funds.....	186
Development of benchmarking investment real estate: the Dutch experience	187
Fintechs and other start-ups: Is there a significance impact to commercial real estate markets?	188
Data and tools for profitability evaluation of measures for enhancement of the energetic quality of residential buildings – a contribution to RentalCal	190

Overcoming the split incentive barrier in the rental housing market: Germany's approach of green premiums in rent regulation.	192
Bridging the Energy Efficiency Gap: The RentalCAL decision-making tool for Rental Housing	194
A climate-adjusted analysis of value and rent premia through energy-efficiency in German residential properties	195
Fairness, equality, and the balancing of interests? The Transatlantic Trade and Investment Partnership (TTIP) and its consequences for real estate investments and property rights in Germany	196
How to overcome the crisis: ask for budget money or look for innovative solutions?.....	198
Efficient Development of Refurbishment Concepts: Case Studies in Germany	199
Real Estate Re-development – Dealing with pre-used plots and buildings.....	200
How important is the manager in private equity real estate funds? Empirical evidence on fund returns from the European markets.....	202
Leverage and types of debt in the Listed Real Estate Companies' capital structure decisions	203
Creating value for shareholders by developers in comparison to other public companies	204
REIT performance and the impact of interest rates and leverage	205
Does the asking price matter? Evidence from a natural experiment in residential real estate	206
Can Geospatial Data Improve House Price Indexes? A Hedonic Imputation Approach with Splines.....	207
Efficient Land Use with Congestion: Determining Land Values from Residential Rents	208
The Pathology of a Residential Real Estate Bubble and its Dramatic Consequences: An Emotional Rollercoaster	209
Price Anchors and Residential Real Estate Bubbles.....	211
Pricing and the economy, are people buying growth?.....	212
Skyscraper Indicator and its application in the UK	213
Immigration and Rental Prices of Residential Housing: Evidence from the Fall of the Berlin Wall.....	214

Geislinger Konvention: A Benchmarking Method for Operating Expenses of Housing Units.....	215
Supply response in a turbulent market: A micro-level analysis of the Irish residential construction sector.....	217
Fifty shades of state: Quantifying housing market regulations in Germany.....	219
BIM based Construction with RFID-Technology.....	220
Study on BIM based Life Cycle Assessment of Environmental Impacts and Decision Making Analysis for Building Construction.....	222
Computer Aided Life Cycle Cost Analysis as a new approach for real estate investment decisions on public contracts.....	223
A Conceptual Framework for Property Risk: Known, unknown and Unknowable.....	225
The market value of energy efficiency in buildings and the mode of tenure.....	226
Flood impact on property value a UK and Canada a preliminary study.....	227
The Valuation of Hope Value in a Vacant Land Using Real Option Theory.....	229
A Critical Analysis of Real Estate Fund Management Fee Structures in the United Kingdom and Germany.....	230
Explaining the discount to NAV of distressed German open-ended real estate funds.....	231
Evaluating key trends and performance drivers in European office markets.....	232
Medical Centers – an arising asset class in Germany ?.....	233
Property Valuation - Clients' Perceptions and Valuation models.....	234
Effects of the change of valuer on the assessment of capital value for property portfolio valuations. A qualitative approach in the UK context.....	236
The Energy Efficiency of Corporate Real Estate Assets: The Role of Energy Management for Corporate Environmental Performance.....	238
Barometer for Municipal Community Real Estate.....	240
Debt Capital Markets as a Funding Source for Listed Property Funds in South Africa.....	241
Shareholder Activism in REITs.....	242

The Effect of Dividend Reinvestment and Stock Purchase Plan On REIT Payout Choice.....	243
REITs as an investment for German insurance companies	244
A Property News based Media-Attention-Measure and its Role for the German Real Estate Market.....	246
Social Media in Real Estate in Austria	247
Social Media Marketing: An Empirical Analysis of the Online Presence of Commercial Real Estate Brands in Germany.....	248
The impact of nutrient rules on the value of farmland.....	250
Measuring mental representations of consumers in shopping trip decisions using cognitive mapping and sense-of-place constructs.....	251
E-commerce endangering vibrant city centers in Europe?	253
Variable Clumping Method and Mean-k-Nearest-Neighbor Method: Introducing two new approaches of retail concentration measurement into shopping center research	254
Shopping center events as a management tool: an empirical analysis on the basis of hedonic shopper types	256
Governance and international investment: Evidence from real estate holdings	258
Corporate Social Responsibility and the Market Valuation of Listed Real Estate Investment Companies	259
Green Gold? A (Spatial) Analysis of Green Office Buildings in Europe.....	261
The Value of Energy Efficiency and the Role of Expected Heating Costs.....	262
Does a Green-Certified Storefront Mean More Income? Estimating Financial Benefits of Certification for Space Users.....	263
Property Management skills - the changing profile.....	264
Outsourcing Property Management? A Comparative Study.....	265
New Standard Deliverables Facility Services – version 3.0	266
Effects of Uncertainty and Labor Demand Shocks on the Housing Market.....	267
Insurance Market Response to Flood Hazards: Empirical Evidence from the Housing Market.....	268
Micro-Housing as Urban Development Model in a Shared Economy	269

Social-economic impact of an innovation centre development in local context: an empirical analysis for Poland	270
Shrinking Villages – Vacancy Management and Image Development.....	271
Modelling spatial distribution of spill-over effects resulting from urban development	273
Smart Cities, Big Data and the Built Environment: What’s Required?.....	274
The role of the property Valuer in the Family Law system in Australia.	275
An option-theoretical approach to the valuation of rights of first refusal for real estate.....	276
Estonian Association of Appraisers: 20 years of experience and challenges for the next decade.....	278
Buildings condition assessment: part of appraisal procedure or an independent procedure?.....	279
Do the Determinants of House Prices Change over Time? Evidence from 200 Years of Transactions Data	280
Cross-Country Differences in Homeownership: A Cultural Phenomenon?	281
The German Land Transfer Tax: Evidence for Single-Family Home Transactions	282
Country risk in the EU - impacts on the Real Estate Markets	284
Mortgage Rates vs. the Corporate Bond Yield Index: Their Impact on the Housing Market in California during the Time of Qes.....	285
‘Back to the future’ – Transforming the urban landscape to support greater food self-sufficiency	287
Integrity and the Real Estate Industry	288
Balancing heterogeneous levels through the application of blended learning – a practice example from the degree programmes at Nuertingen-Geislingen University	289
Reviewing explicit design for real estate education.....	290
Real estate education: What the market really expect?	292
Idiosyncratic risk in direct property - a review of the literature.....	293
Time-varying Macroeconomic Risk of Real Estate Returns.....	294
The Performance of Property Companies on the AIM Stock Market.....	295

The determinants of Chinese Outward Real Estate Investment.....	296
Functional Land Misallocation in Developers' Activity.....	297
Demand forecast for industrial land. Inaccurate and biased?.....	298
Property Investment Decision-Making Behaviour in Urban Post-Disaster Rebuild: A Theoretical Perspective.....	299
Decision Support Tool for Procurement & Bidding Strategies for ESCO's	300
The contribution carried by the appraisal discipline for the purpose of disentangling the embodied energy issue	302
A critical review of evaluation methods to assess the profitability of energy efficient refurbishments and constructions.	304
Implementation and reporting of sustainability measures in Corporate Real Estate Management: A Content Analysis of CSR Reports.....	306
Joint building ventures - a qualitative multi-stakeholder approach for sustainable real estate	308
Are Real Estate Cycle Lengths and Magnitudes Changing?	310
Arts-Based Charter Schools as Urban Redevelopment Catalysts: Santa Ana, California's Orange County School of the Arts	311
Property Value, Building Age and Urban Renewal: A Study of the Apartment Market in Taipei.....	312
Leading indicator in Thai real estate crisis and cycle.....	313
The Perpetual Gentrification of Ponsonby: Triumph or Tragedy?.....	315
Is there a need for public sector housing?	316
Tax concessions for owner-occupied housing and tenure choice in Belgium.....	317
Synchronization of Housing Cycles: An International Perspective	318
Climate Change Risk Awareness in the Property Sector: Australia.....	319
Changing priorities in investor decision-making: the sustainability agenda.....	321
Multiple Arbitrage: Evidence from International Real Estate Markets	322

A Stochastic Frontier Analysis of Real Estate Portfolio Diversification	323
An Analysis of Regional House Prices in Greece Using Dynamic Panel Data Modelling.....	324
Investigating the Impact of Planning on Housing Construction Sector Development in Turkey.....	325
Consumer Decision-Making Styles of Condominium in Bangkok Metropolitan Region	326
Rationalizing the Higher Demand for Safety Embedded on Specific Dwelling Characteristics: The Case of Monterrey, Mexico between 2003 and 2015.....	328
Polish real property funds' investment results – an attempt of evaluation	329
The Real Estate Impact of the Scottish Independence 'Everendum'	330
The Restructuring of the Institutional Real Estate Portfolio in the UK	331
An Evaluation of Correction Procedures for Appraisal-Based Real Estate Indices	332
A changing role for Dutch real estate developers?	333
Target group analysis in Budapest: district IX vs. district VIII (an update of the situation)	334
Centrally Located "Urban Village"	335
Speculative and Wake-Up Call Contagion across International Housing Markets.....	336
A multi-criteria tool to support decision-making in the early stages of energy-efficient refurbishments.....	337
The impact of shared knowledge on local climate policy outcomes for real estate.....	339
The resource footprint: a means of risk prevention	340
The Green Alpha Index: Harvesting the Financial Premium of Green Factors in Real Estate Assets and Portfolios – An Empirical Methodology for Applied Decision Making	342
"Double Green Building" - a German Passiv House case study together with electricity generating Solar Panels	344
Business Case for Green Buildings in India	345
An integrated view on mobility in city center quarters - how can it work?.....	346

Sustainable Housing as a Business Model. The Case of Belarus	348
The Paradox of High Prices and High Vacancy Rates in U.S. Housing Markets.....	349
Estimation of an Hedonic Price Index for Bucharest.....	350
Proximity to kindergarten: valuable to be close, but not too close	351
Leaving the nest: Parents, Parental Attributes and the Homeownership Experience of Their Children.....	352

An Investigation of Housing Affordability In China

Liming Yao

Nottingham Trent University

Housing affordability distinguishes 'need' and 'access' as the key criteria to examine the ability of the households to enter the housing market or transit into homeownership. The term 'housing affordability' is a common terminology in describing housing difficulties, which was broadly considered as the relationship between house price and income. Besides, housing affordability examines the ability of households paying for a house without squeezing current daily expenses or falling into poverty. The expansion of the Chinese residential housing market has been accompanied with house price appreciation in recent 10 years, such change has led housing difficulties to low income groups.

This research examines the main factors which would impact housing affordability in China. The secondary cross-section data which contains data on household income, financial status, demographic factors and life cycle status are employed to investigate the magnitudes of housing affordability in Micro level. Furthermore, the impact factors of housing affordability will be examined empirically regarding the locational and income differences. Recent research on housing affordability has shifted from estimating affordability indices to policy debates of granting housing and social welfare subsidies. With respect to the results, this research will propose further policy measures to evaluate the efficiency of the housing policy in China.

Keywords: Housing Affordability, Tenure Choice, Life Cycle

Session: Doctoral Session

Room: H25, June 8, 2016, 1:00 - 2:30pm

Conform or Resist? The Spatial Dynamic Effect in House Prices during the Boom and Recession period

Dongwoo Hyun

Henley Business School, University of Reading, UK

This paper examines the impact of market conditions on the behavioural tendency of market participants in a housing market. The focus of this study is to investigate whether property sellers conform or resist the main stream of local housing market conditions during the boom and recession periods. At the heart of the empirical strategy, this study assumes that all the sellers' behavioural tendency are embedded in the similarity among transaction prices in local housing market, so that their conformity can principally be inferred from the strength of spatial dependence in the prices of surrounding properties. The strategy is based on the presence of spatial spillover effects that can be capitalised into house prices. For example, a higher or lower transaction price of neighbouring house than a current market price might signal other sellers to ask for an increased price or to be asked for a decreased price in local market. Through the capitalisation of the spatial spillover effects into property prices, a house tend to exhibit a value similar to that of a house in a nearby location, meaning housing values depend on those of neighbouring houses.

The main hypothesis of this study is that property sellers tend to take advantage of an ascending trend of transaction prices whereas strongly resist a descending trend, thus the spatial dependence in house prices may be higher during the boom period than the recession period. The hypothesis is investigated by comparing the spatial dependence during the boom and recession period in the Seoul housing market, South Korea. This study applies 17,290 transaction data during the boom period (January 2007-January 2010) and 13,257 transaction data during the recession period (January 2010 - March 2014). The main findings suggest that the sellers are more likely to follow the ascending trend of transaction prices than the descending one, indicating a much higher spatial dependence during the boom period than the recession period as expected. For the empirical methodology, this study employs the spatio-temporal autoregressive model to control spurious spatial connections that future transaction prices influence past ones. Since transactions take place at different points in

time, ignoring time dimension may lead to an inappropriate model specification. The results suggest that the spatial only model overestimates the spatial dependence in the house prices significantly and performs worse than the spatio-temporal model.

Keywords: Boom and recession, Housing market, Spatial dependence, Spatio-temporal autoregressive model, Hedonic house price model

Session: Doctoral Session

Room: Room: H25, June 8, 2016, 1:00 - 2:30pm

Income distribution and housing affordability in Poland and in Spain.

Magdalena Teska

University of Alicante

The objective of this paper is to evaluate the income inequality, income distribution but also housing affordability in Poland and in Spain between 2004 and 2012. Although the general equilibrium models do not always hold, the simple partial-equilibrium models suggest that income increases at the higher end of income distribution (the 10th decile) can raise housing prices offered for the lower end of this distribution (the 1st decile).

The research consists of analysis of income distribution and housing affordability and afterwards its broad and in deep compare. The structure of this comparison is divided into two levels: national and regional (two homogeneous regions, one in each country). A standard Kakawani decomposition model based on the Gini index is used for the empirical research and the data is provided by Eurostat - the EU-SILC database in the form of annual equivalised gross income and equivalised disposable income.

Income inequality in Poland decreased by roughly 15% as a result of redistributive effect of social benefits and taxes. And, the impact of this redistributive effect on housing allocation was the decrease of inequality of 14,7% for property owners with no outstanding mortgage neither housing loans, 11% for property owners with outstanding mortgage (the ownership rate exceeded 82% in 2012 indeed) and 3% for tenants paying reduced rent. However, for the group of tenants paying the market price rent the inequality in fact increased by roughly 3%.

Bearing in mind that Poland and Spain have passed the parallel pathways by experiencing economic and social changes and so far Spain was the model for economic and system transition. Could it be also a model for income distribution and housing affordability?

Keywords: Income inequality, Income distribution, Housing, Housing affordability

Session: Doctoral Session

Room: Room: H25, June 8, 2016, 1:00 - 2:30pm

Working title: Characteristics of german foreclosed residential assets, their real values and discounts. An empirical study.

Mark Maurin

IREBS International Real Estate Business School, University of Regensburg

Michael Heinrich

IREBS International Real Estate Business School, University of Regensburg

Thomas Schreck

Ostbayerische Technische Hochschule (OTH) Regensburg, Fakultät Betriebswirtschaft

Tobias Just

IREBS International Business School, University of Regensburg

In the year 2011, over 50,000 houses were sold at foreclosure sales in Germany with an estimated value of 6 billion Euros. As the international literature proved in the past, foreclosed real estate assets usually sell at a discount and damage the value of house prices, which implies a vast harm to the national economy. However, the accurate discount rates of German foreclosure sales and their conjunct reasons have not been suspect of any scientific research so far.

Therefore, this article shall estimate the discount rates and examine the default prices by analyzing the foreclosure sales. For this purpose, we merged three unique datasets: One dataset with normal residential market prices (non foreclosure sales), one dataset of foreclosed real estate residential values and another dataset with regional economic indicators and average residential prices. The aforementioned datasets are divided into the 16 German federal states and include the years from 2008 until 2011. A distinctive feature of the merged dataset is, that it represents the population of all foreclosed real estate assets in Germany during the time between 2008 and 2011, which allows us to identify the main characteristics of foreclosed residential assets and their real values as well as their discounts. Subsequently another (logit)-regression analysis shall illustrate the probability of default for German residential real estate assets and their associated micro- and macroeconomics reasons.

This paper offers an innovative way of conceptualizing and estimating potential effects for real estate residential assets

Keywords: foreclosure sales, distressed, house price, residential

Session: Doctoral Session

Room: Room: H25, June 8, 2016, 1:00 - 2:30pm

Creating a Real Estate Sentiment Index through Textual Analysis of Internet Data

Marcel Lang

IREBS International Real Estate Business School, University of Regensburg

Jessica Ruscheinsky

IREBS International Real Estate Business School, University of Regensburg

Wolfgang Schäfers

IREBS International Real Estate Business School, University of Regensburg

Making use of recent trends within our social lives, internet data sources are used to get information about the sentiment of market participants. So far, current academic research is applying "Google Trends" to investigate what people are searching for on the internet on a weekly basis. The consequential results, mostly a sentiment indicator, are tested with respect to their predictive power on real estate market movements.

This paper wants to begin one stage earlier, by examining the information people get on the internet and perform a daily analysis. This study analyzes, if real estate related news or Twitter posts do reflect, cause or enhance market performance in the real estate sector.

For this purpose, real estate related news from renowned newspapers as well as posts from Twitter are collected as a representative data basis. Following the approach of Bollen et al. (2009), sentiment analysis is applied with a term based methodology, by counting words that indicate positive or negative sentiment derived from different research approaches. Moreover, this dictionary-based methodology will be supplemented by and compared to the results of a machine learning tool, the "Google Prediction API". In consequence, qualitative information from news stories and posts are converted into a quantifiable measure achieved by analyzing the positive and negative tone of the information.

The created sentiment measure is tested on its explanatory power for market movements on the U.S. real estate securities market. Therefore, the FTSE EPRA/NAREIT and GPR 250 indices are collected on a daily basis over the same time period and tested against the innovative sentiment index.

To the best of our knowledge, this is the first research work applying textual analysis to capture sentiment on the real estate market. The practical and theoretical implication of this work is to generate a real estate sentiment index, which is able to explain and possibly predict real estate market movements.

Keywords: Sentiment, Real Estate News

Session: Doctoral Session

Room: VG 024, June 8, 2016, 1:00 - 2:30pm

Forecasting the Performance of Commercial Property Market: Beyond the Primary Reliance on Econometric Models

Treshani Perera

RMIT University, Australia

As real estate forms a major part of the mixed asset balanced portfolio, it is critical that analysts and institutions employ a wide-range of techniques for forecasting the performance of real estate assets. Thus, property market models have one overriding aim which is to predict reasonable estimates of key variables based on the known information in hand. However, broad-fronted social, technical and ecological evolution can throw up sudden, unexpected shocks that result in a possibility of regression from known back to unknown conditions. Past underlying economic drivers are as the key determinants of the property market models whilst the extreme events are considered as statistical outliers in modelling and forecasting.

Due to the significant impact of these downside risks in commercial property, structural changes and Black Swan events in the economic environment should not be dismissed as statistical outliers. Therefore, this study shall seek to answer the primary research question: How to model extreme downside risk drivers in forecasting the performance of the commercial property market? This can be constructed through the identification of pitfalls in common forecasting models for predicting the outliers in real estate performance and then determine solutions to integrate them in modelling.

The current research study follows pragmatism knowledge claim using pluralistic approaches to derive the knowledge about the problem. Hence, the study involves a sequential approach which begins with a quantitative method to be followed by a qualitative method. Secondary real estate forecast data is collected to determine the accuracy of econometric forecasts at the presence of extreme downside risks. The research will then move forward to obtain primary data from a semi structured interviews of leading property researchers to develop a conceptual model of integrating extreme downside risk drivers to forecast the future performance of the commercial property market.

Currently, the PhD research is in the second year of candidature with significant progress made on literature review and the secondary data collection. The secondary economic and property data were obtained through the Australian Financial Review – Quarterly Survey of Economists,

Property Council of Australia, Australian Bureau of Statistics and from Reserve Bank of Australia. The researcher proceeded with analysing these longitudinal time series data with the aid of IBM SPSS Statistics software.

Keywords: Black Swan Events, Commercial Property Market, Econometric Models, Forecasting, Structural Changes

Session: Doctoral Session

Room: VG 024, June 8, 2016, 1:00 - 2:30pm

A framework for an effective decision support system in real estate portfolio management

Patrick Krieger

*Nürtingen-Geislingen University
Department of Real Estate*

Carsten Lausberg

*Nürtingen-Geislingen University
Department of Real Estate*

Introduction: Real estate experts are sometimes faced with decisions of high complexity, so decision quality may vary in a considerable degree. This variation of decision quality is dependent on available information as well as psychological factors. However, decision support systems mainly provide information and only barely decision aids for psychological factors. Ignoring this human factor may considerably reduce the effectiveness of such systems. Not very surprisingly research on cognitive psychology increasingly finds its way into the DSS domain. However, for real estate portfolio management both DSS research and cognitive research is mainly going unnoticed. In consequence, problems, methods and results on both areas have to be transferred to real estate portfolio management.

Objective: This study seeks to fill this gap by developing a framework that integrates decision support into real estate portfolio management software.

Method: A development framework is used for organizing existing research divided into 4 interconnected layers: a user perspective, a methods perspective, a systems perspective, and an interface perspective.

Results: Decisions made by experts can be differentiated into a part contributing to learning by experience and a part which defies itself from learning effects. Consequently, the methods perspective allows for feedback learning as well as debiasing techniques for an effective DSS. The effectiveness of the DSS can be checked in a cognitive architecture of "state, act and result", whereas mean deviation and variance between "state" and "result" can be used as measures of effectiveness. Besides, it has to be kept in mind that any regulation is influencing the usage of a DSS, another and important dimension to the concept of effectiveness. Here, the relevance of the "visual experience" of a system, particularly input and output screens as well as navigation, cannot be underestimated. It may adversely affect the usage and increase cognitive biases or learning effects.

Conclusion: This article contributes to the literature on decision-making and information technology in real estate and in particular to the application of DSS to real estate management. The framework offers a way to introduce decision aid capabilities to portfolio management software and provides information on the interactions between the different elements of a DSS. Questions for future research are discussed as well.

Keywords: decision-making, decision aid, decision support system, cognitive biases, feedback-learning

Session: Doctoral Session

Room: VG 024, June 8, 2016, 1:00 - 2:30pm

Evaluating government valuation department performance in developing markets

Eng. Eman Jasim Al Raeesi

University of Sharjah

Ebraheim Lhabash

Royal Agricultural University

Simon Huston

Royal Agricultural University

The research investigates the role of decision-support technology and administrative/valuation process improvements in government departments. The research question is the extent to which technical managerial blueprints can improve governmental processes, operations and work environments. Management science, the dissemination of international standards and supportive technical strategies can help build collaborative communities of professional practice in valuation departments. Practical steps to tighten valuation practices involve human resources management (systems and training), operations management, knowledge-management/expert systems. After an initial analytical review of institutional performance, the operational phase involves active, embedded research to gather data from three sources: 1) archival material, 2) grounded observations and 3) expert interviews. First, we document the valuation processes within the Dubai Land Department and Sharjah City Municipality. Second, we record video and audio diaries to document valuation processes/meetings within the case study institutions. Finally, we interview a range of stakeholders, including top management, employees, engineers, agents and clients. We collect and analyse the triangulated data using NVivo, looking for emerging multi-criteria themes around strategic goals, organisational culture, valuation/management process and governance. The research helps to identify strategic, cultural and operational performance issues and suggests pathways to tighten valuation practices in developing markets.

Keywords: valuation, government performance, multi-criteria, grounded analysis

Session: Doctoral Session

Room: VG 024, June 8, 2016, 1:00 - 2:30pm

How do Real Estate IPOs differ from common stocks?

Simon Wiersma

IREBS International Real Estate Business School, University of Regensburg

The results of empirical studies related to the topic of IPO Underpricing (cf. Ritter 1998) suggest that investors are able to earn a return above the one of the total market via the investment in initial public offerings (IPOs). Yet when considering Real Estate IPOs in isolation, the empirical results differ from the ones of a whole range of studies which carried out analyses for the general market. Underpricing of Real Estate IPOs seems to be lower or even negative. In contrast to existing studies I analyse the underpricing of Real Estate IPOs simultaneously with other IPOs on the entire stock exchange. Therefore a unique dataset of all European IPOs from 1995 to 2015 with a sample size over 3,000 IPOs is used. The study examines both the observed Underpricing in absolute terms and the (Real Estate) sector-specific sensitivity of the Underpricing to several company-specific and macroeconomic determinants.

Keywords: IPO, Underpricing, REIT, REOC, Europe

Session: Doctoral Session

Room: H26, June 8, 2016, 1:00 - 2:30pm

The Effect of Interest Rates Changes on Listed Real Estate Companies

Christian Weis

IREBS International Real Estate Business School, University of Regensburg

Steffen Sebastian

*IREBS International Real Estate Business School, University of Regensburg
and ZEW, Mannheim*

René-Ojas Woltering

IREBS International Real Estate Business School, University of Regensburg

This paper examines the effect of short-term and long-term interest rate changes on the performance of listed real estate companies. The motivation for the analysis is based on the idea that interest rate changes are negatively related to a) the relative attractiveness of equities compared to other asset classes such as fixed income or the money market, b) the prices of the underlying properties of the listed real estate companies, and c) the operating performance of listed real estate companies as the costs of debt rise. The analysis is based on monthly data over the 2000 to 2014 period for a global panel of 9 regions. This rich setting offers substantial heterogeneity in interest rates across time and countries. In an additional analysis we investigate the effect of interest rates on relative price measures such as the discount or premium to NAV.

Keywords: Interest Rates, Listed Real Estate, NAV

Session: Doctoral Session

Room: H26, June 8, 2016, 1:00 - 2:30pm

Trading Barriers for Property Derivatives

Alexander Hanisch

Newcastle University Business School (UK)

Grenoble Ecole de Management (FR)

The recent global financial crisis (2007 – 2009) has shown what cataclysmic consequences the convergence of financial markets and real estate markets can have for the macro economies of entire nations. The interweavement of the two markets provides opportunities for product innovations on the one hand and involves new risks on the other. Investors who are familiar with financial markets, do not necessarily know the peculiarities of real estate markets, and vice versa. The financial crisis has also shown how important it is, to adapt flexible holding strategies and to be able to unwind property investments quickly.

Real estate is the last major asset class without liquid derivatives markets. The reasons for that are not fully known and understood. Three aggravating factors are the heterogeneous structure of real estate markets, the difficulties associated with the measurement of financial performance in a timely manner and a certain degree of predictability of real estate prices.

The lack of liquid derivatives markets has some repercussions on real estate as an asset class. It is not possible to completely reproduce the financial characteristics of real estate by combining other financial assets. This makes the market incomplete which renders hedging difficult and perfect risk transfer impossible.

This paper seeks to find out why are real estate investors reluctant to use property derivatives. The aim of the research is to better understand the factors that determine the acceptance of real estate derivatives and those that keep potential users from applying them. With an in-depth qualitative research the view of potential users towards property derivatives shall be captured and current trading barriers be identified. Ways of overcoming them will be proposed. A better understanding of the investment behaviour and attitudes towards property derivatives will help explain why no liquid markets have been established yet, despite numerous attempts. Reasons

for the low trading volumes on the two stock exchanges, the Chicago Mercantile Exchange (CME) in the U.S. and the European Exchange (Eurex) shall be identified. A liquidity enhancing framework for both the OTC and exchange traded property derivative markets will be proposed.

Keywords: Property derivatives, Liquidity, Futures, Innovation, Converging markets

Session: Doctoral Session

Room: H26, June 8, 2016, 1:00 - 2:30pm

The International Competitiveness of Chinese Construction Firms

Puying Li

Real Estate and Land Management School, Royal Agricultural University

Ali Parsa

Royal Agricultural University

Simon Huston

Royal Agricultural University

Anil Kashyap

School of Energy, Construction and Environment;

Faculty of Engineering, Environment and Computing;

Coventry University

China's integration in the global economy and its prominent role as a geopolitical and economic powerhouse has transformed the construction landscape in Asia, Africa and Latin America. As part of this long term strategy, China has embarked on major transcontinental infrastructure projects such as the Silk Road Economic Belt. To maximise this opportunity Chinese construction firms have embarked on an aggressive international strategy. For example, China Communication Construction Company Ltd. takeover John Holland, one of Australia's leading engineering contractors.

However, in the current dynamic global construction market there are factors which may affect Chinese firms expanding their businesses overseas. Therefore, it is necessary to establish a model to analyse and improve Chinese construction firms' international competitiveness.

The aim of this PhD research is to systemically investigate the performance of Chinese construction firms in the global market in order to identify the reasons for their success in responding to the changing conditions of that global construction market.

This paper explores the potential framework to analyse Chinese construction firms' international competitiveness. Furthermore this will help identify the critical factors that drive strategy. The methodology employed for operationalisation of the research comprises both quantitative and qualitative approaches. This implies a mixed methods approach with a sequential explanatory strategy. Quantitative analysis explores the top global construction firms and the key issues in the global construction market. Qualitative analysis comprises two components. The first reviews the literature to identify Key Competitiveness Indicators (KPIs). The second component employs interviews using a modified Delphi method to investigate the KPIs of a construction firm, in order to refine the proposed

framework. The preliminary findings of the research identified the construction firm's KPIs include quality, organization management and social responsibility etc.

Keywords: Competitiveness, Chinese construction firms, Global market, Key competitiveness indicators

Session: Doctoral Session

Room: VG 002, June 8, 2016, 1:00 - 2:30pm

The User Cost of Housing in the Baltic States

Darius Kulikauskas

Vilnius University

This paper builds a novel dataset on the real estate markets of the Baltic countries and uses it to derive the user cost of homeownership in the Baltics. The estimates are used to identify periods of residential real estate over- or undervaluation. Three alternative estimates of the user cost of homeownership in the Baltics are computed: one that does not discriminate between the leveraged and unleveraged parts of a house and two that take loan-to-value ratios into account. The approach successfully identifies the overheating that took place in the Baltic real estate markets prior the crisis of 2009 and shows that there is significant upward pressure for the housing prices in the Baltics in the low interest rates environment. The increase in the price-to-rent ratios would be sustainable given the low interest rates environment but could potentially bring harmful volatility when the monetary policy normalizes.

Keywords: user costs, imputed rents, Latvia, Lithuania, Estonia

Session: Doctoral Session

Room: VG 002, June 8, 2016, 1:00 - 2:30pm

The role of the property Valuer in the Family Law system in Australia.

Deborah Leshinsky

How property is divided can impact on the financial needs of a former spouse. This very important issue can be overlooked by judges when allocating property and financial resources. In Australia as elsewhere there are considerable risks associated with relationship breakdown and subsequent transition in people's lives.

Risks translate to social and economic costs. For some families the emotional and financial impact of separation and divorce can resonate for many years after the separation and the impact of this distress can impact on the community and public resources in considerable negative way.

More specifically when dividing the matrimonial home the court is directed to take into account the financial and nonfinancial contributions made to the property and the welfare of the family.

Property Valuers are called in as one of the main stakeholders as expert witnesses to give an opinion of valuation.

The property valuation of the matrimonial home can and does end up being distorted putting property valuers under immense pressure in the court system.

This paper will look at the bias uncertainty, undervalued and overvalued properties in the court system.

Keywords: property valuation, family court valuations, uncertainty in property valuations, matrimonial home and divorce

Session: Doctoral Session

Room: VG 002, June 8, 2016, 1:00 - 2:30pm

A Historical Study of Land Ownership and Landed Aristocracy in Pakistan

Mazhar Abbas

Bilal Hassan

*Lecturer in Public Administration, Government College University,
Faisalabad-Pakistan*

Abdul Majeed Nadeem

*Govt College University Faisalabad, Pakistan,
PhD scholar Shandong University China*

Muhammad Zahid Rafique

Shandong University China

Shaoan Huang

Centre for economic research, Shandong University China

Like other developing countries, menace of landlordism is still seeping through the very roots of this resource rich country—Pakistan. This article is aimed at: (1) to explain the very basic concept of land ownership; both in religious and social context, (2) to sketch historical pattern of land acquisition as well as its exploitation for exerting social control as well as political pressure and keeping the masses economic down to earth. Through extensive analysis of historical data, researchers reveal that land ownership concept of Islam is very progressive as compared to the ones used by first Muslims of India, next by the British and third by the state as well as society across the Pakistan. While Mughals and pre-Mughal era focused on taxing masses via various modus operandi, the British colonial era witnessed the rise of political and administrative patronage to the local people in order to extract their support. Conversely, post-independence Pakistan, after going through various waves of military-landlords-politico-bureaucratic oligarchy has reached to such a state that even the current political administration draws its chief share from landlords. The study suggests that for economic development and uplift of the pro-poor farming community, overcoming social and political injustice and getting rid of the clutches of landlordism is the dire needs of the time and society. The study suggests a further research on the economic, social and political effects of the land aristocracy as hinder to economic development and societal welfare.

Keywords: Landlordism, Colonial Patronage, Land Reforms, Authoritarianism

Session: Doctoral Session

Room: VG 002, June 8, 2016, 1:00 - 2:30pm

Which Sentiment Indicators Matter? An Analysis of the European Commercial Real Estate Market

Steffen Heinig

*University of Reading,
Henley Business School,
Department of Real Estate and Planning*

Europe is a highly diversified market, which is driven by European and national interests. Both elements reflect back to the property markets, which react accordingly. Furthermore, the behaviour of market participants is influenced by different irrational elements. All these factors contribute to a specific sentiment within the real estate market. Sentiment is known to play a significant role in asset performances and is used to measure the mood in the market. However, it is an extremely difficult aspect to quantify, especially for real estate assets which are often lumpy investments, infrequently transacted with severe information asymmetry. In the lack of a suitable commercial property sentiment measure we constructed six different indicators which are based on different combinations of sentiment proxies and macroeconomic factors. These sentiment indicators and their proxies are based on the basic idea and method of Baker and Wurgler (2006), who stated that each of the imperfect sentiment proxies includes, at least to a certain share, some pure sentiment. The authors have used an orthogonalization method which regresses the sentiment proxies against macro-economic variables to remove blurring elements. The residuals of these regressions enter a Principal Component Analysis (PCA) for the construction of the sentiment indicators. Using this method a set of different sentiment indicators has been constructed. In addition, a sentiment indicator based on online search volume data has been constructed. We further introduce two new methods to estimate the rent component in a standard property yield model, as suggested in the literature (Chervachidze et al (2011); Sivitanides et al. (2001)). The first method is based on a quarterly forecast of annual rent changes. The second approach uses a two-step method, where the change of real rent is estimated first and expected changes of real GDP are used to reinforce the growth expectations of the market. Our panel data set ranges from 2004q1 – 2014q4 and comprises 80

regions within Europe. Our results show that a sentiment indicator can improve yield models in terms of forecast quality. Using an indicator based on online search volume data, shows that even online search behaviour is able to give insight about the mood of the market.

Keywords: Commercial Real Estate, Sentiment, Behavioural Finance, Cap Rates

Session: Doctoral Session

Room: Room: H25, June 8, 2016, 4:00 - 5:30pm

Distributional effects of rent controls in Germany

Lorenz Thomschke

University Muenster, Institute of Spatial and Housing Economics

Lately, a boost in rental prices led the German government to bring in a law called "Mietpreisbremse". This law corresponds to classical rent controls and enables every federal state government to announce tight housing markets within its state, in which rental prices of re-lettings will be capped. By now, in several big cities this law was put into motion and since then, re-lettings are allowed to be uprated up to a certain level of customary comparative rents only. As an exception, newly built flats or those that haven been reconstructed extensively are not affected by the reform.

The reform's framework fits perfectly into a difference-in-difference (DID) setting, which is a well-known tool to recover the effects of a policy reform like the "Mietpreisbremse". Though, in a standard DID only average treatment effects are identified, whereas researchers might be interested in distributional effects instead. Therefore, Athey and Imbens (2006) suggest a distinct approach to overcome the limitations of a standard DID. They call it Changes-in-Changes model (CIC) and their idea is to compare units according to their distributional outcome. However, the classical CIC is difficult to construct with covariates, which is an important feature to control for heterogeneity across housing units. To this end, Melly and Santangelo (2015) provide an extension of the classical CIC in order to include covariates.

I will apply this method to newly offered rental prices in Berlin, which has seen the most rapid increase in rental prices shortly among German metropolises. The "Mietpreisbremse" was introduced to reduce this rental boom, especially in the lower and medium rental price segment. Using data on newly offered rental prices from 2014 and 2015, I will analyze the distributional effects of the reform.

Preliminary results indicate that the reform indeed lowered newly offered rents on average. When considering the entire distribution, however, effects are found to be negative mostly in the upper segment. In the lower segment, on the contrary, newly offered rental prices declined only little.

Moreover, the time trend of newly offered rental prices demonstrate that rental prices collapsed right after the reform's introduction, but continue to grow ever since. On these grounds, I cannot find evidence for the intended effects of the reform in the medium run.

Keywords: rent controls, changes-in-changes, treatment effects, rental prices, distributional effects

Session: Doctoral Session

Room: Room: H25, June 8, 2016, 4:00 - 5:30pm

Internal Valuations and Valuation Accuracy in Germany

Jan Reinert

*IREBS International Real Estate Business School, Regensburg
HAWK, Holzminden*

This paper is an analysis of the performance and accuracy of internal and external property valuations in Germany. Potential problems with appraised property values as estimators for true market prices are well documented by theoretical and empirical studies. Many issues, among them client influence and time lags, are generally believed to be even more pronounced in internal property valuations. A unique dataset of over 4,000 individual properties between 2000 and 2013 is used for the analysis. A simple performance analysis shows that internal valuations follow external valuations with a time lag of approximately one period and that internal valuations react more volatile to market changes than external valuations. The main analysis reveals that over the time period under investigation internal valuations have significantly higher appraised values per square metre than external valuations. In order to assess valuation accuracy real transaction data is used to derive hedonic transaction prices. The Heckman correction is employed to correct for possible sample selection bias. The difference between the theoretical transaction price and the actual valuation can be used as an indicator for valuation accuracy. Preliminary results show that internal valuations are slightly above their market price while external valuations are slightly below the price achieved in the market. Both approaches produce on average accurate estimations of market prices with external valuations being slightly closer to transaction prices.

Keywords: internal valuation, Germany, valuation accuracy, Heckman correction, property valuation

Session: Doctoral Session

Room: Room: H25, June 8, 2016, 4:00 - 5:30pm

Cognitive Biases in Property Investment

Pau Blasi

Paris Dauphine University

Understanding the way investors think and take decisions in the face of the hazards of investment is crucial to evaluate the risks stemming from the same decision. During the process of risk assessment, investors focus on the information available, which can be sometimes quite extensive and of diverse quality. Investors are typically capable to observe and process only a certain amount of information per given time. Instinctively this leads them to use judgment rules, to reduce the amount of information, and make conjectures to project some scenarios before making decisions. This heuristics process is specific to every single investor, according to their own personal profile (i.e. different risk perception and exposure), preferences, and expectations.

This paper analyses cognitive bias in property investment. Judgment rules may be affected by the amount of product available in the market, liquidity issues, the momentum of the property cycle, and the asymmetric information between property sellers and buyers, during the negotiation process. Persistent biases will affect expectations and, as a result, property premia. Availability heuristic, overconfidence effect, anchoring, and ambiguity effect are some common biases that appear during the investment process.

Keywords: Heuristics, Cognitive bias, Property investment, Property risk premium

Session: Doctoral Session

Room: Room: H25, June 8, 2016, 4:00 - 5:30pm

The importance of decision-making processes of a client and the early development phases in a construction project.

Katharina Kleinschrot

University of Stuttgart, Institute of Construction Management

In construction projects supplements by modified or additional construction works are not uncommon. The client has to meet especially in the early phases of the project decision that may substantially affect the project progresses. These decisions are often taken under conditions of uncertainty and time pressure, or even not taken only. This lack of decision situation often results in a change in the decisions as the project continues. This leads to changed or additional services. Supplements, construction delays and construction cost increases then are no longer avoidable.

The paper shows the importance of decision-making processes of a client. Therefore the importance of early development phases is set out, which include most of the major decisions of a construction project. Here, a study is presented that shows that the initial costs exceed the follow-up costs and not, as is often pointed out, vice versa. Furthermore, the difficulties of decisions that have to be taken in the context of a construction project are explained.

Keywords: early development phases, initial costs, follow-up costs, decision-making processes, supplements

Session: Doctoral Session

Room: VG 024, June 8, 2016, 4:00 - 5:30pm

Life-cycle costing of laboratory buildings

Verena Walter

Institut für Bauökonomie

Christian Stoy

Institut für Bauökonomie

Situation and motivation:

Today's calculation of life-cycle costs is characterized by a high degree of standardization and uses uniform calculation parameters and "fixed" specific values, especially for the purpose of benchmarking in the context of sustainability certifications. Contrary to that, specific life-cycle costing is applied to predict real construction and follow-up costs and to use it for decision-support during the planning process.

Objective and procedure

The presented project "Life-cycle costing of laboratory buildings" aims to develop specific life-cycle costing through reference to a practical tool for planning costs even enabling benchmarking within sustainability certifications. The starting point is the calculation of life-cycle costs beginning with a virtual cost model of a reference building. Firstly, the model for a "standard building" will be developed by information won from literature and existing data pools. The model will be specified regarding its costs and characteristics and classified by subgroups that are relevant for the costs. Secondly, cost factors like calculation parameters or corrective factors, which will help afterwards to navigate the cost model, will be defined in interviews with designated experts. Thirdly, the model will be tested on about 30 laboratory buildings of the project's partners who will provide information, data and characteristics of the laboratory buildings. At last the result will be iteratively checked by applying the model to real projects. Thus, especially the applicability and validity of the result will be continuously asserted.

Organization

The project is conducted by the University of Stuttgart (Prof. Dr. Christian Stoy, Verena Walter M.A.) and supervised by an advisory council, which sets emphasis on the content and enables the suggested procedure through the supply of data and financial support. In return, the projects will be

uniformly registered, compared to each other and used for developing the cost-planning tool. The ultimate result of the project will be put at the disposal of the project partners. The first interim result of the project is expected within 12 months.

Keywords: life-cycle costing, laboratory buildings, economic sustainability

Session: Doctoral Session

Room: VG 024, June 8, 2016, 4:00 - 5:30pm

Determining and controlling of the profitability of buildings in an early planning stage on the basis of "Building Information Modeling"

Martin Moesl

University of Innsbruck, Department of Technical Sciences

Arnold Tautschnig

University of Innsbruck, Department of Technical Sciences

The development of buildings in relation to the design process is increasingly based on sustainable aspects in order to ensure the value of real estate at an early stage. Due to this aspect an application of a holistic cost-analysis is important as such an approach combines production costs and user costs for the life-cycle cost calculation on the one hand with the identification of the expected yield during the operating phase on the other hand.

Comparing revenue and expenses, the life-cycle return can be calculated and the results can be used as a prognostic factor for the profitability of an investment. Based on the analysis of all relevant costs and incomes for the life cycle it's possible to identify capabilities and variants of component combinations and building arrangements at an early stage. As a result, operational aspects can be planned ahead in order to create an optimally and economically operated property.

The existing blur in costing at an early project stage can be reduced by "Building Information Modeling" (BIM), as the current state of building design is digitally available in combination with other relevant information. In early stages of project development and preliminary design project specifications and information of structural elements are not fully available. Due to this fact, an automatic combination of the basic information, which is included in the digital model, with other complementary indicators is required for an early stage cost-analysis. For determining the required information a detailed consideration of the relevant processes is necessary, based on all parameters provided by a BIM model.

Linking cost-relevant processes with BIM enables early cost optimization and determination of project-relevant parameters that are related to building components and floor space. With the ability to forecast different aspects related to the construction and operation of a building, valuable outcomes can be generated, which are able to provide a basis for the

further design process. Based on the implication of these early perceptions in BIM an increase in productivity and efficiency is offered in the following design phases. Subsequently this fact offers an economic advantage for all project participants ensuring a sustainable value of the property.

Keywords: life-cycle return, cost optimization, Building Information Modeling, BIM

Session: Doctoral Session

Room: VG 024, June 8, 2016, 4:00 - 5:30pm

Disinvestment-strategy in corporate real estate management

Danielle Hikisch

TU Berlin

Kristin Wellner

TU Berlin

Since the early 90s private enterprises as well as federal, state and local governments have taken the first steps to a more effective and efficient structuring of operational processes and the use of its real estate portfolio.

In order to release tied assets and minimize operating costs, non operating properties were sold. Nonetheless, in many cases internal restrictions exist. As one example, sales should at least achieve the book value. Hence, mainly marketable properties with high development potential were sold in the subsequent marketing process.

Today, an extensive share of unprofitable properties remains in non operating real estate portfolios. These mainly possess limited marketability and/or low development potential. Due to long lasting vacancies and reduced maintenance management a significant decline in condition is observed. At worst, this leads to a collapse of buildings resulting on the one hand in a further reduction of marketability. On the other hand, these scenarios increase the pressure for action towards arising risks leading to law conflicts. As a consequence, unsold properties cannot be converted into liquid funds matching the book value. Moreover, operating expenses continue. Even worse, the pressure to act enforces to fend off the risks described, e.g. large-scale maintenance or demolition work. These countermeasures lead to an additional loss due to unprofitable investments, which are mandatory to decrease upcoming costs. Hence, the resulting requirements for dealing with the non-operating portfolio change dramatically, so that present disinvestment strategies fail.

Within this paper, current developments and trends regarding non operating real estate portfolios will be marked out. Furthermore, a research design for a new approach towards a real estate portfolio model serving as a fundament for next generation disinvestment strategies will be shown. This approach will be built on the identification, systematization and valuation of relevant risks to develop a portfolio management system that makes it possible to create transparency with regard to the current requirements in the reduction of non-operating real estate. As prime example, the non operating portfolio of Deutsche Bahn (DB) will be used.

Keywords: Corporate Real Estate Management, Disinvestment Strategy, Portfolio Management

Session: Doctoral Session

Room: VG 024, June 8, 2016, 4:00 - 5:30pm

The Others At The Other Side of The Buffer Zone; An Exploration on Correlation Between Geopolitics And Origins of Abandoned Properties in Conflict Zones

Mohsen Shojaee Far

PhD Candidate at Center of Land policy and Valuations at Polytechnic University of Catalonia | CEO of SIMBIM Solutions (Graphisoft ArchiCenter)

Michael F. Davie

Professor of Geography at François-Rabelais University, Tours, France

Carlos Marmolejo Duarte

PhD Researcher at Center of Land Policy and Valuations at Polytechnic University of Catalonia

Others in this study refer to external subjects over a boundary that tends to take advantage over the other parties at the other side. This is an argument on division lines such as buffer zones and no man's lands in geopolitical conflict zones, where the frozen land is an asset of negotiation in the hands of stakeholders of conflict. This study explores the concept of "the others" through understanding the exercise of extreme power over space that is linked to space-place relationship inspired by the works of critical thinkers on space and place such as Foucault and Lefebvre. However; the theoretical discussions are just to open up the argument on the correlation between geopolitics and previously developed lands and now abandoned (brownfields) in conflict zones to bring up a different perspective, while at the same time discussing about conflict of interests related to territoriality and governmentality that introduce a new terminology for such areas called 'Geopolitical Brownfields'. Correspondingly, this conceptual contribution is engaged with theoretical debates on exercise of power over space and place, but looking differently at the subject of correlation between brownfields and geopolitics, which other scholars neglected.

Keywords: Geopolitics, Conflict Zone, Abandoned Properties, Power Space, Geopolitical Brownfields

Session: Doctoral Session

Room: H26, June 8, 2016, 4:00 - 5:30pm

Improving compliance in land value taxation. A case study of Jamaica's property tax system.

Tina Beale

*PhD. Candidate, PhD. Real Estate and Planning
Henley Business School
University of Reading, UK*

The economics of taxes and tax behaviour has generally been a focal point of tax literature and property tax literature has been no exception. A subset of property tax literature investigates the benefits of land value taxation and its revenue earning potential. Research has generally, focused on the potential and performance of land value taxation. However, the implications of this tax in developing countries have been ignored. Likewise, research into the relationship between the tax structure, its governance and tax payer behaviour has also been side-lined. Given the fact that land value taxation is regarded as the most efficient property tax but is only utilised in four countries and has been replaced by capital value taxation in several developed countries, is an indication that there are innate characteristics of the tax that affect its performance. Of equal importance, is the mechanism by which the tax operates.

Since 1957, Jamaica has been utilising land value taxation as its property tax and since its implementation, there has consistently been an issue of (relatively) low compliance rates. According to the current Minister of Local Government, Noel Arscott (2013) cited by McIntosh (2013), the payment of property taxes has been woefully inadequate. This view was supported by Matalon (2012) cited in Dunkley (2012) who described Jamaica's property tax compliance rate as a "national disgrace."

Given the island's current economic structural reform programme with the International Monetary Fund (IMF) and the anticipated launch of the property tax reform programme in FY 2016/17, research on the property tax system is critical to improving compliance rates. As a result, this research will investigate how Jamaica's property tax system shapes compliance by exploring the relationship between the structure of the system, its role in socialising the system's actors and taxpayer behaviour. A taxpayer's tax liability is a function of three things – the tax rate, land value and a person's ability to pay. Thus, in order to understand the system, the relation between all three must be investigated. This paper therefore seeks to answer the following questions:

1. What are the implications of land value taxation for Jamaica and other developing countries?
2. What is the role of planning in land value taxation?

3.How does Jamaica's tax system encourage or discourage property tax compliance?

4.To what extent is land value taxation regressive/progressive?

Keywords: land value tax, tax system, property tax compliance, planning system, developing countries

Session: Doctoral Session

Room: H26, June 8, 2016, 4:00 - 5:30pm

Cure Rates on Defaulted Junior Lien Mortgage Debt

Michael Lacour-Little

California State University - Fullerton

Kimberly Luchtenberg

East Carolina University

Michael Seiler

The College of William and Mary

Raymond A. Mason School of Business

Junior lien mortgage debt proliferated during the housing market run up as borrowers used piggyback loans to buy homes or extract home equity. Defaulted second liens now trade in the distressed debt market at large discounts. In this paper, we examine the previously unstudied second lien cure rate topic and find that the size and status of the associated senior mortgage is an important cure rate predictor as are other borrower debt usage characteristics revealed in credit bureau data. Results should be of interest to distressed debt investors, lenders, and policymakers alike.

Keywords: mortgage, default, junior lien, cure

Session: Residential Mortgage

Room: H25, June 9, 2016, 11:00am - 12:30pm

Mortgage Liberalization, the Housing Collateral Effect, and Consumption

Bing Zhu

IREBS International Real Estate Business School, University of Regensburg

Steffen Sebastian

*IREBS International Real Estate Business School, University of Regensburg
and ZEW Mannheim*

Lingxiao Li

Longwood University

David H. Downs

Virginia Commonwealth University

This paper investigates the two types of housing wealth effects: the “pure” wealth effect, and the collateral effect. We incorporate mortgage equity withdrawals (MEW) and the influence of mortgage liberalization into the Campbell and Mankiw (1989) model. Based on U.S. data during the 1978Q1-2012Q3 period, our empirical results suggest that the collateral effect adds to housing marginal propensity to consume (MPC), not “in addition to” but “instead of” the “pure” housing wealth effect. Furthermore, mortgage liberalization significantly amplifies the collateral effect. Conditional on the use of MEW and the share of the non-GSEs market-based financial intermediaries’ mortgage holdings to total home mortgage, housing wealth has an average MPC of 1.78 cents, a maximum of 6.07 cents. With the relaxed access to mortgage credit, by 2007, the MEW shock explained close to 40% of the forecasting variance of consumption growth.

