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Book of Abstracts: PhD Conference Session

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Abstracts

Paper Number: 14

PhD Paper

The related labour market implications for the construction environment

Peter James Glynn and Roslyn Taplin, Bond University, and University of New South Wales

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2B

Climate change will have a considerable impact on the constructed environment. More specifically, policies and regulations made will impact on construction labour and have future implications for the delivery of climate adaptive property.

This paper will examine the implications of climate change policy for the constructed environment labour market. It discusses whether policymakers and regulators are sufficiently informed and aware to accommodate the requirements of a low carbon workplace and whether the actors in the workplace can effectively implement the technical, regulatory and social reforms. The paper concludes that the current initiatives are individually suitable but government models are generally incomplete, lack cohesion and so do not deliver to the extent required by industry or the workplace actors.

The labour market: Recent studies find that there are changes occurring in the labour market as a consequence of climate change (GHK Consulting 2007; ETUC, 2007; Worldwatch Institute, 2008). They also find that skills shortages are a binding constraint on the sector, and that it will continue to be difficult to source workers in the number and with the skills required. These changes are a reflection of the industry's moves to adapt to the new conditions, and the scaling up required to undertake the work that will reduce the energy consumed and the volume of emissions for which the constructed environment is responsible.

Employers' organisations and trade unions play an active role in the provision of sector and labour market information to policy makers, advocating the collective interests of their constituents who otherwise do not have the opportunity for input on policy and regulatory matters. They also serve as the interface between business and labour interests, and policy makers and regulators.

Employers' organisations and trade unions responsibilities include labour relations and social dialogue in respect of climate change. The paper finds these objectives overlap in some areas and therefore create the potential to infringe regulatory jurisdictions. Diligence is necessary to ensure that labour and management can remain focussed on the delivery of goods and services, while also undertaking the measures necessary to adapt to the requirements of a low carbon economy.

The constructed environment: is a major contributor to economic growth and employment, providing 10% of global gross domestic product and employing 5-10% of total employment

Paper Number: 44

PhD Paper

Cornish-Fisher expansion for real estate value at risk

Charles-Olivier Amedee-Manesme and Fabrice Barthelemy, University of Cergy-Pontoise

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1A

Value at risk is a convenient and popular risk measurement tool. It represents the maximum potential loss on a specific portfolio of financial assets given a specific time horizon and a confidence interval. Principally value at risk is used in finance for risk management, financial reporting and capital requirement. In real estate, the calculation of this risk measurement is still rare even if it is now common to compute and disclose it in numerous other fields of finance. Indeed nowadays, financial institutions are facing the important task of estimating and controlling their exposure to market risk following a scope of new regulation such as Basel II,

Basel III or Solvency II. It is in this context that financial institution may use internal models for estimating their market risk. The purpose of this paper is to investigate the possibility to use Cornish-Fisher expansion to assess real estate value at risk. Despite strong assumptions, we show how Cornish-Fisher approximation can give quickly accurate measurements. In addition, practitioners can find here a methodology to assess quickly value at risk without too many loss of relevancy due to normal hypothesis.

After a review of literature on value at risk and of the existing methodologies, the paper describes the Cornish-Fisher expansion and how the expansion is used to compute value at risk. Then, we apply the proposed model to a set of real estate indices and compare the results obtained with the traditional variance-covariance method.

Paper Number: 54

PhD Paper

**Systematisation of housing privatisation in Germany, of portfolios with more than 50,000 units -
Development of a privatisation-analysis-model (PAM)**

Rainer Reddehase, Technical University of Ostrava

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2C

Through a systematic analysis of the largest residential real estate transactions that have taken place in Germany during the past decade (of size greater than 50,000 units), the relevant criteria are to be derived for evaluating the stock in the course of due-diligence analyses.

The challenge to be overcome lies in the fact that the housing stock (the assets for sale) is oftentimes very heterogeneous (varying widely in year of construction, type of building, apartment size, number of rooms per apartment, etc.) and that the stock is often located in different cities and regions. At the same time, in the case of such large-scale transactions, an analysis of each individual building would not be feasible for cost reasons. Additionally, the slim timeframe allotted to the valuation of the units and the assessment of the potentials for privatization (privatization of the second order, i.e. tenant privatization) in structured bidding processes requires that decisions are based on approximations of the values of apartments.

By generalizing the criteria relevant to the analysis of privatization potentials, valuation methods can be developed to guide future transactions involving large portfolios (First-order privatization, privatization of formerly public-utility companies / Privatization of public property). At present, the public authorities still own more than 3 million housing units in Germany.

Paper Number: 97

PhD Paper

Modelling the supply of new residential construction for local housing markets and estimation of housing supply price elasticities: The case of Aberdeen, UK.

Anthony Owusu-Ansah, University of Aberdeen

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2A

Housing investment affects economic growth both directly and indirectly and so understanding the mechanisms underlying the housing is of great importance. However, the demand side of the housing market is much better understood than the supply side and even relatively simple questions regarding the price elasticity of housing supply produce wide range of estimates. Also, most of the housing supply studies are conducted at the national and regional levels even though the advantages of conducting such studies at the local level are well known among researchers. This paper employs several model specifications to estimate the supply of housing for the

Aberdeen housing market in the UK. Like most of the UK studies, the price elasticities are relatively low as compared to those from the US studies. The paper recommends more local housing market studies to be conducted to better understand the supply of housing at the local (district) levels. Also, firm level data would offer the opportunity for the underlying builder behaviour to be tested explicitly.