Keywords: Consumption, Housing Wealth, Mortgage

Session: Residential Mortgage

Room: H25, June 9, 2016, 11:00am - 12:30pm

On the Effect of Student Loans on Access to Homeownership

Alvaro Mezza

Federal Reserve Board

Daniel Ringo

Federal Reserve Board

Kamila Sommer

Federal Reserve Board

Shane Sherlund

Federal Reserve Board

This paper estimates the effect of student loan debt on subsequent homeownership

in a uniquely constructed administrative data set for a nationally representative cohort aged 23 to 31 in 2004 and followed over time, from 1997 to 2010. Our unique data combine anonymized individual credit bureau data with college enrollment histories and school characteristics associated with each enrollment spell, as well as several other data sources. To identify the causal effect of student loans on homeownership, we instrument for the amount of the individual's student loan debt using changes to the in-state tuition rate at public 4-year colleges in the student's home state. We find that a 10 percent increase in student loan debt causes a 1 to 2 percentage point drop in the

homeownership rate for student loan borrowers during the first five years after exiting school. Validity tests suggest that the results are not confounded by local economic conditions or non-random selection into the estimation sample.

Keywords: Credit Constraints, Homeownership, Student Loans

Session: Residential Mortgage

Room: H25, June 9, 2016, 11:00am - 12:30pm

Function Follows Form

Kristof Dascher

IREBS International Real Estate Business School, University of Regensburg

Urban policy molds urban form. This paper suggests that urban form also molds urban policy. Urban form frames the political economy of whether to relocate the city center's jobs and shops. In that sense, city functions follow urban form. This view rivals the "form follows function" that has become proverbial in architectural theory. Extensions to this analysis of the suburbanization of employment and shopping address the city's topography, the convexity of its skyline, the possibility of sprawl and the effects on jurisdictional merger.

Keywords: City Shape, City Skyline, City Convexity, City Skewness, Sprawl

Session: Environmental Impacts on Property

Room: H26, June 9, 2016, 11:00am - 12:30pm

Does Design Matter? An Analysis of the Economics of Design and Design Rankings

Norm G Miller

University of San Diego

Xudong An

San Diego State University and the Philadelphia Fed

Marque and iconic architects get to design museums and other great public buildings often with generous budgets and few design constraints. In the private sector design constraints are significant. Since there are not enough unlimited public projects to fulfill the ambitions of most well-known architects most must also work in the private sector. Here private sector office rents are used as one market measurement to help determine the benefits of using signature architects along with controls for several other design features. One could directly ask about the design quality of each building, but from what set of judges? This paper reveals an investigation into the economics of design examined in the private sector using commercial office properties. Top ranked design firms do seem to add to the marginal rent achievable in the office market, on average at plus 7% in this national US based study, even when we include a number of design related controls. At the same time the potential gross revenue on top ranked designer buildings tends to be lower, simply as a result of more open and common space within the building. Rents for well-known design firms are higher but such buildings also have less rentable space relative to the gross building area, offsetting some of the benefit.

Keywords: Office building design, Sustainability, Value Impact, ranked architects, CA

Session: Environmental Impacts on Property

Room: H26, June 9, 2016, 11:00am - 12:30pm

Difficult Developments Areas and the Supply of Low-Income Housing Tax Credit Units

Michael Eriksen

University of Cincinnati

The designation of a metropolitan area as a Difficult Development Area (DDA) by the US Government increases the per-unit generosity of the subsidy that private developers receive for supplying housing units under the Low-Income Housing Tax Credit (LIHTC) program. The top 20% of metropolitan areas ranked by the ratio of annual rent divided by household income receive the designation and a 30% increase in subsidy. Regression discontinuity (RD) methods are used to compare how DDA designation affects the quantity, composition, and location of LIHTC units based on the 20% threshold. I find increasing the generosity of the subsidy on a per-unit basis through DDA designation results in a 39% decrease in LIHTC units constructed in the metropolitan area. I also find that a DDA designation makes developers less likely to locate LIHTC units in low-income neighborhoods.

Keywords: Housing Policy, Regression Discontinuity, LIHTC, Tax Credits

Session: Environmental Impacts on Property

Room: H26, June 9, 2016, 11:00am - 12:30pm

Windpower and Real Estate Prices

Wolfgang Feilmayr

Vienna University of Technology; Department of Planning

Windpower is considered to be an effective alternative to carbon based energy production. On the other side the construction of windpowerplants is often opposed by neighbours with arguments of noise or disturbance of the landscape. The following studie tries to uncover the relationship between windpowerplants and the prices of real estates (free building land and single family houses). Starting with descriptive statistics a hedonic model is used to analyze the effect of the distance between the powerplant and the real estates taking into account the different times of constuction/transaction. The analysis is performed for the Austrian federal state of Lower Austria. The real estate data stem from internet data bases as well as the Austrian real estate index.

Keywords: Windpower, Real estate prices, Hedonic model

Session: Real Estate Valuation & Appraisal

Room: VG 235, June 9, 2016, 11:00am - 12:30pm

The Value Diminution of Haunted Houses

Nan-Yu Chu

Department of Land Management, Feng Chia University

Due to culture custom in Taiwan, people believe that the haunted house is unlucky. Therefore, determining the value diminution of haunted houses poses problems for real estate appraisers. However, throughout relevant literature on this issue, there have been very few discussions on the association between haunted properties and loss of real estate value. In this paper, from the perspective of appraisal, it is to discuss the influence of haunted houses on the value of real estate, and an empirical analysis is made with foreclosure transition data and regression model. The result indicates that the average price difference between haunted houses and non-haunted houses is USD 4,214/square meters, showing that the average loss degree of the haunted house is 36.59%. This study also gives some directions for haunted properties valuation in the future.

Keywords: Diminution, Haunted House, Valuation

Session: Real Estate Valuation & Appraisal

Room: VG 235, June 9, 2016, 11:00am - 12:30pm

How to Value Design in Real Estate Development Projects? A Design-Oriented Model Proposal

Serhat Basdogan

Technical University, Faculty of Architecture, PhD

Traditional models such as Discounted Cash Flow (DCF) form the basis of most commercial real estate development / investment decisions. In these models, a real estate investment project is completely described by a specified deterministic model of expected cash flows with no design or managerial flexibility. The traditional static models such as the DCF model fail to incorporate the dynamics of real estate investment processes. As a result, their application to any real world situation is quite limited. Many investors, therefore, claim to be dissatisfied with these static methods of valuation. This paper introduces a design-oriented valuation model that incorporates the value of the design and flexibility that exist in real estate investments.

After a discussion of why traditional models systematically undervalue projects and their shortcomings have been surveyed, Real Options are introduced to address the shortcomings of the traditional models. Real Options Models (ROM) take up a decision theory approach to analyze flexibilities and optimal timing from design perspective.

With the help of these relatively dynamic models, real estate investment decisions must take into account the limitations on the ability of the project's design to defer, abandon, expand, re functioning and phasing capacity. This paper try to show how design opportunities for future decisions can be valued as options and flexibility, how their valuation relates design of project, and their effect on the project whole life cycle.

The model is based on both the traditional models and the more recent real options, decision tree and simulation based models. The design-oriented valuation model incorporates elements of all models that are most applicable to design process. This model shows how design-oriented thinking determines the effect of uncertainty and flexibility on investment, how they are changed by design of future profitability, and how the design and investment decisions are related.

Keywords: Real estate development, Design-oriented Valuation, Real Options, Value of Design, Feasibility

Session: Real Estate Valuation & Appraisal

Room: VG 235, June 9, 2016, 11:00am - 12:30pm

Spatial Effects and Non-Linearity in Hedonic Pricing – Should we Reconsider our Assumptions?

Marcelo Cajias

PATRIZIA IMMOBILIEN AG

Sebastian Ertl

IREBS International Real Estate Business School, University of Regensburg

Hedonic regression models aim at decomposing the price of a dwelling in dependence of building characteristics, common amenities and households' income distribution, usually by the use of the ordinary least squares (OLS). However, this method assumes spatial-invariant and linear relationships between rents and the covariates, which might be inappropriate when modelling real estate prices over space. Several methods have been introduced over the last decades to account for spatial and non-linear effects and throughout provided evidence for a significant decrease in the error forecasting variance. This paper tests thus the prediction accuracy and asymptotic properties of two innovative methods proposed along the hedonic debate: The geographically weighted regression (GWR) and the generalized additive model (GAM). Based on a sample with more than 500'000 observations across German residential markets, the results show that OLS estimates fail at explaining rents due to skewed errors, whereas the proposed methods lead to a significant increase in the forecasting performance. The paper provides furthermore evidence that rents across Germany do respond to spatial and non-linear effects, remarking potential value increases in the valuation of institutional residential portfolios.

Keywords: Hedonic model, German housing, geographically weighted regression, generalized additive model, Non-linear hedonic models

Session: Real Estate Valuation & Appraisal

Room: VG 235, June 9, 2016, 11:00am - 12:30pm

REITs and REOCs and their Initial Stock Market Performance: A European Perspective

Claudia Ascherl

IREBS International Real Estate Business School, University of Regensburg

Wolfgang Schäfers

IREBS International Real Estate Business School, University of Regensburg

This study examines the widely known phenomenon of “underpricing” during the IPO process, which has been researched extensively in several studies. The focus is on the short-run to thirty days performance after the company has gone public. Whereas underpricing in the real estate sector has been well and thoroughly examined in the US (Buttimer et al., 2005; Bairagi & Dimovski, 2010), Australia and Asia, European studies in this field are scarce. Only Freybote et al. (2008) investigate 105 property companies, with the focus on the IPO cycle, and Brounen and Eichholtz (2002) examine property IPOs in British, French and Swedish Markets.

The motivation to undertake a pan-European analysis on the underpricing of property IPOs is twofold. Firstly, as stated above, to the best of our knowledge, there is no European study of underpricing differences between real estate operating companies (REOCs) and REITs which includes the financial crisis in the sample period. Secondly, due to a growing number of listed real estate companies in most European countries, a pan-European study should provide clear evidence of IPO pricing in Europe in comparison to US studies.

The unique sample consists of 132 European REOCs and REITs from 19 European countries over the period 2000-2015. The study is based on the methodology of Beatty and Ritter (1986) concerning ex-ante uncertainty. The initial returns are analyzed in terms of firm and IPO characteristics. Additionally, different IPO market phases are controlled for, particularly with regard to the financial crisis, which is part of the sample period. In summary, ex-ante uncertainty has an impact on the underpricing level, and a statistically significant difference between REOCs and REITs can be found. The results show that the European REOCs are on average underpriced by 5.05 percent and the REITs are underpriced with 2.10 percent.

Keywords: underpricing, listed real estate, European Market, ex-ante uncertainty, IPO

Session: International Real Estate

Room: VG 002, June 9, 2016, 11:00am - 12:30pm

The Relationship between Intraday Sentiment Data and Stock Price Behavior: A Comparison of Stocks and REITs

Katrin Kandlbinder

IREBS International Real Estate Business School, University of Regensburg

Marian Alexander Dietzel

IREBS International Real Estate Business School, University of Regensburg

Recent research has identified internet search volume as an objective measure for revealing and quantifying the interests of investors in a capital market context (Da et al., 2011; Rochdi and Dietzel, 2015). This paper introduces "Google Trends" as a new measure for intraday investor attention.

To date, it has only been possible to download these large behavioral data sets on a weekly basis. Since June 2015, "Google Trends" has provided search query volumes on an intraday basis which yields new insights into different stages of large-scale collective decision making in a more precise manner.

The aim of this research paper is to determine whether investor information demand on an hourly basis, as measured via "Google Trends", can explain and possibly predict the intraday movements of publicly traded stocks. In order to differentiate between frequently traded stocks with high media attention and less frequently traded, asset-specific stocks with relatively low media attention, the focus is on the stocks from the DJIA on the one hand, and on the twenty largest REIT stocks from the MSCI US REIT Index on the other. To investigate whether changes in information-gathering behavior are related to subsequent changes in stock prices, a hypothetical investment strategy based on changes in Google search volume is tested, in order to anticipate stock price movements.

Preliminary findings suggest that there is a relationship between the Google attention measure and the intraday stock price movements. To the best of our knowledge, this is the first paper to use intraday data on an hourly basis from "Google Trends" as an attention measure.

Keywords: Intraday, Sentiment Data, Google Trs, Stocks and REITs

Session: International Real Estate

Room: VG 002, June 9, 2016, 11:00am - 12:30pm

Institutional Investors and Home Biased REITs

Gianluca Mattarocci

*University of Rome Tor Vergata
Department of Management and Law*

Lucia Gibilaro

*University of Bergamo - Department of Management, Economics and
Quantitative Methods*

REITs are frequently considered as an investment opportunity for Institutional investors due to the above the average returns offered with respect to other financial instruments. Due to the specific characteristic of the real estate market normally geographically specialized REITs (home biased) can benefit from an higher quality of the information available for selecting among investment opportunities and from a reduction of the cost of monitoring and servicing of assets owner. Home Biased REITs could be particularly appealing for such type of investors because the opportunity to add this type of asset to an investment portfolio already diversified can allow to optimize the risk-return of their investment strategy.

The paper considers all the REITs included in the Standard and Poor's Global REIT Index and evaluates the percentage of investment released by institutional investors and their change over time. Focusing the attention on REITs' international real estate exposure, the paper shows that the geographical diversification matters for the investment decisions made by international investors and results are robust with respect to the time horizon considered and the proxy used for the concentration of the ownership.

Keywords: REITs, Home Biased, Institutional investors

Session: International Real Estate

Room: VG 002, June 9, 2016, 11:00am - 12:30pm

Do Rights of First Refusal Improve the Return of Singapore REITs?

Anh Duc Tran

Jones Lang LaSalle

Seow Eng Ong

Department of Real Estate

National University of Singapore

This paper examines the Right of First Refusal clauses for 36 public REITs and Property Trusts in Singapore, one of the largest REIT markets in Asia Pacific. Until now, little study has been conducted on the topic of Right of First Refusal (ROFR), which has been widely employed to provide acquisition pipeline for Singapore REITs, as to whether this clause improves the IPO and aftermarket performance of REITs. This question leads to two issues: firstly, how much the REIT sponsors and investors recognize the ROFR clause in the IPO Price and First-day Closing Price respectively; and secondly, whether having a ROFR clause leads to sustained better aftermarket performance for REIT.

Analysing the mean IPO Underpricing, NAV Premium and IPO Price/ NAV of all S-REITs show that on average, S-REITs with a ROFR clause is more underpriced as relative to NAV per unit than those without. With reference to the signaling hypothesis, this result supports the Sponsor Recognition Hypothesis that holding a ROFR clause enables more underpricing and hence is an indication of better quality REIT. The analysis also provides evidences to support that S-REITs with a ROFR clause achieve better initial return and higher NAV premium, although the statistical significance of the findings is low.

Analyses of aftermarket adjusted return show no significant outperformance for S-REITs with a ROFR clause. However, it is found that S-REITs with explicitly-stated properties in their ROFR clause performed significantly worse than those without. This result is tested to account for potential wealth creation effect created through acquisitions of new properties, and the test result shows consistency with earlier findings.

The study findings also reinforce the results of earlier literature on the determinants of IPO Underpricing and aftermarket Holding Period Return.

Keywords: REIT, IPO, Right of First Refusal, Pricing, Price to NAV

Session: International Real Estate

Room: VG 002, June 9, 2016, 11:00am - 12:30pm

New Property Places

Stephen Roulac
Ulster University

The property markets increasingly are defined by new perspectives, which challenge, even obsolete past thinking. Whereas once markets might have been evaluated in terms of populations by cities, or countries, new place thinking has challenged traditional models.

Some, such as former New York Mayor Michael Bloomberg asserts that the city is a far more significant political unit than his state or country. The emergence of regional blocks, specifically the European Union, dominates countries. More and more, cities are larger and more influential than many countries. The most significant and powerful states exert more economic influence than do many countries. Further, new types of organizations emerge, that command more comparable if not more loyalty than traditional places and exert greater influence in many influences than traditional physical places.

Identifying the forces that have led to new place organizations and then considering a new place influence power ranking offers important insights to those in property involvements. Portfolio managers may think very differently about how to assemble a diversified portfolio. Property service enterprises may view markets differently than they might have previously. Professionals seeking opportunities for jobs and new business may look at the markets in different ways.

Session: Urban Transformation
Room: VG 004, June 9, 2016, 11:00am - 12:30pm

Urban planning and low-carbon cities: a comparison of german and chinese initiatives

Rogério Santovtio

IREBS International Real Estate Business School, University of Regensburg

Sven Bienert

IREBS International Real Estate Business School, University of Regensburg

Alex K Abiko

Escola Politécnica, São Paulo University

The world is becoming more urbanized. The estimates made by the United Nations (UN, 2014) shows a trend of migration from rural to urban areas: As of 2014, 52% of the global population lives in urban areas, and this percentage is likely to increase up to 66.4%, with an expectation that the global population reaches 9.55 billion until 2050. This urbanization trend is relevant, since most GHG emissions that contribute to global climate change come from urban areas. Urban areas are associated with around 70% of global energy consumption and energy-related greenhouse gas emissions. China and Germany are two key players into mitigating the effect of climate change, and both countries have already managed to implement several initiatives towards the development of a low-carbon city. This paper present the results of a research whose objective was to compare cities in China (Tianjin, Hangzhou and Beijing) and Germany (Munich and Berlin), and focuses on the role that urban policymaking plays on getting towards carbon neutral targets. Results indicate that, despite clear demographics and economic differences, there are several best practices in the field of urban planning that can be shared and transferred to cities in both countries, helping them to achieve their respective GHG reductions goals.

Keywords: low carbon, carbon neutral, sustainability

Session: Urban Transformation

Room: VG 004, June 9, 2016, 11:00am - 12:30pm

Brownfield And The State-Owned-Enterprises

Hao Wu

The University of Melbourne

Intensifying future urban development demands efficient land use transformation in the reuse of brownfields. Associated social cost is a key barrier. This study investigates several critical aspects of a very large-scale former heavy industrial site, operated by a major state-owned enterprise (SOE), in Beijing. Theoretical inquiry and case analysis show that, given recently emerging legal institutions to regulate the reuse of former heavy industry sites, it has presented ambiguous liability for brownfield redevelopment in Beijing's urban core. This paper argues existence of potential gain for internalising social cost by assigning the land use and redevelopment rights to the polluter firm. There is asymmetric information between polluter landholder and government (or future users). The case study shows that one of the natural and essential consequences of the polluter landholder-led redevelopment is the creation/emergence of new organisation to match market demand for future land use patterns. This paper sheds light on large-scale brownfield redevelopment in major Chinese urban region. There are innovation potential and practical risks in institution, firm structure, and socio-politico cooperation.

Keywords: brownfield, redevelopment, social cost, liability, firm structure

Session: Urban Transformation

Room: VG 004, June 9, 2016, 11:00am - 12:30pm

Who cares about Walk Scores? A quantile approach to residential house prices and walkability

Andy Carswell

UGA

Velma Zahirovic-Herbert

UGA

Karen Gibler

GSU

The housing market has become more diversified in recent years to reflect changing housing preferences. Although home buyers' preference toward single-family detached homes, the least compact form of housing, still remains strong, the demand and support for compact and walkable communities have been increasing during the past few decades. This paper empirically examines the distribution of demand for walkability using quantile regression analysis of housing market data in King County, WA. Recent literature has emerged that looks at the housing market and uses house prices to infer the value residents place on neighborhood characteristics including walkability. In hedonic methods house prices are estimated as a function of measures reflecting the quality of the neighborhood that the house in question is located in, along with numerous other characteristics describing house attributes such as the number of rooms, bathroom, size and others. A majority of empirical studies on this topic examines the average behavior. The average effects as estimated by OLS conceal considerable heterogeneity in demand for walkability due to the "aggregation" of families' differential willingness to pay. In this paper we use quantile regression to estimate the extent to which differences in walkability, as measured by Walk Score, can explain the variability in property values at different points in the distribution of house price.

Keywords: house price, quantile regression, urban amenity, walkability

Session: Urban Transformation

Room: VG 004, June 9, 2016, 11:00am - 12:30pm

Foreigners as buyers of real property in Poland

Magdalena Zaleczna

University of Lodz Department of Investment and Real Estate

Polish participation in the EU resulted in the need for the abolition of restrictions on real estate acquisition by entities from the EEA. Transitional periods were established and they related to the acquisition of the so-called second homes (5 years) and agricultural land and forest (12 years). The year 2016 marks the end of term limitations, however, in the EEA the principle of national treatment rules - the introduction of limits for citizens and national economic operators allows for application of these restrictions to entities from the EEA. Last year the new law was introduced in Poland in relation to agriculture land limiting its disposal because Polish politicians were afraid of free real property market. The aim of the study was to determine the size of the involvement of foreigners from and outside the EEA in transactions on the Polish real property market in years 2004-2015, particularly in relation to agriculture land to have the picture of significance of these transactions for the real property market. Having this background, the author analyzed changes of the annual intensity of transactions showed by foreigners from the EEA and compared it with transactions executed by foreigners outside the EEA. The author used method of economic analysis and examined the text of legal regulation.

Keywords: foreigners, transactions, restrictions, agriculture land, 2016

Session: Real Estate Economics

Room: VG 005, June 9, 2016, 11:00am - 12:30pm

Fundamental VS. Housing Bubble

Hsiao-Jung Teng

*PhD student, Department of Land Economics, National Chengchi University,
Taipei, Taiwan*

Asset bubble is a popular topic in recent years, and there are many literatures to study if there are housing bubble exist in the housing market or what are the determinate factors to affect the housing market. Hence the housing price are composed of fundamental value and bubble, the definition of fundamental will affect the results of housing bubble. However, few paper to analysis the relationship between fundamental and housing bubble. Therefore, in this study we investigate the influence of different fundamental on housing bubble.

We used the rent, household income and macroeconomic variables to build the fundamental model, respectively. Through the consistent State-Space model to measure the housing bubble from the first quarter of 1981 to the second quarter of 2012Q2 in Taipei City. Our result shows that when housing price boom, these three fundamental model have the consistent performance, in other word, the bubble size almost the same. However, when housing market recession, the trend of bubble prices are significant differences. Where, the bubble price calculated from rent fundamental almost are still positive, the bubble price calculated from household income fundamental are significant negative, and the bubble price calculated from macroeconomic variables fundamental are stable fluctuation. We think that the fundamental is composed of macroeconomic variable is in line with the current situation.

Keywords: Fundamental Value, Housing Bubble, State-Space model

Session: Real Estate Economics

Room: VG 005, June 10, 2016, 11:00am - 12:30pm

U.S. Metropolitan Area House Price Dynamics

Elias Oikarinen

University of Turku

Steven Bourassa

Florida Atlantic University

Martin Hoesli

University of Geneva,

University of Aberdeen,

Kedge Business School

Janne Engblom

University of Turku

As the long-term elasticities and the short-term dynamics of housing prices are expected to exhibit substantial regional variation, the conventional panel data models that assume similar dynamics across regions generally are likely to be too restrictive. The aim of this study is to add to the scarce literature that utilizes panel modeling techniques which allow for regional heterogeneity in the housing price dynamics.

We investigate the extent of regional differences in both the long- and short-term dynamics of housing prices across the 50 largest U.S. metropolitan statistical areas (MSAs) using quarterly data for the period 1980-2013. We apply the Common Correlated Effects (CCE) estimators of Pesaran (2006) and Chudik and Pesaran (2015) to avoid another common complication in the extant panel analyses, i.e., the potential bias caused by spatial dependence of housing market variables. In addition to eliminating strong and weak forms of cross-section dependence in large panels, these CCE estimators allow for heterogeneity in the dynamics across MSAs.

We document considerable variation in the long-term elasticity of housing prices with respect to income and in the short-term dynamics across MSAs. The results also provide evidence of cointegration between regional housing prices and aggregate income. The findings have predictability and policy implications.

Keywords: House price, Dynamics, Panel data, Regional differences

Session: Real Estate Economics

Room: VG 005, June 9, 2016, 11:00am - 12:30pm

The perspective of Sustainability Reporting Phenomena in the Real Estate Markets

Brian Kawuzi

Anahita Rashidfarokhi

Saija Toivonen

Kauko Viitanen

Aalto University, Department of Built Environment

The transitioning of the disclosure of non-financial information from voluntary to mandatory reporting in the European Union also has emerging trends in the sustainability reporting field. This can be evidenced in various jurisdictions that more governmental bodies are exerting pressure for more corporate social responsibility to promote sustainable development. Similarly, the evidence that more Finnish companies are pursuing actions that facilitate the integration of sustainability issues to their business strategies, shows that there is a steadier progress of sustainability reporting and the gap in reporting between the leading and the lagging industry sector is also narrowing.

However, with limited research on the state and future of sustainability reporting in the Finnish real estate sector, using semi-structured expert interviews with the futures wheel study method to capture and illustrate the findings, this study investigates the perspective of the real estate professionals on the impacts of three sustainability reporting phenomena; mandatory reporting, external assurance of sustainability information and the integrated reporting framework on corporate real estate investment and management strategies in the Finnish real estate markets.

The study shows that the introduction of mandatory reporting would likely increase transparency and comparability that allows best business practices within the sector which require optimal resource, data and compliance risk management. In addition, the external assurance of sustainability information would increase stakeholder engagement and the reliability of data, as the integrated reporting framework has potential in communicating company strategies with a holistic view that would increase company brand value.

However, the rise in sustainability data and information requires that it is readily available to enhance the efficiency of the real estate markets and its use by the providers to spark innovations.

Keywords: Real estate markets, Mandatory sustainability reporting, External assurance, Integrated reporting, Futures studies

Session: Real Estate Economics

Room: VG 005, June 9, 2016, 11:00am - 12:30pm

Do urban tourism hotspots affect housing rents? Evidence from Berlin.

Philipp Schäfer

IREBS International Real Estate Business School, University of Regensburg

Jens Hirsch

IREBS International Real Estate Business School, University of Regensburg

The aim of the study is to provide evidence of the current debate on rising housing rents due to urban tourism in Berlin. Urban tourism has high economic importance for many urban destinations and has developed very strongly over the last years. According to the prevailing view, urban tourism triggers side-effects, which affect the urban housing markets with a lack of supply and increasing rents. The paper analyzes if urban tourism hotspots have impacts on the Berlin housing rents with two hedonic regression approaches: Conventional ordinary least squares (OLS) and generalized additive model (GAM). The regressions models incorporate housing characteristics as well as varying distance based measures. The research considers hotels, restaurants, holiday apartments and tourist attractions as constituents of tourism hotspots and is based on spatial analysis with geographic information systems (GIS). The results show clear evidence that rents are affected by urban tourism. Rents are higher, the more attractive the tourism hotspots are and vice versa. GAM outperforms the results of OLS and seems to be more appropriate for spatial analysis of rents across a city.

Keywords: Urban tourism, Hedonic Regression, Generalized additive models, GAM, Housing markets, Berlin

Session: Tourism & Hotel

Room: VG 024, June 9, 2016, 11:00am - 12:30pm

The impact of management structure on the performance of hotel real estate

Ed Nozeman

Department of Economic Geography, University of Groningen, The Netherlands

Arno Van der Vlist

Department of Economic Geography, University of Groningen, The Netherlands

The hotel market has seen a global shift towards a separation of hotel ownership and management control. While academic research does pay considerable attention to hotel price determinants with an emphasis on socio-economic, demographic and property characteristics, limited research addresses the interplay with corporate governance mechanisms like leadership and ownership.

This contribution aims to fill the gap in knowledge about the role of management structure. Do different types of ownership and management structure influence the performance of hotels, and if so to which extent?

Based on literature research and analysis of data on management structure, rents and hotel performance we shed light on the interplay of management structure and performance. We use a private database on Dutch hotels for the period 2000-2014 and draw interesting comparisons across fully independent hotels and chain-brand hotels with varying management control types. Results will be compared with the outcome of mainly non-European research.

Keywords: hotel real estate, ownership, management structure, corporate governance, performance

Session: Tourism & Hotel

Room: VG 024, June 9, 2016, 11:00am - 12:30pm

Direct Tourism Property Investment in Australia

Sacha Reid

Department of Tourism, Sport and Hotel Management, Griffith University

Lack of stability in global politics, economies, currencies and investments has seen a re-emergence of alternate asset classes for direct property investment, such as tourism. Since 2010 there have been significant shift in direct tourism property investment classes in Australia and purchaser profiles. Fund managers, corporations and individuals are seeking out direct property assets to invest in with tourism assets or property within touristic locations re-emerging from a period of stagnation following the global financial crisis. This paper examines direct tourism property investments over the last five years in Australia and develops a typology of these property assets.

The Australian tourism industry is benefitting from these combined effects. During 2015 approximately 7.2 million international arrivals (Tourism Australia, 2015) and 83.2 million domestic overnight trips (Tourism Research Australia, 2015) were undertaken in Australia. Representing increases of 7.7% and 6.2% in tourist numbers from 2014 and resulting in direct expenditure of \$107.8 billion in 2015 (Tourism Research Australia, 2015). Furthermore, tourism contributes AUD\$43 billion to GDP (gross domestic product) in Australia, including direct and indirect employment opportunities for 1 in 12 Australians (Tourism Research Australia, 2015). A declining Australian dollar and monetary policy will continue to encourage tourists to Australia over coming years. Current forecasts indicate that by 2025 international tourist arrivals will top 10.6 million with a 10 year average annual growth rate in expenditure of 3% (Tourism Research Australia, 2015).

Foreign flows of capital have acknowledged the shift to legitimizing direct tourism property as an asset class and the investment return potentials. Demonstrating this shift, IPD Research introduced the Australian hotel property index measuring hotel investment performance to benchmark investment against other indices/asset classes. The Australian government has also acknowledged the role of tourism investment monitoring, reporting and supporting such investments. This paper makes an important

contribution to the literature by examining this under research field of direct tourism property investments. A typology of typology of direct tourism property investment categories is examined, utilising transactions and drivers for investment within each of these categories.

Keywords: direct property investment, tourism, Australia

Session: Tourism & Hotel

Room: VG 024, June 9, 2016, 11:00am - 12:30pm

Sequential investments: the value of flexibility to invest in marinas

Chiara D'alpaos

*Department of Civil, Environmental and Architectural Engineering,
University of Padova*

Laura Gabrielli

*Dipartimento di Architettura
University of Ferrara*

Real estate markets are still affected by the global financial crisis. Despite the property market crisis, the touristic sector in Italy shows positive signals thanks to the new tourist flow coming from East Europe and China. Investors' interest in this sector has grown year over year due to the undersupply of marinas compared to the growing demand of berths and wharfs, particularly in areas, where the marine touristic sector represents a chance in terms of growth and occupation. Investments in this sector are characterized by high, irreversible sunk costs and uncertainties over future demand and returns. It is quite common today to design marinas, which can be expanded by sequential investments in order to adapt to changes in the evolution over time of decision variables (e.g. demand, rate of return, etc.). Traditional Discounted Cash Flow (DCF) analysis fail to capture the value of growth options embedded in these projects. According to the real option approach, the paper analyses the optimal investment strategy of an entrepreneur who wants to invest in marinas development programmes. We model the entrepreneur's investment decision taking into account not only the value of the immediate investment, but rather the value of sequential investment opportunities and real options interactions. We consider interdependent projects, where investing in the first project provides the opportunity to acquire at maturity (by means of a new capital outlay) the net benefits of further investments. The model is tested on an Italian case study with respect to property investments in the construction of a new marina.

Keywords: Sequential investments, Growth options, Investments under uncertainty, Marinas and touristic sector

Session: Tourism & Hotel

Room: VG 024, June 9, 2016, 11:00am - 12:30pm

Disruptive Innovations in Real Estate

Viktor Franz Paul Weber

Co-Founder of Lean Consultancy | Co-Founder of Whatsfancy | Founder of GermanStartup | Global Shaper @ World Economic Forum

This professional publication addresses disruptive trends in technology and innovation in the context of the real estate industry, covering 3D-printing, artificial intelligence, robotics, synthetic biology and sensor technology. Since the adaptation rate of innovations is comparably slow within all real estate sectors, it was deemed reasonable to analyse likely changes as well as opportunities, induced by the aforementioned technologies, for the real estate industry.

Amongst those changes could be drastic shifts in the demand for office – and special purpose real estate, a significant extension in property life-cycles, research and investment decision automation, diminishing costs for sustainable developments, job-redundancies and a significant acceleration of planning as well as development.

A continued procrastination in the adaptation of various technologies is likely to lead proportionally to diminishing competitive advantages and changes of corporate status quo. Accordingly, opportunities for new actors and sectors within the real estate industry will emerge.

Keywords: Disruption, Artificial Intelligence, 3D Printing, Robotics, Synthetic Biology

Session: Revolution and Evolution: Hi-Tech and Real Estate
Room: H24, June 9, 2016, 1:30 - 3:00pm

Integration of modern technologies and methods – Development of a BIM-target-process

Manfred Helmus
Anica Meins-Becker
Agnes Kelm
Matthias Kaufhold
Nahid Khorrami
Jessica Heilemann

Today, modern technologies and methods of the improvement of the digitization in Germany – e.g. the method of the Building Information Modeling (BIM) – find increased implementation in construction economy and real estate economy. For many years, the research team of the Chair of Construction Management & Economics of the Bergische University of Wuppertal has dealt with the development of those modern technologies and methods. Now these subjects have to be transferred to the market players. With the research project “Building Information Modeling as a Process” the Federal Institute for Research on Building, Urban Affairs and Spatial Development funded a project to develop an information oriented BIM process model. The project obtains all building lifecycle phases from the project initialization and planning, to the procurement and realization as well as the commission, operation & maintenance and recovery/deconstruction. The comprehensive information exchanges between different players will be developed in a network of scientists and various companies. Up from this point the process can be replenished with BIM-Content to create a BIM-target-process. It will be important to develop a most general purpose to include different variations of project organizations and market players. With this way it will be possible to achieve one’s aim to transfer the technology to all real estate and civil construction participants. This research project can be seen as an enabler for succeeding research projects e.g. of separate lifecycle phases or different roles. BIM-Data can be used for e.g. transparent cost expectation, visualization and planning, 3-D building viewing, floor area measurement (IPMS), risk management, technical due diligence/transaction. The developed attempts are absolutely new in Germany. An international

comparison of these attempts offers interesting aspects concerning any transference potential. The conference contribution will contain the first results of new drafts for integration of modern technologies and methods in processes for the construction and real estate economy in Germany.

Keywords: modern technologies, BIM, process management, corporate development

Session: Revolution and Evolution: Hi-Tech and Real Estate
Room: H24, June 9, 2016, 1:30 - 3:00pm

My mother in laws refrigerator: Virtual sales – Real impacts

Bob Thompson
Remit Consulting

The cycle of change in retail is accelerating faster than ever. Products, channels and technologies evolve rapidly as agile production methods kick in, technology is deployed and barriers to change fall away. However, the biggest change of all is in the attitudes of customers towards the process of buying goods.

The impact of online retailing on retail and logistics property has been well documented over the last twenty years but the early prophecies of the death of shops have, in the main, been disproved by events. This has allowed real estate investors heavily committed to the sector to relax – confident that retailers themselves have acted to preserve their physical presence on the High Street and thence demand for the property product.

In the UK, online retailing has grown it's share of the retail cake exponentially over the past fifteen years and in 2015 it stood at just over 15%. This leads to some crucial questions for investors in retail property:

- What have the physical impacts been at the current level of penetration?
- What proportion of sales are likely to take place online in the future?
- How will those levels of online sales impact upon the viability of the investment product going forward?

This paper brings together the results of a model that uses demographic data with survey data on propensity to buy online to estimate likely penetration of online sales with retail vacancy data and presents a series of scenarios that examine the potential impact of demand for shops over the medium and long term. These results are then extrapolated to show potential impacts across the main European markets.

Keywords: Retail, Investment, Futures

Session: Revolution and Evolution: Hi-Tech and Real Estate
Room: H24, June 9, 2016, 1:30 - 3:00pm

Challenges in Sustainable Heritage Conservation and Preservation of Historic Cities and National Monuments in Kenya

Catherine Kariuki

University of Nairobi, Department of Real Estate and Construction Management

Nicky Nzioki

University of Nairobi

Jennifer Murigu

University of Nairobi

There is evidence that a great proportion of the 100 historic cities and nearly 200 sites on the World Heritage List are located in the developing world. The question is asked how do these cities and sites fare against the population pressure, crumbling infrastructure and the eroding economic base of the developing world. Increasing recognition that sustainability has environmental, social and economic dimensions helps us understand the potential role of heritage conservation. Developing an approach to heritage conservation that respects these principles is increasingly seen as a fundamental responsibility. In fact, in many ways, heritage conservation and sustainability principles and practices fit together naturally.

Historic Sites and Monuments in Kenya that are crucial to the country's heritage are under threat because of lack of funds to preserve and maintain them. Some of these sites are included in UNESCO's World Heritage List. Many of these sites including Fort Jesus in Mombasa need extensive rehabilitation works to protect their structures especially the external walls from natural elements like the sea waves of the Indian Ocean. Other sites have either been vandalised or have collapsed due to lack of maintenance, posing a danger to both workers and site visitors. Lack of community involvement has also made it difficult especially where buildings are gazetted as national monuments. The owners are prohibited to do repairs without permission from the National Museums of Kenya who are the mandated custodian of Historic Sites and National Monuments.

The introductory section of the paper discusses the importance of conservation and preservation of a National Heritage. It further explores the main challenges faced in the conservation and preservation of historic sites and National Monuments in Kenya. The final part gives several recommendations.

A major recommendation is in adopting measures that promote access to more funds for conservation and maintenance from the national to county governments through sensitization and awareness creation.

Another recommendation is the community involvement in the conservation of the building and heritage sites in towns where they live and encouraging communities to share in income derived from local sites by the national government. The promotion of consultation is a critical part of the conservation decision-making process, ensuring that a transparent and open process is put in place

Keywords: Preservation, sustainable heritage, conservation, community, training

Session: Africa Session a

Room: H25, June 9, 2016, 1:30 - 3:00pm

Effect of Municipal Solid Waste Dumps on Investment Property Values. A Case Study of Port Harcourt, Nigeria.

Moses Baridi Baridoma

African Real Estate Society [AFRES]

The sites of municipal solid waste dumps are replete in and around our cities in the developing world especially Nigeria. Real Estate investment development and market is highly dependent on perception, environment and economic condition, especially for residential and commercial properties. Prospective investors and tenants tend to be weary of the environmental quality of proposed investment sites or residential neighbourhood if it will fetch good return on their investment and for what duration. This paper will examine the effect of municipal solid waste dumps on investment property values and proffer useful solutions to prospective property investors and tenants.

Keywords: solid waste dumps, investment property, value

Session: Africa Session a

Room: H25, June 9, 2016, 1:30 - 3:00pm

Johannesburg Stock Exchange Corporate Headquarters Location in South Africa's Metropolitan Areas

Thabelo Ramantswana

University of the Witwatersrand

This paper is focused on the location factors of corporate headquarters in the South African context, with a particular attention to companies listed in the Johannesburg Stock Exchange (JSE). The paper seeks to investigate the regional nodes that likely influences headquarters location decisions. In so doing, the study seeks to understand how the metropolitan specialisation likely influence corporate headquarters location. The framework adopted in this study is that headquarters agglomerate in particular metropolitan areas due to control power and network power. However, the nodes of the metropolitan areas power and network do change with the changes in the environment.

Keywords:

Session: Africa Session a

Room: H25, June 9, 2016, 1:30 - 3:00pm

The Application of Probabilistic Methods of Risk Analysis in the Investment Appraisal of Residential Properties in Enugu Metropolis, Nigeria

Obinna Collins Nnamani

University of Nigeria, Nsukka (UNN), Enugu State, Nigeria

Residential property investments are frequently subjected to unpredictable future, encompassing uncertainties and various forms of risks which impact the anticipated level of returns that should compensate for the risks taken by the investors. There are cases where appraised property investment projects were abandoned before completion and some investors lose their investments due to inability to repay loans sourced from credit institutions. These issues have been as a result of the Estate Surveying and Valuation Firms not employing probabilistic techniques in the appraisal of residential property investment risks. The study appraised the factors influencing the application or otherwise of probabilistic methods of risk analysis in residential property investment with the view to proffer workable solutions. The objectives of the study are: to ascertain if Estate Surveying and Valuation Firms in Enugu metropolis are applying these techniques for residential property investment appraisal; to analyse the factors influencing the application of probabilistic methods of risk analysis. Survey research design was adopted for the study. The population of the study comprised 49 Estate Surveying and Valuation Firms in Enugu Metropolis. A demographic formula was used to determine a sample size of 44 firms which were selected by purposive sampling technique. Data collected were analysed using mean and standard deviation; hypothesis was tested using logistic regression analysis. Findings from the study show that the Firms do not adopt probabilistic methods of risk analysis; methods mostly applied were risk adjusted discount rate (RADR) and sensitivity analysis. The degree of sophistication involved with the methods and lack of computer software packages are the factors influencing the non-application of probabilistic methods of risk analysis. The Application of probabilistic methods of risk analysis in residential property investment decision making will provide a substantial level of professional shielding of investors from the ravages of risks and uncertainties.

Keywords: Investment Appraisal, Risk Analysis, Residential Properties, Probabilistic Methods, Enugu Metropolis

Session: Africa Session b

Room: H26, June 9, 2016, 1:30 - 3:00pm

Dealing with Speculative Prices in Sub-Saharan African Land Markets

Moses Mpogole Kusiluka

Ministry of Lands, Housing and Human Settlements Development - Tanzania

Sophia Marcian Kongela

School of Real Estate Studies - Ardhi University

In the wake of rapid urbanisation and increasing demand for agricultural land, both urban and rural land markets in many African countries have attracted speculative practices. Many people are engaged in buying land aiming at reselling it profitably at some future dates. This is done hoping that land values will keep on appreciating, which is supported by historical trends. In many African countries land has been regarded to have no or little monetary value until recently when land is increasingly being put to commercial use. Speculative prices have sometimes inhibited land based investments.

Using the cases of Tanzania, Kenya and Ethiopia, this study reviews institutional approaches employed in the selected countries to deal with land speculation. The three countries are among the rapidly urbanising countries in Africa which are also attracting large scale investment in agriculture. The aim of the study is to assess the effectiveness of land speculation control techniques in emerging African land markets.

The study entailed obtaining and critically reviewing policies, laws and regulations used in the selected countries in dealing with land speculation. Interviews with key informants were used to collect and validate data obtained from literature. Analyses for the different countries were compared and contrasted to draw lessons for effective mechanisms of mitigating land speculation. The study also involved comparing the practice in the selected countries against the international best practice.

Results show more similarities than differences for the three countries in terms of ineffectiveness in dealing with land speculation and the resulting negative impacts. All countries have weak institutional environments governing land market operations. It was alarmingly noted that some large tracts of land held on speculative motives or those which were acquired on speculative prices were used as collateral for commercial bank loans, which potentially threatened the stability and sustainability of the countries' financial systems. It was also clear that landlessness was looming. Noteworthy was also the fact that speculative land prices triggered urban

sprawl. This study contributes to literature on improving land management practices in emerging land markets, especially in the wake of rapid urbanisation and fears of rural land grabbing and food insecurity.

Keywords: Land speculation, African Land Markets

Session: Africa Session b

Room: H26, June 9, 2016, 1:30 - 3:00pm

Shareholder Wealth Effects from the Conversion of Property Listed firms into REITs: Evidence from South Africa.

Omokolade Akinsomi

The University of Witwatersrand

Reneiloe Pagiwa

The University of Witwatersrand

As of 1st of April 2013 the REIT legislation of South Africa was implemented. The South African REIT structure was developed to follow international best practice. The need to convert to a REIT structure in South Africa was driven by a number of problems arising from the management structure, investor accountability, dividend pay-out policies and taxation of Property Loan Stocks and Property Unit Trusts. The South African scenario is an exceptional case, as of the top 9 global REIT markets South Africa, USA, France and the United Kingdom are the only countries that allow for conversion of listed property companies to REIT status. From these countries that allow REIT conversion South Africa is the only country that represents the developing world economies.

This research examines the impact of the Implementation and conversion of Property Loan Stock (PLS's) and property Unit Trust' (PUT's) companies to REITS on shareholder wealth. The paper examines 32 conversion of property listed firms into REITs on the Johannesburg Stock Exchange. The research employs an event study which examines a) the announcement of the introduction of the REIT structure by the Johannesburg Stock Exchange and b) the announcement of individual firms to convert to REITs.

This research is important as it will provide information on the impact of legislative changes to the South African Property Stocks industry. The introduction of new legislation changed the regulation of property stocks. The new REIT structure effectively changed the operating requirements of property stocks. It is therefore important to assess the link between the elimination of income tax and the increase of dividend pay-out requirements in relation to the change in shareholder wealth.

Keywords: Shareholder Wealth, REITs, South Africa, Emerging Markets, Event Study

Session: Africa Session b

Room: H26, June 9, 2016, 1:30 - 3:00pm

Peer to Peer lending and the European real estate market: evidence from UK

Lucia Gibilaro

University of Bergamo - Department of Management, Economics and Quantitative Methods

Gianluca Mattarocci

*University of Rome Tor Vergata
Department of Management and Law*

During the last decade a lot of on-line platforms were developed in order to support the peer-to-peer lending (hereinafter) especially in the consumer loan sector. After the success of the new product, new market players decided to diversify their activity including also other sectors that can benefit from the P2P mechanism including the real estate market.

With respect to the P2P concept, real estate offers the additional opportunity to reduce the overall risk assumed by investors through the value of the guarantee always related to the mortgage. Using data from one leading player specialized in real estate lending in UK (Landinvest) the paper will compare the characteristics of the loans offered through on-line platforms with respect to standard loans offered by the UK financial intermediaries. Results show that the peer-to-peer lending is more concentrated in some geographical areas or type of asset and also some of the contract features of P2P lending are not comparable with average of alternative financing solution available for financing comparable assets. Results support the hypothesis that the growth of the P2P lending is driven by the needs of potential debtors that are not addressed by the standard lending channel even if they can afford to pay above the average interest rates with respect to standard loans.

Keywords: Peer to Peer, Mortgage Loan, Real Estate

Session: Real Estate Finance

Room: VG 235, June 9, 2016, 1:30 - 3:00pm

Revisiting and Extending Beirne et al.'s (2011) Analysis of the Eurosystem's Covered Bond Purchase Program on Secondary Markets

Holger Markmann
EBS Business School

Building on the ECB's proprietary research of Beirne et al. (2011), I examine the effectiveness of the Eurosystem's Covered Bond Purchase Programs 1 to 3 on an aggregate level and use euro-denominated covered bonds issued by British banks as a control group. Covering the whole crisis-cycle of 2008 to 2014, I employ an unobserved component model (UCM) utilizing a random walk stochastic trend. The results of Beirne et al., particularly the initial announcement effects (c. -12 bps for euro denominated covered bonds) are overestimated for CBPP1. The announcements of CBPP2 and 3 yield mixed results for individual countries and insignificant effects for all euro-denominated bonds. The actual implementation of the programs tends to widen covered bond yields, contrary to the Eurosystem's intention

Keywords: Covered Bond Purchase Program, European Central Bank, Unconventional Monetary Policy, Unobserved Components Model

Session: Real Estate Finance
Room: VG 235, June 9, 2016, 1:30 - 3:00pm

The effect of financial structure on net operating income: evidence from the European REITs market.

Massimo Biasin

University of Macerata, Department of Economics and Law

Emanuela Giacomini

University of Macerata, Department of Economics and Law

Claudio Giannotti

Lumsa University, Department of Law

The availability and use of credit have increased significantly over time due to economic growth and development, stronger institutional structures, increased financial innovation and integration, as well as firm-level considerations. Although many firms and households have delevered their balance sheets in response to the recent financial crisis, many governments and financial firms, and especially public real estate firms, continue to maintain significant levels of debt. This raised a lot of interest among academic on the determinants of public real estate firms' capital structure choice. In fact, some recent research has provided evidence on the consistency of U.S. REIT capital structure choices against existing theories of optimal capital structure (e.g., Harrison et al., 2011).

However, empirical evidence on the effect of financial structure on net operating income is still inconclusive, especially with respect to the European market. REITs and REIF are quite unique as their performance can be disentangled in two main components (current and capital gains component). However, what determines the dynamic of those two components and how it affects REITs/REIFs capital structure is still an open question. This paper aims to fill this gap. Precisely, we will first investigate the dynamic of profitability to analyze which component has been the most variable in the years before and after the crisis, which REITs/REIFs institutional features affect this dynamic (e.g. portfolio characteristics), and whether an increase of current income volatility leads capital gains volatility or vice versa. More importantly, we will test empirically the effect of financial leverage and debt composition on the two performance components.

The results of this research will also have important implications for lenders of public real estate entities because we will shed light on the winning policy of banks (i.e. those who bet on the asset or income flows).

Keywords: Capital structure, REITs, financial leverage, net operating income, performance

Session: Real Estate Finance

Room: VG 235, June 9, 2016, 1:30 - 3:00pm

Linkages between Islamic REITs and Conventional REITs in Malaysia

Dr. Muhammad Najib Razali

Islamic REITs (I-REITs) has been established in Malaysia since 10 years ago. The introduction of I-REITs has offer alternative investment vehicle especially in property portfolio management. Since then, several researches have been done to explore the potential of I-REITs in many aspects such as performance, diversification and risk analyses. Discussion on performance analysis about the REIT studies has become extensive and become more deeper. Development of REIT in Malaysia is the foundations of beginning of Islamic REIT in the world. As such it is important to assess every angle of the I-REITs in various aspects in order to know the significance of I-REITs in property portfolio investment. The purpose of this paper is to examine the linkages between I-REITs and conventional REITs (C-REITs) specifically in Malaysia as Malaysia is the first country to introduce I-REITs. As such it is interesting to assess the linkages for both REITs. Furthermore, a range of key property investment issues will also be assessed particularly on I-REITs including lead/lag relationship and structural efficiency.

Keywords: Islamic REITs, Conventional REITs, Linkages, Malaysia

Session: Real Estate Finance

Room: VG 235, June 9, 2016, 1:30 - 3:00pm

Housing Market Stability, Mortgage Market Structure and Monetary Policy: Evidence from the Euro Area

Bing Zhu

IREBS International Real Estate Business School, University of Regensburg

Michael Betzinger

IREBS International Real Estate Business School, University of Regensburg

Steffen Sebastian

IREBS International Real Estate Business School, University of Regensburg

This paper investigates how the monetary policy stance and the mortgage market structure affect the non-fundamental house price movements in 11 Euro Area countries. Based on a three stage approach, the empirical evidence suggests that a one-time monetary easing shock can significantly trigger house price boom in euro area countries with a liberal mortgage market and can explain over 20% of the forecasting error variance of non-fundamental house price run-ups in Ireland and Spain. In countries with more regulated mortgage markets, the monetary policy stance does not significantly affect the non-fundamental house price. Policy makers may focus on limiting mortgage equity withdrawals, Loan-to-Value ratios and monitoring tax policies in order to minimize the side effects of accommodative monetary policies on housing market stability for euro area countries, especially for peripheral countries which are more likely to be subjected to a too loose monetary policy stance.