Paper Number: 108

PhD Paper

Human behaviour - an underappreciated factor in real estate transaction analyses

Michael Dinkel, University of Kaiserslautern

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2B

Most valuation approaches examine the ups and downturns of real estate prices mainly focussing on the variables lot size, living space, dwelling age and furniture. These approaches disregard the importance of the individual behaviour of private sellers and buyers. As their decisions are often influenced by uncertainty due to poor market transparency it can be assumed that these decisions are - to some extent - not congruent with rational behaviour. Hence, regression analyses should take both factors - objective and behavioural variables - into account.

The empirical study (N=413) in this research analyses the behaviour of brokers and sellers who offer their dwellings through the leading brokerage website in Germany, ImmobilienScout24. They are surveyed directly after the initial listing of the dwelling and then again 5 months later. Human behaviour should be explained by real estate related knowledge, expectations, personal situation and heuristic processes. Heuristic processes reduce the complexity and lead to results which do not coincide with rational behaviour. The heuristic process 'adjustment and anchoring' is especially important for real estate transactions. Generally, a seller starts from an initial value, e.g listing prices of comparable houses at brokerage websites, and adjusts that value to yield her own dwellings' value. However, this approach is often led by false individual assumptions.

First empirical results show that 25% of private sellers significantly overestimate the appropriate listing price. Three-quarter of private sellers admit, that they have only rudimentary knowledge of the property market and one quarter is forced to sell the property urgently. These results indicate that selling and listing prices of residential properties are also influenced by human behaviour.

Paper Number: 118

PhD Paper

What factors affect hedging incentives of housing demand?

Manish Gupta, University of Zurich

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2A

One simple question - why people buy houses - is perhaps one of the most recurring and intriguing themes on research surface in housing. In the US, nearly two-thirds of the population owns houses (Tracy and Schneider (2001)). Optimal decision-making entails efficient risk management or hedging for those risks that can not be diversified away. Undiversified portfolio risk can be hedged by options (systematic risk) or insurance (idiosyncratic risk). The risk that can not be hedged or insured has to be borne by the agent. Another strategy is self-hedging documented by Han (2010, 2011) that focuses on 'self-hedging' In the absence of optimal hedging arrangements, self-hedging may be a good alternative for households. Recently, Han (2010) investigates the role of hedging incentives and price risk on housing demand. Han (2010) distinguishes price risk and hedging risk on housing demand. The crucial factor for such a hedging effect is the degree of correlation between the

prices. Sinai and Souleles (2005) present a rent risk versus asset price risk model. Households that do not own must rent, purchasing their housing services on a spot market, and thus subjecting themselves to annual fluctuations in rent. Owners, by contrast, avoid this rent uncertainty by buying a long-lived asset that delivers a guaranteed stream of housing services for a known up-front price. Unlike standard assets, houses effectively pay out annual dividends equal to the ex post spot rent, and so provide a hedge against rent risk. This study is about extending the hedging analysis by Han (2011) and Sinai and Souleles (2005). The basic question is what factors cause this hedging to be effective. And, does the effectiveness of hedging confined to a few geographical locations or MSAs. It is the second question that begs for disaggregated information for the households. This study takes care of issues such as endogeneity using tightest empirical strategies and a very novel technique to estimate hedging propensity.

Paper Number: 120

PhD Paper

Are "green factors" able to drive the real estate value up?

Malgorzata G. Sliczna, Wroclaw University of Economics

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2B

In the era of ecology awareness sustainable development plays a key role. The idea of this movement touches every aspect of our lives, real estate is not different. It is said that in EU buildings are responsible for 40% of total energy consumption. It means that making our buildings more energy efficient is really crucial for climate change. Real estate sector in Poland is aware of those issues and releases the need to reduce its environmental impact.. Nevertheless green building market in Poland suffers lack of proper interest. The most important factor for green buildings market development in Poland is the value of the house which reflects environmental costs and benefits. However real estate appraisal is mainly focused on none environmental issues. It seems that despite widely propagated financial and environmental benefits for green buildings, real estate prices are not influenced by their sustainable characteristics.

This study is an attempt to analyze and characterize the most popular real estate appraisal methods in Poland. All of them are closely analyzed to point the level of consideration of environmental friendly issues of the property This can highlight the green features which are the most popular and, on the other hand, the most beneficial to real estate value increase. The research seeks to remedy these problems by analyzing the literature of real estate appraisal methodology, statistic and real estate data published by real estate agencies. Some insights information gathered from real estate agencies and real estate appraisers was also taken. The result of the study indicates that real estate appraisal do not take into consideration the environmental friendly issues implemented in the building. A few factors, such as good isolation or green location, are the ones that can increase the value of the house the highest. This paper is the result of the first part of the research on green factors of the building and their influence on increasing the value of real estate. The research shows the need of changing the real estate appraisal methodology in Poland.