Keywords: House prices, Taylor Rate, Non-fundamental house price, Mortgage market structure

Session: Mortgage Markets

Room: VG 002, June 9, 2016, 1:30 - 3:00pm

Mortgage Choice with Multiple Fixation Periods: Evidence from German Mortgage Borrowers

Oliver Lerbs

*Centre for European Economic Research (ZEW), Research Department
International Finance and Financial Management*

Martin Weber

University of Mannheim, Chair of Finance and Banking

Ulrich Seubert

Behavioral Finance Group at the University of Mannheim

This paper studies private households' mortgage choice under multiple possible interest fixation periods using a large loan-level data set from the German market. We contrast theoretical predictions of rational choice among adjustable-rate mortgages (ARM) and fixed-rate mortgages (FRM) with actual behavior across different borrower types within a multinomial probit framework. We find a significant influence of the alternative-specific yield spread and relative pricing of a fixation period compared to the aggregate market. In line with risk management considerations, we also show that borrower characteristics matter: borrowers who take on larger loans, are more risk averse and have lower expected mobility are more likely to opt for longer fixation periods. We finally present evidence that borrowers' choice is altered by mortgage brokers' advice in a way that may be suboptimal for households.

Keywords: Household Finance, Mortgage Choice, Adjustable-Rate Mortgage, Fixed-Rate Mortgage, Fixation Period

Session: Mortgage Markets

Room: VG 002, June 9, 2016, 1:30 - 3:00pm

Real Estate Volatility and Mortgage Market Woes: An Analysis of Defaults and Foreclosures

Judith Swisher

Western Michigan University

Thomas N. Edmonds

Western Michigan University

This research examines US mortgage defaults and foreclosures and how they relate to housing price changes and unemployment. State level data are examined to exploit the wide variation in economic and housing conditions across the country, as well as differences in state foreclosure laws. In addition to examining the performance of all mortgage loans, prime and subprime mortgages are analyzed separately to assess differences in performance between the two types of mortgages. Results show that defaults and foreclosure are positively related to unemployment and negatively related to the change in housing values. In addition, large drops in home values, which proxy for negative equity, are positively related to default and foreclosure. Examination of prime and subprime mortgages shows that subprime mortgages are less sensitive to unemployment than are prime mortgages. Differences in the legal rights of lenders and borrowers across the states also have an impact on defaults and foreclosures.

Keywords: mortgage foreclosure, mortgage default

Session: Mortgage Markets

Room: VG 002, June 9, 2016, 1:30 - 3:00pm

Dubai residential valuation system: market exploration, embedded institutional participation, archival research and expert interviews

Ebraheim Lhabash

Royal Agricultural University

Simon Huston

Royal Agricultural University

Ali Parsa

Royal Agricultural University

External regional instability and low oil prices have unsettled the UAE's real estate markets but internal valuation system weakness across institutional capability, standards salience and trust could also accentuate volatility. To investigate internal system maturity, we first analysed over 100,000 residential Dubai property transactions in five high-transaction locales, looking for valuation inaccuracy compared to realized prices. Iconic properties, such in the Burj Khalifa, were significant outliers. Desktop research and site visits also found that major developments distort statistical analysis. Seeking deeper qualitative insights, we conducted walk-through procedural tests (archival research) on 20 valuations from each of the five locales at the Dubai Land Department ('DLD'). Embedded observation, operational DLD participation in valuation meetings and expert interviews provided further system insights across the three articulated explanatory domains of capabilities, standards salience and stakeholder trust. The final reflective phase of the research invokes a panel discussion to consider Arab and UAE institutional and cultural idiosyncrasies before articulating any operational recommendations or adjustments to policy and UAE valuation standards.

Keywords: valuation system, UAE, residential property, valuation standards, trust

Session: International Real Estate

Room: VG 004, June 9, 2016, 1:30 - 3:00pm

European Integration and the Nationally Segmented Real Estate Industry

Daniel Piaolo

THM Technische Hochschule Mittelhessen

Karsten Junius

Bank J. Safra Sarasin

Milan Cvetkovic

ETH Zürich

The real estate industry significantly lags behind in the completion of the European Single Market when compared to other industries like the pharmaceutical or textile industry. The Single European Act, signed in 1986, had the objective of establishing a single market by 31st of December 1992.

This paper discusses the reasons why there is no European single real estate market more than 20 years after the targeted date. The real estate industry is best characterized by strong national segmentation. One could even argue that if the commercial real estate investment sector is best described by strong segmentation one has to specify the residential real estate sector by an almost complete national segmentation.

However, recent developments like the AIFM-Directive or Solvency II should give a boost to the Europeanisation of the real estate industry. The paper examines the foreseeable milestones of the Europeanisation of the real estate industry. Furthermore, the paper discusses whether politics (including the European Commission) presses ahead Europeanisation of the real estate industry or whether is it after all the market.

Keywords: European Integration, National Segmentation, National Fragmentation, Integration Process, Cross Border Merger

Session: International Real Estate

Room: VG 004, June 9, 2016, 1:30 - 3:00pm

Online reputation: real estate companies and crowd sourced online review sites - an empirical survey

Stephan Kippes

Nürtingen-Geislingen University - Department of Real Estate

The Financial Times Germany once spoke of "Star Wars" and placed the adjective "dirty" (Financial Times Deutschland, 2012) in front of it. The article featured review sites where customers comment and rate the performance of different companies. The German edition of the Financial Times was shut down a few years ago, but what it had called "the dirty war of the stars" has gained a high degree of importance. People tend to base their decisions on electronic word-of-mouth, that is the wisdom of crowds, in the absence of personal referrals, that is the traditional word-of-mouth.

Today crowd-sourced online review sites are available for nearly all industries, but the real estate industry is still underestimating the importance of the topic.

Currently, in many parts of Germany real estate companies have problems to acquire properties. Therefore, an excellent online reputation is crucial. Companies who have negative reviews on the Internet will not be able to compensate this with a good marketing. Consumers increasingly use such review sites, or apps in the absence of personal recommendations, whether in travel (Hotel.com, Tripadvisor.com or Booking.com), in the analysis of potential employers e.g. Kununu.de, or they use cross-industry portals such as Yelp.de.

The purpose of this paper, based on a national empirical survey, is to examine the awareness of the real estate industry concerning these sites, furthermore the paper discusses the strategic options of real estate companies concerning crowd sourced online review sites.

Keywords: crowd-sourced online review sites , review sites, online marketing, social media networks, online reputation

Session: International Real Estate

Room: VG 004, June 9, 2016, 1:30 - 3:00pm

Supporting decision-making on teaching and learning spaces

Pieter Le Roux

*Academy of Hotel and Facility Management,
NHTV Breda University of Applied Sciences
Breda, Netherlands*

This paper presents initial research outcomes of an on-going process of conceptual decision-making regarding the planning, design and use of new teaching and learning spaces for all academies on the new campus of the NHTV Breda University of Applied Sciences. The outcome of this research presents a conceptual framework for all future teaching and learning spaces, and is the results of the translation of the Educational Vision of NHTV 2014-2019 into a design blueprint (Graf, 2015). This design blueprint will be used as guiding principal in consulting with academies regarding their desired level of facility functionality and serviceability in delivering educational excellence.

A comprehensive approach to data collection, analysis and multi-party involvement in decision-making was deemed a critical prerequisite for ensuring the validity of the design blueprint as conceptual framework. Based on the process steps of the Accommodation-Choice Model (Van der Voordt et al., 2011), the research design consisted of 3 parts: (i) identifying and interpreting all relevant existing information on the planning, design and use of teaching and learning spaces, (ii) identifying all relevant organisational and educational objectives for and with the new teaching and learning spaces, and (iii) making conceptual decisions regarding the planning, design, and use of all future teaching and learning spaces on the NHTV Campus.

Preliminary results of the study emphasizes the need for creating optimal facility flexibility by ensuring all teaching and learning spaces can accommodate and facilitate multiple modes of teaching and learning. In developing the design blueprint previous research on the future learning environment on the NHTV Campus by Graf (2015) was used to identify 5 recognisable spatial typologies for teaching and learning, and to develop a matrix for indicating the extent to which these spatial typologies support the 3 primary ways of learning. By adapting the design blueprint as originally proposed by Finkelstein et al. (2014), outcomes of this matrix were used to define the required functionality and serviceability of the various teaching and learning spaces with regards to space / layout, furniture, technologies, acoustics and lighting / colour.

The study provides a valid and transparent approach to multi-party decision-making on academy-specific requirements for all new teaching and learning spaces on the NHTV Campus.

Keywords: decision-making, functionality, teaching, serviceability, learning

Session: International Real Estate

Room: VG 004, June 9, 2016, 1:30 - 3:00pm

Baltic Shopping Centres' Market Development in the Context of Matured Markets and Changing Environment

Ieva Augutyte -Kvedaraviciene

Assoc. Prof. dr.

The aim of this paper is to analyse Baltic shopping centres' market dynamics in the context of mature markets and changing environment. Matured markets' characteristics' analysis is important to monitor emerging markets dynamics and development. Changing environment – growing or decreasing purchasing power, number of customers, changing preferences and shopping traditions, competition among shopping centers, and other factors have a direct impact on demand and supply in the shopping centres' market. Deeper analysis of changing environment in addition to internal market structural analysis shall provide information helpful for real estate (RE) market functioning trends forecasting.

Keywords: shopping centers market development, Baltic shopping centers, matured market characteristics

Session: Regional Economics

Room: VG 005, June 9, 2016, 1:30 - 3:00pm

Explaining long-term trends in housing prices

Henk J. Brouwer

Rijksuniversiteit Groningen

Recently, there has become more insight into the determinants of housing prices. However, most research almost exclusively focuses on economic and financial conditions. Spatial factors are only implicitly included, e.g. in new housing supply. Moreover, there is no theory that is capable to explain the changing impact of different conditions over time and especially over periods longer than a few decades.

An important suggestion of such a theory has been made by Knoll et al. (2014), but is almost certain that their idea cannot be right. When analyzing home prices adjusted for cpi in fourteen countries since 1870, they found a clear hockey-stock pattern. Their explanation is that a reduction in transport costs triggered an expansion of developed land, suppressing land prices. They point to the development of railway infrastructure as well as efficiency gains in maritime transportation. Their theory is creative, but also amazing as it will be mainly relevant for agricultural land. Urban land supply is also determined by the availability of transport, but in a totally different way. To gain insight into this problem, we will use a model proposed by Manning (1984). He shows that there have been different phases in urban development, each phase based on different transport solutions and costs. Growth of urban areas can become constrained by the capacity of its transport systems. After the introduction of a transport innovation land supply suddenly improves, resulting in increased housing production and lower prices.

We will try to show the basic soundness of this theory by analyzing developments in several urban areas in different countries. Due to lack of data, we are unable to produce formal tests, but there are clear differences between cities that can be related to developments in their transport infrastructure. In our view, this approach is also able to explain rising house prices after 1870, but also the period of relatively low prices after 1910. This alternation of rising and falling prices is overlooked by Knoll et al.

Another conclusion of our research is that it is important to study long-term house price developments on a regional scale, in order to understand the impact of local and regional spatial developments.

Keywords: House prices, Urban spatial growth, Land supply, Long-term developments, Development of transport systems

Session: Regional Economics

Room: VG 005, June 9, 2016, 1:30 - 3:00pm

The Second Home: Financial paradox elaborated or the new(er)orthodoxy?

Deborah Levy

University of Auckland

Jane Horan

Department of Property, University of Auckland Business School

The rise and rise of 'residential capitalism' as in the financialisation of the housing market, has been seen as part of the transformation of the structure and institutions of contemporary capitalism. When focusing on the house, the economic, the social and the cultural have long coalesced, but what is changing is the evolving dynamic between these. The paradox that the conflation of the house as home and the house as capital constitutes, has been identified by Susan Smith (2015) in order to bridge the divide between the home as social space, and the economics of housing. In this paper, we pick up on Smith's call for more ethnographic and anthropological studies of this housing market phenomenon.

By focusing on second/holiday homes, known as 'baches' in the North Island of New Zealand, this study seeks to disaggregate the cultural construction of home from the nature of primary dwelling to understand further how people regard a house as home and as capital investment. The participants in this study are bach-buyers, owners, and sellers on the island of Waiheke, a suburb of the larger metropolitan area of Auckland, New Zealand, which was recently reported as the fourth-equal most unaffordable housing market in the world.

Keywords: Social aspects of economy, holiday homes, investment property, housing wealth

Session: Regional Economics

Room: VG 005, June 9, 2016, 1:30 - 3:00pm

Immigration, Real Estate Prices and the Tenure Choice of Native Households

Zeno Adams

University of St.Gallen

Kristian Blicke

University of St.Gallen

Past studies find that high rates of immigration can have a pronounced effect on both, housing rents and prices (see e.g. Saiz, 2011 for a discussion). These changes in the value of real estate will impact different types of native households in different ways. On the one hand, households that own a home may be able to consume a wealth gain and experience an increase in utility. Households that rent, on the other hand, may be forced to migrate to less attractive regions. In this paper, we analyze the effect of high rates of immigration on the real estate market and, in a second step, the impact that these price changes have on the location- and tenure-choice of families who live in affected areas.

For our empirical analysis, we use highly granular data from Switzerland. Switzerland presents an especially useful case for our purposes for three reasons. First, it has experienced substantial net immigration for several years (193,000 persons alone in 2013 according to the Bundesamt für Statistik, 2015). Secondly, Switzerland is comparable, in culture and language, to its neighbours: Germany, France, Italy, Austria, and Liechtenstein. Our results may be applicable to these countries, which have themselves faced substantial immigration recently.

Our research relates to work on the impact that immigration exerts on real estate prices (Ley et al. 2013, 2001; Frey, 1996) but also on the community composition (Borjas, 2002, 2013). Our work consequently adds to the growing field of gentrification (Guerrieri et al. 2010; Becker and Murphy, 2003; Borjas, 1995) and on factors affecting home ownership (Gyourko and Linneman, 1995, Andrews and Sánchez, 2011).

We contribute to the above mentioned literature in several ways. First, we use highly detailed immigration data that allows us to disentangle which type of immigration drives price changes. We are furthermore able to observe the response of local households to price changes while controlling for a number of confounding influences. Finally, we extend the gentrification literature to a new country, strongly affected by immigration.

Keywords: House prices, immigration, gentrification, spatial autoregressive models

Session: Regional Economics

Room: VG 005, June 9, 2016, 1:30 - 3:00pm

The effect of workplace design for energy consumption in office buildings: a case study from Sweden

Sigrid Katzler

*Royal Institute of Technology
Department of Building and Real Estate Economics*

Inga-Lill Söderberg

*Royal Institute of Technology
Department of Banking and Finance*

The Paris Agreement that was sealed in December 2015 signaled to all parts of societies all over the world that climate related issues are to be given an even greater focus than before. The building and real estate sectors have already had a strong commitment to finding new solutions for energy efficiency. There are plenty of studies on energy efficient building techniques and maintenance and on the effects of occupant behavior. While some studies also include the effects of workplace design this is still a field where more research is called for.

This study focuses energy-related behavior among occupants in office buildings and the effects of different workplace designs. It also tests for differences in employer attitudes to general climate issues and to taking part of energy saving activities as effects of workplace design. A single-tenant office building with a traditional workplace layout with small rooms is compared to a single-tenant building with an activity-based open workplace layout, considering both quantitative aspects of energy consumption and occupant behavior and attitudes to climate and to energy savings. The study is conducted in Sweden - where data on two single-tenant office

buildings are provided by a real estate company - and includes interviews as well as surveys with tenant employees conducted in early 2016. The preliminary results of a statistical analysis show that workplace design is an important factor to consider when promoting an energy saving behavior among tenant employees. This finding is of importance for the industry as well as for policy makers, as it gives grounds for promoting activity-based workplace layouts in an attempt to lower energy consumption and costs. This type of workplace layout seems to promote collective attitudes and behaviors among occupant employees that have importance for building energy efficiency.

Keywords: energy consumption, occupant behavior, office buildings, Sweden, workplace design

Session: Green Investment & Green Building
Room: VG 024, June 9, 2016, 1:30 - 3:00pm

Is there a business case for green office buildings?: Perspectives of institutional stakeholders in Australia

Lynne Armitage

Faculty of Society and Design, Bond University

Lyndon Tam

Mirvac

James Cox

Eureka Funds Management

Whilst buildings are considered one of the largest contributors to climate change, they also offer major potential for greenhouse gas abatement (Levine et al., 2007). Climate Works Australia (2010) estimates that the built environment has the potential to contribute 11% of Australia's 2020 least cost emissions reductions and that 77% of these emissions reduction opportunities will come from within the commercial sector. It has also calculated that the majority of these emissions reductions are net present value (NPV) positive to investors, even without a carbon price. Eichholtz et al. (2010) suggest that energy represents 30% of operating expenses in a typical office building, and is the single largest and most manageable operating expense in the provision of office space.

Consequently, the built environment and the industry players that create, occupy and manage it have a vital role to play in limiting the detrimental effects of climate change and delivering a sustainable outcome in the future. This responsibility lies not only with developers and builders of green buildings, but also other important stakeholders such as investors, owner-occupiers, tenants, asset managers, valuers, financiers, governments and the community. However, a lack of understanding or information available to these various stakeholders regarding the economic benefits of green buildings may act as an obstacle to achieving this.

This paper investigates whether there is currently sufficient, reliable information available to industry participants in Australia to make informed decisions regarding green buildings and sustainable development.

Methodology: This involves surveying various industry participants across Australia in order to understand their current knowledge of and views on the economic benefits and costs of green buildings and comparing these responses with the empirical evidence gathered to date in Australia and around the world.

Based on this survey of industry participants, the research reveals a perception or knowledge 'gap' regarding the business case for green buildings, potentially restricting the progress of sustainable development in

Australia. This survey concentrates on commercial office buildings only, as most empirical research conducted to date on green buildings has been focused here.

The empirical sample represents the views of many managers and other stakeholders of major institutional investments who are often not accessible to academic research.

Keywords: Australia, QLD, Commercial office property, QLD, Sustainable property investment

Session: Green Investment & Green Building
Room: VG 024, June 9, 2016, 1:30 - 3:00pm

How Green Attitude and Overall Image Affect Customers' Intention to Visit Green Shopping Center

Apinya Thamburanawit

Thammasat Business School, Thammasat University

Supeecha Panichpathom

Thammasat Business School, Thammasat University

The deteriorating in natural environment and resources trigger environmental awareness of enterprise and consumer levels. This study analyzes how green attitude and overall image directly and indirectly affect customers' intention to visit the green shopping center. Data based on 325 responses from Bangkok and suburbs shoppers were collected with online questionnaires. The results showed that green attitude both directly and indirectly influences the intention to visit green shopping center. The overall image completely mediates the effect of green attitude on customers' intention. Shopping center management, thus, should pay attention to enhance green image of shopping centers to maximize the effects of green attitude on intention to visit.

Keywords: attitude toward green behavior, consumer behavior, intention to visit, overall image, green shopping center

Session: Green Investment & Green Building
Room: VG 024, June 9, 2016, 1:30 - 3:00pm

The colour of reuse: Adaptive reuse from an owner perspective

Hilde Remoy

TU Delft

Financial and real estate crises and “new ways of working” reduce the need for office space. At the same time, many markets experience overproduction, as new office space is added to the market. As a consequence, these markets are imbalanced replacement markets without a quantitative need for new office buildings. When relocating, office organisations consider buildings and locations within geographically defined markets that optimally facilitate their main processes, reduce costs, optimise flexibility, and support image and financial yield. Sustainability is important for organisations to define their image and comply with customer expectations. Hitherto, new office developments were the response to this demand. Meanwhile, in the Dutch context, vacancy, financial scarcity, public opinion and governmental policy oppose new office construction in locations with high vacancy.

New strategies are needed to respond to the demand for sustainable office space, limit new office developments and take responsibility for buildings that are left vacant. Adaptive reuse of the existing building stock and developing new adaptive buildings could be the key.

This paper aims at revealing the most sustainable strategy for owner/users when assessing the reuse potential of existing office real estate, looking at economic, social and environmental aspects of sustainability. The building’s life span plays a small role in most sustainability assessment methods, whereas in this study, the life span perspective is central to the re-use and new development strategies that are considered.

Keywords: adaptive reuse, obsolescence, owner perspective, office buildings, lifespan

Session: Green Investment & Green Building
Room: VG 024, June 9, 2016, 1:30 - 3:00pm

The influence of noise on net revenue and values of investment properties: Evidence from Switzerland.

Stefan Sebastian Fahrländer

Fahrländer Partner AG

Michael Gerfin

Department of Economics

University of Berne

Manuel Lehner

Fahrländer Partner AG

In this study we use hedonic models to measure the influence of noise nuisance on rents, costs and values of investment properties in Switzerland. Country-wide data is provided by institutional real estate investors. The effects are measured for aircraft noise, road traffic noise and railroad noise. We show that negative effects appear between lower and upper thresholds which vary between different noise types and across residential and non-residential properties. Rents, costs and values are affected below the administrative thresholds given by the LSV and the negative impact ceases at an upper threshold. However high noise nuisance might influence investment decisions, i.e. offices are built instead of housing etc. These important effects are not given account in the data. In addition, directly measured reductions on market values are lower than the expected reductions based on empirical effects on rents and costs. The reasons for the different market value reductions may be found in the Swiss tenancy law. Rents for dwellings within existing rental agreements can only be adjusted in accordance with the change of the "reference interest rate" (Referenzzinssatz) and the CPI. The analysis shows that the average contract duration is dependent on the noise nuisance, which leads to a significant reduction of noise-induced losses within periods of increasing market rents.

Keywords: Hedonic prices, Investment property, Noise nuisance, GAM, Spline

Session: Real Estate Investment

Room: H24, June 9, 2016, 3:30 - 5:00pm

Do Real Estate Investment Trust Investors Value Asymmetric Dependence in returns?

Jamie Alcock

The University of Sydney Business School

Petra Andriikova

The University of Sydney Business School

REITs are often assumed to be defensive assets having a low correlation with market returns. This correlation is not constant across the return distribution. US REITs exhibit an asymmetric dependence with a higher correlation in the lower-tail, which implies that the benefits of diversification are low in times when investors need it the most, when market is down. We find that investors price this asymmetric dependence in the cross section of US REITs returns. In particular, we show that stocks with lower-tail asymmetric dependence attract a risk premium averaging 1.3% per annum and stocks exhibiting upper-tail asymmetric dependence are traded at discount averaging 5.8% per annum independent of the premium attached to the CAPM beta.

Keywords: asymmetric dependence, REITs, asset pricing, tail dependence, downside risk

Session: Real Estate Investment

Room: H24, June 9, 2016, 3:30 - 5:00pm

The Price Implications of “Standing Out”

Prashant Das

*Ecole hôtelière de Lausanne, HES-SO // University of Applied Sciences
Western Switzerland*

Patrick Smith

Pennsylvania State University

Paul Gallimore

University of Reading

Conspicuous features of a commercial real estate asset may qualify it either as “atypical” or “trophy.” Past studies on this topic are fragmented and suggest conflicting price impacts of the two qualities. This is the first study to robustly measure the price implication of conspicuous commercial assets. We geospatially enrich a dataset of nearly 5000 hotel transactions consolidated from two independent sources. We detect asymmetric impact across locally versus nationally superlative features. In particular, locally largest hotels are discounted while the nationally largest ones enjoy premiums. High status of the locality leads to significant price premium after controlling for submarket effects. Also, news coverage is associated with significant price premium.

Keywords: conspicuity, hedonic models, GIS, price premium, hotels

Session: Real Estate Investment

Room: H24, June 9, 2016, 3:30 - 5:00pm

Predictors of choice of residential housing in Kampala, Uganda

Racheael Daisy Mirembe

PURPOSE:

This study investigates the predictors of choice of residential housing in Kampala, the largest metropolitan area in Uganda. The city is growing exponentially with a diverse population estimated at 1.5 million and so there has been a steady growth in the residential market. The city is working on a range of housing solutions to meet the market needs. The study will draw from the APH Model comprising of the three key dimensions: mobility, community facilities, and community social capital to examine whether, when choosing a housing option, decision makers are subject to a variety of influences.

METHODOLOGY

The researchers investigated the choice behavior of residential houses based on a sample of 384 respondents and adopted the exploratory, cross-sectional and quantitative research designs in this study. The data was collected through a five-point scale questionnaire survey, coded using Epi Data and analyzed using SPSS.

FINDINGS

Findings suggest that there is a positive relationship between residential choice and mobility, community facility and community social capital.

PRACTICAL IMPLICATIONS: Findings suggest that ease of mobility, access to amenities and community social capital are key determinants in influencing the tenants' decision on choice of residence.

ORIGINALITY: The methodology applied in this paper provides an innovative way to measure choice of residential housing among tenants in developing countries.

Corresponding Author: Racheael Daisy Mirembe (rmirembe@mubs.ac.ug)

Keywords: residential choice, tenants, housing, Uganda, mobility

Session: Africa Session a

Room: H25, June 9, 2016, 3:30 - 5:00pm

Real estate in Sub-Saharan Africa for the first-time investor

Maria Augusta Wiedner
Cambridge Finance

In real estate investment, timing the market is the main driver of returns. Therefore, the demonstration of investment skills and its contribution to value is meaningful. The efficient allocation of scarce investor capital requires making an informed choice among funds based on an adequate assessment of their relative risk and reward profiles. However, in contrast to developed markets that have been well researched, the drivers of the private real estate return-generating process in the Sub-Saharan Africa remain insufficiently researched. Data on rents, yields and property rights are hard to obtain.

This paper examines the investment case for private real estate funds in Sub-Saharan Africa. Special attention is placed on the current investment potential and risks faced by the international investment community as they look into deploying capital in the continent.

Despite the fact that GDP per capita in Sub-Saharan Africa accounts for only 17 percent of the global figure, the region is growing at a faster pace than the world. By 2040, Sub-Saharan Africa is expected to close the gap to the world. Nigeria, our forecast shows, should see GDP per capita parity as early as 2025.

Contributing to GDP growth is rising commodity prices, especially oil in Nigeria and Angola where it is the main export product. Although commodity prices have since plateaued or fallen, the region's demography continues to fuel rising output and consumption. The quality of life of the African people has improved and a new consuming group has emerged: the middle class.

With the GDP of Sub-Saharan African economies expected to grow almost twice that of the world's growth, a population boom and overall increased consumer power, the international real estate investment community is closely assessing the potential of real estate investments in Sub-Saharan African countries.

The long-term prospects of real estate investment in Sub-Saharan Africa are appealing. GDP is expected to grow, backed by a young population and a fast growing middle class. However, currency instability, land ownership risk, political risk, lack of transparency and corruption underpin the main issues relating to private real estate investment in the region.

Keywords: African real estate, Sub-Saharan Africa, Private real estate, Real estate investment

Session: Africa Session a

Room: H25, June 9, 2016, 3:30 - 5:00pm

An examination of rental housing contracts in Ghana: Legal versus economic perspectives

Owusu-Ansah Anthony

Ghana Institute of Management and Public Administration (GIMPA)

Ohemeng-Mensah Derrick

Ghana Institute of Management and Public Administration (GIMPA)

Raymond Talinbe Abdulai

School of Built Environment, Liverpool John Moores University

Severe housing problem experienced by most cities in the developing world is a concern to governments and policy makers all over the world. This is the case because housing is a basic necessity of life. Renting is the most common type of tenancy in most urban areas in Ghana. Due to the demand pressures existing in the market, most residents in the cities have difficulty entering and surviving in the rental market. This study examines the rental housing markets in Accra and Tema cities of Ghana. The study uses both the quantitative and qualitative methods to (i) examine empirically, the factors that determine the rental values; (ii) investigate the economic implications of the rent advance payment system from the perspective of both the tenant and the landlord; and (iii) assess the extent to which both landlords and tenants are protected by the legal system in Ghana. Interviews with 325 property owners and 344 tenants reveal that there is high cost of renting due to the shortage in the market. Both the tenants and landlords are aware of the severe shortage and the landlords take advantage of this by charging rent advance of mostly two years so that they can use the money for investment. Even though this contravenes the Rent Act of 1963, the tenants are afraid to take the landlords to the court for the fear of being thrown out or refused the accommodation. The study also reveals that some of the tenants actually convince the landlords to accept the bulk payment because they are afraid the landlords can increase the rent when the short term tenancy expires. The few cases sent to the courts did not see the landlords being punished severely and in most of them, the parties were asked to do an out of court settlement. That is information asymmetry largely exists in the rental market. A simple multiple regression

shows that location is the most influential factor in determining rental values in Accra and Tema cities of Ghana. Policy recommendations have been proposed to help solve the problems in the current rental market system in Ghana.

Keywords: Rental Housing, Rental Value, Ghana Rent Act, --, Rent Advance Payment

Session: Africa Session a

Room: H25, June 9, 2016, 3:30 - 5:00pm

The effect of housing price on housing affordability in Kampala, Uganda

Racheael Daisy Mirembe

Lecturer

Augustine Matovu

Lecturer

Isaac Nabeta Nkote

Senior Lecturer

Residential property market in Kampala has experienced significant growth over the past years with house prices rising exponentially. As economic theory has explained, house price movements is inherent with the regional economics and regional demographics such as income, cost of capital, population change. However increasing house prices could lead to lack of shelter to the individuals renting to some extent. Under any circumstance, the need for housing as a basic necessity persists. The research was intended to analyze house price with regard to affordability in the residential rental housing of Kampala. Single family units as opposed to condominiums were examined. The study draws from the 30/40 rule of housing affordability and the hedonic regression approach of house prices and examine whether the income of individuals in Kampala spent on rent has an effect on the affordability.

A sample of 384 respondents was interviewed using closed ended questionnaires in the five division of Kampala and exploratory, cross sectional and quantitative research designs were adopted in this study. The data was collected through five point scale questionnaire, coded using Epi data and analyzed using SPSS. Regression and correlation tests were also run to establish the relationship and impact of independent variable on the dependant variable.

Authors: Rachael Daisy Mirembe, Augustine Matovu, Isaac Nkote (PhD), and Nabirye Immaculate.

Corresponding Author: Rachael Daisy Mirembe (rmirembe@mubs.ac.ug)

Keywords: House price, uganda, housing affordability, real estate

Session: Africa Session a

Room: H25, June 9, 2016, 3:30 - 5:00pm

An Examination of Agency Conflicts in Property Management in Infant Markets

Rebecca J Milamo

Executive Assistant at Tanzania Institution of Valuers and Estate Agents (TIVEA)

Graduate Estate Officer at National Housing Corporation (NHC)

Member African Real Estate Society (AfRES)

Moses Mpogole Kusiluka

Ministry of Lands, Housing and Human Settlements Development - Tanzania

Property management sector in Tanzania is still at its development stage, which is likely to expose it to more acts of opportunism owing to the inadequacy of institutions to regulate the conduct of various contracting parties. This study aimed at examining the nature, extent and mitigation techniques of agency conflicts in property management in Tanzania. It involved exploring activities of selected large institutional investors. Data collection entailed interviews with senior official representatives of the selected institutional investors, property management firms and reviewing management contracts and reports. The study revealed that property management practice in Tanzania is exposed to agency conflicts due to lack of transparency and comprehensive institutional framework for guiding the practice. The practice was noted to be exposed to both adverse selection and moral hazard problems. Property management firm selection process exposed the investors to adverse selection. Inadequate experts and non-payment of letting fee exposed them to moral hazard. Similarly, property management firms were exposed to adverse selection in the process of hiring their professional staff. Moral hazard was mainly associated with receiving rent in cash, mismanaging service charge account, and dishonesty and non-committed staff. Performance incentives, contract term and monitoring were noted to be commonly employed by principals in mitigating agency conflicts. Moreover, slight deviation of theory and practice in mitigating agency conflicts such as provision of long-term contracts and stock options was noted. To address some problems, it is recommended that a specific law catering for property management practice should be enacted. A regulatory body and professional institutions should also be

formed to strengthen the profession, enhance transparency and protect the interests of different parties. Furthermore, institutional investors should restructure the contracts and employ more property management experts.

Keywords: Agency Conflicts, Property Management, Real Estate, Institutional Investors, Tanzania

Session: Africa Session b

Room: H26, June 9, 2016, 3:30 - 5:00pm

Causes and Types of Building Defects in Ghana's Real Estate Industry: Perception of Private Developers and Homeowners in Accra

Lewis Abedi Asante

Department of Estate Management, Kumasi Polytechnic, Kumasi, Ghana

Dennis Papa Odenyi Quansah

Mobus Property Developments, Accra, Ghana

This study finds out the types and causes of defects in buildings developed by private real estate developers in Ghana. The study adopts a combination of convenience and stratified sampling methods to select eight (8) private developers and thirty-eight (38) homeowners in Accra. Data was collected with a questionnaire. It was also found that defective plumbing, wall cracks and faulty electrical wiring were the commonest types of building defects. These defects were mainly caused by improper installation of materials, usage of defective materials and poor workmanship. This paper recommends, among others, that private developers should strictly supervise artisans and sub-contractors during the construction stage to ensure that the appropriate construction and installation procedures are adhered to.

Keywords: building defects, causes and types, homeowners, private developers, Accra

Session: Africa Session b

Room: H26, June 9, 2016, 3:30 - 5:00pm

Executive Real Estate Education & Research Projects in Africa - Cooperation between Universities in SSA and IREBS

Karl-Werner Schulte

IREBS International Real Estate Business School, University of Regensburg

Sven Bienert

IREBS International Real Estate Business School, University of Regensburg

Tobias Just

IREBS International Business School, University of Regensburg

Sven-Marten Schulte

There has been a remarkable progress in Real Estate Education and Research at African Universities since the beginning of the 21st century. More than 20 universities offer Undergraduate Courses, some also Master Courses. However, there is still a lack of Real Estate Executive Education Programmes which are designed for practitioners in the real estate industry. The authors want to discuss a new format of executive education, which is currently developed by IREBS and which is based on a series of "summer schools" in cooperation with partner universities in African countries.

The second topic is how Real Estate Research Centers in Africa and Europe can apply for joint research projects and organise the cooperation process.

Keywords: Education, Africa, Summer school, Cooperation, IREBS

Session: Africa Session b

Room: H26, June 9, 2016, 3:30 - 5:00pm

Overpricing, Market Outcomes, and Advertising Effectiveness

Moritz Lukas

Business School, University of Hamburg

Vito Mollica

Macquarie University, Sydney, Australia

Markus Nöth

Business School, University of Hamburg

Stefan Trück

Macquarie University, Sydney, Australia

This study investigates whether and to what extent the effectiveness of advertising is limited by overpricing of the advertised good. Using a unique dataset from the Australian residential property market, we find that 1) advertising is effective in increasing a property's sale hazard and 2) advertising effectiveness is significantly reduced by overpricing. The monotonous decrease of advertising effectiveness with the extent of overpricing suggests that potential buyers are aware of the existence and the extent of overpricing. These patterns cannot be explained with absolute price levels and shed new light on the effectiveness of advertising relative to pricing aspects.

Keywords: Behavioral Economics, Real Estate Economics, Advertising, Housing Markets

Session: Residential Real Estate

Room: VG 235, June 9, 2016, 3:30 - 5:00pm

The House Price-Vacancy Curve

Oliver Lerbs

*Centre for European Economic Research (ZEW), Research Department
International Finance and Financial Management*

Markus Teske

*Centre for European Economic Research (ZEW), Research Department
International Finance and Financial Management*

Individual selling prices and vacancy rates in the housing market render a close analogy to the „wage curve“, a popular concept in labor economics that describes how individual wages decrease with higher local unemployment.

While housing search and matching models strongly suggest a stable inverse relationship, there is still a lack of convincing empirical research on the sensitivity of house prices to local vacancy variation. Based on almost 8,000 single-family home transactions and controlling for a broad range of property- and neighborhood-level characteristics in hedonic regressions, this paper confirms a robust negative link between individual home prices and residential vacancies. The economic size of the relationship is very similar across the three analyzed states: a doubling of the vacancy rate at the municipality level is associated with an 8-12% discount in selling prices, yielding evidence of a „house price-vacancy curve“.

Keywords: House prices, Housing vacancy, Hedonic regression, Wage curve

Session: Residential Real Estate

Room: VG 235, June 9, 2016, 3:30 - 5:00pm

Does Hedging Matter for Household Finance? Evidence from Hedging Housing Price Risks with Exchange Traded Options

Li Bao

*Department of Finance and Business Economics, Faculty of Business
Administration, University of Macau*

Mingyan Cheung

*Department of Finance and Business Economics, Faculty of Business
Administration, University of Macau*

Stephan Unger

University of Vienna

Hedging activities with housing derivative is rare. In this paper we analyze the benefits of hedging downside risk of housing prices to U.S. home owners using the standard exchange traded option contracts on a set of well developed U.S. home price indices. Guided by a simple recurrence model, we derive a set of inter-temporal relations between hedging benefits, interest costs and wages of a home owner. Using comprehensive data of derivative markets of the S&P Case-Shiller Home Price Index, we estimate a hedging benefit of around 6% of her estimated house value. For an ordinary U.S. home owner this would be ten times her option costs. We extend this estimation to forced home seller to strategic home seller. This benefit is robust to other simulated option series with a variety of expiries and sizes of income shocks. We find that the use of exchange traded housing derivatives could generate significant saving that should be explored by all U.S. households. Further we find that improvement of the housing derivatives market liquidity would increase generated savings.

Keywords: Household finance, house price hedging, real estate derivatives, Case-Shiller index, strategic behavior

Session: Residential Real Estate

Room: VG 235, June 9, 2016, 3:30 - 5:00pm

Dense urban cores: Are they becoming breeding grounds and targets of terrorists?

Sofia Dermisi

University of Washington

In recent years terrorists have increasingly targeted multiple highly populated areas within an urban core with the most recent one being in Paris, France. The reasons for coordinated attacks in dense urban cores are many, including media coverage, mass casualties, security force dispersion/distracted and instigation of fear to name a few. Beyond the short to medium term effect these attacks have on the population and real estate assets, terrorists use their networks through a dense core for concealment, preparation, scouting for potential targets as well as short-term sheltering. The paper analyzes previous attacks, identifies lessons learned and provides various proactive recommendations. It also raises certain concerns especially in light of the significant inflow of illegal immigrants and those claiming refugee status across Europe who are petitioning asylum, which may not be granted. A possible denial of asylum will create significant tensions within the established and non-established holding areas of these masses with possible spoil over effects in urban cores.

Keywords: Urban core, terrorism

Session: Urban Economics & Planning

Room: VG 002, June 9, 2016, 3:30 - 5:00pm

A Spatial Analysis of Office Rent Determinants

Kerem Yavuz Arslanli

Istanbul Technical University

Multi Center development of Istanbul shifted the CBD and new sub centers emerged along east and west coast of Marmara shoreline. The recent 3rd bridge construction and proposed 3rd international airport on the northern part of the city, commercial activities will shift according to this new higher level of planning agenda. This paper analysis the determinants of office rents with respect to district level of commercial activity, proximity to external amenities, accessibility to means of transportation, sub district level income, house prices and demographics.

Keywords: Office Rents, Spatial Analysis

Session: Urban Economics & Planning

Room: VG 002, June 9, 2016, 3:30 - 5:00pm

The distribution of retail rental value and product variety under a complex formation of urban shopping areas: the interactivity under bid-rent

Tony Shun-Te Yuo

*Department of Real Estate and Built Environment
National Taipei University*

One of the fundamental theories for determining rental value and spatial distribution of a retail clustering area is the Bid-rent. The highest bidder is able to obtain the best location then the second, third, and so on and so forth, and an orderly retail pattern and the central point (with highest rental value) is then determined. However, under intense competitions and an easier transportation system in mature urban shopping areas, the highest pitch shifts from time to time, or even becoming multi-centers. And in Asian and other high-density countries, retail activities also tend to grow vertically to higher floor levels. This also alters the distribution of rental value. This research uses a unique spatial database combining the detailed product variety and rental value of central Taipei shopping area (with several sub-shopping areas) in Taiwan. The database contains over 5,000 high-street stores within an approximately 10-20 square-km area, which allows us to observe the detail patterns of retail rental value and product variety. This paper then compares the results with the bid-rent curve suggested by Scott(1970), and shows a preliminary model for the interactions.

Keywords: Retail agglomeration, Spatial Analysis, Retail real estate, High street stores, GIS

Session: Urban Economics & Planning
Room: VG 002, June 9, 2016, 3:30 - 5:00pm

Cross-media civic participation in the development of an integrated mission statement for a small town

Jan Schaaf

*University of Applied Sciences Mittweida
Faculty Industrial Engineering*

Tanja Korzer

*Leipzig University
Faculty of Economics and Management Science
Institute of Urban Development and Construction Management*

Small towns, especially in peripheral locations, are a specific type of town in Germany with significant problems. Population and employment decline and economic underdevelopment often combined with rising unemployment and low incomes and purchasing power as well as a loss of centrality functions (frequently leading to financial difficulties and the downsizing of underused social, transport and technical infrastructure) severely reduce local authorities' flexibility. As a result, town centres become less and less attractive as the quality of urban amenities such as the retail sector declines. Although widespread in eastern Germany, the problem of the shrinkage of small towns also exists in parts of western Germany. Tackling these sometimes very complicated issues presents an enormous challenge for small towns' local authorities. One of the main aims is to avoid a downwards spiral that could prevent the consequences of shrinkage from being dealt with in an active, creative manner.

How should a town afflicted with such problems respond? First of all, the situation needs to be accurately assessed by the council and the local authority. Furthermore, the involvement of key actors from the business community and the general public is crucial for the assumption of direct responsibility and civic participation as well as the adoption of a flexible, open-minded response to difficult local circumstances.

The project 'Zukunftsstadt Mittweida' ('Mittweida – Future Town') addresses this need for civic involvement. Mittweida is a unique small town in the administrative district of Central Saxony since about 5,000 of its 15,000 inhabitants are students. Accordingly, the population can be divided into long-established residents on the one hand and the constant influx and departure of students and other new citizens on the other. Encouraging the participation of this heterogeneous community requires new approaches because traditional methods such as public meetings have frequently been observed to reach just a fraction of the population. Therefore, different target groups will be addressed, informed, motivated and included in the project using a variety of media, such as local papers, local radio stations

and social media as well as personal interviews. This cross-media strategy will enable the collection, collation and discussion of the most urgent needs, ideas and visions from as many people as possible. For the first time, the inhabitants of Mittweida will be given an opportunity to contribute to their town's development and to shape its future.

Keywords: civic participation, cross media, small town, general urban mission statement

Session: Urban Economics & Planning
Room: VG 002, June 9, 2016, 3:30 - 5:00pm

Master Thesis Work in Real Estate Education: Status Update towards Open Access

Bob Martens

TU Wien

On the occasion of ERES 2011 the issue of access to thesis work along with issues of visibility and accessibility was for the first time in the focus of attention. The main question in this regard is whether completed master theses are made publicly available by universities, and, if so, to what extent and by which means.

Several degrees of access can be identified. The lowest level is to be characterized by disseminating basic bibliographic data, such as title, author and year of publication. However, this allows only to document that a certain thesis exists. More preferably also an abstract is made available. It can be assumed that the final approved full version must be handed in as hardcopy and/or digital (PDF-) file. The latter allows for storage on the internet or in a library catalogue. As a matter of principle certain limitations on access can be executed. For example, only users within the university domain are allowed access to the full text versions.

This contribution will deliver an update on the current state of the art and is considered to offer thought-provoking impulses possibly leading to the emulation of enhanced access at the own institution.

Keywords: Academic output, Open Access, Research topics

Session: Education & Ethics in Real Estate

Room: VG 004, June 9, 2016, 3:30 - 5:00pm

Learning from memorable spaces – an experiment in creating student-centred teaching and learning environments

Pieter Le Roux

*Academy of Hotel and Facility Management,
NHTV Breda University of Applied Sciences
Breda, Netherlands*

This paper presents the outcomes of an experiment on how the physical learning environment contributes to the overall learning experience of students. The case reflects on the adaptation an existing classroom in order to create a learning environment that is more student-centred and able to elicit a stronger feeling of ownership among students. Although the experiment was aimed at addressing a specific situation, subsequent experience with the newly created learning space has resulted in on-going research contributing to policy formulation in support of organisational decision-making on the planning, design and use of teaching and learning spaces on the new campus of the NHTV University of Applied Sciences.

The intervention occurred as the outcome of a seminar discussion on “Learning from memorable places” as part of the Specialisation Hospitality Innovation and Imagineering at the Academy of Hotel and Facility Management at NHTV University of Applied Sciences. The course setup required students to reflect on, and explore how memorable experiences and places can be used as conceptual building blocks for creating memorable teaching and learning environments. Identification of experiences and the characteristics of the physical environments related to them, resulted in the formulation of a vocabulary of phrases which were subsequently translated into an intervention in the existing learning environment. In order to document this intervention, the existing conditions prior to the intervention, the objectives with the intervention, and the subsequent implementation thereof, the Accommodation-Choice Model (Van der Voordt et al., 2011) – a process model for decision-making on organisational real estate – was applied.

Results of this on-going experiment has shown the added value of creating more interactive teaching and learning environments to the overall learning experience of students. Personal reflections by students have indicated the extent to which students experience a greater sense of ownership of, as well as a heightened level of involvement in their learning environment. Overall, all students who participated in this experiment during the course mentioned, confirmed that the new learning environment created during this experiment, resulted in a more memorable overall learning experience.

The experiment as discussed in this paper is a first of its kind approach to exploring the enabling possibilities of more student-centred learning environments.

Keywords: decision-making, experimental, teaching, student-centred, learning

Session: Education & Ethics in Real Estate
Room: VG 004, June 9, 2016, 3:30 - 5:00pm

Leveraging real estate education with students' real-world observations: a diary approach

Michiel Daams

University of Groningen

Tom Geurts

The George Washington University

Frans Sijtsma

University of Groningen

This paper discusses how real estate education can benefit from applying a diary approach. A diary approach can enable a main driver of students' motivation to learn: curiosity about their own real-world observation. The utilization of real-world observation by students seems to receive limited attention in existing real estate educational programmes. In general, educational programmes prepare students for professional involvement in property by providing them with a conceptual reference. This conceptual reference is, however, often built on a mere theoretical understanding of mechanisms that abstract from the real world. It appears useful that, in addition to abstract reasoning, students are taught to reflect on how real world developments fit to textbook theory. Such reflective skills could enlarge the public and private proceeds of their future professional actions in the field of real estate. With this in mind, we share experiences from a recent course in which students of the University of Groningen's Master's programme in Real Estate Studies were encouraged to keep diaries, which most of them did. In their diary entries, students described current real estate issues, projects, or policies which they somehow encountered or read about. Important is that each the subject of each entry somehow raised the student's wonder, leading him or her to question something, or to explain their observation using theory. One or more entries of each student's diary were discussed in the classroom. In so doing, students participated actively, under the teacher's supervision, in group debates about their observations. This allowed students to share knowledge(claims) about their fellow students' observations, debating how these can be framed by existing theory or by making slight alterations to theoretical models. We argue that a diary approach can be a useful supplement to the theoretical and methodological core of a real estate programme. The creation of a diary, and debate about its entries, develops both students' reflective skills and

their skills in combining real-world observation with the knowledge they are taught. As a result, the diary approach in this paper may support a sound professional involvement in property by university graduates.

Keywords: diary approach, real-world observation, teaching method,
Nederland, Nederland

Session: Education & Ethics in Real Estate
Room: VG 004, June 9, 2016, 3:30 - 5:00pm

Requirements for an Interdisciplinary Real Estate Master's Program: A Stakeholder Approach

Annette Kämpf-Dern

HafenCity Universität Hamburg

Katja Roether

HafenCity Universität Hamburg

One and the same property simultaneously serves four distinguishable purposes: It supplies companies with a broad field of profit-generating business opportunities, provides space for its users, generates income as an asset, and shapes our environment. In a globalized, and increasingly regulated and complex world, more and more specialists are needed to ensure that real estate fulfills each of these purposes. Those specialists, including urban planners and architects, civil engineers, business economists, sociologists and lawyers, are experts in their disciplines, which they studied in respective Bachelor's and Master's programs. Yet, as it is this one piece of property that is supposed to fulfill all of the named purposes, there also need to be people or companies that develop an appropriate holistic concept, mediate between conflicting objectives, communicate the vision, coordinate the specialists, and ensure cooperation for overall success.

This paper seeks to identify the knowledge, skills and abilities necessary to address real estate issues in a holistic and systemic way. The ultimate goal is to develop a new type of Master's program curriculum that effectively provides the market with real estate managers and leaders who are able to professionally and sustainably deal with the complexity of today's real estate issues.

Using a mixed-methods approach, three groups of stakeholders are asked about their expectations/requirements of competences necessary to work in interface-related jobs. This includes employers in real estate sectors with many interfaces (e.g. project development, asset management, or CREM) as well as professors and students of the built environment. Based on these explorations, a curriculum concept is developed that is member-checked by those stakeholders in a second round.

Finding: In interface-related jobs, very broad knowledge and an understanding of the respective relationships are the base for effective and efficient action. Even more important are professional skills and abilities such as analytical and problem solving competency, creative thinking, communication, change and social competencies. To acquire or deepen those competencies during a two-year Master's program, the student body

needs to be heterogeneous, covering fields of real estate backgrounds. The didactical concept should be based on problem-based and project-oriented learning. To master those issues, entering requirements for the program need to be restrictive.

Keywords: Interdisciplinary Curriculum, Real Estate Masters Program, Stakeholder Analysis, Mixed-Methods Approach, Qualitative Data Analysis

Session: Education & Ethics in Real Estate
Room: VG 004, June 9, 2016, 3:30 - 5:00pm

The significance of property fund management in India

Ashish Gupta

RICS School of Built Environment

India is one of the fastest growing major economies of the world, with Gross Domestic Product (GDP) growing at 7.3% during 2015. The real estate sector is an important growth driver for the Indian economy and is estimated to contribute 6.3% to the GDP, providing employment to 7.6 million people in 2013. This contribution to GDP is expected to double by 2025 to become approximately 13% and employment in the real estate sector is expected to increase to 17 million people.

Historically, real estate development was funded by High Net-worth Individuals (HNIs) in India for buying land and pre-construction activities. This mode of unstructured financing had been both in the form of debt and equity. Post – 2005, with the opening up of FDI in real estate development in India, private equity became an alternate source for funding for project acquisition and development. Unlike other Asian real estate markets (example: China, Singapore and Hong Kong), very limited previous research is available.

This study will critically analyse the property fund management industry in India. Looking at its evolution since 2005, this was the first time the government of India allowed FDI in Indian real estate through Press Note 2. In the last decade, fund management in Indian real estate has evolved from an initial exploration phase (2005 – 2008) to post - Global Financial Crisis (GFC) phase (2008 -2013) to the present (2013-15). These different phases were characterised by the investors (investment style, investment mandate, fund manager background, etc.), investments (quantum of investment, geographical spread, number of transactions), receivers (kind of developers, listed/ family owned), market characteristics (growth drivers, industry dynamics and its state, alternate investment options) and regulatory framework in banking and FDI in real estate and its impact on the sector. This study will use secondary data from various sources including various published industry and brokerage reports and data on private equity transactions (example: Preqin, Venture Intelligence, etc.) since the opening of this important sector.

Overall, this paper will identify the context for property fund management in India in a local, regional and global context, as well as articulating the drivers for property fund management in India going forward.

Keywords: India, Real Estate, Investments, Property fund management, FDI

Session: Real Estate Investment

Room: VG 005, June 9, 2016, 3:30 - 5:00pm

A document classification standard for real estate management

Mario Bodenbender

*Department of Civil Engineering
Real Estate Studies
University of Kaiserslautern*

Björn-Martin Kurzrock

*Chair of Real Estate Studies/Department of Civil Engineering
University of Kaiserslautern*

Real estate investments usually have long investment horizons and involve large transaction volumes. There is a substantial need for data about the structure, condition, equipment, operation and contractual relationships pertaining to a building. Data are essential to gain information and, ultimately, knowledge, competence and competitive advantages.

Investors require that all relevant information is sought, proved, saved, processed and made accessible efficiently from anywhere and anytime over the entire lifecycle of a building. However, due to the lack of widely acknowledged standards (e.g. methods, tools, structures) for managing real estate data, the structuring, providing and managing of a lifecycle-oriented building documentation still remains challenging. A recent survey of real estate practitioners (n=108) has shown, that the processes for filing and structuring documents are based on a multitude of policies and company-specific guidelines. This complicates data migration and data exports in real estate transactions as well as exports for audits or certifications of buildings (Bodenbender/Kurzrock 2015).

This paper highlights the relevant documents and information for specific cases in real estate investment (e.g. due diligence, building management). In particular, the focus is on the consistent structuring of an information inventory, on determining information sources and on the identification/standardization of relevant information and their underlying data in unstructured documents (e.g. service provider contracts, maintenance protocols, planning documents etc.). This will provide the basis for software systems to process relevant data and create timely information and knowledge over the entire lifecycle of a building. In particular, the completeness and accuracy of data can be improved from the perspectives of all participating parties even in partial processes.

The paper presents a model that will unify existing approaches for the structuring, storing and exchange of documents and lead to the development of a document classification standard. This consistent,

unambiguous and overlap-free document standard shall make possible the migration of documents and data across building lifecycles when different parties, structures and software systems are involved.

Keywords: document classification, knowledge management, real estate data, due diligence, data room

Session: Real Estate Investment

Room: VG 005, June 9, 2016, 3:30 - 5:00pm

Assessment of Business Viability in Co-working Office Spaces in India – A Study from the Provider and End-user Perspective

Shipra Goel

Assistant Professor, Entrepreneurship - School of Real Estate, RICS School of Built Environment

Sunil Agarwal

Associate Dean and Director, School of Real Estate, RICS School of Built Environment

Co-working space is an office sharing arrangement where people from varied professional backgrounds, interests and companies work in the same place. They are primarily utilized by independent workers, freelancers, entrepreneurs, typically anyone looking for collaboration, work flexibility and base services like internet, food and office support.

Co-working space concept pre-dominantly started and evolved in the US and picked-up in many countries. A report by Intuit, a software service provider, says that over 40% of the workforce in the US will be either freelancers, temporary, part-time or self employed by 2020.

As per the NASSCOM India report, the number of start-ups in India has crossed 4,200 in the year 2015 and by 2020 there will be more than 11,500 start-ups in India. With the advent of start-up revolution and international companies establishing base in India, co-working trend has picked up in the commercial real estate boosting demand for such office spaces. Options are available to the Indian entrepreneurs to choose within cities like Delhi NCR, Bangalore, Hyderabad and Mumbai. More than 100 co-working spaces have come up in India in the last three years and numbers are rising.

Now, the big question is are the co-working spaces profitable? If co-working space providers can sustain their business model in the long term?

The primary purpose of this paper is to assess the business viability of co-working office space in India and to identify the key factors for a profitable co-working space from the provider and end-user point within Delhi NCR and Bangalore geographies. Bangalore being more evolved and active co-working space and start-up hub in India and Delhi NCR being the upcoming co-working space hub, the two cities are chosen for the purpose of study.

The paper aims to study the effect of revenue models, rent models, age of the space, number of members, capacity utilization, value-added services, location, ambience, user profile on the overall profitability of the co-work space and on the decision of end users in the two cities.

Two questionnaires, one for the service providers and the other for the end users in the two geographies are designed. The primary data collected is supported with secondary research from news articles, journals, publications and white papers for the purpose of analysis. The research results can be used as a reference for making investment decisions in co-working office space segment within Delhi NCR & Bangalore.

Keywords: Co-Working Office Space, Business Viability and Profitability, Investment Decisions, India - Delhi NCR and Bangalore, Commercial Real Estate

Session: Real Estate Investment

Room: VG 005, June 9, 2016, 3:30 - 5:00pm

Persistent Performance Among Core Open End Funds

Stephen Ryan

INREV

Arvydas Jadevicius

Henri Vuong

INREV

Matthias Thomas

INREV

Despite the familiar caveat that past performance is no guarantee of future performance, it is possible that persistent performance in non-listed real estate is real and significant, and therefore should not be ignored. In this analysis we look at past performance of non-listed real estate funds from three angles:

(a) Comparison of historic performance against a random distribution: The performance of funds is ranked by either quartile or half, and tracked over time to assess whether funds can retain their initial rank. The number of funds remaining within their original half or quartile grouping is compared with a random expectation, and any deviations from randomness imply that performance persistence may exist;

(b) Duration of performance: We estimate the maximum amount of time a fund stays in a particular grouping. By focusing on top and bottom funds, we are able to make comparisons against expected duration and draw conclusions about the sustainability of performance.

(c) Pathway analysis: As and when funds move from one grouping to another, we analyse whether certain routes taken are more common. Pathway analysis is of interest because the impact of relatively stable routes (such as moving from the second quartile to the first and then back to the second) is clearly less than the impact of more radical routes (such as moving from the first quartile to the fourth and staying there).

For data we use core open end funds in the INREV Annual Index universe. The number of such funds has grown from 17 in 2001 to 133 in 2014; correspondingly, aggregated GAV has increased from €7.8 billion to €101.8 billion. Over this period 162 funds in total have been in and out of the universe.

One of several results emerging from the study is evidence that sticking to an originally top quartile performing fund for a prolonged period of time can result in sub - par returns. Top quartile performance rarely endures, and

once top quartile ranking is lost it is very rarely recovered quickly. It maybe better to focus on funds that are solid top half performers. This and other results from the study may be helpful in manager selection and in shaping expectations regarding future performance.

Keywords: Non-listed funds, Performance, Persistence, INREV, Europe

Session: Real Estate Investment

Room: VG 005, June 9, 2016, 3:30 - 5:00pm

Smart tools on campus: a literature study connecting real estate management objectives and positioning technologies

Bart Valks

*Dept. Management in the Built Environment
Faculty of Architecture
TU Delft*

Tim van Hoek

*Dept. Management in the Built Environment
Faculty of Architecture
TU Delft*

Monique Arkesteijn

*Dept. Management in the Built Environment
Faculty of Architecture
TU Delft*

Alexandra Den Heijer

*Dept. Management in the Built Environment
Faculty of Architecture
TU Delft*

One of the long-standing issues in the field of corporate real estate management is the alignment of an organisation's real estate to its corporate strategy. Despite extensive research, existing approaches have not had much uptake in practice and fall short in a number of aspects (H 2011). The hypothesis in this paper is that indoor positioning technology enables us to accurately observe users and measure their behaviour real-time, which improves alignment in two ways: firstly, by improving the current match between supply and demand by giving end users access to this information to help them find vacant work places or their colleagues, and secondly by improving decision-making for the future match by delivering more accurate insight into space use. Reports suggest that significant improvements in space utilization are possible. In the UK, the average utilization for educational space is 27% (SMG 2006); the report suggests that an improvement of 3% (from 27% to 30%) can lead to 10% savings in costs and m².

The objective of this paper is to provide a framework in which existing research in indoor positioning is positioned in relation to the objectives in CREM. To the best of the authors' knowledge such an overview does not exist. In the studied papers on positioning techniques the added value for real estate management is just briefly touched upon. Concepts such as better supporting user activities or reducing energy costs are shortly

described as potential benefits of the technologies demonstrated in the papers, and almost never are these benefits quantified.

In the literature five measurement objectives can be distinguished: measuring frequency, occupancy, location, movement and behaviour. Measuring frequency is the simplest, after which each subsequent objective becomes more complex. The first findings suggest a clear relationship between these measurement objectives and (1) the measurement method, such as Wi-Fi or Occupancy sensors and (2) the objectives in real estate management, such as supporting user activities and reducing m2 footprint.

The framework presented in the paper provides a useful tool for both practitioners and researchers. For researchers, REM objectives that are not or only slightly touch upon provide a starting point for future research and applications. For practitioners, the framework provides useful information that can help them match their organisation's objectives and priorities to the prevalent measurement methods.

Keywords: corporate real estate management, alignment, indoor positioning, management information, decision-making

Session: Institutional Corporate Real Estate
Room: VG 024, June 9, 2016, 3:30 - 5:00pm

Measuring the added value in Corporate Real Estate alignment by using the Preference-based Accommodation Strategy design procedure

Monique Arkesteijn

*Dept. Management in the Built Environment
Faculty of Architecture
TU Delft*

Ruud Binnekamp

*Management in the Built Environment
Delft University of Technology*

Hans De Jonge

*Management in the Built Environment
Delft University of Technology*

One of the long-standing issues in the field of corporate real estate management (CREM) is the alignment of an organisation's real estate to its corporate strategy. Extensive research into existing approaches brought valuable insights into steps, components and variables that are needed in the alignment process. Despite that, it is not clear if existing approaches had much uptake in practice and they fall short in a number of aspects. In most models little to no attention is given to the design and selection of the alternative portfolio that adds most value to the organisation. Furthermore, university campus managers have indicated that they need better information and tools to support campus decision making.

The Preference-based Accommodation Strategy design (PAS) procedure is a tool to enhance CRE decision making and has been developed to remove these gaps. In the PAS design procedure decision makers define criteria and iteratively test and adjust these criteria by designing new real estate portfolios. The portfolio design that adds most value to the organisation, i.e. has the highest overall preference is suggested as the portfolio that optimally aligns real estate to corporate strategy. The PAS procedure is iteratively repeated with the participants in a series of interviews and workshops. Two pilot studies have been performed at the Delft University of Technology (DUT). The study into the portfolio of lecture halls showed that stakeholders were able to use the procedure successfully. This paper reports the pilot study for their portfolio of food facilities. The objective of this research is to test if participants are able to perform the PAS procedure. Therefore a mathematical model of the group decision making process is designed and tested.

This pilot study also reveals that the participants by completing the steps in the PAS procedure are able to express their preferences accordingly. They designed an alternative portfolio with a higher overall preference score than their current real estate portfolio. In addition, the design method is evaluated positively. The positive results suggest that designing a strategy by using the PAS procedure is a suitable approach to alignment. The PAS design procedure enables CRE managers to determine the added value of a real estate strategy. Because the PAS design method is generic in nature it can be used for a wide range of real estate portfolios.

Keywords: Corporate real estate management, decision-making, alignment, decision support system, preference measurement

Session: Institutional Corporate Real Estate
Room: VG 024, June 9, 2016, 3:30 - 5:00pm

A framework to identify Tangible and Intangible assets in Real Estate companies

Eliane Monetti

Escola Politécnica da USP

Daniel Britto

Escola Politécnica da USP

It is often in capital markets the prices floating of real estate companies with low correlation with what the companies are really doing in their decisions. For that reason, the discussion on how to identify by disclosure information the fair value of those companies intensified both among its managers and capital market analysts. Traditional valuation models proved inadequate and require adaptations for use in those companies, as well as the identification and characterization of value drivers. This article aims to propose a framework of value drivers (taxonomy), tangible or intangible, identifying which are the assets that have greater influence on the value generation and why this influence, enabling investors and analysts to better assess the value of companies in the sector. After a literature review as well as the analysis of the IPO Prospectus and the financial statements available to the public, taxonomy was proposed to measure the value of the real estate companies in four dimensions: property capital, human capital, market capital and relational capital. In each dimension were identified tangible and intangible assets and these related to value generation through indicators and benchmarks.

Keywords: Intangible Assets, Valuation, Value Drivers

Session: Institutional Corporate Real Estate

Room: VG 024, June 9, 2016, 3:30 - 5:00pm

CRE Strategy and decision-making within financial institutions in disrupted property markets: strategies to improve disposal of collateral real estate assets

Gheorghe Multescu

*PhD MSc BArch DipArch ARB
School of the Built Environment & Architecture
London South Bank University*

Barry Symonds

*MSc FRICS FCIOB FCABE ACIAT FQSi
Educational Consultant, London South Bank University
Managing Director, Symonds Konsult International Ltd*

Following the 2008 financial crisis many financial institutions in Europe, particularly banks, have found themselves as holders of unwanted collateral real estate assets. Few of them had prepared an effective strategy to deal with asset management and disposal. Such property assets could be both expensive to maintain and dispose.

When property markets are distressed accompanied by economic turbulences, decision-making needs to be adapted to the specific conditions and size of local market. Whilst some developed markets returned to growth faster, distressed economies are continuing to affect property markets across global developing markets. One of the main outcomes of the crisis in Central Easter European emergent property markets consisted of banking institutions being forced to hold and asset manage property assets as a result of recent defaults. The global dimension of this problem is better illustrated by the recent Chinese market turbulence, which may well lead to a similar problem for global financial institutions involved.

Clearly business strategies adopted prior to 2008 did not include a specific Corporate Real Estate (CRE) dimension. Post 2008, financial institutions needed to reassess their approach to CRE to comply with political and financial regulations set by the European Union, the European Central Bank and national financial regulators. Financial institutions became unwittingly ensnared in a dilemma which requires them to either dispose of build assets at unacceptable discounts or hold and manage those assets despite political pressure and the interests of their investors.

This paper adopts a two-fold analytical approach surrounding the decision-making process; First, what are the factors that would affect the decision to dispose of unwanted properties in the near future when the property market is disrupted? Second, what are the strategic measures that could facilitate a successful sale in the near future?

Specific findings highlight the importance of adopting a specific strategy to align Corporate Real Estate decisions with the current business strategy and the most important factors affecting the decision-making process. One of the main measures to facilitate a sale is of course to improve occupancy, despite of this not always being achievable. Thus, the paper explores new strategic alternatives that might provide future solutions.

Keywords: Corporate Real Estate strategy, Distressed Global Property Markets, Property Asset Decision-Making, Financial Institutions, Central Eastern Europe

Session: Institutional Corporate Real Estate
Room: VG 024, June 9, 2016, 3:30 - 5:00pm

The behaviors of flippers, rental investors and owner-occupiers in Singapore private housing market

Yong Tu

Associate Professor, Department of Real Estate, National University of Singapore, 4 Architecture Drive, Singapore

Yanjiang Zhang

Ph.D candidate, Department of Real Estate, National University of Singapore, 4 Architecture Drive, Singapore

Yongheng Deng

Professor at National University of Singapore

The present paper reveals the sources of housing market fluctuations by examining the interactions of three types of housing market participants: owner-occupiers, rental investors and flippers. We study their behaviors as a home buyer and as a home seller. It is found that flippers are the "smartest" group while rental investors outperform owner-occupiers in terms of fetching buying discounts and selling premiums. It is also found that, although flippers are able to adopt "good" trading pattern, their trading could trigger positive feedbacks of owner-occupiers and as a result lead to market over-pricing.

The interactions between owner-occupiers (who dominate the housing market by the number of participants) and flippers explain why and how flippers, as the smallest group by the number of participants, could drive the fluctuations of the whole housing market. We reiterate that studying the impacts of individual trading patterns on a housing market but ignoring the interactions among the participants may generate conflicting or misleading results.

The findings imply that transaction taxes, such as the stamp duties targeted at short term sellers, should always be implemented to control flippers' activities in order to stabilize housing market.

Keywords: housing market participants, trading patterns, positive feedback, interaction, transaction tax

Session: Housing Economics

Room: H24, June 10, 2016, 9:00 - 10:30am

Implications of Fiscal Policy for Housing Tenure Decisions

Anastasia Girshina

Ca' Foscari University of Venice, Italy and University of Luxembourg, Luxembourg

Many of the world's wealthy countries provide fiscal incentives to homeowners. However, the impact of such tax breaks on housing tenure decisions is unclear. Many existing policies, aimed at promoting house purchases and widely used among taxpayers, have proved to be both expensive and not targeted, thus creating controversy about their overall effect. This paper aims to shed light on the effectiveness of such fiscal incentives by providing empirical evidence on their impact on housing tenure decisions. Specifically, this work focuses on the effect of mortgage interest deduction (MID) on home-ownership in the United States. To answer this question, the panel survey data from PSID for the period 2001 to 2011 is used. To identify the effect of MID on home-ownership, this paper analyses two channels through which MID affects user cost of housing: first, changes in personal state income tax rates; second, changes in the standard deduction allowed at the state level. Variation in these fiscal policy parameters allows for the identification of the causal effect of MID on home ownership for several reasons. Firstly, in presence of MID, higher marginal tax rates lead to higher tax savings from housing, other things been equal. On the other hand, lower standard deduction increases a fraction of households that qualify for this program. Moreover, both state-level standard deductions and state personal income tax rates are set independently by each state and were revised several times during the analyzed period. This fact creates a quasi-experimental set up which allows for exploiting the difference-in-differences estimation strategy. The identification of the effect of MID on home-ownership proposed in this paper relies on large changes in fiscal policy. The largest of these changes led to an increase in income tax rate by as much as 23,9% and to a decrease in the standard deduction by 7,2% between 2002 and 2004. The estimates suggest that increases in income tax rates in a state that allows mortgage interest deduction is associated to a 2 percentage point increase in home-ownership relative to states that didn't change their fiscal policy. Furthermore, in states where more households were able to qualify for MID because of the lower standard deduction, home-ownership increased by 4,8 percentage points relative to control states. Thus, this study suggests that

MID has a positive effect on home-ownership decisions. The results are robust to a range of alternative specifications and have wide ranging policy implications.

Keywords: fiscal policy, tenure choice, mortgage interest deduction, income tax, homeownership

Session: Housing Economics

Room: H24, June 10, 2016, 9:00 - 10:30am

Housing and Mortgage Acquisition with Favors in Transition Economies

John Anderson

University of Nebraska-Lincoln

This paper employs an extensive household survey data set covering a wide range of transition countries to empirically characterize the housing and mortgage choices of households. The paper provides a descriptive overview of the types of dwellings, housing tenure, mode of acquisition, and mortgage prevalence by country. To explain the wide variation in housing and mortgage patterns across countries, empirical models of both acquisition mode (privatized, purchased or built without a bank mortgage, purchased or built with a bank mortgage, inherited or received as a gift, or other mode) and housing tenure choice (rent, own, other) are estimated using limited dependent variable methods. Furthermore, the prevalence of mortgage financing is analyzed. Data used in this study are from the European Bank for Reconstruction and Development (EBRD) Life in Transition Survey, LITS II, for the year 2010 covering 29 transition countries plus Kosovo.

Keywords: housing, tenure choice, privatization, mortgages, transition economies

Session: Housing Economics

Room: H24, June 10, 2016, 9:00 - 10:30am

Are Energy Efficiency Ratings Ignored in the German Housing Market?– Evidence from a large-sample Hedonic Study

Marcelo Cajias

PATRIZIA IMMOBILIEN AG

Franz Fuerst

University of Cambridge

Sven Bienert

IREBS International Real Estate Business School, University of Regensburg

Improving the energy efficiency levels of housing is of particular concern in the private rental market where capital costs and subsequent utility cost savings are not shared in equal measure by landlords and tenants. This problem is particularly pronounced in Germany where rental properties make up the majority of the housing stock. The present study is the largest and most comprehensive study of the value of energy efficiency in the German housing market and investigates the effect of energy efficiency ratings on rental values across 412 markets in Germany. Using a semiparametric hedonic model and an empirical sample of nearly 300k observations with full hedonic characteristics, we find strong evidence that energy-efficient rental units are rented at a premium. A survival hazard model is then used to study the impact of the ratings on time-on-market. It is found that energy-efficient rental properties tend to lease up more quickly than their non-efficient peers. This study provides a robust framework for policy makers and property companies for understanding how energy efficiency and expected utility costs of a rental property affect asking and effective rents.

Keywords: Energy efficiency, residential buildings, Hedonic model, Hazard model, German housing

Session: RentalCal

Room: H25, June 10, 2016, 9:00 - 10:30am

Incentives for energy conservation in rental houses in smart energy systems

Elsebeth Terkelsen

European Green Cities Network

Frede Hvelplund

Department of Development and Planning, Aalborg University

In Denmark the official policy is to reduce heat loss in buildings by 40-50% and the consumption of fossil fuels by 100% before 2050. This means that at the supply side we are changing from stored fossil fuels to largely fluctuating renewable energy in combination with some biomass. In order to implement large shares of fluctuating renewable energy sources, mainly wind and solar energy it is necessary to integrate power production with heat and transportation. This means that when there is a lot of wind power for instance, this can be stored in hot water tanks for later use as heat. Or in batteries for later use in cars. Concurrently some wind power is transformed, to different fuels and syngas as energy supply for periods with no wind and or no sun. And in order to integrate fluctuating wind power into the smart energy system, it is economical to have large hot water tanks, which only are useful in district heating systems. The questions now is; how can reduction in the heat loss of buildings be combined with the development of integrated smart energy systems? This has to be done in the right way, by which we mean by developing low temperature district heating systems that fits to the introduction of an efficient heat supply systems mainly based on the use of large heat pumps. So the improvement of the houses should be introduced in such a way that the houses can be heated by means of low temperatures. This fits well with insulation of the houses, as better insulated houses can get heated with less heat which in the same pipes can be supplied with lower temperature. So it is possible, but it requires a planning where the house insulation is synchronized with the new heat supply district heating systems. What also is important is that the improvement of the energy efficiency of the houses is done in time, so that the energy supply systems are dimensioned to the future energy standards. If this time synchronization of house improvements and the investments in the supply system is not done, we risk a supply system that is oversized and therefore to expensive. But it is not from a policy point of view easy to establish incentives that furthers this optimal time synchronization of supply and demand measures.

As a conclusion in the article, we will recommend policies that both make sure that the right type of house improvements are implemented and that this is done in such a way that investments in the supply and demand systems in an optimal way.

Keywords: RentalCal

Session: RentalCal

Room: H25, June 10, 2016, 9:00 - 10:30am

The residential dwelling`s rental market in Poland. Slow development.

Andrzej Rajkiewicz

National Energy Conservation Agency

The "Housing economy survey 2013", prepared by the Central Statistical Office in Poland provides that the dwelling stock in Poland counted at the end of December 2013 13,9 million apartments with a total usable area of 1012 million m², where there were 52,9 million rooms. The number of households counted to 13,5 million. In the ownership structure most dwellings belong to natural persons - approx. 7.9 million out of housing associations, over 2.5 million to natural persons in housing associations, while in the stock of housing cooperatives - 2.2 million.

The housing reform of 90-ies did not support development of specialized rental housing and led rather to privatization of the dwellings being earlier in state or municipal ownership, occupied by their tenants.

The share of buildings constructed for rental purposes only is negligible. However, 16.6% of households rent dwellings from different building`s owners types. The dominant role on this market still play municipalities, which offer subsidized dwellings for low-income families (45.57%). The pure market driven rents are usually applied by the private owners or co-owners of buildings occupied by them also (25,48%).

Ownership structure of rented dwellings in Poland 2011 %

Natural persons being owner of the building	10,17
Natural persons being co-owner of the building	15,31
Housing co-operatives	3,00
Municipalities	45,57
State Treasury	8,14
Enterprises, where tenants work	8,48
Social Housing Companies	3,75
Other entities	2,11
Not indicated	3,47
	100,00

National Census 2011 data (www.stat.gov.pl)

Most of dwellings have been constructed in Poland until 1985, according to the old energy performance requirements. To decrease the energy demand, several incentives for buildings owners are available in form of soft loans, subsidized by the state budget or ecological funds. However, the progress in this field is not sufficient in comparison to the renovation needs of the housing stock in Poland.

Keywords: dwellings, rents, energy performance, incentives, RentalCAL

Session: RentalCal

Room: H25, June 10, 2016, 9:00 - 10:30am

Energy Capitalization in the Dutch Rental Market

Dorothee Hillrichs

Tilburg University

Erdal Aydin

Tilburg University

Dirk Brounen

Tilburg University

Using a large dataset on the Dutch rental market, we investigate whether dwellings with high energy efficiency are rented out at a premium. Given the importance of the buildings sector in the energy-related greenhouse gas emissions, improving energy efficiency is a key contribution to mitigating climate change. The energy performance in the residential rental sector is of particular interest since the incentives to undertake efficiency improving investments are distorted. While the landlord has to bear the costs, the tenant benefits from reduced utility expenses. This “split incentives” problem has been put forward to explain discrepancies between energy performances in the rental dwelling stock compared to the owner-occupied dwelling stock. A solution for the landlord to recoup energy related investments is to raise the rent such that the tenant’s overall living expenses remain constant. We employ a hedonic regression approach to assess whether energy efficiency is implicitly priced on top of standard dwelling attributes. The dataset contains observations on rental rates charged in the Netherlands between 2012 and 2015 as well as information on location, age, size, type and general condition of the dwelling. Moreover, energy labels and a continuous measure of energy performance are assigned to each dwelling. This allows us to estimate the rent elasticity with respect to energy performance. Our findings indicate a positive rent premium for dwellings with high energy efficiency, but no discount on dwelling rents with poor energy performance. This result implies that tenants are willing and able to pay for improved energy efficiency. Thus, the split costs and benefits of energy related investments should not hinder landlords from improving energy efficiency of their homes.

Keywords: RentalCAL, Energy Efficiency, Capitalization, Rental Markets

Session: RentalCal

Room: H25, June 10, 2016, 9:00 - 10:30am

The status of integrating energetic qualities of buildings into valuation practice across Europe – Results from RenoValue and consequences for RentalCal

Thomas Lützkendorf

*Karlsruher Institut für Technologie (KIT)
Ökonomie und Ökologie des Wohnungsbaus (ÖÖW)*

David Lorenz

Karlsruhe Institute of Technology, Centre for Real Estate

The ability to analyse and prove the economic advantageousness of energy efficiency measures/retrofits within the existing building stock is one condition for fostering modernisation rates. In many cases, such analyses are focused on the possibilities to either reduce heating costs (tenant/owner-occupier perspective) or to increase rental values (landlord perspective). However, both landlords and owner-occupiers can additionally benefit from a further possible effect – the contribution of a building's energetic qualities to value stability and value development. As such, the question concerning the status of integrating energetic qualities of buildings into national property valuation regimes and valuation practices across Europe arises.

Within the scope of the EU-funded research project RenoValue, a training toolkit for practicing valuation professionals on how to factor energy efficiency issues into valuation practices is currently being developed and tested across several member states. The workshops and training events with industry representatives and practitioners that took place within the context of this research project also revealed additional information on current experiences and remaining barriers regarding the integration of energetic qualities of buildings into valuations across the following countries: Belgium, Germany, Italy, Poland, Sweden, the Netherlands, and UK. Within many of these countries, valuation professionals showed a high interest and motivation to uptake the issue within daily practices, but at the same time, they mentioned the lack of reliable energy performance data as one of the biggest barriers.

These and other insights from the RenoValue project are an important input for the EU-H2020 project entitled RentalCal. It becomes evident that the impact of a building's energetic qualities on its value needs to be acknowledged as an economic advantage which has to be considered within economic efficiency analyses of energy efficiency measures/retrofits. In addition, the important role of valuation professionals as "information

managers” within property mar-kets also becomes apparent. The results of the RenoValue project allow for a more realistic assessment of how to further improve the attractiveness of energy efficiency investments within the housing industry.

Keywords: RentalCal, energy retrofit, valuation professionals, valuation practice, economic advantage

Session: RentalCal

Room: H25, June 10, 2016, 9:00 - 10:30am

Linking the Real Estate Discipline's Body of Knowledge to Education

Stephen Roulac
Ulster University

The body of knowledge is a fundamental attribute of an established discipline. In the field of accounting, for instance, the accounting body of knowledge is reflected in statements of accounting principles. In most disciplines an introductory textbook is presumed to reflect that discipline's body of knowledge.

While there have been a select number of research papers addressing the property discipline's body of knowledge, heretofore a comprehensive, integrating, inclusive, and contemporary statement of the discipline's body of knowledge has not been provided. This paper addresses this pressing need. Beyond providing a rationally organized statement of the discipline's body of knowledge, the presentation is extended to address explicitly how that body of knowledge appropriately is included in real estate education.

The consideration of the body of knowledge in real estate education is addressed at multiple levels, ranging from the introductory principles class for a student or individual who had no prior exposure to or knowledge of property and real estate through elective classes that would explore certain topics – i.e. finance, investment, appraisal, development, etc. – to develop the coverage of that subject more fully; and through more advanced treatment of certain of these topics. This paper provides suggested ways of integrating concepts of the body of knowledge some 15 different courses that might comprise a real estate curriculum.

This paper makes the significant contribution of organizing documents in the body of knowledge (BOK) and then linking and connecting that BOK to real estate education.

Keywords:

Session: Educational Panel
Room: H26, June 10, 2016, 9:00 - 10:30am

Multi-criteria evaluation of resources and the surroundings in the analysis of the housing market

Slawomir Palicki

Poznan University of Economics and Business

Methodology of multi-criteria analysis allows you to talk mileage and create a description of the phenomena of a complex nature. Multi-criteria analysis turns out to be especially useful in modeling situations when at the same time there are conflicting or competing attributes, where high achievement of one criterion (purpose attribute) may entail lower realization of another criterion (or attribute). In particular, multi-position, complex assessments of market phenomenon requires advanced methods of computer aided. The author proposes the use of multi-criteria evaluation in the construction of market (social) housing image and attractiveness of stocks in this market. The rating takes into account the attributes of apartments and their proximal and distal environment, which reflects the actual perception of resources by market participants (users homes). Usage acquired in this modern way of knowledge allows you to fully map the market, which can be used during the construction of effective housing policies and planning of housing projects as well as residential real estate valuation process. The article positively verified the possibility of using PROMETHEE method in the field of multi-criteria analysis of housing market in one of the largest cities in western Poland - Poznan. The research was carried out in mid-2015 years based on a representative sample of respondents (over 2,500 inhabitants), while building the knowledge base necessary for the formulation of a new housing policy Poznan. This article aims to discuss and verify the possibility of using multi-criteria analysis for the purpose of broadening the spectrum of knowledge about the attractiveness of resources and the environment in the housing market. The specific objective is also to show the potential of the proposed methods in modeling the housing policy and in the process of property valuation - especially when accurate and informed market analysis.

Keywords: multi-criteria, housing, analysis, market, evaluation

Session: Housing Economics & Housing Policy

Room: VG 235, June 10, 2016, 9:00 - 10:30am

Segmenting the Paris residential market using a Principal Component Analysis

Charles-Olivier Amédée-Manesme

Laval University, Depart. of Finance, Insurance & Real Estate

Michel Baroni

ESSEC Business School

Fabrice Barthélémy

Université de Versailles-Saint-Quentin-en-Yvelines

François Des Rosiers

Laval University, Depart. of Finance, Insurance & Real Estate

This paper aims to generate homogeneous submarkets in terms of price behaviour for Paris through a Principal Component Analysis. The database, which is provided by the Chambre des Notaires, includes cases spread over a 17 year period, that is from 1990 to 2006. This period offers three sub-periods during which prices are going down, recovering and booming. For each transaction, housing descriptors are available to construct the hedonic index. As most of large cities, Paris is divided in administrative boroughs ("arrondissements") and neighbourhoods "quartiers" where prices evolve differently during slump, recovery and boom periods. Prices moves over time are measured using hedonic indices. A cluster analysis highlights a segmentation according the size effect and price volatility. It also shows that over or under-performance of various districts compared with the global index is dependent on the period. In particular, one of the major contributions of this research is to highlight the existence of a twofold residential dynamics in the Paris region, with the central boroughs clearly parting from outlying ones with respect to apartment price appreciation over time.

Keywords: Real estate indexes, Market segmentation, Cluster analysis

Session: Housing Economics & Housing Policy

Room: VG 235, June 10, 2016, 9:00 - 10:30am

Housing market segmentation and real estate bubble threat, Bogota 2006-2015

Oscar Alfonso

Tenure Professor and Researcher, Universidad Externado de Colombia.

Laura Amezquita

PhD Student Université de Neuchâtel

In the last decade, housing production in real estate at Bogotá has occurred in a singular context characterized by: i) the persistence of the unequal distribution of income leveraged by the flexibility of employment contract and persistence of labor informality; ii) a substantial increase in the rate of household formation dominated by the rise of single-person households, novel feature of present stage of Colombian's demographic transition ; iii) mutations in State market policies consistent to direct demand subsidy for low-income segments homes, more recently, the interest rate subsidy of mortgage loans for middle-income segments; and iv) the issuance of land use plans that promotes building construction and differentiation in population densities, because jurisdictional barriers with neighboring municipalities prevents its expansion.

The segmentation strategy of real estate production has been spatial modified. In the beginning of study period the mean differences and complementarities was: In first place, private areas and parking places in high-income level attained 800 square meters and 10 units by a dwelling, respectively, even though in low-income segments the private areas oscillated around 45 square meters with a parking place rate of 1 by 5 dwelling produced. In second place, changes in density, because in high-income segments the production has been increased substantially as it passed from one segment to another.

These research emphasizes in last aspects mentioned above, using geostatistical inference methodology, for establishing changes in the spatial orientations of the new housing production by market segments. Therefore it reveals the fast adaptability of segmentation strategy for political housing changes, the economic fluctuations, and specially, choosing decisions for residential allocations of new dwelling housing demands. This works seeks to produce an alternative discourse the in contrast to idea of the bubble

estate market threat. In this way, the research uses an intertemporal analysis which reveals transcendent social-spatial phenomena as gentrification.

Keywords: market segmentation, spatial segmentation, real estate bubble, residential allocation

Session: Housing Economics & Housing Policy
Room: VG 235, June 10, 2016, 9:00 - 10:30am

The Sensitivity of House Prices Under Varying Monetary Regimes - The Nordic Case

Marcelo Cajias

PATRIZIA IMMOBILIEN AG

Sebastian Ertl

IREBS International Real Estate Business School, University of Regensburg

The elasticity of house prices to monetary policy changes, e.g. via interest rates, is from a theoretical perspective and in the long-run negative. However, house prices adapt in the short-run dynamically to economic, financial, institutional and demographic factors. In this paper, we confirm the aforementioned elasticity for the Nordic housing markets, but provide evidence of drastic deviations from the negative relationship when employing rolling regressions in search for time-varying betas. Our empirical results show that recessionary and expansionary policy regimes play a much more important role in the development of house prices in Finland, Sweden and Norway, than in Denmark. We show further that the relationship between house prices and monetary policy is discontinuous over time, with large deviations from the long-term beta during the last decade.

Keywords: Housing prices, Nordics housing market, interest rates, monetary policy, rolling regressions

Session: Housing Economics & Housing Policy

Room: VG 235, June 10, 2016, 9:00 - 10:30am

Future Work Environment – evaluation of an office change project

Annette Kämpf-Dern

HafenCity Universität Hamburg

When work and workers are changing, the work environment needs to change as well. But what are necessary and effective changes? Which areas of a work environment – physical and/or psychological – need to be included? And how should the change management processes for a work environment change look?

To shed light on these questions the work environment change project (“Work 2020”) of a Financial Services company has been accompanied and evaluated. A mixed methods approach combining short personal interviews, weekly surveys (“pulse checks”), each followed by a project team meeting to discuss and decide about adaptive measures, and a detailed final evaluation survey together with further interviews resulted in a very rich longitudinal data base of a work environment change.

Based on this study, insights are made and recommendations can be given regarding

- areas and aspects of an office work environment that are important to the office users in the context of financial services,
- the behavioral changes and the adaptations of the users within the first five months after the move into the new/redeveloped office space,
- the do’s and don’ts of the change management process in this setting,
- the impact of work environment changes and the change process on different performance dimensions.

Keywords: Future workplace, Change management process, Mixed-methods approach, Office, Performance criteria

Session: Institutional Corporate Real Estate

Room: VG 002, June 10, 2016, 9:00 - 10:30am

Benefits of physical office environments for employee outcomes: An interdisciplinary state-of-the-art from a corporate real estate management point of view.

Rianne Appel-Meulenbroek

Eindhoven University of Technology

Maria Braunschweig

TU Darmstadt

Andreas Pfnür

TU Darmstadt

In the modern knowledge economy, employees are becoming the most important asset for more and more organisations. To achieve an optimal physical support of employees at work is an interdisciplinary management and academic research problem. While the cost transparency in commercial real estate is usually high, benefits are not clear at all. For CRE and FM to decide on how to allocate costs for achieving optimal benefits, they need insight in the causal relationships between physical work environment input variables (e.g. layout, indoor climate, aesthetics) and employee outcome aspects (e.g. productivity, performance, attitude). Existing empirical studies usually focus on a small part of the overall picture.

This paper aims to provide a holistic state-of-the-art of the approaches taken in such studies through a literature study of 134 empirical studies related to office buildings (from 50 different journals). The articles are selected based on a keyword search in common databases and then entered into a database with information on the empirical parameters of the study, the methodology and author information. From this database cross-tables were built and tested with canonical correspondence analysis (CA), to make strong and weak areas in existing research become clear, identify the gaps in research that still exist and show the (sometimes limited) research focus of different research disciplines.

The analyses showed that although most of the seven categories (and 19 variables) of input and 11 outcome variables have been related to each other in at least one study, there is a clear focus in research on specific topics, leaving interesting gaps for future research. They also showed how'

the different disciplines of authors (with different knowledge objectives) take very different approaches on the topic in terms of variables and methodologies that are taken up. More cross-disciplinary research is necessary to study some of the gaps that are identified in order to be able to provide CREM with a complete overview of effects.

Keywords: literature review, canonical correspondence analysis, holistic overview, employee outcome, corporate real estate

Session: Institutional Corporate Real Estate
Room: VG 002, June 10, 2016, 9:00 - 10:30am

From bricks to breeding ground: University real estate in the digital society

Salomé A. Bentinck

Management in the Built Environment, Faculty of Architecture and the Built Environment, Delft University of Technology

Universities have an interest in students and staff to be actually present at the university. Although knowledge transfer and interaction can be achieved virtually, face-to-face communication, due to its integral immediacy, is still more efficient for innovation and knowledge development. This suggests that places for Higher Education must therefore be more attractive for students and employees. This paper aims to answer the question 'which are the key satisfiers or dis-satisfiers when relocating a part of a university to another building, zooming into the programming of functions, the design and facility management?' The results are of interest to researchers, (campus) management of Higher Education Institutions and architects.

Accordingly, this paper proposes that the physical university should become the 'place to be'. In order to investigate this proposition, the role of physical characteristics of the building and environment, relevant for users and contributing to social interaction, were examined. This research is conducted by using data, collected at a number of departments of an Amsterdam Higher Education Institution, before and after relocation. Surveys, personal observation and interviews, both at the old and the new location are the main methods of data collection. The empirical studies are compared and analysed based on findings from an extensive literature review.

We find that spare space and logistical programming of functions for chance encounters are crucial. The appreciation of the building in respect to social interaction, confidential conversations and the degree of pride on the building, turns out to be related to the degree of perceived attachment to the place. There is no difference found in valuation of the functionality through the introduction of flexi work. However for employees the possibility to give workplace significance, through the ability to mirror their identity in the setting, is a key satisfier for office space.

Keywords: higher education real estate, campus planning, user preferences, place identity, work place

Session: Institutional Corporate Real Estate

Room: VG 002, June 10, 2016, 9:00 - 10:30am

The Effects of Appraisal-Smoothing on Reported Real Estate Risk and Returns for Different Investment Horizons

Andreas Gohs

Universität Kassel

Since commercial real estate incorporates a vast part of national economies' wealth, investors and economic experts want to know the value changes on property markets. Alas, there doesn't exist an undisputed way to track the increase or loss of property values. One method is to calculate appraisal-based indices from value estimates for many single properties. However, even professional appraisers are insecure about the just latent existent market values. So, appraisal values are in suspicion to be biased towards their correspondent true market values.

In the literature, biases of different origins ("appraisal phenomena") are identified. They are adjunctive to the behaviour of surveyors in appraisal processes and to the method of index construction. So property indices leave an uncertainty about the performances and risks of real estate investments. Further, decisions about the allocation of capital flows into the main asset classes stocks, bonds and real estate could be affected by this intransparency.

In the past, a comprehensive literature was published, trying to explain the linkage and gap between appraisal-based indices and actual market values of properties. But instead of filling in the gap between values of both concepts, their authors found very different and diverging results. Just in common it seems from the studies, that the volatility - as an investment risk measure - is downward biased in indices, compared to the true market volatility. While the authors followed different research methodologies, no one - to my knowledge - published the results of a simulation study. This paper fills in this gap and tries to deliver more transparency in this issue. The effects of the well-known problem appraisal-smoothing are quantified as well as of other appraisal phenomena. Values are studied for single properties as well as for markets. Additionally, effects on volatilities for different investment horizons are studied.

Keywords: Appraisal Smoothing, Appraisal-based Indices, Biases in Index Volatility, Real Estate Investment Risk, Appraisal Phenomena

Session: Real Estate Investment

Room: VG 004, June 10, 2016, 9:00 - 10:30am

Solvency II - Optimising regulatory capital required to be held against real estate assets. A Case Study.

Charles Ostroumoff

BSc Hons. University of Exeter - Economics & Politics

MSc CASS Business School - Real Estate Investment

Member of Royal Institution of Chartered Surveyors (MRICS)

Member of Society of Property Research

Solvency II came into effect on 1st January, 2016. European Insurance Companies are being hit with a raft of new rules under this regime. This paper is essentially an overview of the regulation with a detailed Case Study outlining an innovative (first of its kind) real life example of how one insurer has optimised the regulatory capital required to be held against their real estate assets.

Keywords: Solvency 2, risk mitigation, market risk, regulatory capital, Regulation

Session: Real Estate Investment

Room: VG 004, June 10, 2016, 9:00 - 10:30am

European non-listed real estate fund risk factors

Jean-Christophe Delfim

University of Geneva (GSEM)

Martin Hoesli

University of Geneva,

University of Aberdeen,

Kedge Business School

We assess investment risks for European non-listed real estate funds by considering a set of macroeconomic and fund-specific factors and by taking into account the real estate market phase. Using fund-level data, we apply panel regression techniques with random effects. Our results suggest that no differences exist across sectors. However, we find that there is an optimal fund size, as there is an optimal gearing level. The latter varies with respect to investment style and market phase. Investment style, vehicle structure and vintage also matter. Regarding macroeconomic risk factors, we find significant impacts for real GDP growth, interest rates, inflation components, money supply and stock market returns. For comparison purposes, the same analysis is performed for listed and direct real estate investments. We find that the three kinds of real estate exposure react broadly in the same way to macroeconomic risk factors although coefficients suggest that non-listed funds are more akin to direct real estate than to listed real securities.

Keywords: Non-listed real estate funds, risk factors, Macroeconomics, Europe

Session: Real Estate Investment

Room: VG 004, June 10, 2016, 9:00 - 10:30am

Impact of Liquidity Risk Perception on the Real Estate Risk Premium

Eli Beracha

Tibor & Sheila Hollo School of Real Estate, Florida International University

Julia Freybote

Tibor & Sheila Hollo School of Real Estate, Florida International University

Zhenguo Lin

Tibor & Sheila Hollo School of Real Estate, Florida International University

When investing in commercial real estate, institutional investors consider liquidity risk the biggest risk factor. Consequently, liquidity risk affects the real estate risk premium required by investors. However, due to private real estate market characteristics such as informational inefficiency and segmentation, the liquidity risk perceived by individual investors is likely to differ from the actual market liquidity.

The purpose of this study is to investigate the impact of perceived liquidity risk as reflected in institutional investor sentiment on the real estate risk premium over the period of Q1/1993 to Q3/2015 using time series analysis. Hereby our investigation accounts for the variable liquidity that differentiates the private real estate market from other asset markets such as the stock market. We expect the effect of perceived liquidity risk on the real estate risk premium to vary based on economic conditions. This expectation is in line with previous studies that find changes in investment behavior and risk preferences of institutional investors in the REIT and commercial real estate market during the 2007 to 2009 financial crisis (Das, Freybote and Marcato, 2015; Devos et al., 2013).

Furthermore, our investigation accounts for the fact that the pricing of real estate risk by institutional investors is affected by the relative riskiness of commercial real estate compared to alternative investments such as REITs, stocks and bonds. Clayton, Ling and Naranjo (2009) find that the reduction in capitalization (cap) rates over the 2002 to 2007 period resulted from sentiment driven capital flows into commercial real estate. As a consequence, we also control for the impact of stock and bond market factors on the real estate risk premium.

Keywords: Commercial Real Estate, Liquidity Risk, Institutional Investors, Investor Sentiment, Real Estate Risk Premium

Session: Real Estate Investment

Room: VG 004, June 10, 2016, 9:00 - 10:30am

Success factors and decision making process for partnership models in project development. A case study on value-added partnerships in the private sector

Anne Schüßler

TU Darmstadt

Andreas Pfnür

TU Darmstadt

In this paper we are analysing the project development process from a corporate point of view. If corporates are not able to rent an existing property or if leasing seems to be inefficient, corporates are often the initiator of office developments. There is a lot of evidence, that if real estate development not belongs to the initiator's core business, it is a very complex and difficult task to undertake. Previous studies show that especially setting effective objectives and making efficient decision in the planning process, institutionalising the project and project controlling are critical tasks in the development process for corporate real estate managers.

Applications in the public sector – called Public Private Partnerships (PPP)– show that value-added partnerships can be the most efficient sourcing option especially for new developed office spaces depending on the individual situation. However up to now, from a corporate user's point of view neither the impact of the typical PPP success factors nor the probability of occurrence of the risks of this sourcing option based on partnership are examined and clarified.

Consequently, the purpose of this paper is to evaluate the value-added partnership from a corporate point of view. Therefore in a first step we are targeting to derive valuation criteria for the corporate real estate sourcing process from the conditions and framework in projects. In a second step we compare the value-added partnership sourcing model with the traditionally used models and develop a system of decision criteria. This system should take all conditions, influence factors and specific project situations into account. In a third step we finally develop a decision making process to select the sourcing model, which meets the individual frame conditions best.

The case was a substantial office development project based on partnership of one of Germany's largest companies. We created a 360 degree shareholder feedback by applying state of the art empirical social research methods and with performing a software based (MAXQDA) qualitative content analysis.

The paper provides a theoretical decision framework of real estate developments in a sourcing context. For practitioners we provide a decision support tool to find the most efficient sourcing model for a development project in an individual situation and the tool will facilitate to identify potential development projects, which will meet the requirements of value-added partnerships.

Keywords: project development, corporate real estate, value-added partnerships, sourcing models, decision process

Session: PPP & Infrastructure

Room: VG 005, June 10, 2016, 9:00 - 10:30am

The perception of critical success factors for PPP projects in different stakeholders groups

Joanna Wegrzyn

Cracow University of Economics

The paper builds on a larger research study looking at developing a best practice framework for PPPs. An approach that is widely discussed in PPP literature and helpful in determining factors that exerts the biggest influence on PPPs success is the idea of critical success factors (CSF).

The main goal of the research is to enhance understanding of which factors are perceived as critical to the success of PPPs by different stakeholders groups on different stages of project life cycle. To examine perception of CSF within different stakeholder groups for PPPs a questionnaire template was conducted

Keywords: public-private partnership, procurement, project management, critical success factors

Session: PPP & Infrastructure

Room: VG 005, June 10, 2016, 9:00 - 10:30am

Public private partnerships and budget constraints – investment decisions in public sector

Joanna Wegrzyn

Cracow University of Economics

Agnieszka Telega

Cracow University of Economics

Michal Gluszka

Cracow University of Economics

The construction and provision of infrastructure services is often based on a partnership between public and private sector under a framework of Public Private Partnerships (PPPs). This type of partnership has been employed in Poland since 2009.

Though public-private partnerships in Poland are a relatively young and promising investment model, they are still poorly developed. As a result, only a small number of projects (20%) managed to get funding.

Given this observation, objective of this paper is to examine how local government's economic and political characteristics contribute to the success of PPPs.

Our research model builds on several key ideas concerning the motives for engaging in PPPs.

(i) Most common explanation for public involvement in PPPs is that they helps to overcome the problem of occurring needs in the area of infrastructure because of using private finance and they also provide better value for money in the provision of public infrastructure. Accepting this research perspective we assume that the linkage between involvement in PPP projects and the level of infrastructure gap could be defined.

(ii) E. Maskin and J. Tirole indicate that the marked increase in PPP contracts worldwide is often attributed less to the intrinsic qualities of such contracts than to governments' attempts to evade budget constraints by taking liabilities off the balance sheet.

(iii) There are also many well documented instances where the location of public investment projects has been determined by political not economic factors. Following this research we assume, that PPPs can be politically attractive because they affect voting behaviour.

In order to find out what factors exerts impact on PPP initiatives, a generalized linear model in the form of a logit model was used.

Keywords: public-private partnership, investment decisions, logit model, budget constraints, public sector

Session: PPP & Infrastructure

Room: VG 005, June 10, 2016, 9:00 - 10:30am

Stakeholder Engagement to Identify Priorities for Improving the Quality and Value of Infrastructural Project - Case Study

Anna Wojewnik-Filipkowska

*Univeristy of Gdansk
Faculty of Management
Department of Investment and Real Estate*

Anna Dziadkiewicz

*Univeristy of Gdansk
Faculty of Management
Department of Marketing*

Wioleta Dryl

*Univeristy of Gdansk
Faculty of Management
Department of Marketing*

Tomasz Dryl

*Univeristy of Gdansk
Faculty of Management
Department of Marketing*

Robert Beben

*Univeristy of Gdansk
Faculty of Management
Department of Marketing*

Public involvement is essential to building locally responsive research policies on data sharing, but little research has involved stakeholders to create quality and value of single infrastructure projects. Meanwhile, Polish and foreign local market experience show that the lack of all stakeholders and their relations' consideration can badly affect the success of infrastructure project realization. The main aim of this paper is to point out how to fill the gap between theoretical and practical knowledge in that issue by designing proper stakeholder analysis.

Between November and December 2015, a qualitative study as a part of scientific project, entitled "Innovative Model of Social-Economical Benefits and Costs for Infrastructural Projects" was conducted. It involved infrastructure project experts with varying experiences of research in a deliberative process to explore views on benefits and challenges in research relating data sharing. In-depth interviews and extended small group discussions based on information sharing and facilitated debate were used to collect data. Data were analysed using the Framework Analysis, charting flow and dynamics in debates.

The findings highlight both the opportunities and challenges of communicating about this complex and relatively novel topic for many stakeholders. According to experts, the impact of stakeholders mainly depends on the development and implementation of appropriate trust-building processes, linked to local perceptions of benefits and challenges. Thus, important ways of building trust in data sharing include involving the public in infrastructure development and implementation, promoting collaborations around data sharing and building close partnerships between researchers and business environment to provide checks and balances on data sharing, and promote near and long-term benefits.

Keywords: stakeholders, stakeholder map, stakeholder analysis, in-depth interview, infrastructure project

Session: PPP & Infrastructure

Room: VG 005, June 10, 2016, 9:00 - 10:30am

Which factors affect the transaction frequency of commercial properties? An analysis of the UK market

Tommaso Gabrieli

UCL

Qiulin Ke

UCL, Bartlett School of Planning

Karen Sieracki

KASPAR Associates

Transaction frequency of properties is regarded as an important leading indicator of the expected general conditions of local, regional and national economies. By monitoring transaction levels, market participants are able to form market expectations, assess prices and develop investment strategies.

This study examines the underlying factors that affect the probability of office property sales occurring from period to period.

We analyse a large and rich dataset of real estate transactions in the UK from 1980 to 2014. We examine the drivers of transaction frequency and link it to market fundamentals and alternative investment asset performance.