Real estate market in Poland is still developing. This study is the first one in the field to point the new directions of development towards green buildings in Poland. The paper shows the lack of motivations for sustainable real estate to be popular, for appraisal methods are not taking into consideration "green" factors of the buildings.

Paper Number: 124

PhD Paper

Empirical testing of the flexibility value in land auction prices

Jianfu Shen and Frederik Pretorius, University of Hong Kong

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1C

This paper uses project level data of land auction prices in Hong Kong. It tests the hypotheses that the land auction price (real option premium) contains three sources of flexibility value: waiting to invest, the effect of direct interactions and the effect of financial structure. The OLS regression results show that the option premium embedded in the land price is not only related to real flexibility choices such as delaying investment as identified in traditional real option theory, but it also increases or decreases with the direct interaction of properties, their competition for firm resources and the firm's financial status. Firms with more investment properties located close to the auctioned land and with more internal funds would place a higher value on the land at auction; while more profitable firms and firms with less debt capacity would lower its estimate of option value embedded in the auctioned land prices as reflected in bidding. The interaction effect and financial structure in the firm have been confirmed in the empirical studies to influence the option premium in the land price. These results confirm the link between the project level predictions of real option theory and firm fundamentals.

Paper Number: 136

Poster

Management control systems (controlling) in the international real estate management groups

Doris Grill, Vienna University of Economics And Business

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

In times of crisis, where there is great uncertainty in many markets and the confidence in economy decreases, the need for information and control becomes evident. Management Control Systems can be used as instruments to satisfy this need.

Controlling as an operational function is already common in nearly all big real estate companies, but the understanding of controlling and its range of functions as well as the integration into the organizational structure of the company is highly varying.

In practice, people with the title of controller have functions that are at one extreme, little more than bookkeeping and, at the other extreme, de facto general management¹.

Robert N. Anthony already noticed this fact in the year 1965 and since then it has not changed significantly. Especially in the field of real estate controlling there is no consistent and accepted theory. Therefore it might happen in practice that controlling fulfills the position of a stopgap, which means that functions that are not covered by any other organizational unit are assigned to it. As a consequence a lot of isolated applications are developed so that the bureaucracy is increasing and meanwhile the flexibility of the company is decreasing.

This paper analyses the concept of real estate controlling, especially in the German-speaking context. It investigates if controlling is a suitable instrument for an international real estate management company. The article first reviews the general real estate literature and summarizes the special requirements and problems of the real estate sector. After discussing and delineating the concept of controlling in general, it shows the limits and potentials of controlling in the context of real estate. Finally the existing concepts of real estate controlling

are compared and it is analyzed where the theory should be adjusted to the special needs of the real estate industry.

¹Antony, Robert N. (1965): *Planning and control systems: a framework for analysis*, Harvard University Press, Boston

Paper Number: 148

PhD Paper

An empirical comparative study for urban regeneration: measuring the effectiveness of DSS and GIS approaches

Alberto Calzada, Jun Liu, Hui Wang, and Anil Kashyap, University of Ulster

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1B

Urban regeneration (UR) projects encompass complex decision-making processes that usually comprise a great amount of information collected from numerous data sources which may be uncertain, inconsistent or incomplete. Many stakeholders and other actors provide subjective judgments that need to be considered throughout the decision process. To support the decision-making procedure while handling the large and complex quantitative data along with qualitative information, a belief rule-base inference methodology (RIMER) has been proposed to be used in this research. The initial finding of the research based on RIMER shows promising results in terms of flexibility, accuracy, and applicability based on some case studies relevant to urban regeneration decision making problems.

Furthermore, most factors involved in regeneration projects (i.e. indicators or alternatives) are geographically referenced, making spatial component a key input in the decision making process. Although there is a substantial body of literature regarding the combination of Geographic Information Systems (GIS) and Decision Support Systems (DSS) to tackle spatial decision problems, there is still a lack of empirical and comparative studies able to measure in real terms the results and effects when using both GIS and DSS together against the use of DSS or GIS technologies alone. Therefore, this research proposes to include a spatial analysis along with the RIMER approach for comprehensive analysis of input indicators. To demonstrate so, this paper presents a comparative study developed using real data of the Greater Belfast Area (GBA). First, an approach of the UR decision problem from a RIMER-based DSS point of view shows in numerical terms the benefits of using spatial analysis for a further adjustment of DSSs. Then, an analysis is executed from an entirely GIS perspective, based on the recently proposed Geographically Weighted Regression (GWR) model. To finish off, the empirical comparative study of both approaches is then conducted. The promising results retrieved in this empirical study indicate that RIMER-based DSS can provide a well-established base to implement further research in combination with different GIS methods to effectively handle the UR decision problem from an IT perspective, compared with GWR model in terms of flexibility, interpretation, accuracy, and applicability.

Paper Number: 150

Poster

Real estate investment risks in CEE

Kateryna Kurylchyk, Vienna University of Economics And Business

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

Owing to the higher expected returns and surging economic growth, the CEE region with its emerging and dynamically developing real estate markets used to be a centre of active international real estate investment.

After the crisis of 2008, however, many investors have become more cautious and selective with regard to investing in this region, and often display reluctance to enter those previously deemed among the most attractive real estate markets. This is particularly due to the substantial uncertainty and foreignness implied by international investment per se, as well as the increased risks inherent in these markets and intensified by the crisis.

A growing body of literature on real estate investment risks offers limited research on CEE countries in this respect. This study sets out, therefore, to identify, structure and analyse the major risks of investing in real estate, with a particular focus on the CEE region, in order to see if they are large enough to hinder further investment into these markets.

Paper Number: 151

PhD Paper

Monetary policy, financial intermediation, current account and housing market - how do they fit together?

Stanimira Milcheva, IREBS, University of Regensburg

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1C

We estimate the role of monetary policy, net capital inflow and credit supply shocks for house prices, residential investment and durable consumption. These fundamental shocks account for three leading hypotheses about the causes of the recent housing bubble in the US: loose monetary policy, a 'global saving glut' and loose credit standards for mortgage borrowers. Shocks in credit standards are stemming from variations in the assets of security broker-dealers, as these channel the securitized credit supply to the real economy. We show that the 'global saving glut' hypothesis does not assert housing activity and consumption. Indeed, monetary policy and credit supply shocks have significant effects on housing variables and durable consumption, explaining a similar share of the variations in housing variables. The credit supply shock contributes three times more to the variation in durable consumption due to the effect on subprime mortgage borrowers, which is not captured by the monetary policy shock. A significant negative response of current account deficit to monetary policy shocks and a positive response to credit supply shocks implies that the current account deficit might be driven by domestic factors rather than by foreign savings. The results from the counterfactual experiment indicate that monetary policy shocks are transmitted to durable consumption to a large extent indirectly through housing collateral and employment effects. In contrast, credit supply shocks have a direct effect on durable consumption in the short run.

Paper Number: 158

Poster

Alternative ways to manage projects - Benchmarking study for housing business management

Antti Arpiainen, Tampere University of Technology

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

The motivation for this research arises from the need of finding new ways of doing business and gaining competitive advantage in housing business management. Housing business is seen as an engineering-led field and investments in research and development are rare, when it comes to develop new methods of working. Moreover, the approach to project management has been very traditional and technology-centered. For example, instead of concentrating on improving the projects creating value to customers, the main focus has been on cheapest price.

The objective of this research is to identify best practices of project management, especially in software business, and draw their implications for housing business. The main purpose is to analyze how project management could be improved and enhanced, for example, using software companies' project management methods. Also, the study discusses how to change already existing approach to project management and how the effectiveness of alternative approaches could be analyzed. In sum, the study is about thinking differently by adopting new ways to manage projects and adding them to housing operators' toolbox of project management.

In addition to benchmarking, the study contains also interviews of housing operators and home buyers. The data of this study is gathered in Finland and it focuses on Finnish housing market. The focus is on finding alternative approaches to project management in housing business management, but the results are expected to be applicable also to other business fields.

The hypothesis is that results indicate the effectiveness of alternative project management approaches in housing business management. The implementation of these best practices makes housing operators more proactive and customer-oriented, which can lead to new competitive advantages and speed up business development. Still, there are few housing operators which are ready to change their existing approach to project management. Therefore, the aim of findings is also encourage housing operators to develop project management methods.

Paper Number: 171

Poster

Customer orientated areal development

Juha Kananen, Tampere University of Technology

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

The aim of this study is to develop customer orientated methods for areal development. Method consists of value proposition creation, customer segmentation, service package creation, value creation in collaboration with customers and areal branding.

In Finland numerous old hospitals, barracks and other public service centers are closing down. These buildings usually locate outside the urban structure, in a beautiful nature environment. Facilities and the land are mainly owned by public sector. With good areal development these areas could be developed into valuable residential or service areas. Successful development would ease public sector in financial difficulties as developed land would increase in value.

Finnish government is planning to cut down the number of municipalities from 336 to 70. As a part of the municipality renovation social and health care services needs to be reorganized. The reorganization of social and health care services might lead to more centralized service production, where more service centers outside city centers are closing down. Finnish government is also executing reform in military training. As a part of the reform, several barracks around Finland are closing down by the beginning of 2015. Finnish most significant church, Evangelical-Lutheran church is also having economic problems. In order to cut down deficit church is selling its properties all around Finland.

The logic of business and marketing has been changing from goods dominant to service dominant logic. In the heart of the service dominant business logic is the idea that the customer is a co-creator of value. Construction industry is also developing new business models to serve customer better to gain better profits. Areal development, in collaboration with future customers, is still unknown. Sold properties around Finland are a good opportunity for investors to develop areas in collaboration with future customers.

Paper Number: 184

The use of loan covenants in the European real estate sector

Victoria E Ormond, *University of Cambridge*

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

This paper reviews the use of loan covenants employed within private credit agreements in the commercial real estate sector. As well as reviewing the most commonly covenanted financial ratios; loan to value and interest coverage, an overview of other financial, general, property and informational covenants is provided.

The paper is uniquely based on a panel of data drawn directly from a sample of European commercial credit agreements. These agreements are sourced from a cross-section of listed and unlisted borrowers. A sub-sample of renegotiated credit agreements are also analysed to provide a comparison of loans pre and post renegotiation. Additionally, data from supporting loan documentation, also provided by the borrowers, offers further details regarding actual financial ratio levels over the term of the loans.