In particular, we test for the effects of local economic factors, type of buyer and financial markets performance.

We find important effects of the local economy as well evidence of transmission dynamics between direct real estate markets and other financial markets. We also find significant effects showing that foreign investors seem to pay more for properties.

Keywords: Transaction Frequency, Real Estate Cycles, Time Series

Session: Real Estate Cycles

Room: VG 024, June 10, 2016, 9:00 - 10:30am

The Effects of Macroprudential Instruments on Real Estate Cycles

Markus Demary

Cologne Institute for Economic Research (Institut der deutschen Wirtschaft Köln)

After the bursting of real estate bubbles in the US, the UK, Ireland and Spain the regulatory paradigm has shifted towards a system-wide approach to financial supervision which includes the supervision of real estate markets. Real estate has entered the focus of financial supervisors since real estate bubbles and credit bubbles mostly move in tandem and in contrast to equity price bubbles credit bubbles have long lasting negative effects on economic growth. As of now, property markets are increasingly attracting the attention of financial supervisors and instruments for intervening in real estate markets were developed, like loan-to-value ratios, sectoral risk weights for banks as well as the counter cyclical capital buffer in bank regulation which all will have effects on real estate financing. This paper analyses the effects of these macroprudential tools on real estate finance and property prices. As a first step the identification of real estate price bubbles and credit bubbles is discussed. The paper focusses then on the working of macroprudential instruments and their transmission to credit and real estate markets. After that the paper discusses the risk of potential policy failures through the application of macroprudential instruments, like the occurrence of false positives in the identification of real estate bubbles as well as the risk of excluding parts of the population from real estate markets through restricting their access to real estate financing.

Keywords: Credit Cycle, Macroprudential Supervision, Loan-To-Value-Ratio, Counter Cycle Capital Buffer, Real Estate Finance

Session: Real Estate Cycles

Room: VG 024, June 10, 2016, 9:00 - 10:30am

Preferences of Office Occupiers : Factors Affecting Location Decisions in Istanbul Office Market in the Post-Crisis Period

Dilek Pekdemir

Cushman&Wakefield

Istanbul office market recorded the highest take-up level in the last three years, which was the highest absorption in EMEA region as a percentage of inventory in 2014. The market have been experienced high volume of new supply delivery which also have supported higher demand level. Indeed, the most demanded areas, based on take-up volume by submarkets, either CBD or secondary submarkets where significant amount of new supply entered to the market in the last a few years.

The purpose of this paper is to examine the Istanbul office market in the post-crisis period from the perspective of occupiers. Based on the survey results, administrated to the office occupiers, location decision of them is investigated by identifying their needs and preferences regarding the physical requirements as well as financial objectives, especially cost reduction. It is also aimed to reveal any relocation pattern among certain submarkets and/or business types by analysing office occupier deals realized in the post-crisis period in Istanbul office market.

Keywords: office market, location decision, relocation strategy

Session: Real Estate Cycles

Room: VG 024, June 10, 2016, 9:00 - 10:30am

Real Estate Management Strategies in the Low-Interest Environment – a Roadmap for Economic Sustainability through the Market Cycle

Jonas Hahn

IREBS International Real Estate Business School, University of Regensburg

Sven Bienert

IREBS International Real Estate Business School, University of Regensburg

Thomas Wiegelmann

BLUE Asset Management GmbH, Co-Founder & Managing Director

Honorary Adjunct Professor, Bond University (Australia)

In the low-interest rate environment, old and new investment groups are increasingly looking for safe, yet profitable and attractive, investment opportunities. These aspects favored real estate investments in recent years. At the same time, a possibly approaching end of the low interest rates and an unclear tendency between inflationary and deflationary development, call for awareness in terms of a wide range of individual questions, which in particular the market participants in the real estate industry have to address.

In this paper, we introduce fundamental strategies, how real estate companies handle the financing of their portfolios with regard to low interest rates and uncertain future outlook. In this context, we put special emphasis on the issue that inherent risks in certain sub-markets are perceived higher today than during the last crisis. As first signs of a change in national interest policies are observed, we also discuss how national and international capital flows could change with changes in the interest rate environment as well as the state of the European industry's preparation going forward. We analyze how performance estimates change economic real estate products and also the exposure of interest rate risk between several product categories. And finally, we propose observations and arguments in favor and against a new real estate bubble on selected real estate markets.

Keywords: Market Cycles, Low-interest Rate Environment, Portfolio Management, Portfolio Strategy, Risk Management

Session: Real Estate Cycles

Room: VG 024, June 10, 2016, 9:00 - 10:30am

An Assessment of the Impact of Investor Decision on the Spatial Characteristics of the South African Commercial Property Market.

Francois Viruly

University of Cape Town

Kathy Michell

University of Cape Town

Robert Mc Gaffin

University of Cape Town

Karam Aly

University of the Witwatersrand

This research considers the changing spatial characteristics of the South African commercial property market in the period 1995-2015.

While historic Apartheid city planning continues to have a profound impact on the location of residential and commercial properties in South Africa, the present spatial form of South African cities is also being determined by market driven investor decisions, including their response to the reigning institutional environment. Investors not only respond to the "rules of the game", but are also influenced by the availability of infrastructure and the quality of the management of the urban environment.

In recent years this has resulted in the decentralisation of commercial space, the development of out-of-town shopping centres, the neglect of certain nodes, and a strong institutional investor focus on the commercial property sector.

Based on industry data provided by Industry associations and the MSCI / IPD, this research explores the spatial outcomes in the commercial property sector. The research adopts an institutional and behavioural economic approach which juxtaposes public policy decisions, the structure of the market, and the decisions made by market players. The research provides a yet unexplored perspective into the impact of formal as well as informal institutional arrangements on property market outcomes in South Africa. The study considers data and GIS mapping for the period 1995- 2015 and is limited to the Johannesburg and Cape Town property markets.

By providing an understanding of private sector decision making, the research results provide an opportunity to inform public sector policy formulation and to improve the understanding of the impact that property market interventions have for spatial market outcomes in the commercial property sector.

Keywords: Spatial Allocation of Commercial property, Post Apartheid South Africa, Behavioral Economics , Institutional Economics

Session: Real Estate Investment

Room: H24, June 10, 2016, 11:00am - 12:30pm

Benchmarking and Risk Analysis of Real Estate Commingled Funds

Peter Hobbs

MSCI

Sebastian Gläsner

MSCI

Through a combination of investor and regulatory pressure, one of the most enduring implications of the global financial crisis has been the drive for greater transparency of the real estate investment process. This has particularly been the case for commingled funds that had traditionally been shrouded in opaqueness justified by their 'private' nature. The real estate industry has responded to this pressure with greater attention being placed to the building of robust benchmarks of that provide for increasingly granular analysis of the drivers of real estate performance and risk.

It is in this context, that the paper explores a series of dimensions related to the benchmarking and risk analysis of commingled funds, with specific focus on the 174 funds contained within the SFIX (IPD/BVI SFIX vierteljährlicher) and the 90 funds in the IPD GPMI (the MSCI Global Property Fund Index). The paper explores the considerations associated with building meaningful benchmarks for private commingled funds, the increasing regulatory and investor pressure for such benchmarks, and the insights being provided by more granular analysis, including the reconciliation of asset and fund level performance.

Keywords: Funds, Benchmarking, Risk, SFIX, GPMI

Session: Real Estate Investment

Room: H24, June 10, 2016, 11:00am - 12:30pm

Development of benchmarking investment real estate: the Dutch experience

Bert Teuben

MSCI

Mark Clacy-Jones

MSCI

Peter Hobbs

MSCI

In the 90's the real estate investment environment, when most of the real estate indexes in Europe started, differed a lot from the current environment. Asset owners were often in full control of all the different real estate investment activities sometimes from portfolio management up to the property management at that time. The separation into different organizations (portfolio management to asset management) could result in agency problems. In parallel those indexes have shifted from (peer group) market indicators for transparency to independent financial benchmarks. Also asset owners and management houses often operate globally what wasn't the case a couple of decades ago and both have to show their value added. This paper will look more in detail in the developments in the Netherlands and in particular of the IPD Netherlands index. Besides describing those trends some results will highlight the performance differences within that index, like spread of returns, segment returns and attribution analyses.

Keywords: Benchmarking, Attribution, Internationalization, Netherlands

Session: Real Estate Investment

Room: H24, June 10, 2016, 11:00am - 12:30pm

Fintechs and other start-ups: Is there a significance impact to commercial real estate markets?

Thomas Beyerle

Head of Group Research of Catella

Carolin Gesell

Trainee Catella, Student (IRE|BS)

In the European office space markets, banks and insurance companies traditionally account for approximately 25 % of the demand per annum. Their business models are currently being challenged by fast and innovative, disruptive acting start-up companies – will this have an impact on future demand for office space?.

Demand for office space declining among traditional finance businesses – fintechs penetrating the market

The finance sector is currently undergoing a process of fundamental change. A comparison over time of the number of employees in this sector shows that, while there were 9 % more people working in the sector at the major European hubs in 2014 compared with the ten previous years, the demand for office space nonetheless fell by 17 %. This suggests that space is being used more efficiently. And now there is an additional market factor, with the emergence of fintechs. And it is doubtful as to whether this market factor can offset the emerging shortfall in demand. The term 'fintech' is a portmanteau word combining 'financial services' and 'technologies', and represents a class of IT start-ups that are setting out to muscle in on the shares of the market held by traditional banks, insurance companies and financial service providers. The array of companies within this segment ranges from mobile or Web-based payment systems to account management and investment concepts and strategies ("robo advice"). What they all have in common, however, is that they are doing away with physical service provision in favour of digitisation – the customer is increasingly becoming the producer of the services.

The 'visible' bank (service) at a location is increasingly becoming invisible. Concrete fintech services include:

- Banking: fast, individual and straightforward account management
- Insurance: customer-oriented insurance concepts
- Loans: granting private loans and providing apps to compare loans
- Payment transactions: new payment methods with low transaction costs and straightforward processing

- (Share) trading: new portfolio management concepts and optimisation of investment strategies

It is not currently clear what impact the emergence of fintechs will have on office space demand in the local real estate markets. Having said that, there does appear to be a fintech 'DNA' with regard to where they set up business. One thing which certainly is clear is that the investors have high expectations of the market. They are betting billions on their future succ

Keywords: Fintech, IT start-ups, declining office space, changes in the banking economy, impact on the real estate market

Session: Real Estate Investment

Room: H24, June 10, 2016, 11:00am - 12:30pm

Data and tools for profitability evaluation of measures for enhancement of the energetic quality of residential buildings – a contribution to RentalCal

Thomas Lützkendorf

*Karlsruher Institut für Technologie (KIT)
Ökonomie und Ökologie des Wohnungsbaus (ÖÖW)*

Kai Mörmann

*Karlsruher Institut für Technologie (KIT)
Ökonomie und Ökologie des Wohnungsbaus (ÖÖW)*

Andreas Enseling

Institut Wohnen und Umwelt GmbH (IWU)

Eberhard Hinz

Institut Wohnen und Umwelt GmbH (IWU)

Further improvements in the energetic quality of building stocks are a prerequisite to achieve objectives of conservation of resources and climate protection. In order to increase modernization efforts, several obstacles need to be overcome at first. Here, one relevant topic amongst others is the analysis and evidence of the economic advantageousness of such measures. Besides a discussion of the methodical fundamentals to be applied, there are questions concerning the available data and the tools that need to be provided to the individual decision takers.

Several initial data are necessary to evaluate the profitability of measures for the improvement of the energetic quality of residential buildings. Hereto belong, among others, reliable data regarding the amount of planning and construction expenditures as well as subsequent costs during the life cycle. During the early stages of planning, there are usually no specific offers by which the exact amount of financial effort could be determined. Planners and decision makers oftentimes have to fall back on cost values from relevant literature that aren't necessarily up-to-date or transparent. In this paper, current cost values and ranges for selected measures are presented and explained. They refer to the situation in Germany and are based on studies by IWU.

In practice, there are major price differences for the same measures. Thus, it makes sense to base profitability calculations on cost ranges. Likewise, depending on the specific local situation, it has to be determined, which share in financial expenditure is attributable to a repair that was necessary anyway and which share is attributable to actual energetic improvements. Based on a calculation of equivalent energy prices, a simple tool for the profitability assessment of (retrofit) measures is presented. On one hand,

it supports the handling of such ranges, while on the other hand, it provides for an estimation of maximum financial expenditure until which profitability is still given (under the assumption of certain boundary conditions). It can be used for both the procurement of building services and dimensioning of funding programmes.

The presented data and approaches contribute among others to the EU H2020 project RentalCal.

Keywords: RentalCal, Profitability calculation tool, Energy retrofit, Germany, Construction cost ranges

Session: RentalCal

Room: H25, June 10, 2016, 11:00am - 12:30pm

Overcoming the split incentive barrier in the rental housing market: Germany's approach of green premiums in rent regulation.

Martin Vaché

Institut Wohnen und Umwelt GmbH

With a market share of nearly 57 %, Germany's rented housing sector is among the largest in Europe with a total of about 23 million residential units. About 40 % of the total rental housing stock is older than 40 years. Given these figures, increasing energy efficiency investments in the rental sector is considered crucial by the German federal Government.

In order to provide sufficient incentives for investment, national rent regulation offers a two-pillar strategy for cost-benefit sharing: A cost based approach that allows annualised modernisation costs to be transferred to tenants, and a 'willingness-to-pay' approach that enables rent premiums for superior efficiency standards in contract rent ceilings. In terms of rental regulation, Germany adopts a generally well balanced second generation rent regulation regime with dynamic rent ceilings ("Vergleichsmiete") that are formed as moving average of average recent market rents, sorted by size, quality standards and location criteria.

While the first pillar may look more attractive for investors, it is a lengthy and bureaucratic process that increases transaction costs, thereby frustrating especially the private and small institutional landlords. On the other hand, the rent premium approach can only work when transparent market information on contractual rent levels is available.

To increase market transparency and reduce the legal costs of any rent renewal process, most medium-size and larger cities in Germany implement legally standardised rent information systems ("Mietspiegel") that are based on empirical rent surveys, some of them using a hedonic regression approach. This makes the German rent regulation the only known regime with an empirical based willingness-to-pay "green premium" approach. While initial attempts to integrate energy efficiency premiums in this kind of rent regulation regime go back to the early 2000s, its real-world implementation still faces several problems.

Based on a decade of practical experience with the empirical and legal issues associated with the topic, this contribution will both present empirical evidence on green premiums in the German rental market and a discussion on unresolved problems of the methodological approach. In addition, survey data on the actual state of implementation in German cities will be presented.

Keywords: RentalCal, rented housing, rent regulation, green premium, Germany

Session: RentalCal

Room: H25, June 10, 2016, 11:00am - 12:30pm

Bridging the Energy Efficiency Gap: The RentalCAL decision-making tool for Rental Housing

Winfried De Coo

Tilburg University

Donald Stevens

Cambridge University

Dirk Brounen

Tilburg University

Due to the daunting prospect of harmful climate change, policymakers around the world have been pushing for energetic retrofits in the real estate markets to reduce their carbon footprint. Despite the common ground and high ambitions, we still face a vast gap between the modern technical possibilities of energy efficiency and the slow adoption of these opportunities in and around our homes. In this paper, we review the main causes of this energy efficiency gap, ranging from the behavioral economics of hyperbolic discounting to the non-monetary expenses of refurbishments. Moreover, we introduce the RentalCAL tool, which is designed to close at least parts of this gap across Europe. The RentalCAL tool helps landlords of residential dwellings to assess the financial consequences of energy efficiency improvements, including investment levels, rent repayment, and dwellings price appreciation. We discuss the RentalCAL tool configuration, and demonstrate how different elements can help to alleviate the barriers to residential energy efficiency.

Keywords: RentalCAL, Energy Efficiency Gap

Session: RentalCal

Room: H25, June 10, 2016, 11:00am - 12:30pm

A climate-adjusted analysis of value and rent premia through energy-efficiency in German residential properties

Jonas Hahn

IREBS International Real Estate Business School, University of Regensburg

Jens Hirsch

IREBS International Real Estate Business School, University of Regensburg

Sven Bienert

IREBS International Real Estate Business School, University of Regensburg

Previous research has found that energy consumption of properties affects the user's or buyer's willingness to pay and as a consequence achievable rent or purchasing prices. These so-called 'green premia' for higher quality in energy efficiency and energy consumption can be observed in terms of sales prices as well as on the German rental market, where the sharing of costs for energetic modernization is regulated between landlords and tenants and leads to increasing rents. Also, lower operating costs are frequently connected to increased net rents and achievable prices. In order to provide further evidence, we construct a multivariate regression model and perform estimations incorporating observations on energy consumption and asking prices in German residential markets in order to isolate and to control for the effect of several driving impact factors on asking prices of landlords and sellers. This study provides current insights into 'green' value and rental price premia due to energy efficiency. In addition to conventional approaches, we consider differences in regional climate on the basis of the regionally different heating and cooling degree days (HDD and CDD); by this neutralization, we generate insights that make green premia in property values and rents comparable within Germany's regional diversity.

Keywords: Energy Efficiency, Green Value, Value Premium, Rent Premium, Regional Climate

Session: RentalCal

Room: H25, June 10, 2016, 11:00am - 12:30pm

Fairness, equality, and the balancing of interests? The Transatlantic Trade and Investment Partnership (TTIP) and its consequences for real estate investments and property rights in Germany

Fabian Thiel

Professor of Real Estate and Property Valuation

Approximately 850 Million people of the 28 EU Member States and the population of the USA will be affected by the Transatlantic Trade and Investment Partnership (TTIP). The TTIP Member States will represent 60% of global GDP, 33% of world trade in goods and 42% of world trade services. Hence, TTIP is by far more than the well-cited and extensively disputed chlorinated chicken. A core element of TTIP is the protection of property and investment expectations which are enforced by mechanisms such as bidding procedures for land and estates. Investment – symbolized by the 'I' within TTIP – protection is the *raison d' être* of the treaty as a transatlantic corporate bill of rights. Originally designed as an extraterritorial and extrajudicial instrument to eliminate trade restriction and invent global standardization processes, TTIP could lead to diversified land policies and monopolized landownership regimes. The purpose test of TTIP is fairness, equality, and the balancing interests of investors and the public.

According to the road map of the European Commission, 2016 will be the year when TTIP sees the light of the day. Unlike the numerous Bilateral Investment Treaties and the TTIP-sibling CETA, the transatlantic trade and investment partnership is unique in respect of the competency to "overrule" national laws and to introduce standards, norms and regulations above and beside national legislation ("right to regulate"). To date, TTIP violates Articles 14 and 92 of the German Constitution. What will be the consequences for the land policies in the Member States in respect to the three TTIP market access, regulatory cooperation, and rules? Take the case MTD Equity v. Chile as the leading case in point. The case study Berlin demonstrates the necessity of "marrying" investment protection procedures, fair and equitable treatment standards, and the right to undisturbed investments (investment-backed expectations) with the domestic rule of law and the instruments for an effective land policy at hand. The purpose test of TTIP – transparency, justice, due process of law, and minimum treatment of national investors – before the background of consistency of governmental action, the stability of long-term arrangements and commitments – has still to be passed. Can land policy be interpreted as

a sub-category of investment planning and business of managing public affairs, serving as a “gold standard” for investment in areas such as energy, transport, water, and housing?

Keywords: Transatlantic Trade and Investment Partnership, TTIP, fair and equitable treatment, investment-backed expectations, regulatory cooperation, Discounted Cash Flow-Method

Session: Real Estate Development in the current world context

Room: VG 235, June 10, 2016, 11:00am - 12:30pm

How to overcome the crisis: ask for budget money or look for innovative solutions?

Yuriy Kochetkov

ISK FORT

This paper will examine the different responses from investors, developers and policy makers to the various manifestations of the economic depression in Russia and real estate crisis in the period since 2014.

There is now a severe crisis on real estate market in different areas from housing construction to rental business. The crisis is not just one of a shortage of effective demand on market. This is the crisis of common economic system, there real property market and housing are only the components. Institutional investors and developers faced to significant decrease of the profitability of development projects. City authorities have been threatened growth of affected private investors in real estate. Economic Government has recognized the threat to mortgage system and housing construction.

The paper presents the analysis of 18 depth interviews with real estate experts and developers. These interviews collected during 2015 and were based on 31 questions. Mostly, questions correspond to intelligent solutions, innovations, and the development of relations between market participants in the period of crisis. The survey organizers were looking for fresh ideas, original solutions, and problem areas.

We found that developers consider cost cutting as the main way to solve the problems. They even ready to sacrifice the prospects of introduction of progressive innovations. Another finding is insufficient attention to the income part of the projects and opportunity to create added value by intelligent solutions and technologies for energy efficiency.

Will be considered separately efforts of the government and policy makers to help distress developers and support mortgage system.

Keywords: expert interview, mortgage, crisis, housing, innovation

Session: Real Estate Development in the current world context

Room: VG 235, June 10, 2016, 11:00am - 12:30pm

Efficient Development of Refurbishment Concepts: Case Studies in Germany

Sebastian Johann

P.a.d.A. Consult GmbH

Björn-Martin Kurzrock

Chair of Real Estate Studies/Department of Civil Engineering

University of Kaiserslautern

The development of refurbishment concepts for residential buildings is a complex and time-consuming track that requires deep technical knowledge and broad experience. Heterogeneous building typologies with different characteristics and needs for action make the concept developing process more complicated. This paper provides an efficient development approach for refurbishment concepts based on a guideline of prioritised refurbishment recommendations for multi-family houses from the 1970s in Western Germany. These buildings contribute about 2.4 million dwellings (13 %) to the entire multi-family housing stock in Western Germany. In many cases, these multi-family houses are in substantial need of refurbishment measures. In two empirical case studies, the guideline of prioritised refurbishment recommendations is applied and investigated. The refurbishment recommendations are derived from a broad analysis of data from housing corporations and 13,700 energy certificates, a secondary analysis of a representative survey of the housing demand in Germany as well as from 20 expert interviews and an extensive literature review. The case studies indicate that the refurbishment recommendations are suitable for the feasible development of refurbishment concepts for individual multi-family houses from the 1970s in Western Germany. Therefore, the guideline is useful for property owners, real estate developers, engineers, consultants or foreign investors to develop refurbishment alternatives for their buildings and to estimate their costs and economic efficiency.

Keywords: Residential property%2Fbuilding, modernisation measures, refurbishment concepts, real estate development, feasibility analysis

Session: Real Estate Development in the current world context

Room: VG 235, June 10, 2016, 11:00am - 12:30pm

Real Estate Re-development – Dealing with pre-used plots and buildings

Dieter Bullinger

debecon GmbH Dieter Bullinger Consulting for better shopping destinations

Throughout the years of strong economic growth after the Second World War, the real estate market was marked by the development of new buildings on previously „virgin“ (mainly agricultural) land. Since many years, however, we witness that economic and technological changes frequently lead to downsizing or even closing industrial and other companies leaving behind derelict brownfield areas. This is one of the reasons why keeping up existing uses (or finding new users) by prolonging the life and utilization of such land plots and buildings gains importance. Re-development of pre-used land and buildings – even if the previous use was non-industrial – attracts more and more attention.

The background for such re-development activities is not only a fundamental philosophy and resulting practical political and administrative strategies aiming at sustainable spatial planning by increased use of existing areas and more density within the existing urban structures. One of the main re-development targets is to maintain existing lands and buildings by adapting such real estate (if necessary by comprehensive reconstruction activities) to the demands of new users, thus preserving real estate values by avoiding or terminating threatening or already existing vacancies resulting from a (continuing) process of decline of valuable assets.

For activities aimed at improving existing real estate by constructive and other measures, a number of terms are used, partly synonymously and without differentiation: recycling, redevelopment, revitalization, refurbishment, restructuring, relaunch and renovation.

Based on a new handbook, published by gif (Gesellschaft für Immobilienwirtschaftliche Forschung – Real Estate Research Society) Germany under the headline „Redevelopment – Leitfaden für den Umgang mit vorgeutzten Grundstücken und Gebäuden“ („Guidelines for Dealing with Pre-used Land and Buildings“), the paper highlights the definition of the before-mentioned terms, names examples of real estate projects in different countries, and

points out specific „traps“ of the re-development process as listed in the checklists of the gif handbook. The author of the paper was a member of the gif competence group which worked out the handbook.

Keywords: Redevelopment, Refurbishment, revitalization, pre-used land, pre-used buildings

Session: Real Estate Development in the current world context

Room: VG 235, June 10, 2016, 11:00am - 12:30pm

How important is the manager in private equity real estate funds? Empirical evidence on fund returns from the European markets

Maiia Sleptcova

*Real Estate Economics Research Group
Department of Built Environment
Aalto University*

Heidi Falkenbach

*Real Estate Economics Research Group
Department of Built Environment
Aalto University*

The managers are in a key role in a private equity real estate fund, and it has been suggested that the manager's abilities or characteristics might be the factor explaining the large variation between the returns of the funds. In this paper, we extend the literature on manager's role on private equity real estate fund returns in two ways using fund-level cash flow data on European private equity real estate funds. First, we analyse the effects of the manager characteristics on fund returns. Second, we analyze performance persistence, where earlier research on both non-real estate and real estate private equity funds suggests that the returns of the current fund are positively correlated to the returns of the past fund as well as to fund size and growth, whereas fund returns are negatively correlated to the sequence number of the fund indicating that emerging managers deliver superior returns over seasoned managers. Late findings in the non-real estate private equity area, however, suggest that the persistence only prevails in pre-2000 data for non-real estate private equity, indicating that the phenomenon might have been due to the lack of maturity in the sector.

Keywords: Private equity real estate, Non-listed real estate funds, Performance persistence

Session: Real Estate Investment Insights
Room: VG 002, June 10, 2016, 11:00am - 12:30pm

Leverage and types of debt in the Listed Real Estate Companies' capital structure decisions

Heidi Falkenbach

Real Estate Economics Research Group

Department of Built Environment

Aalto University

Ranoua Bouchouicha

Henley Business School, University of Reading

Alexey Zhukovskiy

Aalto University, Real Estate Economics Research Group

In this paper we analyse the capital structure decisions listed real estate companies by analysing the determinants of leverage. We investigate which factors contribute to the evolution of capital structures over time, i.e. whether there is persistence in the leverage levels of listed real estate companies and whether there exists a target leverage level the companies adjust to. In addition, we investigate to what extent companies leverage decisions are affected by their ability to substitute between different forms of debt.

Keywords: Listed real estate company, real estate investment trust, real estate operating company, capital structure

Session: Real Estate Investment Insights

Room: VG 002, June 10, 2016, 11:00am - 12:30pm

Creating value for shareholders by developers in comparison to other public companies

Rafal Wolski

University of Lodz

EVA is a relatively new approach to creating value, assuming that value is created for investors by additional factors, not only the net profit of the company. Thus, the EVA has been recognized as a modern method of measuring the effectiveness of the invested capital [Xuefeng, T., Jia, S., Ning, L., & Ling, Z., 2012]. Given that the author decided to examine the relationship between net profit and economic value added created by developers listed on the Polish stock exchange. Measurement of the EVA is also to give the answer to the question of which companies create value for investors and if developers stand out from other companies. Thus, EVA was used to identify opportunities to create value by publicly traded developers. Analysis of relations between EVA and net profit will answer the question of whether the use of composite indicators makes sense for the investor. Perhaps the classic approach focusing on the fundamental net profit is sufficient, and the EVA is not necessary with trend analysis of market rates of return [Griffith, J. M. 2006]. The author hypothesized research EVA as a measure of balance sheet profit takes into account factors better reflects the value of companies in the developers sector.

Keywords: economic value added, developers, net profit, creating value

Session: Real Estate Investment Insights

Room: VG 002, June 10, 2016, 11:00am - 12:30pm

REIT performance and the impact of interest rates and leverage

Woon Weng Wong

School of Property Construction and Project Management (PCPM), RMIT University, Australia

Wejendra Reddy

School of Property Construction and Project Management (PCPM), RMIT University, Australia

This study explores the sensitivity of REIT performance to changes in short and long term interest rates. Utilising data from the Australian market over a 20 year period spanning multiple cycles, highly leveraged funds were found to exhibit a greater sensitivity to adverse movements in long term interest rates compared to those with lower leverage. This suggests that gearing levels and by extension costs of debt, do play a significant role in the returns generating process. Conversely, highly leveraged funds performed better under rising short term interest rates compared to those with lower leverage, which may be a result of improved rental yields associated with periods of economic growth. Lastly fund performance was found to be adversely affected by one period ahead inflation suggesting that capital markets are forward looking in nature and actively incorporate future economic trends into current asset pricing.

Keywords: REITs, interest rates, leverage, capital asset pricing, property investment

Session: Real Estate Investment Insights

Room: VG 002, June 10, 2016, 11:00am - 12:30pm

Does the asking price matter? Evidence from a natural experiment in residential real estate

Anders Österling
Stockholm University

I study a staggered policy change directly affecting only the asking price of homes for sale, using a novel and large micro dataset. I find that increasing the asking price reduces the number of online views, the number of visitors to the open house viewings, the number of bidders participating in the auction-like sales process and increases the time on market. Contrary to predictions of standard theory I find no effect on the sales price, nor on the sales effort exerted by real estate agents. To explain these findings I develop a simple search model where the non-committing asking price directs search and real estate agents set the asking price optimally. The model is consistent with the empirical results when home buyers follow a simple rule of thumb, but not when they act fully rational.

Keywords: listing prices, Search models, Bidding wars, Real estate prices, Auctions

Session: Residential Real Estate
Room: VG 004, June 10, 2016, 11:00am - 12:30pm

Can Geospatial Data Improve House Price Indexes? A Hedonic Imputation Approach with Splines

Robert Hill

University of Graz

Michael Scholz

University of Graz

Determining how and when to use geospatial data (i.e., longitudes and latitudes for each house) is probably the most pressing open question in the house price index literature. This issue is particularly timely for national statistical offices in the European Union who are now required by Eurostat to produce official house price indexes. Our solution combines the hedonic imputation method with a flexible hedonic model that captures geospatial data using a nonparametric spline surface. For Sydney, Australia, we find that the extra precision provided by geospatial data as compared with postcode dummies has only a marginal impact on the resulting hedonic index. This is good news for resource-stretched statistical offices. We nevertheless observe a slight downward bias when postcodes are used (which gets much larger when postcodes are replaced by bigger Residex regions). This bias can be attributed to a gradual shift of sold houses towards worse locations within each postcode (Residex region) during our sample period.

Keywords: House Price index, Quality adjustment, Hedonic imputation, Geospatial data, Spline

Session: Residential Real Estate

Room: VG 004, June 10, 2016, 11:00am - 12:30pm

Efficient Land Use with Congestion: Determining Land Values from Residential Rents

Roland Fuess

Swiss Institute of Banking and Finance (s/bf) University of St.Gallen

Jan Koller

Swiss Institute of Banking and Finance (s/bf) University of St.Gallen

In this paper, we propose a model of the residential rental market that meets the functional requirements of the underlying land market. A crucial aspect in the model is the incorporation of land quality represented by the floor area ratio (FAR), one of the most important land use regulation measures. Embedded in a hedonic setting, the model is tested empirically using apartment rent data from the canton of Zurich in Switzerland. From our empirical results we derive two main reasons for a monocentric structure of land prices. First, the central location's attractiveness makes land prices more expensive. Second, on a regulatory basis, the FAR works as a multiplier for land prices. Because the FAR is high in central areas, land prices are inflated accordingly. As a by-product of the model test, we find a capitalization rate for land of 8.1%.

Keywords: Land Values, Determining, Efficient Land Use

Session: Residential Real Estate

Room: VG 004, June 10, 2016, 11:00am - 12:30pm

The Pathology of a Residential Real Estate Bubble and its Dramatic Consequences: An Emotional Rollercoaster

Clare Branigan

University College Dublin

Paul Ryan

University College Dublin

Richard Taffler

University of Warwick

Between the mid- 1990's and the mid- 2000's, in a period characterized as the Celtic Tiger, the Irish residential real estate market experienced a boom. During the period from January 1994 to early 2007 house prices rose in excess of 500% and then in April 2007 they started to collapse with a sustained decline continuing for almost six years eventually stabilising in March 2013. From peak to trough this fall was in excess of 50% and in modern times is second only to Japan in terms of magnitude.

This series of years of steady price rises accompanied by sustained price declines constitutes a classic speculative bubble which was exacerbated by groupthink behaviour on the part of all the major actors in the drama: property developers, bankers, politicians, regulators, the media, economists, estate agents as well as property investors and homeowners themselves. When the property bubble finally burst it had disastrous consequences not only for the housing market, but also for the banking system and critically the entire Irish economy.

We argue that the models developed by standard economic theory, though highly mathematical and complex in nature, find it difficult to explain asset pricing bubbles and financial crises in any convincing way, and, in such models, the role played by emotions and social and group processes are largely ignored or consigned to the irrational.

We suggest that repeated asset pricing bubbles can be viewed on one level as the inevitable consequence of investors' unconscious search for transformational phantastic objects (Tuckett and Taffler, 2008) and the consequent emergence of basic assumption group behaviour. If the phantastic object itself pervades all the economic actors in society there may be no effective counterbalancing force to counter its emergence and, importantly, not be able to prevent its potentially dramatic wider economic consequences when the bubble it generates bursts. This happened in the case of the Irish residential property market bubble.

We explore the role that emotions, in particular unconscious phantasy, may have played in firstly escalating and eventually pricking this bubble. This view of the world is consistent with Kindleberger and Aliber (2011), who though they couch their model of market bubbles in terms of human emotions, they do so without providing an underlying theory of the mechanism by which these emotions oscillate as the phases of their model unfold.

Keywords: emotional finance, bubbles, groupthink

Session: Real Estate Economics

Room: VG 005, June 10, 2016, 11:00am - 12:30pm

Price Anchors and Residential Real Estate Bubbles

Clare Branigan

University College Dublin

Paul Ryan

University College Dublin

This paper is the first study exploring the impact of auction guide (list) prices on auction outcomes in a real estate bubble. Real estate agents through setting auction guide prices may have a role in influencing auction outcomes and potentially inflating the bubble if these guide prices had a part in generating final auction prices which were high relative to fundamentals. We find that winning bidders anchored on the advertised auction guide price consistent with anchoring and insufficient adjustment. However, interestingly, we find evidence consistent with real estate agents systematically setting low guide prices relative to fundamentals suggesting that the actions of the agents may have in fact dampened the effect of the bubble rather than amplifying it.

Keywords: real estate auctions, behavioral biases, anchoring, guide prices

Session: Real Estate Economics

Room: VG 005, June 10, 2016, 11:00am - 12:30pm

Pricing and the economy, are people buying growth?

Tony McGough

School of Property, Construction and Project Management, RMIT

Jim Berry

Ulster University

Property yields have been moving inexorably lower as the continued financial crisis continues to leave government bonds at all-time lows and easy money benefits real assets. This may well be explained by liquidity and risk issues, however many investors are mentioning that it is stronger growth in the trophy markets that is also attracting investors. This is a long standing argument for pricing differentials which sometimes, both now and in the past, look unusual.

This paper examines the comparative relationship between yields, yield differentials and economic growth to consider the rationale and evidence that investors buy into growing markets and are prepared to pay premiums for them. Via modelling of major global markets, it examines the significance of growth performances on historic and present pricing.

The paper also considers other factors that may also be influencing their decisions.

Keywords: pricing, growth performance, premium, yield differentials, growing markets

Session: Real Estate Economics

Room: VG 005, June 10, 2016, 11:00am - 12:30pm

Skyscraper Indicator and its application in the UK

Arvydas Jadevicius

Objective: The research examines Skyscraper Indicator and its application in the UK.

Research Design & Methods: It employs dummy variable regression to test the hypothesis. The study selects quarterly UK GDP and GDP per capita series over Q1 1960 - Q4 2014 period as macro variables and a series of dummies for construction starts, durations and completions of the record-breaking buildings in the UK.

Findings: The estimates suggest that the announcement of the construction of tallest building in the UK is related to national GDP.

Implications & Recommendations: To make robust economic forecasts, analysts may use the announcement of the construction of the record breaking skyscraper as a possible bell-weather in gaging future direction of the UK economy. They may turn their gaze towards the London skyline when contemplating UK market movements.

Keywords: Crisis, Economy, Indicator, Skyscraper, United Kingdom

Session: Real Estate Economics

Room: VG 005, June 9, 2016, 11:00am - 12:30pm

Immigration and Rental Prices of Residential Housing: Evidence from the Fall of the Berlin Wall

Kathleen Kuerschner

Otto-von-Guericke University Magdeburg

The fall of the Berlin Wall on 9th November 1989 sparked a mass exodus of East Germans to West Germany. This paper exploits the natural experiment provided by the unexpected disintegration of socialist East Germany to study the impact that immigration has on residential housing rents in recipient regions. Using a spatial correlation approach, annual district-level migration data for 1991 and 1992 and unique rental price indicators from Germany's major regional property market information system; we find strong evidence for a positive and sizeable effect of immigration on rental prices of residential housing. A one percent population increase due to immigration is associated with an approximate increase in minimum and average category rents by 4.8 and 3.3 %, respectively. Additional explorations that employ an IV approach based on various exogenous origin-region push factors related to the deteriorating economic conditions in East Germany yield estimates of even larger magnitude. These results suggest that immigration has important economic effects outside the labour market, traditionally the prime domain of economic enquiries into the consequences of immigration. Our findings cast doubt on the appropriateness of this bias in focus.

Keywords: Housing Rents, Migration, Natural Experiment, Metropolitan area, German Reunification

Session: Housing Economics & Housing Policy
Room: VG 024, June 10, 2016, 11:00am - 12:30pm

Geislinger Konvention: A Benchmarking Method for Operating Expenses of Housing Units

Andreas Saxinger

*Nürtingen-Geislingen University
Department of Real Estate*

Operating expenses are increasingly important for lease agreements. In many German regions (with the exception of the larger and affluent cities) the net rent level has stagnated during the last few years. Operating expenses, however, have risen continuously. For the tenant, this additional charge to the net rent represents the decisive factor regarding rental decisions as his budget is limited: High operating expenses might be a reason for tenants for not signing a lease agreement for an apartment.

In 2000, a number of housing associations, larger housing companies and Nürtingen-Geislingen University agreed to observe and to analyse operating expenses. For this purpose, the "Geislinger Konvention" was established. The goal was to find ways how to stop successfully operating expenses from rising.

In order to compare operating expenses benchmarks were developed. This required a cooperation of the "Geislinger Konvention" with IT-companies, which are able to manage big databases. Until today data of 4 million housing units from all over Germany have been collected by two IT-companies.

The participation of housing companies is not required by law; however, when housing companies participate in the project they must accept the rules and procedures of the "Geislinger Konvention". The rules and procedures comprise three parts. Firstly the housing units of a housing company are registered including all their specifications. Secondly, companies are obliged to manage their operating expenses budgeting according to the rules and regulations of the "Geislinger Konvention". This step is indispensable to standardize and to compare the operating costs between different companies. Thirdly the data provided by the companies is processed and benchmarked in order to enable compare performance and analysis.

By accepting these rules, housing companies are entitled to use the protected brand name "Geislinger Konvention" for the operating expenses statement provided to their tenants.

In over 15 years it could be shown, that operating expenses levels differ significantly within Germany. Housing companies, however, can only influence some of these expenses. Many operating expenses are determined by the respective community (e.g. taxes, rates or public charges) or energy markets.

Keywords: operating expenses, benchmarking, lease agreements, brand name, Geislinger Konvention

Session: Housing Economics & Housing Policy
Room: VG 024, June 10, 2016, 11:00am - 12:30pm

Supply response in a turbulent market: A micro-level analysis of the Irish residential construction sector

Ciara Morley

Economic and Social Research Institute (ESRI)

David Duffy

Economic and Social Research Institute (ESRI)

Kieran McQuinn

Economic and Social Research Institute (ESRI)

In this paper survey data on the Irish construction sector is used to get a greater understanding of the production capabilities of the supply-side of the domestic housing market. Amongst OECD countries, the property boom and bust experienced in the Irish case over the period 1995 to the present stands out. After a period of sustained increases in both house prices and supply the Irish market went into freefall after the 2007/2008 international financial crisis. At present the level of housing supply is estimated to be less than half the amount that is required on the basis of likely population trends in the Irish economy. Unlike most studies of the housing supply-side, in this paper we avail of microeconomic data to estimate key production elasticities amongst Irish construction firms. These results, while providing valuable insight into the historical experience of the Irish market, may also give some indication as to the likely future supply-response of the sector.

Relatively few studies examine, from a microeconomic perspective, the supply capability of a construction sector. Consequently, this study is relatively unique in that we use a nationally representative survey of construction firms to examine supply-side behaviour for the Irish residential property sector. In particular, we appeal to duality theory and estimate labour input demand and output supply elasticities from a coherent theoretical framework. We use data from the years 2007, 2008 and 2009 in our analysis. Thus, we are able to compare the relevant elasticities in the last year of the Irish housing boom and the first two years of the contraction.

Our results suggest that labour demand was highly responsive to the changes that

occurred in the residential construction sector in 2007 and 2008. Over the period 2007 to 2009 construction firms moved to reduce the number of people employed in response to changes in both the price of labour and the price of output (housing). It also appears that labour involved in the construction sector of the economy is particularly sensitive to fluctuations in housing output.

While such an analysis provides a useful account of the supply-side behaviour of the sector at that point, as the sample covers both the last year of the boom and the first two years of the contractionary period, we believe the analysis may shed some light on the likely supply response of the domestic construction sector at the present time.

Keywords: Housing supply, Firm-level, Elasticity

Session: Housing Economics & Housing Policy

Room: VG 024, June 10, 2016, 11:00am - 12:30pm

Fifty shades of state: Quantifying housing market regulations in Germany

Konstantin Kholodilin

Deutsches Institut für Wirtschaftsforschung

The paper aims at measuring the rental housing market regulations in Germany between 1913 and 2015. Four classes of housing policy are considered: Rent controls, tenant protection, rationing of housing, and fostering of social housing. Based on a thorough analysis of federal and regional legislation, for each class, an index is constructed, increasing in degree of regulation. An average of the class-specific indices makes up a composite index. The index reflects dramatic increases in regulations during and immediately after the World Wars. Likewise, the 2010s are characterized by a surge in virtually all classes of regulations in Germany related to the growing housing scarcity in large cities due to intra- and international migration that leads to a geographical mismatch between housing supply and demand.

Keywords: rental housing market, rent controls, social housing construction, tenant protection, housing rationing

Session: Housing Economics & Housing Policy

Room: VG 024, June 10, 2016, 11:00am - 12:30pm

BIM based Construction with RFID-Technology

Manfred Helmus
Anica Meins-Becker
Agnes Kelm

Since approximately 2005 the Chair of Construction Management & Economics of the Bergische University of Wuppertal deals with the application of modern technologies and methods, f. e. the RFID technology in connection with the method of the Building Information Modeling. In this connection a comprehensive draught with the aim of the digitization of the supply chain was developed within the scope of a huge number of research projects. On this occasion, the data delivered from the planning process are complemented with the real data grasped by the AutoID technology, as f. e. logistics and implementation or decrease data during the execution of construction, servicing and rebuilding data during the building use up to building back construction. These data are linked with the building data models by means of the method BIM. The results of the research and the added value for everybody in the construction sector are united within a demonstration module. For two years this demonstration module is presented to the public in Germany to provide the suitable knowledge in the construction sector for all partners. These projects and the demonstration module should be discussed in the contribution paper which is meant as an introduction to an exemplary application which has found its relation to practice. This example deals with the so-called "tool-box". With the help of the "tool-box" material, machines and accessories are available any time and on site. The individually modula table and everywhere applicable "tool-box" can be used according to demand as a rent station, material shop, spare parts store, key and document management or as a meeting demand order system. About accompanying information technology belonging to company and communication technology material, construction machines and construction equipment can continuously be rented in seconds, sold and administered. Complicated commercial processes can be unwound by the

application of the "tool-box" from order one up to the payment fast, efficiently and extremely friendly to customers. The "tool-box" was moved in the beginning of 2014 with the "Johann Augel Bauunternehmung GmbH". First analyses of economic effects will be done and results will be introduced in the conference contribution.

Keywords: modern technologies, BIM, auto-ID, RFID, construction logistics

Session: Building Information Modeling (BIM): Smarter Engineering is better business

Room: H24, June 10, 2016, 2:15 - 3:45pm

Study on BIM based Life Cycle Assessment of Environmental Impacts and Decision Making Analysis for Building Construction

Xu Zhao

Chen Nan, Li Qiming

Energy consumption by and emissions from buildings contribute greatly to environmental degradation. Currently, an important tool in the study of architectural conservation design is LCA (life-cycle assessment), with the goal of minimizing energy consumption and environmental impact. The research suggests a method to apply LCA analysis and BIM technology to design 3D BIM models and define the relationship between BIM elements and architectural materials. The obvious advantages of combining BIM with LCA have resulted in its wide use for building life cycle assessment. The study propose here quantitative analysis of environmental impact by construction and build an index database for environmental impact assessment of building projects based on analytical hierarchy process. The design plan of the Teaching and Research Building of a University in Nanjing China is taken as the example to calculate energy consumption in response models formed from construction data. From these modeled calculations, then the key environmental impact factors were analyzed. The objective is to suggest an integrated solution to BIM-based environmental impact assessment of building construction and also provide a theoretical support for optimized building design. This case study demonstrates the utility of BIM when performing LCA, providing most of the information needed to perform LCA.

Keywords: BIM, LCA, Environmental impact assessment, decision making, building construction

Session: Building Information Modeling (BIM): Smarter Engineering is better business

Room: H24, June 10, 2016, 2:15 - 3:45pm

Computer Aided Life Cycle Cost Analysis as a new approach for real estate investment decisions on public contracts.

Mohsen Shojaee Far

PhD Candidate at Center of Land policy and Valuations at Polytechnic University of Catalonia | CEO of SIMBIM Solutions (Graphisoft ArchiCenter)

Ioanna Alsasua Pastrana

Master of Urban Valuations | COO at SIMBIM Solutions (Graphisoft ArchiCenter)

Carlos Marmolejo Duarte

PhD Researcher at Center of Land Policy and Valuations at Polytechnic University of Catalonia

The Building Information Model, represents a comprehensive and integrated 3D digital data base which contains the data of the architectural and structural elements of a building in addition to its furniture and facility equipments. Understanding of BIM is not limited the BIM as product (Database), but also for Building Information Modeling as process of data collection and data aggregation into a single digital 3D model. Having such enhanced and smart database opens up the opportunity for the 3rd understanding of BIM as Building Information Management, which is a key in main and most efficient advantage of BIM technology. The process of three level of understanding of BIM technology, enables the vast usage of such database for variety of simulations such as energy consumption, cost estimation, building operation management, and both facility maintenance and preventive maintenance approaches (BIM based CAFM). This study explores the possibilities that can orient the usage of the BIM to a new approach of Computer Aided Life Cycle Cost Analysis (CA-LCCA) of a building both for new projects and renovation jobs. This approach integrates the technical and financial data bases, which can enable investors to have a feasible tool in their hands to take better decisions by comparing not only the initial cost, but also considering the whole operational cost of the facility during its life cycle. Correspondingly, the main focus of this study is an analysis on empirical example were BIM was used as Building Information Management, to demonstrate the possibilities of CA-LCCA trough BIM technology as a practical tool for Real State economical evaluation for new constructions. This study suggests integration of such approach for EU level standards and policies for public contracts align with the existing EU Directives 2014/24/EU and 2014/25/EU. The main example study offered in

No. 308

Building Information Modeling (BIM): Smarter Engineering is better business



this paper is the Hungarian National Mineral Oil and Gas Industry Trust using BIM tools (ArchiFM+ArchiCAD) for managing their entire building portfolio (space management, asset management, move management plus complete breakdown/planned maintenance management) as an evidence to this discussion.

Keywords: BIM, Economical Evaluation, CA-LCCA, Facility Management, ArchiCAD%2BArchiFM

Session: Building Information Modeling (BIM): Smarter Engineering is better business

Room: H24, June 10, 2016, 2:15 - 3:45pm

A Conceptual Framework for Property Risk: Known, unknown and Unknowable

Treshani Perera

RMIT University, Australia

David Higgins

RMIT University, Australia

The success and failure of modern financial risk management in many instances are associated with understanding and managing extreme risk events. To forward the measurement and theory advancing this practice, Diebold et al (2010) skilfully conceptualised the downside risks into Known (K), the unknown (u) and the Unknowable (U) risk categories. This research paper takes the form of a narrative synthesis applying a literature review approach to better understand this conceptual framework and the application to property risk management.

Whilst existing literature on property risk management focusses extensively on Known risk, the gradual evolution or social, technical and ecological events have thrown up sudden, unexpected shocks that result in a possibility of regression from the Known to unknown risk category. The increased frequency and magnitude of these risks form part of this research paper and provide property professionals with valuable information to make major corporate property decisions.

Keywords: Property Risk, Known risk, unknown risk, Unknowable risk

Session: Change and Risk - Issues for Property Valuation work?

Room: H25, June 10, 2016, 2:15 - 3:45pm

The market value of energy efficiency in buildings and the mode of tenure

Claus Michelsen

German Institute for Economic Research (DIW Berlin)

Konstantin Kholodilin

Deutsches Institut für Wirtschaftsforschung

Andreas Mense

FAU Erlangen-Nürnberg

Concerns about global warming and growing scarcity of fossil fuels require substantial changes in energy consumption patterns and energy systems, as targeted by many countries around the world. One key element to achieve such transformation is to increase energy efficiency of the housing stock. In this context, it is frequently argued that private investments are too low in the light of the potential energy cost savings. However, heterogeneous incentives to invest in energy efficiency, especially for owner-occupants and landlords, may serve as one explanation. This is particularly important for countries with a large rental sector, like Germany. Nevertheless, previous literature largely focuses on the payoffs owner-occupants receive, leaving out the rental market. This paper addresses this gap by comparing the capitalization of energy efficiency in selling prices and rents, for both types of residences. For this purpose data from the Berlin housing market are analyzed using hedonic regressions. The estimations reveal that energy efficiency is well capitalized in apartment prices and rents. The comparison of implicit prices and the net present value of energy cost savings/rents reveals that investors anticipate future energy and house price movements reasonably. However, in the rental segment, the value of future energy cost savings exceeds tenants' implicit willingness to pay by factor 2.5. This can either be interpreted as a result of market power of tenants, uncertainty in the rental relationship, or the "landlord-tenant dilemma".

Keywords: energy efficiency, house price capitalization, rental%2F owner-occupied housing

Session: Change and Risk - Issues for Property Valuation work?

Room: H25, June 10, 2016, 2:15 - 3:45pm

Flood impact on property value a UK and Canada a preliminary study

Philippe Belanger

Université Laval, Canada

Michael Bourdeau-Brien

Université Laval, Canada

Background – Whether due to climate change or due to bad urban planning, flooding is an important issue. Climate change impact on sea level and precipitation amount is well known and will eventually increase the number of flooding areas. Another reason for change in flooding area is the urban development and bad water management planning. Flooding area maps are being updated to take into account new risk. Being in these new flooding risk areas is likely to have an impact on real estate value.

Purpose—This paper intends to bring a contribution about the value lost in flooding areas. The paper presents preliminary results using UK and Quebec (Canada) data.

Methodology/Design—We use transaction databases, geographic information system (GIS) and building characteristics in order to analyze the impact of being in a flooding area on the value of a residential building. Since houses near water usually have value added, we control for the water shore distance. Literature shows that flooding areas usually have an impact on real estate value. Nevertheless, some studies show mitigated results. We suspect that it is due to value added to houses which are on the water shore. The UK database is composed of more than 250,000 transactions. The UK has 3 flooding area maps; for each, we compute the regression. Quebec city data are being gathered at this moment and descriptive statistics will be available at the moment of the conference.