This research is generously sponsored by the Investment Property Forum Educational Trust.

Paper Number: 186

PhD Paper

The incidence of real estate portfolio composition choices on funds performance: Evidance from the Italian market

Marisa Gigante, *Universita LUM*

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1A

In the economic and financial scenario Italian real estate funds industry continues its growth. This paper aims to investigate the investment policies and portfolio composition choices of Italian real estate funds, analyzing the impact on performance measured through the Sharpe ratio.

In literature several studies deal with portfolio composition choices about sectorial and geographical diversification (Lee and Devaney 2007, Gabrielli and Lee 2009, Byrne and Lee 2010) and how these impact on real estate funds performance (Gallo et al. 2000, O'Neal and Page 2000, Morri and Erbanni 2008), which is measured with several RAP indicators such as Sharpe ratio, Treynor ratio, etc (Scholz and Wilkens 2005, Eling 2008).

Looking at the Italian market, the theme of real estate vehicles performance has been taken into account from Morri and Lee (2009), Giannotti and Mattarocci (2010).

This paper collocates in these studies, but differs from the existing literature since it only focuses on the patrimonial aspects of funds, highlighting the incidence of the components of property and others investments on the fund performance. Therefore, the work adds the residual investment analysis, trying to demonstrate how this latter can influence the performance.

The analysis has been carried out on a sample of 20 Italian listed retail funds over the period 2007-2010. By means of a dataset with semiannual data provided by 'Report of Scenari Immobiliariâ', a pooled OLS and fixed effects panel regression were applied.

The results show how real estate portfolio composition choices impact strongly on the fund performance. The Sharpe ratio is influenced by age, fund setup typology and Herfindahl index for property type. In particular, sectorial diversification have a major impact on fund performance than geographical diversification in portfolio composition choices.

Furthermore, the study shows how the investment in liquidity affects the fund performance in the investment policies.

Paper Number: 205

PhD Paper

Understanding the determinants of firm growth in young REITs

Radheshyam Gopinath, National University of Singapore

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1A

The main objective of this paper is to investigate the determinants of firm growth in young REITs with the view that REITs with its unique operating environment may have different implications for new venture growth. This study aims to (a) document growth characteristics of REITs, (b) empirically examine different growth determinants of REITs, (c) explore different growth strategies adopted by REITs, and (d) investigate the dual relationship between growth and profitability in REITs. To start with, we explore the heterogeneity of the growth trajectories adopted by young REITs by examining the distribution of firm growth rates. REITs experience spurts of high growth when they are young i.e. they are less than five years old. Also, new REITs that grow at higher rates in early years survive longer, but this rapid growth is not sustainable in the longer run. We provide evidence that REITs usually achieve growth in three different ways: organic, acquisition and property development. Acquisitions have been the preferred route for REITs' external growth as development is considered to be risky. Also, development activities are undertaken primarily by large and established REITs. The pattern of growth differs across REITs based on demographic characteristics, financing choices and property types.

We use GMM-system estimator to test a dynamic panel data model of firm growth that overcomes the problems of endogeneity, unobserved firm-specific effects and persistence. Using data on 148 US public equity REITs that had its IPO during the period 1993-2005, we find that REIT growth is inversely proportional to REIT size, age and leverage and directly related to cash flow and insider ownership. These factors explain the differential growth observed in REITs. We also find positive persistency in growth rates in young REITs. Finally, we find a small positive influence of profit rates on subsequent growth and a positive and significant reciprocal influence of growth on profits.

Paper Number: 212

Poster

Four years and counting

Mark Bondar and Sarah Sayce, Kingston University

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

Four years remain to achieve the Government target that all new homes from 2016 should be built to a Code for Sustainable Homes (CSH) 'zero carbon' rating.

Zero carbon was originally defined by a CSH level 6 rating, however following the March 2011 Budget it is now equivalent to level 5. (NHBC, 2012)

Since its introduction in April 2007 less than 100 private sector registered dwellings have received a CSH Post Construction Stage level 5 or 6 rating. (DCLG, 2012)

An independent report commissioned by the UK Government (Callcutt, 2007) claimed:

Without [UK] Government intervention, it is unlikely that the majority of house builders -left to their own devices - would do much to deliver any form of sustainability. Unless and until house buyers are prepared to pay a premium for quality and sustainability that would make such a product cost effective, it would not be in the financial interests of any house builder to adopt such initiatives unilaterally.

RICS is calling for residential property valuers to be fully aware of sustainability characteristics and consider these when undertaking valuations. (RICS, 2011)

The National House Building Council (NHBC) also recommends that valuers and lenders place a premium on new houses that reflect sustainability characteristics. (NHBC, 2012)

Is price differentiation alone enough to meet the 2016 zero carbon rating target or will further Government intervention be required.

This research will include an empirical study of private sector new homes built in England, taking a geographical analysis and the observed impact on selling price of sustainability credentials as categorised under the CSH.

The study will use hedonic and conjoint analysis techniques to isolate the effects of different building characteristics within different regions on property prices.

The research aims to add to the property market knowledgebase for valuation professionals.

Paper Number: 219

Poster

From sustainable buildings to sustainable business

Mia Andelin, Aalto University

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

The United Nations Environment Program (UNEP) Sustainable Buildings & Climate Initiative reports that buildings are responsible for more than 40 percent of global energy use and over one third of global greenhouse gas (GHG) emissions. The construction and real estate sector has the potential to play a significant role in the response to climate change. During the latest years the increase in attention to sustainability and green building by planners, developers, and investors has been remarkable. Implementing corporate sustainability by means of corporate social responsibility (CSR) can enable corporations to achieve a sustainable bottom line by incorporating social, environmental and economic factors into their business plan. Previous studies have indicated that there is direct linkage between corporate real estate and corporate sustainability actions and strategies.

There are two basic questions to be addressed in this research. First the aim is to find what kind of importance and value sustainable buildings has to different stakeholders in the real estate field such as owners, investors and users. The second question is how sustainable buildings can support sustainable business and give business a competitive edge. The aim of the Research is to find out the drivers and competitive edges of sustainable buildings for tenants and investors in office and commercial properties to create sustainable business. Research is inductive in the nature. Structured surveys, interviews and literature review utilizing both quantitative and qualitative data analysis methods will be used.

The role of sustainability in real estate sector will increase importance in the future. Sustainable buildings may provide a hedge against shifting preferences and market situations of tenants, owners and investors with respect to environmental, social and economic issues. Poster will be illustrating the research plan and presents highlights found in literature review.

Paper Number: 220

Poster

Framework and the value drivers for real estate development: Applicability of theoretical models with special reference to Tanzania

Sophia Kongela, University of Regensburg

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

The property development sector in Tanzania is not growing at the pace that is practically and economically justified. The intention of this work is to provide an understanding on the applicability of the Models/framework provided by Poorvu and Cruikshank, and Michael Porter in the real estate industry in Tanzania. Real estate is always a valuable commodity, but the use of the real estate, which directly affects its value, is subject to growth and improvement factors over which the owner of the property is not always able to exercise control. Under Poorvu's Model, the typical real estate practices in Tanzania were studied against four variables (i.e. properties, capital markets, players, and external environment) to gain insights into the act of real estate deal-making. Porter's four variables (i.e. demand factors, factors condition, firm strategy, structure and rivalry, and related and supporting industries) were used to provide a guideline on achieving competitiveness in the real estate sector in Tanzania. The understanding of the two Diamond Models could enhance attractiveness and hence growth of the sector, and could lead to more effective decision making concerning real estate interest for developers and investors. The study also provides useful information especially to foreign real estate developers and investors when thinking of Tanzania as the investment avenue for real estate development. Regarding Poorvu's Model the study finds out weak interdependent relationships between market players, capital market and the external environment in Tanzania. The real estate market is to a large extent uncoordinated and no clear dimensions on real estate investment process. This could be one of the reasons for the slow growth of the real estate sector in the country. Also the variables proposed by Porter seem not to work effectively in Tanzanian real estate development sector. Tanzanian real estate sector is still in its infancy stage where most of Porter's variables don't work. It is also revealed that, successful real estate deal making depends largely on the environment within which real estate operates and involves a multitude of choices in terms of how specific transaction elements are valued, prioritised, addressed and implemented within the four variables in the Diamond Models. The strengths and weaknesses of the two Models were discussed and the proposed framework and Model for the Tanzanian real estate development sector were proposed.

Paper Number: 234

PhD Paper

Rent dynamics in the Madrid office market: An approach from cointegration and long run equilibrium

Ramiro J. Rodríguez, Universidad Complutense de Madrid

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1C

Recent data availability has allowed real estate researchers to dig deeper into the property market dynamics. This is the case of Madrid where, by and large, lessons on office markets have been extracted from the studies of other markets as those of United Kingdom, Germany or US. This paper shows that effectively office space demand is rigid with regard to short term rent variations and that its main driver is the physical space necessity, on which businesses have to accomplish their activities. Equally important is the dynamics of letting rents; they move in response to demand pressures, with the background of a rigid or semi-rigid supply. It means that it is a market where demand determines price adjustments and these, in turn, determine developer's decisions in how much office stock is added. Likewise it has been contrasted that one of the most common used indicators to proxy office supply (Vacancy Rate) is effectively the best benchmark to determine rents and, therefore, is properly used by market players.

Further, using cointegration and vector error correction models it is possible to estimate the grade of rents overvaluation or undervaluation existing in the market, with respect to the long term trend. Accordingly, it has been possible to compute a 25% of overvaluation in the Madrid's office market in the expansive phase of the years 2000-2001 and a price adjustment process from the bust of the current crisis. However, ending 2011, evidence indicates rent levels still above their fundamental equilibrium.

Finally the structural modelling used here has a good statistical adjustment to undertake forecasts of price and occupancy variables.

Paper Number: 238

PhD Paper

Security of energy supplies and cost cutting due to the own small power plant. Changing portfolio property to decentralised energy supply

Christian Berthold, University of Stuttgart

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2C

For occupants of commercial real estate, energy costs for electricity and heating represent a significant portion of the service charges. A typical heating installation often using fossil fuel and the purchase of electricity generate costs that are strongly depending on the prevailing market conditions and are subject to a constant increase as all trends show. Furthermore, after the nuclear disaster of Fukushima, worldwide it came to a rethinking of nuclear power as a common energy source. This led to the historic, globally unique and radical decision of the German government for an energy transition, what soon will result in a further increase of the utility costs of German real estate. The transition requires a development of renewable energy in the long term as well as new approaches to energy storage. The power grids are medium and short term to expand, which initially will affect the security of energy supply as well as lead to rising electricity costs.