Results—As of now, results are preliminary but at the time of the conference, we will have results for at least one of the two locations. We expect the impact to be in line with the literature for the UK using historical flooding maps while we expect mitigated results for flood risk maps. For Quebec, we expect some areas to have more impact due to the very strong media coverage.

Limitations—For the UK, individual characteristics of the buildings are limited. We use postal code and building type to assume similarity of hedonic characteristics. If houses among the same postal code and type are very heterogeneous, the results could be biased.

Practical implications—The implications are relevant to compute the value of mitigation installations (dam) or to assess the compensation to be offered to owners impacted by new flood risk areas.

Originality–We use GIS data allowing to discriminate between water shore proximity and flooding area. We use original data from Quebec which include a high media profile area and several “normal” area.

Keywords: Flood, Real Estate, GIS

Session: Change and Risk - Issues for Property Valuation work?

Room: H25, June 10, 2016, 2:15 - 3:45pm

The Valuation of Hope Value in a Vacant Land Using Real Option Theory

Maurizio d'Amato

Technical University Politecnico di Bari

Paola Amoruso

LUM Libera Università del Mediterraneo Jean Monnet

The paper is focused on a proposed methodology to determine the hope value of a vacant land. According to European Valuation standard Hope Value is "which the market is willing to pay in the hope of a higher value use or development opportunity being achievable than is currently permitted under development control..." (EVS1). For this specific reason real option theory is proposed to appraise hope value for vacant land. It is not the first time that Real Option has been applied to valuation of improved land (Titman, 1985). A practical case in Bari will show how this procedure may be useful for hope value determination.

Design/methodology/approach The approach is based on the application of real option theory, considering the vacant land as a growth option

The paper demonstrates that real option theory can be considered an useful tool

As a consequence it is possible to appraise also aspect of value that are not easy to take into account using the methodologies of valuation

The originality is in the application of a well known methodology to a valuation case included on the last version of European valuation Standards

Keywords: Real Estate Appraisal, Real Option, Hope Value

Session: Change and Risk - Issues for Property Valuation work?

Room: H25, June 10, 2016, 2:15 - 3:45pm

A Critical Analysis of Real Estate Fund Management Fee Structures in the United Kingdom and Germany

Keith Lown

Nottingham Trent University

Verena Rock

Hochschule Aschaffenburg

The strategically important real estate fund management discipline is one of the more highly remunerated areas within the property industry. Fund management fees are negotiated directly between institutional client and provider, each contract being of a bespoke and unique to the given client and portfolio type. As one would expect, these contracts are commercially sensitive documents and confidential in nature. Nevertheless, despite this lack of transparency, most contracts conform to similar fee calculation mechanisms based on a percentage of the total capital value of the fund. This fee is further moderated for complexity, asset type, specification and extent of fund manager mandate.

Through industry experience and initial research by the paper authors, it is believed that fund management fees for this activity are considerably higher in Germany than in the United Kingdom despite the fact that these are two not significantly dissimilar markets. The objectives of this paper include determining the reasons for this apparent discrepancy; identifying the scope of service provided in German and British fund management contracts; the level of competition within the market place; fee structure transparency etc.

Keywords: fund management, real estate, fee structures, transparency, investment

Session: Real Estate Investment Topics in Europe

Room: H26, June 10, 2016, 2:15 - 3:45pm

Explaining the discount to NAV of distressed German open-ended real estate funds

Sebastian Schnejder

IREBS International Real Estate Business School, University of Regensburg

Steffen Sebastian

*IREBS International Real Estate Business School, University of Regensburg
and ZEW Mannheim*

René-Ojas Woltering

IREBS International Real Estate Business School, University of Regensburg

Michael Heinrich

IREBS International Real Estate Business School, University of Regensburg

The German open-ended real estate fund industry was strongly hit by massive outflows in the course of the financial crisis. In total, 9 funds had to stop the redemption of shares and were ultimately forced to liquidate their portfolios. Investors of these funds either have to await the stepwise liquidation of the fund's assets, which can take up to several years, or they can opt to sell their shares on the secondary market, often at a substantial discount to Net Asset Value (NAV). This paper attempts to explain the discount to NAV of distressed German open-ended real estate funds on the secondary market. Our unique dataset covers monthly observations of fundamental, as well as sentiment-related variables over the 2008 to 2014 period. We find the discount is primarily related to fundamental factors such as fund leverage, liquidity and expenses, but also external factors such as the share of institutional ownership or negative spill-over effects from the closure of other funds.

Keywords: Open-ed Fund, Germany, NAV discount, Closed Fund, herd behavior

Session: Real Estate Investment Topics in Europe

Room: H26, June 10, 2016, 2:15 - 3:45pm

Evaluating key trends and performance drivers in European office markets

Martin Haran

Ulster University

Michael McCord

Ulster University

Alastair Adair

Ulster University

Jim Berry

Ulster University

Stanley McGreal

Strong performance within European office markets over the course of the last five years has increased the competition for prime assets within European cities. The cities of London, Dublin and have experienced pronounced levels of investment activity in the period 2010-2015 however for investors chasing yield the focus has been very much centered on secondary assets or the acquisition of prime office assets within tier-two cities. An equally noteworthy trend within the European office market is the opportunities afforded by the divergence in real estate market cycles across different countries. Cities including Amsterdam, Athens, Lisbon and Madrid have all witnessed a marked increase in activity levels as investors seek to capitalize on cyclical trends within the office markets in tandem with the multi-paced economic recovery within cities and city regions.

A diverse spectrum of analytical techniques are applied to the MSCI European City Office Index series including lead-lag correlation, co-integration and Granger Causality to measure alignment and responsiveness between European city real estate markets across the real estate cycle and to determine the windows of opportunity that exist for investors vis-à-vis the real estate cycle. Optimal portfolio analysis serves to demonstrate the considered 'added-value' of including 'tier-two' cities within the confines of a European office investment portfolio.

Keywords: European Office Markets, MSCI, Cities, Granger Causality, Portfolio Optimisation

Session: Real Estate Investment Topics in Europe

Room: H26, June 10, 2016, 2:15 - 3:45pm

Medical Centers – an arising asset class in Germany ?

Matthias Kirsten

Value AG the valuation group

Holger Ladewig

Value AG the valuation group

In the last years, Value AG has observed that medical centers on the German market are starting to be defined as its own asset class. Investor groups of the healthcare property segment evolve on the market with a strong focus on medical centers and a clear approach regarding property requirements and acquisition expectations. The sellers in Germany are represented by doctors or doctor groups, investors / portfolio holder, and also developers. Credit institutions focused on the healthcare property segment increasingly seek to finance medical centers. While the classic office building accounts for a transparent asset class in Germany, medical centers are not covered by market research or other analyses. Value AG the valuation group is a nationwide independent valuation company and presents in this lecture its experience and knowledge gathered after far more than 100 valuations of medical centers. Following questions will be discussed:

- Is there a clear definition of medical centers?- Who are the players on the market? - Requirements on medical centers from investor´s and bank´s point of view? - Positive and negative location and property qualities? - Are office building and medical centers comparable? - Construction costs and rents in medical centers? - Value-determining factors at medical centers? - Multipliers and yields at medical centers? - Which insights can be gained from the case studies? - How will this asset class develop in the future?

These 10 questions will lead the lecture and discussions, yet the practical orientation will be attained by the case studies from the valuations of Value AG.

Keywords: Medical Center, investment, new asset class

Session: Real Estate Investment Topics in Europe

Room: H26, June 10, 2016, 2:15 - 3:45pm

Property Valuation - Clients' Perceptions and Valuation models

Nick French

*Professor in Real Estate
School of the Built Environment
Oxford Brookes University*

Laura Gabrielli

*Dipartimento di Architettura
University of Ferrara*

Property valuation is a service to a client by a professional valuer. But, more than that, it is an objective exercise to provide a price estimate for property in the current market. A valuer provides a valuation in accordance with professional standards. In the UK, valuations are carried out in accordance with the RICS Valuation – Professional Standards UK (Red Book - January 2014) which themselves have adopted the International Valuation Standards of the International Valuation Standards Council (IVSC).

However, there has been little written on the appropriate use of valuation approaches and methods in market valuations. This paper looks at this issue in the UK in relation to the RICS' Red Book and follows the convention noted below:

APPROACHES (IVSC Para 56)

1. Income

The income approach provides an indication of value by converting future cash flows to a single current capital value.

2. Cost

The cost approach provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or by construction.

3. Market

The market approach provides an indication of value by comparing the subject asset with identical or similar assets for which price information is available.

METHODS

1. Comparable Method (Market)

2. DRC/Construction Method (Cost)

3. Investment Method (Income)

4. Residual Method (Income)

5. Profits Method (Income)

TECHNIQUES (IVSC Para 61)

For example, with the Investment Method, the valuer can choose an implicit or explicit model.

Through an extensive survey of valuers and users of valuations, this paper looks at the importance of identifying the appropriate approach to be adopted in market valuations and conveying this information to the client.

Keywords: Valuation Approaches, Valuation Methods, Valuation Models, Market Value, Client understanding of value

Session: Real Estate Valuation & Appraisal
Room: VG 235, June 10, 2016, 2:15 - 3:45pm

Effects of the change of valuer on the assessment of capital value for property portfolio valuations. A qualitative approach in the UK context.

Ytzen van der Werf

University of the West of England

Property appraisal outcomes are not believed to always accurately reflect the market value of real estate, see Yiu et al. (2006) for a review of the literature. This is of great importance to institutional investors who rely on these periodic appraisals for benchmark purposes, annual accounts, fund in- and outflow as well as the decision to sell assets. Changing valuer on these property portfolio valuations has a significant impact on the assessment of capital value.

Evidence of this effect exists in international markets. Research on Dutch property portfolios (Van der Ende & Van der Meulen, 2013; Niemeijer, 2014; Van der Werf and Huibers, 2015) suggests that this is not an incidental but rather structural effect within the Dutch context. Clayton et al (2001) show that the Canadian market perceived large difference as well. However in the UK, the existence of structural capital value changes when changing appraisers valuing investment portfolios, has not been researched so far.

The aim of this research is to answer the question whether UK property investors perceive large differences in capital value when changing valuers on their portfolio valuations. To answer this question we will address the following objectives:

1. To examine whether the shifts in value are different when UK appraisers value an investment asset for the second (or third or higher) time compared to first time valuations.
2. To find, for the UK, whether on average first time appraisers tend to value the asset higher or lower.
3. To examine what, according to the UK portfolio appraisers and investors could be the reason for this difference.

These objectives will be addressed by conducting semi-structured interviews with two groups of stakeholders. Firstly the clients, the institutional investors, will be interviewed to establish whether they notice differences between first time valuations and their repeated counterparts. Do repeat valuations show different value shifts than the first time valuations and if so, whether they are smaller or larger. Is it perceived as a problem and if so, have investors tried to reduce the impact of this issue.

Secondly the agents, the appraisers, will be interviewed to form an opinion of their awareness of this topic. I investigate whether they are aware of differences between first time and repeat valuations. Are they being informed by the institutional investors and whether they pressure them to revise their initial valuations if differences are large.

Keywords: property valuation, appraiser change, UK property, qualitative approach, institutional investors

Session: Real Estate Valuation & Appraisal
Room: VG 235, June 10, 2016, 2:15 - 3:45pm

The Energy Efficiency of Corporate Real Estate Assets: The Role of Energy Management for Corporate Environmental Performance

Markus Surmann

1) METRO PROPERTIES Holding GmbH

2) University of Regensburg, IREBS Competence Center of Sustainable Real Estate

Wolfgang A. Brunauer

DataScience Service GmbH

Sven Bienert

IREBS International Real Estate Business School, University of Regensburg

Purpose – On the basis of corporate wholesale and hypermarket stores, this study investigates the relationship between energy consumption, physical building characteristics, operational sales performance and the impact of energy management on the corporate environmental performance.

Design/methodology/approach – A very unique dataset of METRO GROUP over 19 European countries is analyzed in a sophisticated econometric approach for the timeframe from January 2011 until December 2014. Multiple regression models are applied for the panel, to explain the electricity consumption of the corporate assets on a monthly basis and the total energy consumption on an annual basis. Using Generalized Additive Models (GAM), to model nonlinear covariate effects, the authors decompose the response variables into the implicit contribution of building characteristics, operational sales performance and energy management attributes, under control of the outdoor weather conditions and spatial-temporal effects.

Findings – METRO GROUP's wholesale and hypermarket stores prove significant reductions in electricity and total energy consumption over the analyzed timeframe. Due to the implemented energy consumption and carbon emission reduction targets, the influence of the energy management measures, such as the identification of stores associated with lowest energy performance, was found to contribute towards a more efficient corporate environmental performance.

Originality/value – In the context of corporate responsibility/sustainability of wholesale, hypermarket and retail corporations, the energy efficiency and reduction of carbon emissions from corporates real estate assets is of

emerging interest. Beside insights about the energy efficiency of corporate real estate assets, the role of the energy management, contributing to a more efficient corporate environmental performance, is not yet investigated for a large European wholesale and hypermarket portfolio.

Keywords: Energy efficiency, Corporate real estate management, CREM, Corporate energy management, Wholesale and retail stores, Multiple regression

Session: Real Estate Management
Room: VG 002, June 10, 2016, 2:15 - 3:45pm

Barometer for Municipal Community Real Estate

Annette van den Beemt - Tjeerdsma

*NoorderRuimte, Centre of Research and Innovation for Build Environment
Hanze University of Applied Sciences Groningen*

Jan Veuger

*NoorderRuimte, Centre of Research and Innovation for Build Environment
Hanze University of Applied Sciences Groningen*

The purpose of this study is to show how local authorities (municipalities) deal with their community real estate. The study is an annually recurring research: every year since 2008 (except for 2013), Dutch municipalities have been asked to complete a questionnaire about how they manage their real estate. With these results it is possible to perform quantitative analyses on both trends and the current situation. The questionnaire responses have led to the following conclusions: (1) Half of the municipalities has a policy but takes few risk measures, (2) Withdrawing local government, (3) Management and operations most outsourced tasks, (4) Obstacles remain unchanged, (5) Cost reduction most relevant policy theme since 2009, (6) Relevance of some policy themes depends on municipality size, (7) More real estate is offered, smaller percentage is sold, (8) More FTEs for real estate management, especially executive tasks and (9) Conscious focus on quality. Dutch municipalities tune their new developments of the municipal real estate policy to the results of the Barometer for Municipal Community Real Estate. This leads to a further development of professionalism of the municipal real estate portfolios. The contribution to science is showing patterns of community real estate management at Dutch municipalities. A longitudinal study of this size on this subject is unique in The Netherlands.

Keywords: Community Real Estate, Dutch Municipalities, Local Government, Real Estate Management

Session: Real Estate Management

Room: VG 002, June 10, 2016, 2:15 - 3:45pm

Debt Capital Markets as a Funding Source for Listed Property Funds in South Africa

Colin Murphy

Head – Structured Debt

Corporate and Investment Banking - Real Estate Finance

Standard Bank

Chris Cloete

Programme Leader: MSc Real Estate

Department of Construction Economics

University of Pretoria

Property finance in South Africa has traditionally been a market dominated by bank lending. However in the context of the Basel III Accord creating cost and other regulatory implications for bank lending, as well a maturing listed property market adopting international best practise in the form of REIT legislation, debt capital markets funding is becoming a significant component of REITs' capital structure. The study seeks to determine the merits of this nascent funding source are for REITs in South Africa. With Debt Capital Markets funding now a material contributor to listed property fund capital structures, it is important to assess the impact this funding source has on REITs. Following a review of applicable literature, interviews with senior management of ten listed property funds and other debt capital markets stakeholders were undertaken. Certain advantages and disadvantages of debt capital markets funding, in comparison to other lending sources, were presented as hypotheses to the interviewees. The responses show support from a significant majority of the interviewees for four particular advantages and two disadvantages. The study also finds support for these advantages and disadvantages as being transient and it is advisable for REITs to periodically reassess the respective advantages and disadvantages of this funding source for their business.

Keywords: REIT, Basel III, debt funding, South Africa, debt capital structure

Session: Real Estate Management

Room: VG 002, June 10, 2016, 2:15 - 3:45pm

Shareholder Activism in REITs

David H. Downs

Virginia Commonwealth University

Miroslava (Mira) Straska

Virginia Commonwealth University

Gregory Waller

Virginia Commonwealth University

We examine shareholder activism – specifically, its determinants, wealth effects, and real consequences – in Real Estate Investment Trusts (REITs). Conventional wisdom suggests that shareholder activism in REITs occurs less frequently than in other publicly-traded firms. This belief is plausible because most REITs are thought to be protected against hostile takeovers and because the potential for undervaluation in REITs is thought to be limited. The potential gains to shareholder activists who advocate for governance, operational, or strategic changes are thus thought to be smaller when targeting REITs. We find, however, that the conventional wisdom does not hold. Specifically, we show that REITs are as likely to be targeted by shareholder activists as other public firms. We also find that the average short-term gains around activist events in REITs are significantly positive and similar to the gains experienced by other public firms. The rest of our results can be summarized as follows. We find that REIT activist targets are more likely to be subsequently taken over than other comparable REITs and that only the activist targets that are ultimately taken over experience significantly positive long-term returns, on average. We do not find evidence of any significant changes in performance, leverage, payout, or investment in the REIT activist targets that are not ultimately taken over. Collectively, our results are best described as consistent with the view that the positive short-term gains to shareholder activism in REITs reflect the expectation of an increased takeover likelihood of activist target firms.

Keywords: Shareholder Activism, REITs, Corporate Governance, Wealth Effects, Takeover Targets

Session: Listed Real Estate

Room: VG 004, June 10, 2016, 2:15 - 3:45pm

The Effect of Dividend Reinvestment and Stock Purchase Plan On REIT Payout Choice

Suyan Zheng

University of Cincinnati

Shaun Bond

University of Cincinnati

This study investigates whether implementing Dividend Reinvestment and Stock Purchase Plan (DRSPP) influences REIT choice of cash flow distribution methods. Both agency cost and signaling models indicate that REITs with DRSPP should make relatively conservative payout choice, in order to attract and incentivize current and new shareholders to make long-term investments in stocks. We provide supportive evidence that relative to REITs without DRSPP, REITs with DRSPP are less likely to omit all the payouts, including regular dividends, extra dividends, and share repurchases; and REITs with DRSPP are less likely to pay extra dividends and/or repurchase shares when they pay stable regular dividends. Less volatile stock market as response to dividend announcements of REITs with DRSPP also reflects on the managerial effectiveness on maintaining a discretionary payout policy. In addition, we find strong dividend payment date effect in REITs with DRSPP but not in REITs without DRSPP, suggesting higher temporary price pressure in REITs with DRSPP around the dividend payment date.

Keywords: Divid Reinvestment and Stock Purchase Plan, Divid Payment Date, Payout Choice, Divid Announcement

Session: Listed Real Estate

Room: VG 004, June 10, 2016, 2:15 - 3:45pm

REITs as an investment for German insurance companies

Stefan Krausch

MEAG

The subject of discussion is a largely practical one. Based on the asset allocation requirements of German insurers the question is raised why the share of REITs in their portfolios is limited to less than one percent of their real estate investment volume. Five key areas are being analysed and conclusions derived for potential steps ahead.

Background: Real estate investments have a long tradition in the German insurance industry. Their attractiveness lies in the reliably stable payment flows they generate and in the security that they offer against inflation and extreme risks such as currency reforms. Over recent years, insurance companies have been increasing their real estate activities. REITs offer an efficient and diversified investment way to enter the market, and they have advantages especially for long-term investors. But despite this, they play almost no role whatsoever in the real estate investment activities of German insurers, accounting for less than one percent of their investments in the segment.

Analyses: We have analysed REIT investments in the context of five requirements that are critical in German insurance companies' real estate allocation decisions. These requirements comprise 1/ Transparency of value drivers, 2/ Quality of the portfolio, 3/ Long-term value and cash-flow stability, 4/ Management alignment and corporate governance, and 5/ Tax and regulatory efficiency. The requirements are described in some detail and the suitability of REITs to match them is evaluated on the basis of existing academic research as well as industry information.

Results: We find that REITs may indeed provide an attractive investment option for German insurance companies. However, to grow their share in insurers' portfolios, some further steps will be necessary. First, REITs interested in expanding their investor base both need to adhere to above mentioned requirements and also to make it highly transparent to their investors that they do. Second, insurers need to find ways to consistently apply an NAV-based approach to the valuation and accounting of REITs, or to identify ways to consummate the higher level of volatility compared to direct real estate. Third, the existing regulatory framework hinders German insurance companies from investing more heavily in REITs, though some

more than others. Major issues result from solvency and insurance regulation. It will take the combined effort of all industry participants to overcome these.

Keywords: Real Estate Investment Trust, REITs, Investment, German insurance companies

Session: Listed Real Estate

Room: VG 004, June 10, 2016, 2:15 - 3:45pm

A Property News based Media-Attention-Measure and its Role for the German Real Estate Market

Marian Alexander Dietzel

IREBS International Real Estate Business School, University of Regensburg

Karim Rochdi

IREBS International Real Estate Business School, University of Regensburg

Purpose - This paper investigates the relationship between property news and the German real estate market in general, and the behaviour of German listed real estate companies in particular. More precisely, it reveals the specific media attention towards real estate service firms, large cities and positive / negative news over time starting in 2009.

Design/methodology/approach - We use a profound data sample from Thomas Daily, the leading property news provider in Germany. All covered news is examined via text analysis by focussing on specific sentiment related key words.

Findings - The analysis draws an interesting picture of the past trends in the German real estate market and the link between positive and negative news and the respective movements of real estate company shares. Furthermore, we find that media attention among the different service providers does differ over time. The same goes for major German office locations.

Practical Implications - The findings should be of particular interest for real estate market participants, as the established relationships can potentially be utilized to anticipate trends and short-term market movements. The results also serve as an attention indicator for different locations (cities) and the perception/importance of service firms.

Originality/value - This is the first paper which applies text analysis to property specific news sources.

Keywords: text analysis, listed real estate, sentiment, real estate, property news

Session: Regional Economics

Room: VG 005, June 10, 2016, 2:15 - 3:45pm

Social Media in Real Estate in Austria

Peter Sittler

Endowed Chair of Real Estate

Institute of Real Estate Management

FHWien University of Applied Sciences of WKW

Social media or social networks influence the way of communicate with each other in every field of private and business interaction. A growing importance of digital transactions and communication processes is expected in the future. Especially the real estate sector is rather slowly participating this trend.

This research paper focuses on the usage of social media, especially Facebook and Twitter, in real estate companies in Austria. The first part gives an overview about the current state of social media in the real estate business comparing the future potential of usage. The aim is to analyse the different applications of social networks with their advantages or disadvantages for the business and to structure and classify the future potential in business. Different to several surveys concerning the aims of social media usage this paper analyses the social media appliance of the entire Austrian real estate sector by identifying the social media channels of each company. The outcome is to analyse different types of social networks with their usage and evolution for the real estate businesses in Austria.

This paper covers a structural overview and a market potential analysis of social media in Austria. It comes to the conclusion that the usage of social media is decreasing more coming to the west of Austria and that applications are currently not used by many market participants. But social media will become more and more important as an enlargement of business marketing and communication in the real estate sector in Austria.

Keywords: social media, social networks, real estate marketing, new technology, ICT in real estate

Session: Regional Economics

Room: VG 005, June 10, 2016, 2:15 - 3:45pm

Social Media Marketing: An Empirical Analysis of the Online Presence of Commercial Real Estate Brands in Germany.

Dieter W. Rebitzer

Nuertingen-Geislingen University

Jonas Haberkorn

Nuertingen-Geislingen University

Anna Kreutz

Nuertingen-Geislingen University

Social media has changed the world of communications fundamentally. It has currently developed from a global phenomenon to global mainstream and has now become part of everyday life. Hyperlinking of social networks offers many opportunities to individuals, groups and companies.

Due to the fact that social networks more and more become the hub of consumers' interests, it is essential to use these channels also in business for corporate success. Simply put, social media platforms offer a new way to share content and stay connected with customers and stakeholders. This applies equally to B2C and B2B. Companies that do not use this option are increasingly endangered to lose their market position.

Compared to other industries, the use of social media in the real estate industry is low and still expandable. But even for real estate companies, social media is important to improve customer relationships and increase brand value. The research work is based on the analysis of 500 commercial real estate companies from 10 sub-sectors (architects, asset managers, facilities managers, funds and investors, real estate consultants, real estate agents, developers, landlords). In addition, a cluster analysis was done to show regional differences. The empirical study is focused on the most relevant social networking platforms for companies such as Facebook, LinkedIn, Twitter or Xing. It is also analyzed whether there is a correlation between the degree of social media presence and brand value.

The empirical findings show the range of social media usage and contribute to a better understanding of social media behavior of the corporate brands in the German real estate economy.

Keywords: Social media, real estate marketing, commercial real estate, corporate branding

Keywords: social media, real estate marketing, commercial real estate, corporate branding

Session: Regional Economics

Room: VG 005, June 10, 2016, 2:15 - 3:45pm

The impact of nutrient rules on the value of farmland

Gary Owen Garner

Lincoln University

Edward Percy

Lincoln University

Freshwater regulation is rolling out around Aotearoa-New Zealand following the National Policy Statement for Freshwater Management 2011 and 2014 which introduced a framework for management of freshwater resources. After community collaboration new rules are being progressively introduced at regional levels to reduce freshwater pollution through a focus on nonpoint source nutrient leaching and runoff from farms. Areas of differing environmental risk and set nitrate leaching limits for different zones create water management zones where specific nutrient rules apply. As a result, the regulations associated with this serve to place controls on productivity in accord with the particular zoning rules. On the basis that land value is closely linked to its productive capacity, the value of land is also potentially affected since current management systems and farm inputs are constrained. This report endeavours to understand how this new wave of regulation is currently impacting land values and what the perceived impacts are as regulations come into effect.

Keywords: nutrient regulation, dairy, land value, nutrient rules, farmland

Session: Regional Economics

Room: VG 005, June 10, 2016, 2:15 - 3:45pm

Measuring mental representations of consumers in shopping trip decisions using cognitive mapping and sense-of-place constructs

Stefan Janssen

Eindhoven University of Technology

Aloys Borgers

Eindhoven University of Technology

Marrit Laning

REDEVCO B.V.

Theo Arentze

Eindhoven University of Technology

Evidence indicates that experience-related, so-called soft factors, play increasingly a role in individuals' choice of shopping location and that the introduction of internet shopping has caused a change in the needs of shoppers and benefits they traditionally seek in (physical) shopping trips. In this study, we report the results of a large-scale survey where we applied a cognitive mapping method to elicit individuals' mental representations underlying shopping location decisions. CNET, as the mapping method is called, uses laddering to identify attributes and related benefits explicitly in a (shopping location) decision context. The advantage of this relatively new method is that it allows large samples and quantitative analysis of mental representations while, at the same time, it uses an open response format to elicit (spontaneous) responses.

In the study we used an on-line implementation of the method called MentreQe. This tool uses automated text recognition to interpret the responses typed in by the respondent in open format based on an exhaustive database of possible attributes and benefits developed specifically for the present study. In total, 514 respondents from a large Dutch national panel participated in the survey. To incorporate existing variability in drivers for shopping trips, three scenarios regarding the importance of different sense-of-place dimensions for the trip - place attachment, identity and dependence - were defined; each respondent was randomly allocated to a specific scenario.

Frequency analysis of attributes, benefits and cognitive subsets (attribute-benefit links) reveals the main characteristics of the mental representations and influence of sense-of-place scenarios. The results indicate that soft factors play an important role in consumers' considerations in shopping location decisions. Furthermore, the results indicate that these factors are more prominent in place attachment and place identity scenarios and less

so in place dependency scenarios. The findings of this study are relevant for investment decisions in retail real estate as it indicates which attributes of shopping locations are important for creating attractive and competitive shopping locations.

Keywords: shopping location choice, cognitive mapping, mental representations, sense-of-place

Session: Retail

Room: VG 024, June 10, 2016, 2:15 - 3:45pm

E-commerce endangering vibrant city centers in Europe?

Dieter Bullinger

debecon GmbH Dieter Bullinger Consulting for better shopping destinations

The paper highlights current and foreseeable developments of online retail and its impact on retailers in general, retail real estate and shopping centers in particular, and on city centers as traditional core retail and trading areas of European towns.

In its first part, the paper looks at the quantitative development of online retail and some qualitative aspects linked with such development.

Then, main challenges resulting from e-commerce for brick-and mortar retailers will be analysed, including its repercussions on retail real estate in general and shopping centers in particular.

Finally, potential impacts on urban retail structures in European towns will be studied. According to current knowledge and research, there are some signs that the core retail areas of metropolises will profit from e-commerce developments and continue to flourish whereas non-AAA towns and locations will (furtheron) face hard times. Therefore, e-commerce also produces new challenges also for urban planners and real estate proprietors.

The paper is based on extensive analysis of literature and current research, but also on the author's long years of experience in urban economic development, retail real estate and shopping center development and operation.

Keywords: E-commerce, shopping centers, retail real estate, urban retail centers

Session: Retail

Room: VG 024, June 10, 2016, 2:15 - 3:45pm

Variable Clumping Method and Mean-k-Nearest-Neighbor Method: Introducing two new approaches of retail concentration measurement into shopping center research

Jens Hirsch

IREBS International Real Estate Business School, University of Regensburg

Matthias Segerer

Chamber of Commerce Regensburg

Planners and operators of shopping centers have to deal with two main challenges: The tenant mix (shops of specific retail categories) and the arrangement of tenants (category concentration / clustering or dispersion). The question if shops of the same retail category should be placed spatially concentrated or dispersed within a shopping center, has not been answered satisfactorily yet and actually there is reason to assume that it cannot be answered in general. A first step in empirical research on this question is the quantitative assessment of category concentration. Common methods of measuring the degree of clustering result in global measures without identifying single clusters at all or they lack theoretical foundation. This paper suggests the use of variable clumping method in order to characterize the empirical situation of clustering within a shopping center. It enables the identification of statistically significant clusters on different spatial scales as well as the pinpointing of the actual shops constituting these clusters. The procedure and its results may be of importance for both, practitioners and theorists. Academic researchers have tried to identify factors, which influence the success of a shopping center. The degree of concentration or dispersion is one of these factors and can be analyzed in a more profound manner by means of the variable clumping method. The application of the variable clumping method can enable further insights concerning research activities which dealt with the coherence of retail category concentration and structural features of shopping centers. Planners and operators can use the methodology in order to analyze the situation in their centers and to identify potential improvements according to scientific theories.

The paper gives some compendium of current research on retail concentration in shopping centers, explains the general principle of the variable clumping method and presents some exemplarily results for a medium sized German shopping center. Finally with the mean-k-nearest-neighbor method, we introduce another new method which facilitates the

analysis of concentration tendencies on a more abstract level. The paper aims at initiating further research including the effect of clustering on rents and customer flow distribution.

Keywords: Shopping center research, Spatial analysis, Retail property, Geographic informations systems

Session: Retail

Room: VG 024, June 10, 2016, 2:15 - 3:45pm

Shopping center events as a management tool: an empirical analysis on the basis of hedonic shopper types

Julia Brusgul

*EBS Universität für Wirtschaft und Recht / Real Estate Management
Institute*

This study evaluates how various shopper types (as measured by an updated hedonic shopping motivation scale) perceive and react to different shopping center events. This will enable center managers to use events to influence frequencies among desired shopper types and contribute to the existing retail event research.

The research on retail events is pretty scarce and there is a lack of studies that investigate the effectiveness of such events (Parsons, 2003). In studies like "Assessing the effectiveness of shopping mall promotions" (Parsons, 2003) the overall ranking of events is analyzed but it is not clear what is the shopper type behind the ranking choice and on what reasons the ranking was based. Also the influence of marketing events on the attitude of the retail brand was examined, e.g. in "Shopping events, shopping enjoyment, and consumers' attitudes toward retail brands – An empirical examination" (Leischnig, Schwertfeger, & Geigenmueller, 2011). As a result the study of Leischnig et al shows that with a certain event image such outcomes like a customer's satisfaction with an event the retail key performance indicators can be influenced.

This study researches in more detail whether the shopping center sales and frequencies can be influenced by an appropriate event mix, since the challenges of the modern world require more sophisticated management tools for shopping center managers. On the basis of an established hedonic shopping motivation scale, new shopper types are created which include in addition to established types the variables "expenditure behavior" and "event preference". This enables a more efficient event use and contributes to the existing retail event research.

In order to test the applicability and validity of the measurement scale of the hedonic shopping motives established by Arnold et al (Arnold & Reynolds, 2003), the authors conducted a survey (in German) which was adopted to the German shopping center context.

The matrix with the shopper profile, event preference and expenditure behavior enhances the understanding of how the manager lever shopping center events can be used effectively in order to manipulate both the

quantity and quality of the visitors, e.g. in terms of the tenant's sales or in terms of visitor's frequencies. For example the event preferences of the cluster of shoppers with high expenditures during the last shopping center visit can be analyzed carefully and considered in the event planning of a mall.

Keywords: Shopping center, management lever, retail development, shopping center event, Deutschland

Session: Retail

Room: VG 024, June 10, 2016, 2:15 - 3:45pm

Governance and international investment: Evidence from real estate holdings

Nathan Mauck

University of Missouri - Kansas City

S. McKay Price

Lehigh University

The international business literature documents that higher quality corporate governance, at both the national level and the firm level, is associated with a greater likelihood to invest abroad and to take larger stakes when investing abroad. We examine a unique set of international real estate holdings and corporate governance data to evaluate the comparability of real estate investment to foreign direct investment (FDI) more broadly. Our results at both the national and firm level indicate that real estate transactions differ fundamentally from other types of FDI. Specifically, property nation governance, real estate firm headquarter nation governance, and firm level governance are negatively associated with the propensity to invest across borders. Further, firm level corporate governance is negatively related to the stake acquired in foreign property investment. These results are counter to the FDI literature.

Keywords: International Real Estate, Real Estate Investment, Foreign Investment, Corporate Governance, International Business

Session: Corporate Governance

Room: H24, June 10, 2016, 4:15 - 5:45pm

Corporate Social Responsibility and the Market Valuation of Listed Real Estate Investment Companies

Alexander Nikolaus Kerscher

IREBS International Real Estate Business School, University of Regensburg

Wolfgang Schäfers

IREBS International Real Estate Business School, University of Regensburg

This study investigates the relationship between the implementation of a corporate social responsibility (CSR) strategy and the corporate financial performance for a sample of 191 listed real estate investment companies from nine different countries.

The sustainability of a company is measured using various self-constructed indices based on the Guidelines of the Global Reporting Initiative (GRI). A two-stage least squares regression framework is used to account for the problem of endogeneity.

Overall, a positive association can be observed between the amount of disclosed overall CSR information of a listed real estate investment company and its market valuation. In general, the results from the empirical analysis conducted do not lend support to the neo-classical idea that the engagement in CSR activities and the implementation of a comprehensive CSR strategy destroy shareholder wealth. In fact, it is rather the opposite that is true. With regard to listed real estate investment companies, evidence shows that there is strong reason to suggest that a convincing business case for CSR can be made. Furthermore, investors value initiatives which have a clear and coherent link to the enhancement of future value creation processes such as efforts to mitigate environmental impacts by reducing resource and energy consumption of buildings.

It therefore makes sense for business executives of such companies to implement appropriate CSR strategies into their core business functions. In order to reap the benefits from these activities, a listed real estate company has to report on its CSR engagements in detail and make this information public in a structured way. With regard to the implemented CSR strategy, a focus should be put on areas which directly relate to the core business and entail future cost advantages such as the investment into sustainable

buildings or the enhancement of energy efficiency in portfolio properties. Reporting such efforts effectively is then key to enjoying the benefits of an enhanced valuation by capital markets.

Keywords:

Session: Corporate Governance

Room: H24, June 10, 2016, 4:15 - 5:45pm

Green Gold? A (Spatial) Analysis of Green Office Buildings in Europe

Vlad-Andrei Porumb

University of Groningen

Costin Ciora

Department of Financial Analysis and Valuation, The Bucharest University of Economic Studies, Romania

Gunther Maier

WU University

Ion Anghel

Department of Financial Analysis and Valuation, The Bucharest University of Economic Studies, Romania

In this paper we draw upon the DTZ Research Institute database in order to analyze green certification brings a price premium for buildings in the EU. Specifically, we focus on Finland, France and Germany, countries with extensive information regarding green buildings transactions. Given that in the EU green certifications became prevalent after 2010, we restrain our sample to the 2010-2015 period. Considering the increasing demand for certification, we expect that sale prices for green buildings are higher relative to non-green buildings. We first assess if green certification has a premium in the analyzed countries. Second, we assess the effect that the location of green buildings has on the price premium. Our findings suggest that (i) buildings with green certification have a 19 percent higher price relative to non-certificated buildings and (ii) in cities of under 500 000 people, the price premium increases with the distance from the city center. We contribute to the rising literature on green buildings as the only study to assess the price impact of green certification in European countries.

Keywords: Green certification, Price premium, office buildings, European Union

Session: Sustainable Real Estate

Room: H26, June 10, 2016, 4:15 - 5:45pm

The Value of Energy Efficiency and the Role of Expected Heating Costs

Andreas Mense

FAU Erlangen-Nürnberg

The German Energy Savings Act (Energieeinsparverordnung) requires sellers on the housing market to provide detailed information on expected yearly energy consumption per square meter. This paper uses variation of energy use and heating costs from local fuel prices, climatic conditions, and fuel types to analyze the relationship between expected energy cost savings from energy efficient building structure and house prices in a data set of listing

prices from all regions of Germany. Furthermore, the role of building age for the value of energy efficiency is considered. Results suggest that agents are aware of the investment dimension of energy efficiency improvements, but not all important aspects are taken into account.

Keywords: energy efficiency, hedonic analysis, house price capitalization, climate, heating fuel prices

Session: Sustainable Real Estate

Room: H26, June 10, 2016, 4:15 - 5:45pm

Does a Green-Certified Storefront Mean More Income? Estimating Financial Benefits of Certification for Space Users

Avis Devine

University of Guelph

Qingqing Chang

Office of the Comptroller of the Currency

Much research has been completed on income and valuation premiums to owners and operators of sustainable and energy efficient (SEE) real estate. However, little work examines the financial benefit to the space users, outside of decreased operations costs in office space. As the retail industry begins to adopt SEE certification, the implications for the space users are of utmost interest, as retailers may be unwilling to pay a rental rate premium for SEE certified space if there is not a user benefit. Since location-specific business income data is difficult to obtain, this research examines the question utilizing a novel proxy: retail bank branch deposits. Through an examination of deposit growth, it is determined that LEED certified branches have not only an increased probability of above-market-rate deposit growth, but also experience notably higher year-over-year deposit growth. Energy Star certification is also analyzed and found to offer little income-increasing benefit to the space user. These results are tested in an event study which validates the findings, and further indicates that the benefits of LEED extend years past initial certification, indicating the lasting income-related benefits of LEED certification for retail space users.

Keywords: energy efficiency, sustainability, bank branches, deposits, loans

Session: Sustainable Real Estate

Room: H26, June 10, 2016, 4:15 - 5:45pm

Property Management skills - the changing profile

Bob Thompson

Remit Consulting

Over the past decade, the focus of property management has moved away from process-led functions like rent collection to transaction-led functions such as customer service.

This leads to the hypothesis that property skills are no longer a prerequisite for a property manager.

This paper takes the Remit Process Model - a map of all the processes in Property, Asset and Facilities management area (PAM) - and uses it to define a discrete property management function.

Using evidence from the Remark survey of the UK PAM market the profile of skills is tracked over the last six years highlighting changes.

This data is triangulated against interviews with key property management companies to assess the likely future path of skills required by the sector, testing the hypothesis.

Keywords: Property Management, Asset Management, Facilities Management, Skills

Session: Asset, Property & Facility Management

Room: VG 002, June 10, 2016, 4:15 - 5:45pm

Outsourcing Property Management? A Comparative Study

Heidi Falkenbach

*Real Estate Economics Research Group
Department of Built Environment
Aalto University*

Tuuli Jylha

TU Delft

Deborah Levy

University of Auckland

Patrick McAllister

University of Reading

Hilde Remoy

Focussing on institutional investors, this paper analyses models for the procurement and delivery of property management functions in commercial properties. In the paper, a distinction is drawn between property and asset management functions. For a range of international markets, the paper investigates approaches to outsourcing property management used by large real estate investment organisations and investors' perceptions of the key advantages and disadvantages of outsourced property management. Drawing upon semi-structured interviews with managers responsible for overseeing procurement and delivery, the paper provides insights into the current state in property management outsourcing, the structure of the property management sector, the attributes of outsourcing contracts, perceptions of the rationales and/or benefits of outsourced property management, and issues of governance and delegated authority.

Keywords: Outsourcing, Property Management, Rationale, Institutional Investor

Session: Asset, Property & Facility Management

Room: VG 002, June 10, 2016, 4:15 - 5:45pm

New Standard Deliverables Facility Services – version 3.0

Wolfgang Inderwies

freelance consultant, lecturer

In autumn 2002 a working group across the both leading facilities management organizations GEFMA and IFMA (now: RealFM) established the first time to develop a Facility Services Contract and a Standard Directory of Facility Services (Standard Facility Services Specifications).

The original version 1.1 of these documents were issued by GEFMA and IFMA in November 2004, since then nearly 1,500 copies each could be disposed.

Both documents have been enhanced continuously in the past years by the association representatives. The recent versions 3.0 of these Standard Deliverables Facility Services were completely revised, adapted to current market trends and published in autumn 2015. Moreover an English version of the Standard Facility Services Specifications 3.0 was created and will be published shortly.

The author Wolfgang Inderwies was the initiator and founding member of the cross-association working group. Moreover, he was responsible for the final editing of both the German and the English Standard Facility Services Specifications.

In his presentation, Wolfgang Inderwies first presents the main innovations of these documents in version 3.0. These are, for example, definitions of cost-relevant terms (such as repair and maintenance), maintenance strategies, documentation requirements in facilities management or contractual arrangements for the implementation of CAFM software. Moreover he discusses issues that require a special adaption in Facility Services Contract and Standard Directory of Facility Services, e.g. the system of a price list.

Keywords: facilities management, Facility Services Contract, Standard Facility Services Specifications

Session: Asset, Property & Facility Management
Room: VG 002, June 10, 2016, 4:15 - 5:45pm

Effects of Uncertainty and Labor Demand Shocks on the Housing Market

Gabriel Lee

IREBS International Real Estate Business School, University of Regensburg

Binh Nguyen Thanh

IREBS International Real Estate Business School, University of Regensburg

Johannes Strobel

IREBS International Real Estate Business School, University of Regensburg

This paper investigates the simultaneous effects of uncertainty and local labor demand shocks on the U.S. housing market. We use binary uncertainty indicators and a Bartik (1991) index to quantify both uncertainty and labor demand shocks. Controlling for a broad set of variables in fixed-effects regressions, we find uncertainty shocks exhibit small adverse level effects, where housing prices and median sell prices decrease in the amount of 1.4% and 1.8%, respectively, and the percentage loss of houses selling increase by .52%-points. More importantly, however, when both shocks are introduced the effects of uncertainty shocks on the housing market dominate that of local labor demand shocks on housing prices, median sell prices, the share of houses selling for loss, transactions and homes sold as foreclosure. These results leads to the support for the presence of real options effects in the housing market.

Keywords: Bartik labor demand shocks, real options effects, time-varying uncertainty shocks, housing markets

Session: Urban Economics & Planning

Room: VG 004, June 10, 2016, 4:15 - 5:45pm

Insurance Market Response to Flood Hazards: Empirical Evidence from the Housing Market

Carolin Pommeranz

RWTH Aachen University

Bertram I. Steininger

RWTH Aachen University and ZEW Mannheim

Higher property losses due to flooding events represent an increasing challenge to the global insurance sector. This study aims at identifying the impact of flood hazard location on property prices and evaluates the flood risk perception of potential homeowners. We utilize insurance-based geographical information system (GIS) data for flood zone identification and residential property offering records from Dresden, Germany to run a spatial Durbin model. Results indicate that homeowners are almost informed about costs for sufficient flood insurance coverage and premiums are capitalized into the residential property market since location within a flood risk area lowers offering prices for houses by 26%. However, for condominiums within a flood-prone area the price discount is only 3%. Furthermore, price discounts exceed capitalized insurance premiums due to non-monetary losses that cannot be covered by insurance.

Keywords: flood insurance, property prices, hedonic pricing, spatial regression

Session: Urban Economics & Planning

Room: VG 004, June 10, 2016, 4:15 - 5:45pm

Micro-Housing as Urban Development Model in a Shared Economy

Bing Wang

Harvard University Graduate School of Design

Demographic shifts, network-driven social trends, economic prosperity, and technological innovations all contribute to a wave of re-urbanization in U.S. burgeoning metropolitan cores. Those moving to metropolitan cores prefer urban life within interconnected physical, social, and economic networks. Recent data indicates that in 2013 alone U.S. urban region experience a 2.3 million increase in population (Badger 2014); and in 2015, more than one third of workforce was composed of the millennials aged from 18 to 34 (Matthews 2015). Facing the eroding affordability of rental units from an increase in demand and lack of supply in urban regions, residential real estate developments composed of living units 375 square feet (sq.ft.) or less and modular units are gaining traction as a potentially effective solution to addressing limited housing supply and urban rental affordability.

This paper includes three sections. First, it dissects development patterns in order to understand the types of products that are being created, their physical characteristics, and the different strategies imbedded in the current micro-housing development. Secondly, it examines the urban context structure of the micro-housing development, comparing it to conventional market-rate apartments. Finally, it establishes a set of analytical metrics in order to evaluate the potential of micro-units and their development to be tested as a possible future residential development model. Through empirical data, statistics, and a series of spatial analyses, including GIS mapping and regression modeling, this research intends to shed light on how micro-unit and micro-housing residential developments are emerging as social and economic catalysts to foster a unique phase of urban revitalization that is grounded in the synergetic fusion of place, community and innovation in a shared economy.

Keywords: residential real estate, urban development pattern, micro-housing, innovation

Session: Urban Economics & Planning
Room: VG 004, June 10, 2016, 4:15 - 5:45pm

Social-economic impact of an innovation centre development in local context: an empirical analysis for Poland

Anna Wojewnik-Filipkowska

*Univeristy of Gdansk
Faculty of Management
Department of Investment and Real Estate*

Krzysztof Szczepaniak

*University of Gdansk
Faculty of Management
Department of Investment and Real Estate*

Robert Bęben

*Univeristy of Gdansk
Faculty of Management
Department of Marketing*

There are many institutionalized forms and initiatives supporting technology transfer between university and industry. They include science parks, centres of technology transfer, centres of innovation and incubators. Although their primary role is to encourage technology transfer, they also provide for job creation and regional economic development. Most countries implement a policy supporting the commercialization of research. The paper presents a picture of innovation centre system in Poland and proposes a framework to identify and evaluate costs and benefits of innovation centre in the local context. The framework takes into consideration efficiency and effectiveness of the different forms of innovation centres and their direct and indirect local effects. The analysis shows that the impact of the innovation centre on the local economy depends on the type of the innovation centre and characteristics of the local economy, and short and long term external effects should be taken into account. Moreover, the research connects the idea of innovation and infrastructure innovation development with the concept of sustainable development.

Keywords: innovation centre, academic incubator, externalities, local development, Poland

Session: Urban Economics & Planning
Room: VG 005, June 10, 2016, 4:15 - 5:45pm

Shrinking Villages – Vacancy Management and Image Development

Claus Müller

TU Berlin

Faculty VI Planning Building Environment

Institute of Architecture

Chair of Planning and Construction Economics/Real Estate

Ben Gabriel

Technische Universität Berlin

Faculty VI - Planning Building Environment

Continuing Education Program Real Estate Management

Kristin Wellner

TU Berlin

The interest in vacantness in Germany was dominated by urban shrinkage for a long time. Federal aid programs like Stadtumbau Ost and West supported urban remodeling, deconstruction and development in cities and medium-sized towns. In the course of the contemporary trend of reurbanization, a turnaround seems to be accomplished, at least for the larger cities a steady growth can be noticed. The rural regions show the contrary picture. During the 1990s these areas profited from catch-up effects in the construction of single-family homes, but due to the difficult situation on the labour market, the trend could not be perpetuated. Even young families, formerly attracted by bounteous space and green surroundings, tend to favor an urban lifestyle nowadays. So, neither the natural population decline due to demographic effects, nor the exodus of education and labour migrants can be compensated. This rural shrinkage causes several problems for municipalities as well as for property owners. Obviously, the weakened demand for real estate drives a devaluation of property. Long-term vacancies usually cause visual and structural decay, which also reduce the attractiveness of surroundings and facilitates a negative image in the public. The decline in rural population leads to an under-usage of social and technical infrastructure. Schools and Shops are therefore closed, public transport timetables are thinned out and the fixed maintenance cost for sewage or water supply have to be carried by less households. In this way, shrinking regions are in danger to enter a vicious circle of decay and therefore further shrinkage. In recent years, various measures to secure services to the public in far-flung areas have been developed. Also, a range of tools to manage vacancy, like real estate cadastres or online vacancy detectors, were applied in different regions. Since the problems differ strongly between each region, village and even property, procedures are not easily transferable. Taking a closer look at a wide range of measures and the individual challenges, a toolbox is to

be created to counter rural exodus and the devaluation of property, to strengthen local identity and improve the public image, as well as to secure the supply of the remaining population with goods and services. This integrated set of measures tackles the local issues on the different levels of municipality, village and single property. Due to its flexible applicability the toolbox is transferable widely.

Keywords: Rural Exodus, Vacancy Management, Public Services, Infrastructure, Image Development

Session: Urban Economics & Planning
Room: VG 005, June 10, 2016, 4:15 - 5:45pm

Modelling spatial distribution of spill-over effects resulting from urban development

Tine Köhler

Declining growth is – despite current immigration – a phenomenon occurring especially in peripheral regions in Germany lacking job offers and accessibility. Decline is characterised by decreasing number of inhabitants, a high debit per capita in terms of dues for infrastructure and services and in many cases by high debts of the municipality. In terms of a sustainable urban development and a long-term calculation municipalities try to retrofit the building stock instead of developing new building land. In order to keep demand and supply on the housing market in balance one can even suppose they reduce the building stock. However, many municipalities provide new building land to generate new buyers and attract young families. Those measures can trigger higher vacancy rates in the core ('donut effect'). One reason is the neglect of spill-over-effects by municipalities when calculating urban measures. Empirical analyses of standard land values between 2011 (after census) and 2014 in 'shrinking' municipalities which developed new building land showed changes in the value of building stock. Yet, spill-over-effects have not been taken into account, but only costs for developing building plots. One reason is the problem of modelling the spatial distribution of these effects and the mapping to single real estates. Therefore, the resemblance of real estates is to be known as well as the spatial relation. This paper shows an approach for modelling the spatial distribution of spill-over-effects of building measures. Assuming that building measures affect 'similar' neighbourhoods in particular, the resemblance has to be determined first. The resemblance of housing estates representing different neighbourhoods was analysed applying cluster analyses. The data used originate from the real estate platform www.immobilienscout24.de and comprises real offers in the region of northern Eifel (Germany) between November 2015 and January 2016. Based on the clusters generated neighbourhoods were classified. In order to model the spatial distribution of spill-over-effects, this spatially related data were processed in a spatial lag model. The data were processed in R and linked to QGIS. This enables municipalities to apply the analyses by themselves.