Contemporary real estate is subject to high demands of today's building requirements. However, especially in the large number of property based on old standards there is need for action. In addition to the renovation of the building envelope and installation of an efficient heating system supported by renewable energy, the use of a decentralized energy supply by power-heat cogeneration for appropriate property should be taken into account. This may partly lead to decouple itself from the development of the market and in the long run generate significant user-side savings.

Therefore, the objective of this research is to systematize existing commercial property on possibility and feasibility to be converted to decentralized energy supply in order to reveal the optimal benefit cost ratio. Based on full cost, potential variations are examined applying comparative investment calculations. Practical benefit of this work will be to present distinct savings of operating and utility costs for most portfolio properties and to reach an informed investment decision.

Paper Number: 251

Poster

UK and European real estate valuation and sale price differences 2010: IPD evidence (in partnership with RICS)

Yarim Shamsan, University of Reading

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

It is no surprise that the valuation of UK commercial property has had its share of criticism as a consequent of the economic downturn during the financial crisis. Determining the value of a [commercial] property is an increasingly difficult venture during such times of global market instability when transaction volumes fall.

Market valuation is a proxy for a price and prices are not established by what has gone before but by the direction a market is heading. Valuation is by nature largely reactive: the gap between valuation and sale prices are largely due to a market of imperfect information; not up-to-date information and not shared information between valuers and sellers.

IPD carries out annual Valuation and Sale Price reports on both the UK and some major European markets for the RICS. This research measures the differences between the previous valuation of any properties that are subsequently sold (the adjusted market valuation) and the sale price, having adjusted for any time differences between the sale price and the previous valuation, including any capital expenditure.

The IPD analysis covers the UK and European markets and addresses two key questions:

1. How much do sale prices differ from previous valuations?
2. Are differences random or were sale prices consistently above or below the latest valuation?

During the crisis in the UK, the average difference between an asset's sale price and its preceding adjusted market valuation (referred to as the 'weighted average direction difference') was -4.8% in 2008 and -0.9% in 2009. In 2010 this reversed in the UK and the average difference between the sale price and the valuation was 8.3% when adjusted for the level of value. Unadjusted, the difference was 4.4% in 2010 (compared to -5.8% in 2008 and -1.0% in 2009). This suggests that, for the first time since the financial crisis, UK valuers have underestimated the level of prices in 2010 and the largest underestimate was for the more valuable properties. The commercial property markets in France, Germany and the Netherlands all showed a positive weighted average direction difference in 2010, with sale prices exceeding valuations by 5.0% in the Netherlands, 2.8% in France and 0.4% in Germany.

The overall results for the four countries generally show that there was an increase in the proportion of properties being sold at a price above the IPD Market Adjusted Valuation.

Paper Number: 261

PhD Paper

House prices, housing development costs, and the supply of new single-family housing in German counties and cities

Oliver Wolfgang Lerbs, University of Munster

Date: Wednesday 13th June

Time: 1330-1500

Parallel Session 1B

This paper employs panel data on 413 counties and cities from 2004 to 2009 to investigate the local supply of new single-family housing in Germany. New single-family housing supply in local housing markets is measured by the number of new construction permits in relation to the local single-family housing stock. Local variation in this supply indicator is subsequently modeled as a function of local variation in both levels and recent changes in existing single-family home prices and new housing development costs, with the latter including local costs of vacant land and local costs related to housing construction. Fixed effects regression results suggest that single-family housing permit rates in a location are positively associated with current prices of single-family home prices and recent increases in housing development costs. Higher current levels of replacement costs, by contrast, turn out to dampen new local construction activity. Augmenting the new supply equation by further indicators of single-family housing demand in a location does not change any of these basic insights, while time effects suggest that nationwide factors exerted a considerable influence on local single-family housing permit activity during the time period analyzed. The average local price elasticity of new single-family housing permits is considerably less than one, supporting recently published estimates based on national time-series data. As a surprising result, it emerges that German core cities show higher average price elasticities than rural places.

Paper Number: 272

Poster

Housing market dynamics in the Greek islands

Dimitra Kavarnou, University of Reading

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

Paper-1: This study examines how the presence and distance from a public hospital and an airport affect the housing market (first and holiday housing) in the islands of Greece. The paper analyses the behaviour of the buyers/owners and the significance of the medical care as well as the need for fast transportation. It takes into consideration the transportation means, the time of transfer to the closest hospital and airport, the demographic characteristics of the population (i.e. the age, foreigners), the retirement migration and their criteria when buying a house. It compares the preferences of current and potential homeowners for specific islands over more isolated and less developed islands in terms of medical care and transportation. The research method will use questionnaire surveys, interviews and secondary data sources.

Paper-2: How can the changing flows of capital into the real estate market along with the growth of tourism alter patterns in consumption of residential space and encourage gentrification in the Greek islands? The paper views gentrification as an expression of consumer demands, individual preferences and market laws of supply and demand. It is centred around the influence of the tourism growth in the islands over the housing consumption of the local community. It examines the changes in consumption and the increasing dominance of large firms manifesting through the development of a tourism industry.