Keywords: Effects of urban measures, declining population, cluster analyses, spatial lag model

Session: Urban Economics & Planning
Room: VG 005, June 10, 2016, 4:15 - 5:45pm

Smart Cities, Big Data and the Built Environment: What's Required?

Jorn Van De Wetering

Real Estate & Planning, University of Reading

Tim Dixon

School of the Built Environment, University of Reading

Martin Sexton

School of Construction Management and Engineering, University of Reading

The smart city model provides many opportunities to create added economic, social and environmental value from the integration of big data, covering many areas of the built environment. This includes the use of data sets relating to buildings, land use, planning, environmental data, health, economy, and energy.

This project is funded by the RICS Research Trust. Focusing on built environment 'big data' (including data relating to both construction and property) this research examines the drivers and barriers for the use of big data platforms at the city level in the UK and internationally. The research also examines key trends in the development and opening up of big data and open data in cities, and how this relates to opportunities for client advice, and the potential for property professionals to use big data creatively and innovatively to add value to their professional work.

The aim of this study is to examine the scope for the development of big data platforms at a city level in the UK and internationally, and how the RICS and its members can benefit from them. The literature review examines current definitions and models for smart cities and big data. The research uses a combination of a survey of leading UK smart cities. It will also use interviews and workshops with key stakeholders in two leading UK case studies, as well as two international cities with a strong 'smart city' commitment. A key output will be a generic but configurable framework for a 'big data' directory for the built environment in cities.

Keywords: Smart Cities, Big Data, Built Environment, Data Framework, Sustainability

Session: Urban Economics & Planning

Room: VG 005, June 10, 2016, 4:15 - 5:45pm

The role of the property Valuer in the Family Law system in Australia.

Deborah Leshinsky

How property is divided can impact on the financial needs of a former spouse. This very important issue can be overlooked by judges when allocating property and financial resources. In Australia as elsewhere there are considerable risks associated with relationship breakdown and subsequent transition in people's lives.

Risks translate to social and economic costs. For some families the emotional and financial impact of separation and divorce can resonate for many years after the separation and the impact of this distress can impact on the community and public resources in considerable negative way.

More specifically when dividing the matrimonial home the court is directed to take into account the financial and nonfinancial contributions made to the property and the welfare of the family.

Property Valuers are called in as one of the main stakeholders as expert witnesses to give an opinion of valuation.

The property valuation of the matrimonial home can and does end up being distorted putting property valuers under immense pressure in the court system.

This paper will look at the bias uncertainty, undervalued and overvalued properties in the court system.

Keywords: family law valuation, family court valuations, matrimonial valuation, matrimonial home and divorce, division of property and divorce

Session: Real Estate Valuation & Appraisal
Room: VG 024, June 10, 2016, 4:15 - 5:45pm

An option-theoretical approach to the valuation of rights of first refusal for real estate

Philipp Naubereit
MEAG

Rights of first refusal are a common occurrence in real estate transactions. The finite supply of land and the historical appreciation in value of properties can be economic motives to contractually secure a right of first refusal for real estate. The right – when executed – allows the party to which it was granted to purchase the property at the conditions that the third bidding party offers. Real estate acquisitions typically incur substantial transaction costs (e.g. due diligence, legal advisory, stamp duty etc.). The uncertainty introduced through a right of first refusal in the acquisition process can discourage potential buyers from making an offer for the property. The seller may therefore choose to remove the right of first refusal through negotiation prior to marketing of the property.

Under such circumstances the knowledge of the economic value of the right of first refusal can provide a valuable information for the negotiation process. This analysis focuses on the value of the option to enter into a purchase agreement at the price offered by a third independent party. The negotiation effects of potential sunk costs or delays in the acquisition process are not considered. It is assumed that at the time of negotiation over the right no offers for the property were already made, leaving both owner and holder of the right of first refusal in uncertainty about an eventual bid. Furthermore it is assumed that all parties including potential bidders share the same information regarding the property.

The value of the right of first refusal to the holder at the time an offer was made by a third party should be the difference between the inherent value assumed by the assignee and the offering price by the third party. Prior to that point the value of the option should be determined by the expected deviation of the bid from the assumed inherent market value of the property. For the purpose of this analysis the expected deviation is modeled after the statistical deviation of actual real estate transaction prices from appraised market values. The value of the option to enter into a purchase agreement at an unknown offering price is determined under the

assumption of a normal distribution. The data is based on IPD and RICS studies. The model results were reproduced via Monte Carlo simulation and mirror typical estimates in literature for the value of rights of first refusal in the German property market.

Keywords: right of first refusal, option theory, valuation, option, market value

Session: Real Estate Valuation & Appraisal
Room: VG 024, June 10, 2016, 4:15 - 5:45pm

Estonian Association of Appraisers: 20 years of experience and challenges for the next decade

Kaarel Sahk

*Rural construction department
Estonian University of Life Sciences*

Andres Teder

Certified real estate appraiser, Real estate company Pindi Ltd

The Estonian Association of Appraisers (EAA) was established as a non-profit organisation on 5 May 1995. This more than two decades existence gave a good foundation for analyze of real estate appraisal situation in the one of newly independent

state. The time scale of procedure itself is possible to divide into deferent segments that are describing the political or economic development of state. Analyze includes the role of EAA and its position on different markets and submarkets linked with real estate. It is important to underline that EAA's and professional appraiser's activities are strongly connected with development of valuation standards from the first edition of IVS in 1994 on the one hand. On the other hand, the system of authorization of real estate appraisers and based on it Professions Act blueprint linked with the EU requirements, are the most important markers for describing the situation. Last but not least, the contemporary drivers are the valuation companies based implementation of ISO 9001 principles together with the third party insurance and as well the EU directives or decrees according the housing loan policy. The lastly named serve as basic challenge attributes for the next decade.

Keywords: EAA, time scale, valuation standards, authorization, insurance

Session: Real Estate Valuation & Appraisal
Room: VG 024, June 10, 2016, 4:15 - 5:45pm

Buildings condition assessment: part of appraisal procedure or an independent procedure?

Kaarel Sahk

*Rural construction department
Estonian University of Life Sciences*

Jaan Miljan

Professor Estonian University of Life Sciences

Buildings condition assessment as part of appraisal procedure or an independent procedure, as a solution for professional activity opens up the historical question in a new light and makes it with supplement that the story is not about to do or not to do, but about a sub-activity of independent procedure. In current development is possible to follow the both directions of the question, while the assessment during the appraisal procedure has a double nature, so as may be filled by the appraiser itself or as a sub-activity made by other professional. On the other hand, the buildings condition assessment is an independent one and strongly linked with the customer's brief for assessment, while the earlier described and valuation based, is only one part of customer's brief for appraisal. Last situation do not point clearly the role and position of assessment in the discussion and conclusion gave in the summary of appraisal report, contrariwise, the independent assessment underlines an assessment as a mainstream of building conditions explanation. Author's praxis of co-operation with courts considerably shows that the more clear and acceptable results of buildings condition are scored while we deal with independent procedure. The independency of procedure and linked with it co-activities as part of current contest of Building Code are supporting the target of approach.

Keywords: Buildings condition assessment, appraisal procedure, independency, professional, Building Code

Session: Real Estate Valuation & Appraisal
Room: VG 024, June 10, 2016, 4:15 - 5:45pm

Do the Determinants of House Prices Change over Time? Evidence from 200 Years of Transactions Data

Martijn Droes

University of Amsterdam & Amsterdam School of Real Estate

Alex van de Minne

MIT

This paper uses almost 200 years of historical data on house prices and its determinants from Amsterdam, the Netherlands. We find that before 1900 population growth, construction costs and new housing supply are the most important determinants of house price dynamics. After 1900 income starts to play a role and, with the development of the mortgage market, interest rates as well. Directly after World War II population and new housing supply are the key determinants of house prices, which likely reflects the baby boom generation and post-war reconstruction plans. Our results imply that the determinants of house prices are not fixed and reflect the economic state of affairs in each different era.

Keywords: house prices, long-run determinants, cointegration

Session: Residential Real Estate
VG232, June 10, 2016, 4:15 - 5:45pm

Cross-Country Differences in Homeownership: A Cultural Phenomenon?

Stefanie J. Huber

Research Department of the European Central Bank, Universitat Pompeu Fabra and Barcelona GSE.

Tobias Schmidt

Deutsche Bundesbank (Economic Research Centre)

Cross-country differences in homeownership rates are large and very persistent over time, ranging between 35% in Switzerland to 80% in Spain. In this project we test the hypothesis that these cross-country differences are driven by cultural tastes. To isolate the effect of culture from the effects of institutions and economic factors, we investigate the homeownership attitudes of second generation immigrants in the United States. We find robust evidence that cross-country differences in cultural preferences are an important explanatory factor for the observed persistent differences in homeownership rates across countries.

Keywords: housing markets, homeownership rates, country heterogeneity, preferences, cultural transmission, migration

JEL Classifications: E00, R21, R23, J15, O18, Z10.

Keywords: homeownership rates, country heterogeneity, preferences, cultural transmission, housing markets

Session: Residential Real Estate
VG232, June 10, 2016, 4:15 - 5:45pm

The German Land Transfer Tax: Evidence for Single-Family Home Transactions

Carolin Fritzsche

Ifo Institute, Dresden Branch

Lars Vandrei

Ifo Institute, Dresden Branch

In the real estate market, not only prices influence the number of transactions but also transaction costs like transfer taxes. We use recent data to study the effects of the German land transfer tax. We estimate the impact of the land transfer tax on the number of transactions. We investigate tax increases in different German states for the period from 2005 to 2015. On the one hand, a tax increase may lead to a long-term reduction in real estate transactions. On the other hand, there may be a shift in transactions as buyers and sellers anticipate the higher tax rate and try to avoid it. While BEST and KLEVEN (2015) noticed that some transactions have been brought forward to still take place during a tax holiday in the UK, SELMROD et al. (2013) do not find a significant anticipatory effect for their empirical analysis of transactions in Washington D. C. With regard to the long-term effect, empirical evidence is clearer: DACHIS et al. (2012) and SLEMROD et al. (2013) observe a decline in sales after an increase in the transfer tax. Furthermore, BESLEY et al. (2014) find that more housing transactions took place during a land transfer tax holiday in the UK. For the case of Germany, there are no empirical studies so far. Our goal is to separate the short-term anticipatory effect from the long-term effect on real estate transactions. We apply different econometric estimations. The monthly number of transactions within states are explained by the anticipatory effect, the transfer tax levels and control variables. The anticipatory effect is measured with the help of three dummy variables for the months before the tax increase and again three dummy variables for the months after the tax increase. The long-term decrease in transactions is captured by the transfer tax level while controlling for the anticipatory effect. We estimate a fixed effects panel regression and find that a one percentage point increase in the land transfer tax goes along with 11% fewer transactions. The 11% can be split into an anticipatory effect and a long-term effect on transactions. The anticipatory effect results in 38% more transactions right before the tax increase and 31% fewer

transactions right after the tax increase. The long-term effect on transactions is estimated to about 6% less transactions for a one percentage point higher transaction tax.

Keywords: land transfer tax, single-family homes, house transactions

Session: Real Estate Economics

Room: H25, June 11, 2016, 9:00 - 10:30am

Country risk in the EU - impacts on the Real Estate Markets

Mark Renz

We analyse the 27 countries of the European Union with defined key factors which influence the Real Estate Markets under the view of its risk bearing capacity (financial). At the end will be a rating for every country and also a ranking in the EU.

We took a look at the quota of the states expenses in relation to the GDP per capita, the main wealth drivers in the economies and their number of employees. Also we rate the constitution of the labour market and the salaries in relation to the living costs in each country. Furthermore the political stability and their ability to face upcoming problems. We close our observation with an overview over the education of the population, the social security systems and the migration/ immigration.

These factors were weight and result in a specific rating for each country and its risk bearing capacity of their housing markets and mortgage loans. In a summary we give advices for improvement.

Keywords: risk bearing capacity, future, immigration, EU, political stability

Session: Real Estate Economics

Room: H25, June 11, 2016, 9:00 - 10:30am

Mortgage Rates vs. the Corporate Bond Yield Index: Their Impact on the Housing Market in California during the Time of Qes

Taewon Kim

California State University Los Angeles

Daniel Lee

California State University Los Angeles

Yalan Feng

California State University Los Angeles

Donald Keenan

Universite de Cergy Pontoise

Mortgage interest rates in general move in tandem with Treasury bond yields. The corporate bond index is known to have a strong correlation with treasury yields, especially with those of five-year treasuries (see WSJ market data center, for example). It is not hard to infer then that there exists a close correlation between mortgage rates and the bond yield index, which suggests that one could use the corporate bond index (CBI) as a barometer of mortgage rates, as corporate rates are more easily available than mortgage rates, which are more localized.

During the last decade-long Great Recession, however, the usually close relationship between bond yields and mortgage rates broke down at the various stages of the many Quantitative Easing (QE) programs. The degree of the divergence between these two rates during this period has been established in recent research. In this paper, we investigate how this divergence between the two rates affected housing prices differently during 2007-2014. To that end, we compare the impact on housing prices of mortgage rates on one hand and of the impact of CBI on the other, in California's largest cities during this period. Our research shows that, once the close relationship between the two rates broke down as the result of QEs, significant divergence develops in their respective correlation coefficients on housing prices. We show the degree to which using the bond yield index as a barometer of mortgages rates can distort housing price estimates during the period of divergence between these two rates.

The results show that, while both mortgage rates and the corporate bond yield index both have a strong explanatory power on housing values as can be expected, the regression coefficients become consistently weaker as the regression coverage period approaches the start of the QE (Table 1 & 2). We note however, as the sample period nears the housing collapse of the

2000s, the corporate bond yield index coefficients decrease more precipitously than the mortgage rate coefficients i.e. the effect of the corporate bond yield index on housing prices becomes noticeably and consistently weaker over time, more so than the mortgage rate coefficients do (see Table 1).

One could explain this as the natural byproduct of the Treasury buy-back QE policies which suppressed the bond rates more than they affected mortgage rates, hence the divergence in values of these two variables as noted in Kim, Lee and Tran (2015).

Keywords: QEs, Corporate Bond Index, Mortgage Rates, Recession, Housing Value

Session: Real Estate Economics
Room: H25, June 11, 2016, 9:00 - 10:30am

'Back to the future' – Transforming the urban landscape to support greater food self-sufficiency

Shelley Burgin

Faculty of Society and Design, Bond University

Historically, urban households supplemented the family diet by growing produce although there has been a transition from growing food to relying on the local supermarket for supplies. In parallel, urban populations have grown continuously and there are now more people living in cities than elsewhere. Consequently, agricultural lands are being increasingly transformed into urban landscapes where there is increasingly limited space for a garden to supplement the household diet. In Australia, for example, this is in stark contrast to reliance of the backyard garden that occurred from first colonisation through to after the post-World War II.

However, in the recent decades, there has been an increased interest in growing in 'healthy foods'. However, the amount of food that can be grown in the backyard has diminished with a trend towards smaller urban allotments and a widespread preference for units and townhouses rather than the '1/4 acre block'.

With the continued increase in urbanisation and associated loss of agricultural lands and, for example, commitments of world leaders to reduce carbon emissions in response to Climate Change, the need for transition to greater urban self-sufficiency will become a reality. This is evidenced, for example, by the Cuban transition to urban agriculture with the introduction of strict trade sanctions. However, on the current trajectory of denser populations, resilience will be more difficult to achieve. The current transition 'back to the future' to more sustainable lifestyle may become a more widespread imperative with, for example, the increasingly interest in 'healthy foods', and the reduction in use of fossil fuels, for example, as a response to climate change or terrorism. To achieve this will require changing the current preconceptions of urban landscapes and thus government policies. It is therefore imperative that those who influence the development of urban communities recognise the need for urban sustainability.

Keywords: Urban sustainability, Urban agriculture, Suburban gardens, self-sufficiency trs, City futures

Session: Real Estate Economics

Room: H25, June 11, 2016, 9:00 - 10:30am

Integrity and the Real Estate Industry

Gerhard Förster

DIA Deutsche Immobilien-Akademie an der Universität Freiburg

Daniel Piaolo

THM Technische Hochschule Mittelhessen

Integrity is a performance increasing factor! This positive view is in contrast to wide spread believes, since the adherence to moral and ethical standards is frequently seen as performance costing aspects. Even if is clear to people that complete honesty and soundness of moral character is desirable in a perfect world, certain compromises might be necessary to achieve personal and business targets. Consequently, sticking to restricting ethical standards reduces the range of options and consequently performance. However, in a dynamic setting of interactions there is a different outcome to the performance effect of integrity: As Michael C. Jensen put it: "Integrity: Without it Nothing works". This is due to new opportunities that would not exist without integrity.

Real Estate is an industry linked with corruption scandals. In studies of the watch dog organization Transparency International the Real Estate industry scores high in the "Bribe Payers Index". Consequently, the industry has to increase its efforts in strengthening integrity of its participants.

This paper examines the situation for real estate and why parts of the industry might be prone for the lack of integrity. Furthermore, it is discussed how to establish and foster integrity despite an embedded challenge: Integrity is invisible. Most capabilities and skills can be learnt through observations and imitation. However, what you cannot observe, you cannot imitate. Consequently, education is central to address this issue and to increase awareness and understanding. Professional bodies have also to address this issue and to support lifelong education to ensure integrity of its members.

Keywords: Integrity, Performance, Corruption, Education, Ethics

Session: Education & Ethics in Real Estate

Room: H26, June 11, 2016, 9:00 - 10:30am

Balancing heterogeneous levels through the application of blended learning – a practice example from the degree programmes at Nuertingen-Geislingen University

Gisela Francis Vogt

Universities are required to deal to a greater extent with heterogeneous levels especially in basic subjects such as mathematics, statistics, languages or writing skills on undergraduate level due to increasingly varying entry levels. This also applies to graduate and post-graduate degrees, as students are recruited more and more from semi-cognate or non-cognate degrees. Weekly face-to-face teaching often fails to enable students with heterogeneous levels to acquire the necessary knowledge and skills without over challenging weaker students and under challenging good students. The integration of e-learning components in the form of blended learning provides opportunities to balance these differences and enables weaker students to catch up at their pace. As a best practice model, the language programme at Nuertingen-Geislingen shows how students with largely varying levels of English language skills at entry level enhance their language proficiency skills through the introduction of blended learning. In addition to the success factors, but also, challenges and potential difficulties are presented. Even though the model is applied in the language programme, it can be easily transferred to other subject fields, especially the basic subject fields listed above.

Keywords: Real Estate Education, Bled Learning, elearning, Heterogeneous levels

Session: Education & Ethics in Real Estate
Room: H26, June 11, 2016, 9:00 - 10:30am

Reviewing explicit design for real estate education.

Peter de Jong

Delft University of Technology, Faculty of Architecture and the Built Environment, Management in the Built Environment, Design & Construction management / Building economics

Elise van Dooren

Delft University of Technology, Faculty of Architecture and the Built Environment, Architectural Engineering + Technology

Alexandra Den Heijer

*Dept. Management in the Built Environment
Faculty of Architecture
TU Delft*

In positioning the design school in real estate education, the management game as an educational module in the last semester of the architectural bachelor in Delft is illustrative for the possible synthesis between real estate and architecture. The explicit approach of design, as applied in Delft and many other institutes for architecture, and the implementation in a typical real estate process, reveals the designerly way of thinking.

The purpose of this paper is to align the design approach and the policy gaming, and its unification in the management game.

The management game is not only bridging design education and real estate and management education, but also enlightens the advantage of architectural based real estate education; in order to come up with solutions for the genuine challenges of obsolescence and urban redevelopment, a proper understanding of the market as well as buildings is essential.

The research approach is evaluation of the game after 3 cases with almost 950 students in 3 years. Its limitation is the single concept although the current concept result from previous versions under different conditions.

The specific findings in this paper is the relevance of reviewing within gaming.

The social and practical implication of this paper is sharing a well-working formula for this kind of education, not only applicable in design and business schools, but also stretching towards the project design school. Originality lies in the combination and integration of the constituting elements.

Keywords: Management game, Real estate education, Design education, Policy gaming, Project Design school

Session: Education & Ethics in Real Estate
Room: H26, June 11, 2016, 9:00 - 10:30am

Real estate education: What the market really except?

Kaarel Sahk

*Rural construction department
Estonian University of Life Sciences*

Jaan Miljan

Professor Estonian University of Life Sciences

Fundamental approach of the question is about how we specify the area and how we cover it with analyze of educational situation. For moving forward, is possible to use diversification of Emerald Publisher arising from different scientific journals and named, as the place like „built environment“ as a possible synonymous of “real estate”. Lastly named makes possible to view a greater picture differentiating the figures of nature-mort, picture in corpore, then the passe-partout, the frame and finally the wall of exhibition room. Given abstract stands clearer while we make the pairs of synthetically synonyms in following: Wall as trans-disciplinary, frame as inter-disciplinary, passe-partout as multi-disciplinary, picture in corpore as curriculum and finally figures of nature-mort as different subjects and/or professors. The expectations of built environment as market are linked with multiplicity of market area’s subdivisions and the list of possible work areas

of professionals, with note that mostly the professions are/or should be certified as professional qualification. The lastly named describes probably the most acute and urgent hope of market to receive from universities not only highly educated young people, but to receive them with clear vision and preliminary profession without the change of university or curricula into vocational paradigm. The discussion is about more detailed portray of expectations according the current development of built environment.

Keywords: built environment, trans-, inter- and multi-disciplinary, curriculum, expectations, professional qualification

Session: Education & Ethics in Real Estate
Room: H26, June 11, 2016, 9:00 - 10:30am

Idiosyncratic risk in direct property - a review of the literature.

David Parker

University of South Australia

The literature concerning idiosyncratic risk in securitised property is relatively extensive compared to that for direct property. While the risk classifications of systematic, unsystematic and specific/idiosyncratic have been proven to exist within direct property portfolios through quantitative analysis, little research has been undertaken to better understand the nature and contribution of specific/idiosyncratic risk. Reflecting portfolio theory, in a direct property portfolio the contribution of specific/idiosyncratic risk can be effectively neutralised through holding a diversified portfolio with a sufficient number of assets. Quantitative research has focused on the appropriate number of assets to be held in the portfolio to neutralise the contribution of specific/idiosyncratic risk but little research has been undertaken to examine the nature of specific/idiosyncratic risk in direct property. The literature tends to gravitate towards specific/idiosyncratic risk as a function of location, building and tenant which, by definition, vary between buildings as two locations can never be identical. However, in a sub-sector such as CBD office, considerable commonality may exist between location, building and tenant to the point of being partially unsystematic risks rather than specific/idiosyncratic risks. For example, all office buildings in the CBD sub-sector have significant locational or spatial similarity, albeit with some minor differences as distance from the core increases. Further, many office buildings in the CBD sub-sector will have significant building similarities, often being on average newer and built to a higher specification than in other areas. Tenant may also have some commonality across office buildings in the CBD sub-sector with generally stronger tenant covenants and generally longer leases than may be found in other areas. Accordingly, in the context of office buildings in the CBD sub-sector, aspects of that previously considered to be specific/idiosyncratic risk may be unsystematic risk. The paper seeks to review and analyse the literature to explore where traditional concepts of specific/idiosyncratic risk as a function of location, building and tenant may be challenged and to posit the hypothesis that specific risk may be different to idiosyncratic risk in the context of office buildings in the CBD sub-sector.

Keywords: risk, REIT, idiosyncratic, portfolio, direct

Session: Real Estate Investment

Room: VG 235, June 11, 2016, 9:00 - 10:30am

Time-varying Macroeconomic Risk of Real Estate Returns

Tim A. Kroencke

University of Basel

Felix Schindler

Steinbeis University Berlin and ZEW Mannheim

Bertram I. Steininger

RWTH Aachen University and ZEW Mannheim

Macroeconomic risks have a huge effect on the economy in general and on both stock and real estate market in particular. Studies assume that across all U.S. stocks around 60% of the cumulative annual excess returns are earned on announcement days of important macroeconomic factors. However, according to the efficient-market hypothesis, in the majority of cases the surprise component -- the unexpected part -- of macroeconomic news should have an influence on the daily excess returns. We find that real estate returns are much less exposed to the risk of macroeconomic announcement days than stocks and bonds in the U.S. In the U.K., we are not able to find statistically significant differences of the daily excess returns for stocks, bonds, or real estate. Digging deeper, we find that mostly surprise components of retail sales and unemployment rate are statistically significant linked with real estate returns. Nonetheless their impact changed after 2009 and their signs are different in the U.S. and the U.K. Properties in the U.K. show a negative link to unexpected inflation over the whole sample, whereas in the U.S., this only partly applies before 2009.

Keywords: macroeconomic risk, macroeconomic news, inflation hedging, listed real estate, real estate risk

Session: Real Estate Investment

Room: VG 235, June 11, 2016, 9:00 - 10:30am

The Performance of Property Companies on the AIM Stock Market

Graeme Newell

*School of Business
University of Western Sydney*

Muhammad Jufri Marzuki

*School of Business
University of Western Sydney*

As part of the London Stock Exchange, the AIM (Alternative Investment Market) stock market was established in 1995 and has developed into the world's leading stock market for smaller, growth companies for both UK and international companies. At December 2015, the AIM stock market accounted for 1044 companies with a total market capitalisation of £73 billion. Property companies are included on the AIM stock market; at December 2015, there were 43 property companies with a market capitalisation of £4.6 billion. The purpose of this paper is to assess the performance of the property company sector on the AIM stock market over July 2005 – December 2015. The risk-adjusted performance and portfolio diversification benefits of property companies on the AIM stock market will be assessed against the overall AIM stock market, other AIM sub-sectors and related asset classes. The post-GFC performance of property companies on the AIM stock market will also be assessed.

Keywords: AIM stock market, Property companies, Performance analysis, Diversification, Emerging property market portfolios

Session: Real Estate Investment
Room: VG 235, June 11, 2016, 9:00 - 10:30am

The determinants of Chinese Outward Real Estate Investment

Chyi Lin Lee

Western Sydney University

Jingjing Zhang

Western Sydney University

Chinese outward investment into real estate has increased tremendously in recent years. However, the growth of Chinese outward real estate investment has attracted little attention in the literature. This study examines the factors driving this growth and extent of which the established general theory of foreign direct investment can explain the Chinese outward real estate investment (FDIRE). Using the unique dataset of Chinese outward real estate investment collected from Real Capital Analytics, we quantify the main drivers of China's outward FDIRE across a range of variables. The results show that both the established general theories and real estate specific factors together explain the Chinese outward real estate investment. Specifically, market size and cultural proximity have a positive influence on Chinese FDIRE outflows. In addition, transparency has an impact on Chinese foreign real estate investment via an interaction term with market size. Specifically, transparency only has an acute impact on Chinese outward real estate investment in larger markets with more opportunities. The implications of the findings have also been discussed

Keywords: China, real estate, outward foreign direct investment, determinants

Session: Real Estate Investment

Room: VG 235, June 11, 2016, 9:00 - 10:30am

Functional Land Misallocation in Developers' Activity

Katarzyna Kania

Cracow University of Economics

Malgorzata Uhruska

Cracow University of Economics

In general, land misallocation is defined as economical ineffective urban land development. Land misallocation is due to improper function of land, which effects the insufficient quantity and quality of housing and commercial area. As a result of socio-economic transformation there are left inadequate locations of extensive industrial zones in the cities or city centers. Therefore city space planning should force the use of land according to its value and investment potential. From economic point of view land is a scarcity source which is able to generate income for its owner. On the other hand developers look for possibilities of using land in order to achieve high economic effectiveness of their projects.

The main target of the article is to prove that investment value of land and its investment potential displace inadequate use of land in the city. Authors would like to present how the land value and the investment possibilities change according to land function.

Keywords: developer, land, urban transformation, space, investment value

Session: Real Estate Development & Regeneration

Room: VG 004, June 11, 2016, 9:00 - 10:30am

Demand forecast for industrial land. Inaccurate and biased?

Erik Louw

Delft University of Technology

Faculty of Architecture and the Built Environment

Han Olden

Utrecht University

Faculty of Geosciences

Spatial demand forecasts are hardly discussed in the scientific literature. In the real estate literature a lot has been written about forecasting, but most of these studies are about prices and hardly about the amount of real estate that is needed. In this paper we analyse the demand forecasts for industrial land in the Netherlands. These forecasts are part of the Dutch planning process. For each new industrial estate or office park, forecasts have to be made which should provide evidence that there is sufficient demand for such new sites.

At first we compare demand forecasts with actual demand. It is concluded that most forecast overestimate demand and that this more often occurs on lower than on higher spatial scales. Secondly, we try to find an explanation for the inaccuracy. This is done by analysing various demand forecasts models on national, regional and local level. This analysis is completed by a review of various second-opinion reports on forecasts and reports by regional and local Courts of Audit about the development of industrial estates. We conclude that the main explanation for the inaccuracies is the assumed success of economic growth policies in the models (either by choosing high growth scenario's or by assuming successful policy interventions). This implies strategic behaviour of forecasters, planners and politicians and shows resemblance with research on the accuracy of travel demand forecasts.

Keywords: Demand forecasts, Industrial land, Planning

Session: Real Estate Development & Regeneration

Room: VG 004, June 11, 2016, 9:00 - 10:30am

Property Investment Decision-Making Behaviour in Urban Post-Disaster Rebuild: A Theoretical Perspective

Ikenna Chukwudumogu

Department of Property

Business School

University of Auckland

This thesis seeks to explore the distinctive behaviour of private stakeholders and institutions in a post-disaster recovery environment. This will be approached by exploring the perceptions, role and decision-making behaviour of private property stakeholders (investors, developers and agents) involved in urban post-disaster recovery of Christchurch central business district (CBD). This inquiry into post-disaster property recovery in Christchurch intends to achieve an in-depth understanding of the role played by private property stakeholders and institutions who are an integral part of post-disaster urban recovery.

The underlying reason for this study is to gain insights into the regeneration of commercial spaces within the Christchurch CBD. The study will lead to deeper understanding as to how the perceptions, role and decision-making behaviour of private property investors and developers can evolve in these unique conditions. This study adds to the body of knowledge by adopting an institutional and behavioural perspective on how to explore and understand the perceptions, role and decision-making behaviour of private property stakeholders (investors, developers and agents) in post-disaster recovery.

Keywords: Decision-making Behaviour, Developers, Christchurch, Agents, Investor

Session: Real Estate Development & Regeneration

Room: VG 004, June 11, 2016, 9:00 - 10:30am

Decision Support Tool for Procurement & Bidding Strategies for ESCO's

Brano Glumac

Eindhoven University of Technology

Falco Zeekaf

Eindhoven University of Technology

The energy consumption in the Netherlands is rising significantly, on average 1.09 percent year since 1983 (CBS, 2015). Next to this the European Union (EU) set a target to increase the energy efficiency of the EU by 20% in 2020. This means that in spite of an increase in energy demand, the energy efficiency has to increase. One of the possible outcomes for the energy efficiency problem are Energy Service Companies (ESCOs). ESCOs basically deliver energy services and other energy efficiency improvement measures. However the Dutch ESCo market is lacking behind in contrary to other European counties. ESCo approaches could be applied in the redevelopment of utility buildings. Nowadays, still large construction companies win tender procedures, to redevelop utility buildings. Building owners' behavior should experience a transition towards awareness about the benefits of an ESCo approach instead of the traditional process. Therefore this research shall answer the research question: What strategy should ESCOs apply under which tender procedure in urban redevelopment projects to increase success chances for an ESCo approach? This research question is answered by combining the research methods Fuzzy Delphi method (FDM) and Game theory. First, a literature review has been conducted to define a list of procurement criteria which are part of ESCo tender procedures. This list has been rated, validated and functioned as input for the FDM questionnaire. Respondents were asked to evaluate the impact of procurement criteria under different game outcomes. Next to this, respondents gave their preferences over the four different game outcomes. The respondents consisted of two homogeneous groups, namely ESCo experts and technical consultants which represent the customers. The results illustrate that both players have the same opinion in the common traditional process, but differentiate in more complex processes. In a most economical attractive tender (MEAT), ESCOs should focus on the construction of a solid business case based on energy performance levels and comfort levels for the end-users. The results are captured in a decision

support tool. The tool can demonstrate for both parties how the payoff will be react on the in- or exclusion of specific criteria. ESCos can proactively visit customers to illustrate hypothetically the benefits of an ESCo approach.

Keywords: bidding strategies, Fuzzy Delhi, procurement, Game theory, ESCo tering

Session: Real Estate Development & Regeneration
Room: VG 004, June 11, 2016, 9:00 - 10:30am

The contribution carried by the appraisal discipline for the purpose of disentangling the embodied energy issue

Sergio Copiello

University IUAV of Venice

Pietro Bonifaci

University IUAV of Venice

In the disciplinary field of real estate appraisal, the cost estimates of the construction materials and building works are long since well established, and they rely upon a considerable basket of qualified sources. While assessing projects, particularly through the methodological framework which involves the bill of quantities, we are used to referring to exhaustive inventories of the costs to be incurred. Such widely available data sources specify the characteristics of the materials to be employed during the laying process, as well as of the works to be carried out, and report the related costs per unit weight, volume or surface area.

In a research we developed, we aimed at deeply examining the relation between the aforementioned costs of building materials and their embodied energy. The latter is defined as the energy load needed to mine the raw materials, to manufacture the semi-finished goods, as well as to transport them to the construction site. As it was expected according to outcomes discussed by the relevant literature, we found evidence of a positive relation between the cost of the construction materials and their embodied energy. Nevertheless, the linear functional form is not appropriate, since such a model does not provide statistically significant results. On the contrary, adopting a log-linear function, the interpolation curve fits much better to the data, hence the cost of the construction materials may be regarded as a reliable predictor of their embodied energy.

This research branch requires performing a range of intensive trials, in order to get a more acute awareness of how much the results are generalisable. The preliminary findings bring out several interesting considerations, which in turn entail - or at least suggest - further investigations: firstly, the accuracy level of the model, namely the quality of the interpolation and the stability of the results, significantly increases by defining clusters of the building materials with reference to the sub-sectors

they belong to; secondly, the items belonging to the raw material industry show conflicting results, that is to say, an inverse relation between the cost and the amount of embodied energy.

Keywords: Building industry, Construction materials, Embodied energy

Session: Green Investment & Green Building

Room: VG 005, June 11, 2016, 9:00 - 10:30am

A critical review of evaluation methods to assess the profitability of energy efficient refurbishments and constructions.

Pietro Bonifaci

University IUAV of Venice

Sergio Copiello

University IUAV of Venice

Stefano Stanghellini

Department of Design and Planning - University IUAV of Venice

In the recent years, the scientific debate on the evaluation of the profitability of energy-efficient constructions and refurbishments has reached maturity. Several studies have faced the issue by focusing on the comparison between the costs incurred to improve building energy efficiency and the expected savings. Moreover, different methods and criteria to evaluate the cost-effectiveness of such works have been proposed.

The most widespread criteria are the Simple Payback Time (SPBT), the Net Present Value (NPV), and the Internal Rate of Return (IRR). More recently, the importance of the Cost-Optimal methodology has grown significantly. The first criterion presents several simplifications, which make it not completely able to model all the aspects related to energy efficiency investments. NPV and IRR, on the contrary, allow to consider variables such as the financing structure; nevertheless, their implementation is complex and time-consuming. The last method, which relies on the Life Cycle Cost Analysis, allows to compare the cost-optimal level of minimum energy performance for different energy efficiency measures, without, however, dealing with the profitability of the investment itself from a business-oriented perspective.

Besides the aforementioned framework, the Cost of Conserved Energy was proposed in 1984 as a simplified statistic for the comparison of retrofit investments with energy purchase. Based on the same rationale, more recently, the Energy Cost Efficiency Index has been developed. Both of them allow to consider, during the evaluation process, several assumptions about the uncertainty of future energy prices and different approaches to the investment.

The aim of the research is to provide a critical review of the above mentioned indicators for evaluating the profitability of energy efficiency investments, and compare them by assuming a set of criteria that represent their ease of implementation, the stage of the design and construction

process in which they can be better applied, the accuracy of the outcomes, and so forth.

The different methods are then applied to a number of case studies representative of various construction and refurbishment typologies, in order to highlight their strengths and weaknesses by comparing the outcomes.

The research highlights that simplified methodologies can lead to results comparable to those deriving from the application of more sophisticated techniques, whether some boundary conditions are defined.

Keywords: Buildings energy efficiency, Investments profitability, Evaluation methods

Session: Green Investment & Green Building
Room: VG 005, June 11, 2016, 9:00 - 10:30am

Implementation and reporting of sustainability measures in Corporate Real Estate Management: A Content Analysis of CSR Reports

Theo Arentze

Eindhoven University of Technology

Luc Van de Boom

Eindhoven University of Technology

Rianne Appel-Meulenbroek

Eindhoven University of Technology

Corporate social responsibility regarding CO₂ emission reduction has gained grounds as an integrated part of organizations. To present the sustainability efforts made by the organization, many of the largest corporations publish annual corporate social responsibility (CSR) reports to engage with their stakeholders. In this study, we address the questions to what extent organizations report about sustainability of their corporate real estate portfolio to stakeholders, which indicators they use to report and which characteristics of the organization influence the reported indicators. This is studied based on a content analysis of CSR reports of 2014. The reports of a random sample of 200 organizations of the 500 largest organizations in the world are analysed. Interviews with corporate real estate managers of a smaller sample of key organizations are carried out to complement the quantitative analysis with qualitative information about underlying reasons and practices. Logistic regression is used to relate differences in reporting tendencies to characteristics of the organization.

The results indicate that, apart from the more frequently used indicators as energy consumption, GHG emissions, water consumption and waste, indicators as renewable energy, supply chain management and community engagement are also topics frequently addressed by the organizations. However, we find significant differences in reporting content that can be related to organization characteristics. The amount of employees has the biggest positive influence on reporting of CRE sustainability indicators. Furthermore, significant differences related to market capitalization, geographic region (Europe versus US) and industrial sector are found. The interviews provide an indication that the reporting and implementation of sustainability measures are often misaligned: not reporting CRE sustainability indicators does not mean that the measures are not implemented within the organization. The interviewed organizations are often implementing sustainability on an ad-hoc basis which could explain the lack of reporting in the CSR reports.

We argue that a form of standardization of CSR reporting could help to increase transparency and benchmark a company's sustainability performance regarding CREM, but that such a standard is still a rather remote goal as long as many organizations have not reached a mature state in terms of CREM in general and sustainable CREM in particular.

Keywords: Corporate Real Estate Management, Corporate Social Responsibility, Sustainability indicators, Sustainability reporting

Session: Green Investment & Green Building
Room: VG 005, June 11, 2016, 9:00 - 10:30am

Joint building ventures - a qualitative multi-stakeholder approach for sustainable real estate

Ann-Kathrin Seemann

*Public and Non-Profit Management
Transportation, Logistics and Public Housing
Department of business administration
University of Freiburg*

Christin Wernet

*Public and Non-Profit Management
Transportation, Logistics and Public Housing
Department of business administration
University of Freiburg*

Jörg Lindenmeier

*Public and Non-Profit Management
Corporate Governance and Ethics
Department of business administration
University of Freiburg*

Purpose:

Joint building ventures are defined as an association of a group of individuals who are willing to build jointly. They can be seen as a reliable partner for municipalities in urban developments regarding sustainability aspects such as barrier-free and energy-efficient apartments as well as social housing and apartments with rent control. For various reasons, these requirements can often not be fulfilled by municipalities alone but are taken into consideration by most joint building ventures. Therefore, such projects open new possibilities to achieve individual needs and municipalities' goals. This paper tries to show which social, ecological and economic effects arise for all stakeholders through the implementation and consideration of joint building ventures in urban developments.

Design:

The study adopts a qualitative approach, using semi-structured interviews. The interviews were conducted with different stakeholder groups such as potential home owners and tenants, actual members of joint building ventures, agencies for joint building ventures and employees of the city of Freiburg, Germany, which is the social context of our study. These stakeholders were purposefully selected to learn about their individual perspectives.

Findings:

The study revealed that joint building ventures achieve stimulating effects on selected sustainability areas. On an ecological level it can be shown, that joint building projects focus on sustainable and energy-efficient construction as well as on integration in innovative and sustainable mobility concepts. Additionally, these approaches reveal positive economic effects for both, local authorities and their citizens. Regarding social sustainability, the results show among other things, an increase in special living arrangements such as multi-generational living, an overall enhancement of the sharing economy as well as the establishment of stable neighborhoods.

Practical implications:

Understanding joint building ventures and their impact on sustainability objectives might help municipalities to achieve their social, ecological and economic goals in urban development. Therefore, municipalities should promote joint building ventures in various ways to enforce sustainable real estate and take advantage of the beneficial effects.

Keywords: Joint building ventures, Sustainable real estate, Urban development, Sharing economy

Session: Green Investment & Green Building
Room: VG 005, June 11, 2016, 9:00 - 10:30am

Are Real Estate Cycle Lengths and Magnitudes Changing?

Glenn Mueller

University of Denver

Andrew Mueller

Colorado State University

Real Estate has been shown to be a cyclical asset class over the years that has mostly followed economic cycles. This paper looks at the physical real estate cycle of demand and supply driving the occupancy cycle which drives the rent cycle. The length of historic cycles is compared and contrasted to the magnitude of these cycles in different property types. This information is then used to forecast future cycle lengths and magnitudes. Finally the real estate financial cycle of property prices is compared to the physical cycle as the two cycles determine total returns for investors.

Keywords: Physical Cycle, Financial Cycle, Cycle Length, Cycle Magnitude

Session: Real Estate Economics

Room: VG 014, June 11, 2016, 9:00 - 10:30am

Arts-Based Charter Schools as Urban Redevelopment Catalysts: Santa Ana, California's Orange County School of the Arts

Bartley Danielsen

NC State University

David Harrison

University of Central Florida

Jing Zhao

NC State University

This study examines the impact the Orange County School of the Arts (OCSA) exerts on the relocation decisions of families that have children attending the school. The school draws students from a relatively wide geographic area, and hundreds of families (669) have moved closer to Santa Ana after enrolling a child in the school. A substantial fraction (97) of these families moved from a non-Santa Ana address into the city. Closer examination of these relocation decisions reveals families who live near the school are substantially less likely to relocate than families who live farther away. Additionally, while students matriculate into the school in grades 7 through 12, the observed relocation attraction is particularly strong for families enrolling a child at the beginning of the 9th grade. The reasons for the high level of attraction for 9th graders are not entirely clear. As such, this final result calls for further research as it may have significant implications for how school-choice programs in general, and arts-based programs in particular, should be structured if one of the policy goals is to catalyze redevelopment of the urban environment.

Keywords: Education, Arts, Urban Planning, Migration, Economic Development

Session: Real Estate Economics

Room: VG 014, June 11, 2016, 9:00 - 10:30am

Property Value, Building Age and Urban Renewal: A Study of the Apartment Market in Taipei

Jen-Hsu Liang

*Department of Natural Resources
Chinese Culture University, Taiwan*

Fong-Yao Chen

*Department of Land Economics
National Chengchi University, Taiwan*

Charles Tu

*School of Business
University of San Diego*

This paper investigates the impact of building age on the value of apartments in Taipei City. Using a dataset that separates the value of land and improvements, we explicitly measure how each value component is affected by property age, and find that inverse depreciation exists in total property value and land value, but not in improvement value. This finding is consistent with the hypothesis that inverse depreciation is attributable to increasing redevelopment probability in older properties. Additionally, we examine the locational variation in the depreciation pattern across districts in the city, and discover that the redevelopment value increases faster in areas with higher housing prices. The empirical results suggest that in high-price areas, property owners are more willing to reconstruct or renovate their aging properties. The policy implication is that in order to promote a well-balanced urban environment and revitalize deteriorated areas, the city government should prioritize its resources so areas that receive less attention from the private sector can benefit from the urban renewal programs.

Keywords: urban renewal, apartment, inverse depreciation, hedonic, Taipei

Session: Real Estate Economics

Room: VG 014, June 11, 2016, 9:00 - 10:30am

Leading indicator in Thai real estate crisis and cycle

Pichanun Boonpromgul
Atcharawan Ngarmyarn

Assoc. Prof. Dr.

Yawaman Metapirak

Assoc. Prof.

The question of this study is what variables are leading indicator to forecast real estate crisis and real estate cycle due to the growth of real estate business is important for the Thai economy.

The survey methodology is using two types of data, quantitative and qualitative information. Quantitative data is to use vector autoregressive (VAR) to work out what are the variables with the most effect and what is the suitable lagging period. All variables are quarter data, 79 quarters. Y variable is quarterly Thailand transaction real estate value (RE-VALUE) because most of real estate price index has not significant effect during before and after crisis in 1997. X variables are quarterly Thai stock market (SET), gross domestic product (GDP) and minimum loan rate (MLR).

The result is that RE-VALUE1st lagged increase 1 MB will affect the current quarter of RE-VALUE decrease 0.5868 MB at significant 95 %. RE-VALUE3rd lagged increase 1 MB will affect the current quarter of RE-VALUE decrease 0.3993 MB at significant 95 %. GDP 3rd lagged increase 1 % will affect the current quarter of RE-VALUE increase 3,268.69 MB at significant 95 %.

Qualitative data analysis is done by in-depth interview selected 6 experts from relevant subjects with 4 topic questions, definition of real estate business cycle, expectation of similarity of the upcoming real estate crisis in Thailand comparing with the last crisis, opinion in pseudo demand and speculation, opinion in macroeconomic variables which affect to real estate business. To sum up, real estate cycle in Thailand is not obvious, possibly too similar to the other business one cycle is around 7-9 years. The real estate cycle corresponds with GDP and interest rate.

The result from VAR shows that the next 5 quarters, 2016 Q3, is the last quarter RE-VALUE in position sign. Afterwards, the value is almost stable. The forecast shows that this business will start to be recession again nearly. Moreover, the forecast of MLR 1st Diff is minus zero from the first quarter.

This is the sign that they need to reduce capital cost in order to remain selling price, Forecasting shows GDP 1st Diff is 1.34% only the first quarter after that will be increase a little bit and minus. Qualitative analysis shows that GDP is significantly to the growth of real estate business.

Keywords: Real estate crisis, Real estate cycle, Leading indicator, Oversupply, Thai real estate crisis 1997

Session: Real Estate Economics

Room: VG 014, June 11, 2016, 9:00 - 10:30am

The Perpetual Gentrification of Ponsonby: Triumph or Tragedy?

Olga Filippova

*The University of Auckland
Business School*

Michael Rehm

*The University of Auckland
Business School*

Laurence Murphy

*The University of Auckland
School of Environment*

The suburb of Ponsonby, in Auckland (New Zealand), has long been the subject of academic study and represents New Zealand's most prominent instance of gentrification. In this paper we examine the trajectory of Ponsonby's house prices, demographics and its socioeconomic characteristics from 1986 through 2014. Contrary to Latham (2003) who portrayed the suburb in the mid-1990s as an idyllic urban melting pot of all walks of life where gentrification has benefited and enriched the suburb, our analysis shows the suburb's gentrification has continued unabated and is more homogenous than ever. For homeowners and investors who hold title to Ponsonby's heritage homes, the astronomical house price appreciation is undoubtedly a triumph, but for the neighbourhood's working class families that have been displaced through perpetual gentrification, the process is tragic.

Keywords: gentrification, housing markets, hedonic model

Session: Housing Economics & Housing Policy

Room: VG 015, June 11, 2016, 9:00 - 10:30am

Is there a need for public sector housing?

Angelika Kallakmaa-Kapsta

During the short period starting with the ownership reform in the 1990s the structure regarding ownership of housing in Estonia has dramatically changed from state owned to private owned. The possibility of returning properties expropriated by the Soviet Union to their rightful owners, and the ability to privatize dwellings and buy land, created a large number of property owners. On the other hand the rental market still remains underdeveloped.

This paper analyses and discusses on the matter concerning the need for public housing in Estonia. Public housing can be seen as a regulatory tool to cool down the overheating residential property market. Some of the aspects focused on: changes and developments in the Estonian housing market, current housing demand and affordability situation and finally factors which facilitate the need for social housing and provide developments in this field.

Keywords: housing, public housing, affordability, Estonia

Session: Housing Economics & Housing Policy
Room: VG 015, June 11, 2016, 9:00 - 10:30am

Tax concessions for owner-occupied housing and tenure choice in Belgium.

Guillaume Xhignesse

University of Liège & FNRS-FRESH

This paper analyses the influence of the tax treatment of mortgage loans on the tenure choice of households in Belgium. It is very common e.g. in OECD countries that owner-occupation is subject to a favorable tax treatment: homeowners are allowed to deduct mortgage interest and imputed rents are exempt from income taxation or significantly underestimated. This bias in favor of owner-occupation is in most cases an heritage of past tax rules, but it persists deliberately in many countries. Defenders see it as a mean of promoting homeownership, which brings positive externalities, is a part of an ideal, and offsets partially imperfect social security systems. However, this tax expenditure is costly and its effectiveness is controversial. In the U.S., several authors argue that the mortgage interest deduction has only a marginal effect on the rate of homeowners, or even no effect at all. More specifically, the effect would even be negative in urban areas or for young households. Few analysis concern European countries.

This paper focuses on Belgium. In this country, homeowners can deduct at marginal taxation rate an annually-limited amount of mortgage repayments for their only own home, including interests and capital under an aggregated form. In order to assess the effect of this tax relief on households' decision to buy or rent, we estimate a model of tenure choice using a cross-sectional sample of 800 young households who are "recent movers". Microdata come from the 2012 EU-SILC survey. We compute the net present value of the total tax benefits for owners or losses for renters and use it in the model, while controlling for the effects of income, demographic characteristics, housing prices and location. Regarding income, we compute an estimate of permanent income and we consider both the effect of current and permanent income. Our results indicate that the tax relief has a significant positive effect on the choice of owner-occupation, but that it is secondary when compared to some other variables, notably demographic characteristics. The results are interpreted with regard to the objectives and the cost of that policy.

Keywords: Homeownership, Tax policy, Tenure choice, Mortgage loans, Belgium

Session: Housing Economics & Housing Policy
Room: VG 015, June 11, 2016, 9:00 - 10:30am

Synchronization of Housing Cycles: An International Perspective

Konrad Zelazowski

*Department of Investment and Real Estate
University of Lodz*

Housing markets were traditionally considered to be driven by domestic factors. However liberalization of capital flows, expansion real estate financial instruments and progressive integration of national economies significantly changed this tendency. In a globalised economy national housing markets tend to move together and their price cycles have become more synchronized.

The aim of the paper is to provide comprehensive analysis of the causes and consequences of housing cycles and the major mechanisms of their synchronization. The extent of synchronization of housing cycles across developed countries is also verified.

Keywords: housing markets, housing cycles, synchronization of cycles

Session: Housing Economics & Housing Policy
Room: VG 015, June 11, 2016, 9:00 - 10:30am

Climate Change Risk Awareness in the Property Sector: Australia

Georgia Warren-Myers

The University of Melbourne

Sven Bienert

IREBS International Real Estate Business School, University of Regensburg

Jens Hirsch

IREBS International Real Estate Business School, University of Regensburg

Worldwide between 2000 and 2014 disaster impacts triggered \$US2.3 trillion in damage with less than 30% insured (Munich RE, 2015), this affected 2.9 billion people and killed 1.2 million people between 2000 and 2012 (UNISDR, 2013). The property sector is not immune to risks associated with natural disasters or extreme weather events. Climate change and the implications of increased extreme weather events, severe temperature durations and sea level rise have a detrimental, immediate and significant impact on property. Property is not only a component of providing shelter to all inhabitants of Australia or a workplace; property is major industry sector within Australia, currently employing more than the mining and resources sector (PCA, 2015). Consequently, increasing catastrophic events as a result of Climate Change will have a substantial impact on the property sector financially, physically and socially. Furthermore sea level rise will affect many Australian cities, in particular Victoria is highly exposed with between 31,000 – 48,000 residential buildings, 1,500 – 2,000 commercial properties and 600 – 1,000 light industrial properties and major infrastructure like 3,500km of roads and 125km of rail at risk of inundation from sea level rise (Department of the Environment, 2011). The financial cost implications for property is only going to escalate, as populations grow, a larger percentage of property - residential, commercial, infrastructure situated in cities will be at risk and the incidence of events will exacerbate the economic and social impact. Property owners need to put in place mitigation and adaption strategies now in order to cope physically, financially and socially with the changes to come, however, at present the industry is currently unaware of the extent of the risks posed to property. Consequently, the development of a value based risk assessment tool is required to enable property owners, occupiers and professional the ability to understand the risks posed by Climate

Change and the subsequent effects on property in the Australian environment. This paper reports on the development of a risk assessment tool in the Australian environment.

Keywords: Climate Change, Risk Assessment, Natural Disasters, Investment, Property

Session: Real Estate Investment

Room: H25, June 11, 2016, 11:00am - 12:30pm

Changing priorities in investor decision-making: the sustainability agenda

Cath Jackson

University of Sheffield

Allison Orr

University of Glasgow

Ten years ago, the authors undertook a study, funded by the RICS Education Trust, to explore the ways in which investment decision-makers view comparative property choices. The study recognised that asset selection is undertaken in a complex environment, with multiple trade-offs necessary due to the different investment attributes represented in each property. The results indicated that, at that time, investors' concerns about the sustainability of property were low, ranked as 7th in importance out of 8 attributes. This raised concerns over the degree to which actors within the industry were embracing the sustainability agenda.

The current project seeks to revisit these results, a decade later, to explore whether preferences and investment behaviour have changed as Government and RICS' sustainability stances have become reinforced. This is a timely study, with three of the ten principles of the UN Global Compact focusing on the environment (RICS, 2015) and, furthermore, it responds to calls, at the time of the original publication, for a repeat investigation into behaviour post-crash.

This paper presents the preliminary results of the study. The original methods are replicated – a simulation of complex stock selection choices (using choice-based-conjoint analysis) to reveal investors' purchasing-decision behaviour – with the results subsequently further explored through focus groups to reveal the reasons for their simulated investment choices against their sustainability objectives. Thus, the research seeks to investigate and reveal the degree of accord between what investment decision-makers explicitly state their sustainability strategies to be and how they are implemented, against what their behaviour reveals about how purchasing decisions are made and the implicit judgements within.

Keywords: investment, decision-making, conjoint analysis, sustainability

Session: Real Estate Investment

Room: H25, June 11, 2016, 11:00am - 12:30pm

Multiple Arbitrage: Evidence from International Real Estate Markets

David H. Downs

Virginia Commonwealth University

Steffen Sebastian

*IREBS International Real Estate Business School, University of Regensburg
and ZEW Mannheim*

René-Ojas Woltering

IREBS International Real Estate Business School, University of Regensburg

Divergences between public and private market valuations provide potential arbitrage opportunities. We develop a model in which the investment decisions of public companies depend on the valuation gap between public and private markets. Our model predicts that public companies finance growth externally by raising capital, debt and equity, when public market valuations exceed private market valuations in order to realize shareholder value gains. We empirically test our model's predictions using a global sample of 400 REITs and REOCs. We argue that the real estate industry is particularly well suited for this analysis due to its transparency, as well as the high number of private market valuations in general, and at the company level. In particular we examine: 1) whether public real estate companies exploit valuation gaps between public and private markets through external growth (i.e., by raising equity and debt to expand their portfolios), and 2) whether these externally financed expansions result in shareholder value gains.

Keywords: Multiple Arbitrage, International Real Estate, Net Asset Value

Session: Real Estate Investment

Room: H25, June 11, 2016, 11:00am - 12:30pm

A Stochastic Frontier Analysis of Real Estate Portfolio Diversification

Geetha Ravishankar

Nottingham Trent University, UK

Vitor Leone

Nottingham Trent University

This paper departs from the traditional optimisation methods used to evaluate portfolio performance. Rather, the Stochastic Frontier Analysis approach is used to econometrically determine the benchmark real estate portfolio frontier and subsequently assess the gains from diversifying real estate portfolios along regional dimensions in the UK. Portfolio specific inefficiency measures are obtained which indicate not only if a portfolio is efficiently diversified and therefore places on the benchmark frontier and if not, the degree to which performance can be improved is quantified.

Keywords: real estate, diversification, portfolio, stochastic frontier analysis

Session: Real Estate Investment

Room: H25, June 11, 2016, 11:00am - 12:30pm

An Analysis of Regional House Prices in Greece Using Dynamic Panel Data Modelling

Dimitrios Papastamos

Eurobank Property Services

Michael White

Nottingham Trent University

The economy of Greece has experienced a significant contraction since the Global Financial Crisis (GFC) began in 2008. GDP has fallen substantially and unemployment is amongst the highest in Europe. House prices have fallen since 2009 and transactions have fallen since 2008. Yet the country has faced harsh austerity policies, which have compounded many of these problems, and it has experienced a longer period of falling house prices than other southern European countries as well as in comparison to European countries outside the Eurozone. At a regional level within Greece, while there has been evidence of correlation in housing market performance, some regional variation also exists. This paper seeks to analyse regional housing markets in Greece. To do so it employs a dataset of over 70,750 individual property values that covers the whole of Greece from 2007 until 2014. The dataset incorporates characteristics variables based upon which hedonic models are estimated. These form the bases for calculating value indices for mix adjusted houses/apartments by year and region. These indices are then used in a panel model in which regional and economic variables are included as independent variables. Using advances in dynamic panel data modelling, a bias-corrected least squares dummy variable model (LSDVC) is applied. Results indicate the importance of macroeconomic variables in terms of the role of disposable income and significantly different regional fixed effects.

Keywords: Greece, Panel Models, House Prices, Hedonic Models

Session: Housing Economics & Housing Policy

Room: H26, June 11, 2016, 11:00am - 12:30pm

Investigating the Impact of Planning on Housing Construction Sector Development in Turkey

Elif Alkay

Associate Professor

Craig Watkins

Professor

Recent studies have sought to model and understand the importance of economic change and population growth on the development of housing construction sector in Turkey (Alkay et al, 2015). The evidence suggests that the impact of economic fundamentals and household growth is only weakly related to construction (TUIK, 2015; TUIK, 2014). This suggests that, as identified in other contexts, there may be other important factors driving activity, including the prevailing policy regime and the business culture within the sector (Henneberry and Rowley, 2000; Jackson and Watkins, 2009). In the Turkish context, it is clear not only that these qualitative influences might be important, it is also evident that the way in which these factors impact on development activity is not uneven across space (Alkay et al, 2015). This provides the context for this paper which aims to provide a more qualitative investigation the impact of planning on the development of the housing construction sector at national and local levels. The paper examines the evolution of the policy and practice over more than a decade, during the institutional design of the planning system has been subject to significant change. These normative transformations have been based on reorganizing of existing institutions or organizing new institutions in an attempt to create the capacity to supporting greater levels of housing construction sector as much as an in the hope of solving the perceived problems with the planning system. This study focuses to reflect how and to what extend this restructuring has an impact on housing construction sector development. This paper draws on more than a dozen interviews with real estate practitioners and policy makers operating in different parts of the Turkish construction sector. The analysis offers the first impressions, and discusses the underlying influences on construction activity with particular attention paid to the causes of uneven spatial development.

Keywords: Housing, Planning, Construction Sector, Policy, Real Estate Practitioners

Session: Housing Economics & Housing Policy

Room: H26, June 11, 2016, 11:00am - 12:30pm

Consumer Decision-Making Styles of Condominium in Bangkok Metropolitan Region

Kriangsak Santipojana

Atcharawan Ngarmyarn Yawaman Metapirak

Condominium is the most popular house in Bangkok today, therefore it is interesting to study this market. From the literature review, there are research on factors which influence in buying a condominium and on consumer decision making styles in some other products. However, there is no study in condominium decision making styles so far. Though the location is the most important factor that consumer decides first, but the location factor can be different depending on individual personal criteria. Therefore, this study refers to the research of Sproles & Kendall (1986) and others to find condominium consumer decision making styles apart from location factor.

This research is on determining consumer decision making styles of condominium in Bangkok metropolitan area and analyzing clusters of the various style consumers. Research uses the customer styles inventory (CSI) of Sproles & Kendall (1986) to find the construct to make the questionnaire, then utilizes the Exploratory Factor Analysis (EFA) to find different styles. After that cluster analysis for classifying the group of condominium buyers is analyzed.

A small sample of questionnaires has been collected in a pilot test to determine appropriate measurement indicators before collecting the online questionnaires. The aggregate of 198 sample survey is compiled. The finding from EFA are six condominium consumer decision making styles; (1) Novelty - Design consciousness style, (2) Perfectionism style, (3) Brand consciousness style, (4) Confusion from overchoice style, (5) Time - energy conserving style, and (6) Price consciousness style. In addition, the cluster analysis shows that there are four clusters of consumer. (1) "Investor cluster", (2) "Real demand cluster", (3) "Rookie buyer cluster" and (4) "Perfectionist cluster" where in each cluster has different demographic data,

behaviors, and decision making styles. This research can benefit a condominium developer in designing the condominium product to fit with the consumer decision making styles and to manage sales and marketing of condominium project for success

Keywords: Customer Decision - Making Styles, Condominium, Bangkok, Condominium Investor

Session: Housing Economics & Housing Policy
Room: H26, June 11, 2016, 11:00am - 12:30pm

Rationalizing the Higher Demand for Safety Embedded on Specific Dwelling Characteristics: The Case of Monterrey, Mexico between 2003 and 2015

Carolina Rodriguez Zamora

Banco de Mexico (Central Bank of Mexico)

Using data on new houses for sale from the second most important metropolitan area in Mexico, the main aim of this paper is to quantify how much money individuals spend in two specific security characteristics when purchasing a new house: whether the property is fenced or has a security booth. For this purpose, the paper uses a hedonic regression to decompose the price of a house in implicit prices of its characteristics and security devices attached to it. Preliminary results indicate that, dwellings in real estate developments with security booth are valued more and the effect is statistically significant for most periods between the second quarter of 2005 and the second quarter of 2011. When dividing the sample in low-income and high-income real estate developments, this effect is still positive and significant although for different periods: i) between the first quarter of 2003 and the third quarter of 2009 for low-income dwellings, and ii) between the second quarter of 2009 and the first quarter of 2011 for high-income dwellings. These results show that, although it is true that for high-income dwellings the quarters where the price of a security booth is positive and significant coincide with the upsurge in homicides registered in Monterrey between 2009 and 2011, low-income families were already paying higher prices for security booths before those years. Finally, the effect on house prices for dwellings within fenced real estate developments are not statistically significant.

Keywords:

Session: Housing Economics & Housing Policy

Room: H26, June 11, 2016, 11:00am - 12:30pm

Polish real property funds' investment results – an attempt of evaluation

Rafal Wolski

University of Lodz

Magdalena Zaleczna

University of Lodz Department of Investment and Real Estate

Real estate investment means not only direct purchase of rights to real property but also investing in securities issued by real property investment funds. There are various legal and organizational forms of these actors, Real Estate Investment Trust – US type is dominant but there are often national forms what enriches instruments of real property markets. Investment results indicate that direct and indirect types of investment are not identical, although they have roots in the same real property markets. The differences have been repeatedly investigated in relation to different markets and time periods. This research problem inspired the authors to trace the results of Polish real property investment funds and direct real estate investments. The analysis showed a very big difference – investors of real property funds suffered significant losses and results of direct real property investment were positive. The aim of the authors was to examine the difference between these results and search for their causes. They used method of economic analysis and examined the text of legal regulation.

Keywords: real property investment fund, Polish, losses, direct investment

Session: Real Estate Investment

Room: VG 235, June 11, 2016, 11:00am - 12:30pm

The Real Estate Impact of the Scottish Independence 'Everendum'

Colin Jones

Professor of Estate Management

In 2014 Scotland voted in a referendum to remain as part of the UK by a margin of 54:46. It was a referendum that was supposed to settle the matter for at least a generation but the issue continues to be debated. It is widely accepted that there could be another referendum in the foreseeable future. The potential consequences are economic uncertainty with implications for inward investment from the rest of the UK and investment decisions generally. The real estate sector is likely in particular to see potential impacts through the scale of lettings/rental change, development and most explicitly in risk premiums placed on investment. The paper will assess whether such outcomes can be identified so far by a comparative study of Glasgow and other UK provincial cities.

Keywords: Risk Premiums, Investment, Scotland, Uncertainty

Session: Real Estate Investment

Room: VG 235, June 11, 2016, 11:00am - 12:30pm

The Restructuring of the Institutional Real Estate Portfolio in the UK

Colin Jones

Professor of Estate Management

Neil Dunse

Professor of Real Estate

Nicola Livingstone

*Lecturer, Bartlett School of Planning
University College London*

Kevin Cutsforth

Research Student

Real estate investment portfolios of financial institutions have seen dramatic changes over the last three decades or more. Historically such property investment decisions have been seen within a portfolio diversification paradigm that has sought to balance risk and return. This paper considers the role of the supply of assets in the determining and constraining the UK institutional portfolio. The supply of real estate assets not only expands during development booms but has also been transformed as the spatial structure of cities and property forms adapt to cars and the ICT revolution. The research examines long term temporal patterns in the development of new forms of real estate and the change to the institutional portfolio as exemplified by the IPD database. It considers to what net investment changes are driven by the returns of individual sectors or vice versa based on Granger Causality tests. It also assesses to what extent investment patterns can be explained in terms of portfolio theory.

Keywords: investment, portfolio theory, real estate supply, changing property market

Session: Real Estate Investment

Room: VG 235, June 11, 2016, 11:00am - 12:30pm

An Evaluation of Correction Procedures for Appraisal-Based Real Estate Indices

Andreas Gohs

Universität Kassel

Some authors claim that the volatilities of appraisal-based index returns are (downward) biased compared to the volatilities of their corresponding true market returns. They argue that professional appraisers are insecure about true market values of properties due to imperfect information. So in appraisal processes pure random errors as well as biases could occur, and value estimates fall apart from true market values. While estimates are performed on levels of single properties, appraisal-based indices for whole real estate markets are of interest for investors and economic experts. Since index values are aggregated from values of single properties, it is suspected that appraisal errors are transferred to index values. In the past, some authors suggested to correct (or “unsmooth”) appraisal-based indices from biases resulting from the behaviour of surveyors in appraisal processes. They claimed that the “corrected” index returns should meet the returns of true market values. This study shows that a variety of “corrected” returns time series can be gained by the different correction procedures and gives insights about the credibility of each of these correction procedures.

Keywords: Correction Procedures, Unsmoothing, Appraisal-Based Indices, Appraisal-Smoothing, Real Estate Investment Risk

Session: Real Estate Investment

Room: VG 235, June 11, 2016, 11:00am - 12:30pm

A changing role for Dutch real estate developers?

Erwin Heurkens

Delft University of Technology

In recent years Dutch real estate developers have been subject to some societal market trends that force them to change roles (Heurkens, 2013). The decreased demand for office space, limited debt funding, challenging user demands, stalling public investments, and increased competition from new companies, necessitate developer to deploy more new development, investment and partnership strategies. In this regard, investing in innovations, applying new business models, and adopting sustainability principles seem necessary for Dutch developers to remain a key player within urban real estate development. However, a Dutch study (Panteia, 2013) revealed that the real estate development industry is a conservative sector that ranks among the least innovative nation-wide. Recent studies focusing on the changing role of Dutch developers in relation to innovation, business models and sustainability show similar results.

Haak & Heurkens (2015) indicate that Dutch developers are innovating in their operations, products and services, and business models, but these are not supported by changing corporate management strategies. Similarly, Bogers (2015) argues that business model changes like new forms of collaboration, focus on cash flows, and market-driven development are occurring, but that it remains to be seen whether these changes are structural in times of an apparent real estate market boom. Additionally, Buskens (2015) concludes that sustainability is not treated as a key part of development strategies, which limits the Dutch developer's ability to change roles and practices. Therefore, this paper advocates that insight is needed into the institutional conditions that assist Dutch real estate developers to adopt new development, investment and partnership roles and strategies.

Keywords: real estate developers, roles, innovation, business models, sustainability

Session: Real Estate Development & Regeneration
Room: VG 004, June 11, 2016, 11:00am - 12:30pm

Target group analysis in Budapest: district IX vs. district VIII (an update of the situation)

Tom J Kauko

Oxford Brookes University, School of the Built Environment, Oxford, UK

This is a continuation of prior work by same author, where the idea is to tie two traditions together: public planning related land use regulation and property price development in a given area during a given time-period. The main idea is to distinguish between cases where price is affected, either negatively or positively, by a planning related measure and that price trend is confirmed to be caused by scarcity (or abundance), quality improvement (reduction) or something more oriented towards changes in the relevant institutional circumstances. Here a number of different traditions can be connected with such as the US based tradition of equilibrium urban and land economics, UK based tradition of descriptive analysis of price trajectories observed vis-à-vis land use constraints, or other tradition such as particular analyses carried out in countries with traditionally strong land policy such as Netherlands, Finland or Hong Kong. The empirical part of the study examines price and neighbourhood quality changes in residential areas undergoing urban regeneration, based on target vs. comparative group analysis and site visits in downtown Budapest (Hungary).

Keywords: urban regeneration, residential development, target group analysis, property prices, neighbourhood quality

Session: Real Estate Development & Regeneration

Room: VG 004, June 11, 2016, 11:00am - 12:30pm

Centrally Located "Urban Village"

Hao Wu

The University of Melbourne

This is a preliminary investigation of redevelopment performance of three "urban villages", located at the core of a major Chinese city. It shows that, when land use change occurs at a high rate, rural-urban transition may appear in urban core areas. Social and physical changes take time given building lag and ambiguous property rights. The process may be regarded as a structurally deepening rural-urban transition, in a 'market distortion' environment. Land market inefficiency is evident, with physical, institutional, financial and 'random' causes, leading to diverse social and economic outcomes. Each village may evolve differently to serve certain social-economic functions in city. "Idle property" clearly indicates pure social cost. Reducing the pure loss (e.g., redevelopment failure) is important. Questions such as "what are the risks and barriers in redeveloping urban villages" deserve further analysis.

Keywords: collective ownership, urban village, China, property right, performance

Session: Real Estate Development & Regeneration
Room: VG 004, June 11, 2016, 11:00am - 12:30pm

Speculative and Wake-Up Call Contagion across International Housing Markets

Michel Knoppel

University of Amsterdam / Amsterdam University of Applied Science

This paper considers the three international house price cycles in the period 1975-2013. Motivated by (i) the observed increased international synchronization of house prices during full up- and downturns of the aggregate international house price cycle of OECD countries, and (ii) the fact that the US house price seems to be the first-mover. The goal is to investigate whether there is evidence of international speculative and wake-up call contagion from the US housing market to the housing markets of a group of OECD countries.

We follow Masson (1998)'s distinction of contagion as a residual effect after controlling for (inter)national fundamentals, and combine it with Rigobon (2000)'s notion of a significant increase in the extent of spill-overs during certain times. Our interpretations of speculative and wake-up call contagion are thus essentially narrow versions of shift contagion (Rigobon, 2002).

The analysis is done through panel data in an Error-Correction Mechanism Model. Our approach is unique in several ways. First, we are the first to distinguish between speculative and wake-up-call contagion in the housing market. Second, we also assess contagion during periods of international house price increases and therefore are – to our knowledge – among the first to presume contagion to be a potential explanation for this synchronization. Preliminary results suggest that, (i) a US house price boom is contagious; (ii) the wake-up-call that induces the US real house price growth to correct from the peak to fundamentally justified rates, is contagious; (iii) speculation that induces the US real house price growth to undershoot its fundamentally justified rate, is contagious – and likely to follow up on a pre house price correction. The essence for authorities to consider real house price developments in the US and to create (contagion-preventive) policies for their domestic housing markets, becomes clear. Finally, we find that our model that consists of mainly macroeconomic variables is unable to explain the behaviour of German real house prices – which are also uninfluenced by developments in the US.

Keywords: International Contagion, Housing, Booms, Bust

Session: Real Estate Development & Regeneration

Room: VG 004, June 11, 2016, 11:00am - 12:30pm

A multi-criteria tool to support decision-making in the early stages of energy-efficient refurbishments.

Pietro Bonifaci

University IUAV of Venice

João Manuel Carvalho

Universidade de Lisboa - Faculty of Architecture

The energy efficiency concerns on the residential building stock have increased in the last years. This can be interpreted as a policy-driven phenomenon, as witnessed by the growing number of policy instruments aimed at reducing the energy consumption of buildings. However, it can also be understood as a market-driven phenomenon, as witnessed by the widespread of Voluntary Sustainable Certification Systems (VSCSs) for buildings. Despite policies being traditionally considered the most suitable tool for dealing with environmental issues, the potential of VSCSs to contribute to enhance the energy efficiency of the building sector is widely recognized. Indeed, public agencies are beginning to adopt VSCSs as performance specification requirements. Nevertheless, part of the literature has underlined that the assessment of green projects might be more effective if performed before the conceptualization of the design; this doesn't entirely fit traditional VSCSs, precluding their role as complete contributions to the exploitation of the energy-saving potential of building refurbishments.

The research therefore focuses on the development of a decision support tool for the assessment and comparison of energy-efficient refurbishment alternatives on a pre-design stage. The tool is developed taking into account three key conditions: (1) it must be suitable to be used during the early stages of the decision-making; (2) it must take into account the EU policy on building energy performances; and (3) the tool should inform the main stakeholders on the refurbishment features that can be perceived as a risk.

The tool includes six financial and energy-related criteria, which range from the energy performance improvement, to the property market value after the refurbishment. Criteria are selected assuming the incipient level of design detail in the early stage of the decision-making process. The performance values achieved by the refurbishment alternatives on each criterion are normalized on a 1 to 10 scale and further on represented with radar charts. The tool has been tested through applying it to case studies. The outcomes highlight that the tool can be used either for assessing alternatives concerning a single building, or to compare retrofit options for

different buildings. Moreover, the tool seems able to overcome two barriers that hinder the diffusion of energy-efficient refurbishments, namely the multi-stakeholders barrier and the information gap.

Keywords: Multi-criteria analysis, Energy-efficient refurbishments, Decision-making support tools

Session: Green Investment & Green Building
Room: VG 005, June 11, 2016, 11:00am - 12:30pm

The impact of shared knowledge on local climate policy outcomes for real estate

Nikolas Müller

*Technische Universität Darmstadt
Department of Law and Economics
Chair of Real Estate Business Administration and Construction Management*

Marina Hofmann

*Technische Universität Darmstadt
Department of Law and Economics
Chair of Real Estate Business Administration and Construction Management*

Andreas Pfnür

TU Darmstadt

The paper examines the extent to which knowledge is relevant in determining climate policy in cities.

For this reason, we test the proposition that specific measures for climate protection in public real estate management are taken according to predominantly shared beliefs. To determine why different measures are chosen in different cities, we present a case study that compares three major German cities.

The results indicate that the perspectives from which decisions are made and the resulting climate policy in public real estate management varies among cities. In addition, the research suggests that shared beliefs have a high degree of significance in explaining the various outcomes. With these results, the paper contributes to improving the understanding of local differences in climate policy, including how institutionalized knowledge influences rational decisionmaking. For climate policy, these findings are important because the measures to reduce GHG currently have different effects on local real estate actors.

Keywords: decision-making, Real Estate Management Behavior Perspective Framework, energy policy for real estate, justifications for climate policy in real estate, shared beliefs

Session: Green Investment & Green Building
Room: VG 005, June 11, 2016, 11:00am - 12:30pm

The resource footprint: a means of risk prevention

Martin Hoffmann
Arcadis Deutschland GmbH

The real estate sector has made a significant contribution to dealing with the impacts of climate change by introducing low-energy and efficiency-plus homes on the market. Nevertheless, current investigations show that we will need a second planet by 2050 in order to meet our needs for natural resources. The world's increasing scarcity of raw materials and the rise in prices for the world's natural resources represents a rapidly growing risk for the industry. In future, optimizing the building envelope and building services engineering systems to ensure low heat transmission and high energy efficiency will simply not be sufficient. In fact, subsequent conversions or even the dismantling of the built fabric needs to be incorporated into the planning process today.

Primary approaches on dealing with this scarcity involve, on the one hand, ensuring a long duration of use or re-use of the building and on the other hand establishing the simplest possible methods for recycling materials already in use in order to stimulate the recycling loop. Building materials with high levels of substances that cause problems during dismantling or recycling ultimately lead to costs: these materials not only increase complications for the building ecologically but, so too, economically.

For a number of years now, not only have the "eco-effective" Cradle-to-Cradle principles ranked among key counter-strategies but, so too, designing for recycling: a principle which emphasizes practical effectiveness. In addition, green building certification programs such as DGNB or LEED are increasingly picking up on the topic of dismantling and recycling. All in all, sustainable buildings represent a significantly lower risk for our resources.

The presentation will identify opportunities and risks and will present key strategies in dealing with building materials and building structures. The discussion on opportunities includes looking at the portion of valuable raw materials in buildings and the discussion on risks, the concentration of hazardous substances in building materials. This presentation takes

examples from current projects and developments to illustrate how we can boost the potential for recycling and how we can plan effectively to ensure reduced costs for dismantling and disposal.

Keywords: scarcity of raw materials, natural resources, Cradle-to-Cradle principles, designing for recycling, costs for dismantling and disposal

Session: Green Investment & Green Building

Room: VG 005, June 11, 2016, 11:00am - 12:30pm

The Green Alpha Index: Harvesting the Financial Premium of Green Factors in Real Estate Assets and Portfolios – An Empirical Methodology for Applied Decision Making

Juerg FRICS Bernet

EURO Institute of Real Estate Management

Paul Lensing

CBRE Global Investors

DESIGN: The aim of the Green Alpha Index is to identify and quantify the material set of green factors attributable to a financial green premium on real estate assets and portfolios. A wide scope of economic, environmental, social, and governance topics is considered for a robust determination of the relevant green impacts. The broad boundaries cover factors of asset and portfolio management as well as regional macro fundamentals. The Green Alpha is defined as the financial metric for the added value attributable to green factors; measured as the annual real rental growth differential per indicator or indicator group. / **ANALYSIS:** A multi-factor analysis identifies the Green Betas; assessing the measurable risks from the impacts of green factors. The Green Alpha Index gives empirical evidence of Green Alphas and Betas in commercial real estate investments across Europe. The research sample includes properties managed by CBRE Global Investors EMEA and other recognized real estate investment management firms. The portfolio data is retrieved from assured corporate reports, the asset data from self-declared surveys, and the regional data from OECD statistics and other public sources.

FINDINGS: The gathered evidence of Green Alphas and Betas facilitates investors and managers in the implementation of green strategies into their business operations. The Green Alpha profile shows in a graph the performance gaps of an asset in a portfolio relative to its peer market. The index allows to drill-down the Green Alpha for any green indicator or indicator group of each asset or portfolio. So managers can see where enhancing green factors pays out best in enhanced real rental growth. Investors can use the Green Alpha Index to screen investments and

managers for superior Green Alpha. Furthermore, the Green Alpha Index can help companies with the benchmarking and the integrated reporting of their financial and non-financial performance.

Keywords:

Session: Green Investment & Green Building

Room: VG 005, June 11, 2016, 11:00am - 12:30pm

“Double Green Building” - a German Passiv House case study together with electricity generating Solar Panels

Hermann Lebherz

GIF Germany

Annelie Stumpp

GIF Germany

In the German city of Frankfurt on the Main, a political coalition of the conservative and the green party fosters green communal residential flats as a low carbon housing policy for its inhabitants.

In the meantime Frankfurt is the world capital of Passiv House development, fostered by a Housing Association of the City of Frankfurt. A highly sophisticated computer based model of energy consumption is being used during the whole design and construction process to evaluate energy consumption. A total of 15 KW per sqm per annum electrical energy may be consumed to be awarded “Passiv House”. This is the principle of the thermos flask. In order to reduce even more the carbon footprint, the next step is to combine the Passive House System with generating own energy with solar panels to produce its own electric energy according to the KfW 40 system a energy saving programme sponsored by the KfW Bank, a agency owned by the German Government, to foster green ideas. The authors company has now been involved in planning and building of approx. 500 flats of the Passiv House System, a major part of the Passiv House stock of Frankfurt. The paper will show sustainable measures in the design process to reduce carbon consumption in the life cycle of the new Green Buildings. At the same time the study shows the limitations of the Passiv House system with a society that is extreme mobile life style.

Keywords: Double Green Building, Passiv House concept, paired with Solar Panels, a case study, to reduce carbon reduction in the life cycle of residential buildings

Session: Green Investment & Green Building

Room: VG 014, June 11, 2016, 11:00am - 12:30pm

Business Case for Green Buildings in India

Saurabh Verma

RICS School of Built Environment, Amity University

Anil Kashyap

School of Energy, Construction and Environment;

Faculty of Engineering, Environment and Computing;

Coventry University

Cities in India contribute significantly to the economic growth adding more than 60% to GDP which is expected to increase to 75% by the year 2030. Green commercial buildings have been an emerging trend in cities over the conventional building for more than a decade now since LEED rating systems came to India in the year 2001 in partnership with CII-IGBC. Cities have resource challenges with the commercial energy shortage, water demand-supply imbalance, significant increase in solid wastes that a building generates and hyperinflation in the price of building materials because of resource-supply challenges. Green buildings globally are considered resource efficient and environment-friendly. The green rating systems in India and all around the world claim resource and environment efficiency of green rated buildings but more evidence-based research is needed.

This paper attempts to explore if incremental costs of building green do result in tangible benefits during the life cycle of green building. This paper uses qualitative approach using secondary data analysis and exploratory interviews with green consultants, architects and developers to access if building green has tangible benefits or not. The paper also finds out that green buildings though comes out as resource efficient over a conventional building but tangible benefits need further evidence-based research in terms of rental premiums, occupancy rates and energy efficiency savings.

Keywords: Green buildings, Resource efficiency, Incremental costs, Green rating

Session: Green Investment & Green Building

Room: VG 014, June 11, 2016, 11:00am - 12:30pm

An integrated view on mobility in city center quarters - how can it work?

Annette Kämpf-Dern

HafenCity Universität Hamburg

Nicole Dildei

D&D Unternehmensberatung GmbH

One of the mega trends of the 21st century is "Mobility"; two others of equal importance are "Individualism" and "Sustainability". Yet when it comes to transportation, there seems to be no alternative to owning at least one car per household to be ultimately mobile as an individual - which does not really correspond to sustainable behavior. Especially not in a densely populated metropolitan area in Germany which provides a well-developed public transportation system.

In this situation, it is critical to answer whether a mobility concept can be developed that is both sufficiently attractive and economically viable. The three major challenges are as follows: to encourage

- users to give up their car
- investors to accept major limitations in building parking space (which could negatively impact rents and selling prices)
- operators to offer sharing of cars, bikes, etc.

Using a real life case – a new city district – an integrated view is analyzed, qualitatively as well as quantitatively.

There are substantial questions to be raised: Is a concept of limited individual parking spaces compensated by shared transportation utilities and improved public transportation just an illusion? Can these offerings really satisfy the current and future needs of the residents? Is the concept sustainable for all parties involved? Will investors invest and operators be able to make a profit? How would these systems need to be designed – physically as well as financially?

These questions can only be answered using an integrated model that combines the findings of fundamental studies on user behavior and needs, investor and operator requirements, and translate those into interrelated financial and non-financial outcomes. Accordingly, the model needs to include and analyze aspects like

- different types of users, their requirements as well as their cost-benefit profiles regarding a holistic mobility concept

- requirements of property investors regarding the physical and financial implications, including the advantages and disadvantages of new parking regulations
- physical and financial requirements for mobility operators providing mobility offers and satisfying users' needs.

Such an integrated analysis and modelling could be an important point of reference for the real estate community in developing variable mobility concepts, implementing new parking guidelines, and producing sustainable urban development.

Keywords: Mobility Concepts, Real Estate Development, Integrative Modelling, Real Estate Perspectives, Interdisciplinary Research

Session: Green Investment & Green Building
Room: VG 014, June 11, 2016, 11:00am - 12:30pm

Sustainable Housing as a Business Model. The Case of Belarus

Igor Voitov

Belarusian State Technological University

Siarhei Manzhynski

Economy of enterprise department, Belarusian State Technological University

Nikolai Siniak

Chairman of Production Organization and Real Estate Management department, Belarusian State Technological University

In the paper we explore sustainable development trends in the Real Estate sector in an emerging economy of Belarus.

Based on a survey method and empirical analysis we detect the main obstacles that restrain ESG-orientation in an activity of the Real Estate companies in Belarus. The major of that are very weak awareness among key stakeholders regarding potential benefits of and incentives for a sustainable orientation, the absence or failure of sustainability factors in strategies and operative plans, general macroeconomic difficulties. At the same time experience from developed countries shows that a possible way of achieving high innovative activities for Belarusian Real Estate sector lies in the field of sustainability business models promotion. The regulatory measures that should be taken for encouraging sustainability practice in Belarus are outlined in the paper.

Keywords: Sustainable development, general macroeconomic difficulties, global drivers, sustainability orientation, real estate

Session: Green Investment & Green Building

Room: VG 014, June 11, 2016, 11:00am - 12:30pm

The Paradox of High Prices and High Vacancy Rates in U.S. Housing Markets

Kirk McClure

Professor, Department of Urban Planning, University of Kansas

Housing markets in the United States continue to adjust from the effects of a housing bubble, its collapse, and the slow recovery from that collapse. This paper will employ data at the tract level from the American Community Survey for the 383 Metropolitan Statistical Areas of the United States. The research finds that both the market for owner-occupants and the market for renters experienced growth of the supply of units that outpaced the demand for those units. The problem of excessive supply has abated somewhat in the last five years, but the problems of surplus housing continue to be a problem for most markets. Vacancy rates remain at high, perhaps unhealthy, levels. There is a paradox in the market in that, despite surpluses of housing, prices continue to rise faster than inflation and faster than the incomes of the households. With prices rising faster than incomes, housing affordability problems are expanding. The problems of high vacancy rates varies widely across the metropolitan areas of the nation and across the various submarkets of housing defined by price strata. Most markets suffer from shortages only in rental markets at the lowest price levels. The process of filtering non-viable units out of the system does not appear to be working well. Vacancy rates are above optimal levels in most neighborhoods but are highest in the most distressed neighborhoods. These market dynamics call into question some of the policies and programs of the federal government which seek to expand the supply of low-cost rental housing when many of these markets are in surplus.

Keywords:

Session: Housing Economics & Policy

Room: VG 015, June 11, 2016, 11:00am - 12:30pm

Estimation of an Hedonic Price Index for Bucharest

Paloma Taltavull de La Paz

Departamento de Análisis Económico Aplicado, University of Alicante

Ion Anghel

Department of Financial Analysis and Valuation, The Bucharest University of Economic Studies, Romania

Costin Ciora

Department of Financial Analysis and Valuation, The Bucharest University of Economic Studies, Romania

Hedonic Price Index are the most significant methods of understanding the evolution of the housing market. The Romanian housing market, especially the one for Bucharest has been impacted both by conditions of financing and availability of dwellings. By following more than 15.000 transactions between 2013-2015, the purpose of this paper was to develop a hedonic price index, and through the availability of time of market values and different levels of prices before transaction, expanding the analysis of the housing market.

Keywords: hedonic method, housing price index, housing price methodology

Session: Housing Economics & Policy

Room: VG 015, June 11, 2016, 11:00am - 12:30pm

Proximity to kindergarten: valuable to be close, but not too close

Anne Wenche Emblem

University of Agder

Theis Theisen

University of Agder

Children have to be brought to kindergarten every day, implying monetary traveling costs as well as time costs. For households with young children, proximity to a kindergarten is therefore likely to be a highly valued locational attribute. Hence, we expect that the distance from a house to the closest kindergarten will have an impact on the price for which the house can be sold.

We use a sample from a Norwegian town for examining the relationship between house prices and distance to kindergarten. The results from estimating a hedonic model show that house prices are higher the closer they are located to a kindergarten. If the distance to a kindergarten is less than 50 meters, however, house prices drop abruptly to a level lower than for houses between 100 and 1000 meters from the kindergarten. We interpret this as the result of negative externalities associated with noise and traffic generated by the kindergarten.

Keywords: Kindergarten, House prices, External effects

Session: Housing Economics & Policy

Room: VG 015, June 11, 2016, 11:00am - 12:30pm

Leaving the nest: Parents, Parental Attributes and the Homeownership Experience of Their Children

Shaun Bond

University of Cincinnati

Michael Eriksen

University of Cincinnati

A significant gap in homeownership rates exist across race and generations. Earlier research has primarily used individual attributes reported in cross-sectional survey data to explain the gap, but a consistent differential in the explainable portion of the gap persists. We construct a matched panel of the adult children of respondents within the Health and Retirement Study to study the role of the attributes of parents on subsequent homeownership of their children. We correct for recognized differences in household formation rates by using a bivariate probit estimator, where the number of functional limitations and health conditions of parents are assumed to directly affect the decision of their children to coreside, while independent from ownership decisions. We find the explainable portion of the racial gap increases from 29.4% to 44.0% based on a Blinder-Oaxaca decomposition when parental attributes are included in the estimation model.

Keywords: tenure choice, Millennials, Recession

Session: Housing Economics & Policy

Room: VG 015, June 11, 2016, 11:00am - 12:30pm

Abdulai Raymond Talinbe	110
Abiko Alex K	54
Adair Alastair	232
Adams Zeno	96
Agarwal Sunil	136
Akinsomi Omokolade	78
Al Raeesi Eng. Eman Jasim	13
Alcock Jamie	105
Alfonso Oscar	162
Alkay Elif	325
Aly Karam	184
Amédée-Manesme Charles-Olivier	161
Amezquita Laura	162
Amoruso Paola	229
An Xudong	43
Anderson John	150
Andrlikova Petra	105
Anghel Ion	261, 350
Anthony Owusu-Ansah	110
Appel-Meulenbroek Rianne	166, 306
Arentze Theo	251, 306
Arkesteijn Monique	140, 142
Armitage Lynne	100
Arslanli Kerem Yavuz	121
Asante Lewis Abedi	115
Ascherl Claudia	49
Augutyte -Kvedaraviciene Ieva	92
Aydin Erdal	156
Bao Li	119
Baridoma Moses Baridi	73
Baroni Michel	161
Barthélémy Fabrice	161
Basdogan Serhat	47
Beale Tina	37
Bęben Robert	178, 270
Belanger Philippe	227
Bentinck Salomé A.	168
Beracha Eli	172
Bernet Juerg FRICS	342
Berry Jim	212
Betzinger Michael	84
Beyerle Thomas	188
Biasin Massimo	81
Bienert Sven	54, 116, 151, 183, 195, 238, 319,

Binnekamp Ruud	142
Blasi Pau	28
Blickle Kristian	96
Bodenbender Mario	134
Bond Shaun	243, 352
Bonifaci Pietro	302, 304, 337
Boonpromgul Pichanun	313
Borgers Aloys	251
Bouchouicha Ranoua	203
Bourassa Steven	59
Bourdeau-Brien Michael	227
Branigan Clare	209, 211
Braunschweig Maria	166
Britto Daniel	144
Brounen Dirk	156, 194
Brouwer Henk J.	93
Brunauer Wolfgang A.	238
Brusgul Julia	256
Bullinger Dieter	200, 253
Burgin Shelley	287
Cajias Marcelo	48, 151, 164
Carswell Andy	56
Carvalho João Manuel	337
Chang Qingqing	263
Chen Fong-Yao	312
Cheung Mingyan	119
Chu Nan-Yu	46
Chukwudumogu Ikenna	299
Ciora Costin	261, 350
Clacy-Jones Mark	187
Cloete Chris	241
Copiello Sergio	302
Cox James	100
Cutsforth Kevin	331
Cvetkovic Milan	88
Daams Michiel	128
D'alpaos Chiara	66
d'Amato Maurizio	229
Danielsen Bartley	311
Das Prashant	106
Dascher Kristof	42
Davie Michael F.	36
De Coo Winfried	194
de Jong Hans	142

de Jong Peter	290
Delfim Jean-Christophe	171
Demary Markus	181
Deng Yongheng	147
Dermisi Sofia	120
Derrick Ohemeng-Mensah	110
Devine Avis	263
Dietzel Marian Alexander	50, 246
Dildei Nicole	346
Dixon Tim	274
Downs David H.	40, 242, 322
Droes Martijn	280
Dryl Tomasz	178
Dryl Wioleta	178
Duarte Carlos Marmolejo	36, 223
Duffy David	217
Dunse Neil	331
Dziadkiewicz Anna	178
Edmonds Thomas N.	86
Emblem Anne Wenche	351
Engblom Janne	59
Enseling Andreas	190
Eriksen Michael	352
Ertl Sebastian	48, 164
Fahrländer Stefan Sebastian	104
Falkenbach Heidi	202
Far Mohsen Shojaee	36, 223
Feilmayr Wolfgang	45
Feng Yalan	285
Filippova Olga	315
Förster Gerhard	288
French Nick	234
Freybote Julia	172
Fritzsche Carolin	282
Fuerst Franz	151
Fuess Roland	208
Gabriel Ben	271
Gabrieli Tommaso	180
Gabrielli Laura	66, 234
Gallimore Paul	106
Garner Gary Owen	250
Gerfin Michael	104
Gesell Carolin	188
Geurts Tom	128

Giacomini Emanuela	81
Giannotti Claudio	81
Gibilaro Lucia	51, 79
Gibler Karen	56
Girshina Anastasia	148
Gläsner Sebastian	186
Glumac Brano	300
Gluszka Michal	176
Goel Shipra	136
Gohs Andreas	332
Gupta Ashish	132
Haberkorn Jonas	248
Hahn Jonas	183, 195
Hanisch Alexander	16
Haran Martin	232
Harrison David	311
Hassan Bilal	22
Heijer Alexandra Den	290
Heilemann Jessica	68
Heinig Steffen	23
Heinrich Michael	5, 231
Helmus Manfred	220
Heurkens Erwin	333
Higgins David	225
Hikisch Danielle	34
Hill Robert	207
Hillrichs Dorothee	156
Hinz Eberhard	190
Hirsch Jens	62, 195, 254, 319
Hobbs Peter	186, 187
Hoesli Martin	59, 171
Hoffmann Martin	340
Hofmann Marina	339
Horan Jane	95
Huang Shaoan	22
Huber Stefanie J.	281
Huston Simon	13
Hvelplund Frede	152
Hyun Dongwoo	2
Inderwies Wolfgang	266
Jackson Cath	321
Jadevicius Arvydas	213
Janssen Stefan	251
Johann Sebastian	199

Jones Colin	330, 331
Junius Karsten	88
Just Tobias	5, 116
Jylha Tuuli	265
Kallakmaa-Kapsta Angelika	116
Kämpf-Dern Annette	130, 165, 346
Kandlbinder Katrin	50
Kania Katarzyna	297
Kariuki Catherine	71
Kashyap Anil	345
Katzler Sigrid	98
Kaufhold Matthias	68
Kauko Tom J	334
Kawuzi Brian	60
Ke Qiulin	180
Keenan Donald	285
Kelm Agnes	220
Kerscher Alexander Nikolaus	259
Kholodilin Konstantin	219, 226
Khorrami Nahid	68
Kim Taewon	285
Kippes Stephan	89
Kirsten Matthias	233
Kleinschrot Katharina	29
Knoppel Michel	336
Kochetkov Yuriy	198
Köhler Tine	273
Koller Jan	208
Kongela Sophia Marcian	76
Korzer Tanja	123
Krausch Stefan	244
Kreutz Anna	248
Krieger Patrick	11
Kroencke Tim A.	294
Kuerschner Kathleen	214
Kulikauskas Darius	20
Kurzrock Björn-Martin	199
Kusiluka Moses Mpogole	76, 113
Lacour-Little Michael	39
Ladewig Holger	233
Lang Marcel	7
Laning Marrit	251
Lausberg Carsten	11
Le Roux Pieter	90

Lebherz Hermann	344
Lee Chyi Lin	296
Lee Daniel	285
Lee Gabriel	267
Lehner Manuel	104
Lensing Paul	342
Leone Vitor	323
Lerbs Oliver	85
Leshinsky Deborah	21, 275
Levy Deborah	95, 265
Lhabash Ebraheim	13
Li Lingxiao	40
Li Puying	18
Liang Jen-Hsu	312
Lin Zhenguo	172
Lindenmeier Jörg	308
Livingstone Nicola	331
Lorenz David	157
Louw Erik	298
Lown Keith	230
Luchtenberg Kimberly	39
Lukas Moritz	117
Lützkendorf Thomas	157, 190
Maier Gunther	261
Manzhynski Siarhei	348
Markmann Holger	80
Martens Bob	125
Marzuki Muhammad Jufri	295
Matovu Augustine	112
Mattarocci Gianluca	51, 79
Mauck Nathan	258
Maurin Mark	5
Mazhar Abbas	22
McAllister Patrick	265
McClure Kirk	349
McCord Michael	232
McGaffin Robert	184
McGough Tony	212
McGreal Stanley	232
McQuinn Kieran	217
Meins-Becker Anica	68, 220
Mense Andreas	226, 262
Metapirak Yawaman	313
Mezza Alvaro	41

Michell Kathy	184
Michelsen Claus	226
Milamo Rebecca J	113
Miljan Jaan	279, 292
Miller Norm G	43
Mirembe Racheael Daisy	107, 112
Moesl Martin	32
Mollica Vito	117
Monetti Eliane	144
Morley Ciara	217
Mörmann Kai	190
Mueller Andrew	310
Mueller Glenn	310
Müller Claus	271
Müller Nikolas	339
Multescu Gheorghe	145
Murigu Jennifer	71
Murphy Colin	241
Murphy Laurence	315
Nadeem Abdul Majeed	22
Naubereit Philipp	276
Newell Graeme	295
Ngarmyarn Atcharawan	313
Nkote Isaac Nabeta	112
Nnamani Obinna Collins	75
Nöth Markus	117
Nozeman Ed	63
Nzioki Nicky	71
Oikarinen Elias	59
Olden Han	298
Ong Seow Eng	52
Orr Allison	321
Österling Anders	206
Ostroumoff Charles	170
Pagiwa Reneiloe	78
Palicki Slawomir	160
Panichpathom Supeecha	102
Papastamos Dimitrios	324
Parker David	293
Parsa Ali	18, 87
Pastrana Ioanna Alasua	223
Pekdemir Dilek	182
Percy Edward	250
Perera Treshani	9, 225

Pfnür Andreas	166, 173, 339
Piazolo Daniel	88, 288
Pommeranz Carolin	268
Porumb Vlad-Andrei	261
Price S. McKay	258
Quansah Dennis Papa Odenyi	115
Rafique Muhammad Zahid	22
Rajkiewicz Andrzej	154
Ramantswana Thabelo	74
Rashidfarokhi Anahita	60
Ravishankar Geetha	323
Razali Muhammad Najib	83
Rebitzer Dieter W.	248
Reddy Wejendra	205
Rehm Michael	315
Reid Sacha	64
Reinert Jan	27
Remoy Hilde	103, 265
Remoy Hilde	103, 265
Renz Mark	284
Ringo Daniel	41
Rochdi Karim	246
Rock Verena	230
Rodriguez Zamora Carolina	328
Roether Katja	130
Rosiers François Des	161
Roulac Stephen	53
Ruscheinsky Jessica	7
Ryan Paul	209, 211
Ryan Stephen	138
Sahk Kaarel	278, 279, 292
Santipojana Kriangsak	326
Santovtio Rogerio	54
Saxinger Andreas	215
Schaaf Jan	123
Schäfer Philipp	62
Schäfers Wolfgang	7, 49, 62
Schindler Felix	294
Schmidt Tobias	281
Schnejdar Sebastian	231
Scholz Michael	207
Schreck Thomas	5
Schulte Karl-Werner	116
Schulte Sven-Marten	116

Schübler Anne	173
Sebastian Steffen	15, 40, 84, 231, 322
Seemann Ann-Kathrin	308
Segerer Matthias	254
Seiler Michael	39
Seubert Ulrich	85
Sexton Martin	274
Sherlund Shane	41
Sieracki Karen	180
Sijtsma Frans	128
Siniak Nikolai	348
Sittler Peter	247
Sleptcova Maiia	202
Smith Patrick	106
Söderberg Inga-Lill	98
Sommer Kamila	41
Stanghellini Stefano	304
Steininger Bertram I.	268, 294
Stevens Donald	194
Stoy Christian	30
Straska Miroslava Mira	242
Strobel Johannes	267
Stumpp Annelie	344
Surmann Markus	238
Swisher Judith	86
Symonds Barry	145
Szczepaniak Krzysztof	270
Taffler Richard	209
Taltavull de La Paz Paloma	350
Tam Lyndon	100
Tautschnig Arnold	32
Teder Andres	278
Telega Agnieszka	176
Teng Hsiao-Jung	58
Terkelsen Elsebeth	152
Teska Magdalena	4
Teske Markus	118
Teuben Bert	187
Thamburanawit Apinya	102
Thanh Binh Nguyen	267
Theisen Theis	351
Thiel Fabian	196
Thomas Matthias	138
Thompson Bob	70, 264

Thomschke Lorenz	25
Toivonen Saija	60
Tran Anh Duc	52
Trück Stefan	117
Tu Charles	312
Tu Yong	147
Uhruska Malgorzata	297
Unger Stephan	119
Vaché Martin	192
Valks Bart	140
van de Beemt-Tjeerdsma Annette	240
van de Boom Luc	306
van de Minne Alex	280
van de Wetering Jorn	274
van der Vlist Arno	63
van der Werf Ytzen	236
van Dooren Elise	290
van Hoek Tim	140
Vandrei Lars	282
Verma Saurabh	345
Veuger Jan	240
Viitanen Kauko	60
Viruly Francois	184
Vogt Gisela Francis	289
Voitov Igor	348
Vuong Henri	138
Waller Gregory	242
Walter Verena	30
Wang Bing	269
Warren-Myers Georgia	319
Watkins Craig	325
Weber Martin	85
Weber Viktor Franz Paul	67
Wegrzyn Joanna	175, 176
Weis Christian	15
Wellner Kristin	34, 271
Wernet Christin	308
White Michael	324
Wiedner Maria Augusta	108
Wiegelmann Thomas	183
Wiersma Simon	14
Wojewnik-Filipkowska Anna	178, 270
Wolski Rafal	204, 329
Woltering René-Ojas	15, 231, 322

Wong Woon Weng	205
Wu Hao	55, 335
Xhignesse Guillaume	317
Yao Liming	1
Yuo Tony Shun-Te	122
Zahirovic-Herbert Velma	56
Zaleczna Magdalena	57, 329
Zeekaf Falco	300
Zelazowski Konrad	318
Zhang Jingjing	296
Zhang Yanjiang	147
Zhao Jing	311
Zhao Xu	222
Zheng Suyan	243
Zhenguo Lin	172
Zhu Bing	40, 84
Zhukovskiy Alexey	203



www.2016.eres.org



Gold Sponsors



Event Sponsors



Panel Supports