Paper-3: This study examines the second home market in the islands of Greece. By taking into consideration the recent financial crisis and subsequent impact on socio-economic structure in the country, it examines the housing demand, supply and prices of the holiday houses in several islands and attempts to forecast the course of the market. Retirement migration, investors' drivers and policies for development are issues under examination, along with an effort to compare and contrast Greece with Spain. The research method will make use of questionnaire surveys, interviews and secondary data sources.

Paper Number: 273

Poster

Using benchmarks to predict life cycle cost?

Emanuel Stocker and Tobias Schrag, University of Applied Sciences Kufstein

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

Purpose

The concept about life cycle costing (LCC) as a part of life cycle management is commonly of international interest. To calculate LCC in the early stage available data, which has been adjusted for the forecasting is necessary. The main problem therefore is the choice and to index the data. This paper include the evaluation of specific values of operating costs (benchmarks). It reviews already existing and published data from different benchmarking reports, which are already aggregated. Research questions - Is there a correlation refer to the life time and the inflation? - Where are uniform and different effects of the trends? - What is the min./max. deviation for random chosen data of each cost category?

Design/methodology/approach

The study put the focus on published reports of operating cost of office buildings in Germany, Austria and Switzerland. The review is about 7 different public reports over different time periods. Altogether there are about 35 reports. The reports have different cost categories, space definitions and definitions of quality levels, which have to be considered. For the prediction of life cycle cost the benchmarks are usually adjusted by the inflation. Therefore an example with predicted data from 2000 to 2010 and will show the difference between each adjustment.

Findings

The evaluation is made for each cost categories. First results shows relevant differences on same specific values. According to the data of the chosen report the total cost will change immediately. One reason therefore is the different structure of the survey. But within factors the different data could be compared. The result at the end are different indexes of the predicted operating cost.

Paper Number: 372

PhD Paper

Assessment of fixed rate mortgage implied insurance cost: Method and ex-post Swiss market analysis

Philippe Bélanger, Federal Polytechnic of Lausanne

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2A

A huge part of housing finance is related to mortgage. In Europe, loan-to-value range between 50% and 85% for mortgage while the mortgage market/GDP ratio increased by 20% in 2010. In most developed countries housing is the most important household's investment or expenditure. This investment is generally leveraged by mortgage borrowing. The mortgage can bear fixed or variable interest rate; both with their pros and cons. Fixed rate allows easier budgeting over years since the bank bear the interest rate risk. This property of fixed rate mortgage is often assimilated to insurance that hedge against monthly payment fluctuation. Usually, initial variable rate is cheaper since the interest rate risk is assumed by the borrower.

Yet, there has been surprisingly little work on mortgage decisions from the perspective of the household. Instead, most research on mortgages has been conducted by real estate or fixed-income securities specialists who are interested in pricing mortgage-backed derivatives.

This paper proposes a method to assess the relative cost of fixed rate mortgage implied insurance for the borrower. Thus, we link the insurance cost with insurance premium concept and the related hedged risk. The proposed method is applied to Swiss data. This method offers a sound's basis for comparison of the cost of fixed mortgage rate in time and among countries. It also allows the exploration of the relationship between fixed rates implied insurance cost and people's preference for the financial product.

We use the method to analyse mortgage rate between 2002 and 2012. We compare variables rates (Libor and bank variable rate) with five and three years fixed rate. We find that most of the time fixed implied insurance is costly for the borrower. This cost represents a value between 0.5% and 7% of the total initial mortgage when compared with libor.

Paper Number: 374

Poster

Valuation accuracy: A critical commentary on the availability of real estate market information in Dubai (United Arab Emirates)

Michael Waters, Heriot-Watt University

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

The issue of valuation accuracy is important for property professionals and investment analysts, particularly given the recognition that real estate has now become a major global asset. Property valuations are a significant driver in investment and broader purchasing decisions, both through market transparency and consumer confidence. There is increasing institutional, legal and professional acceptance that valuation uncertainty exists and persuasive grounds to expect its presence (RICS, 1997; Bowles, McAllister and Tarbert, 2001). Values can be difficult to assess due to different concepts of value, its inherent subjectivity and the heterogeneity of property. That said, inaccuracy or 'valuation bias' can be exacerbated with the addition of uninformed local practices or mis-information and lacking transparency (market efficiency). Addressing the latter, a large and increasingly reliable database has been established via the Information Property Databank (IPD) to serve property professionals in mature markets, namely the United Kingdom (UK), the United States of America (USA) and Australia. However, limited attention has been given to examining emerging global markets. With the recent global prominence in relation to its rapid growth in both real estate development, and investment, Dubai serves as an ideal case study in which to place this PhD research.

In the preliminary stages of this PhD research, the author is seeking to examine the extent of valuation error introduced by not adopting standardized features within its market, including that of property market information. Recent research including that of Dunse, Jones & White (2010) supports the premise of this research in that "valuation accuracy is a function of information availability" The research findings presented in this discussion paper seek to explore the perception of valuation accuracy in the market place and establish a theoretical response to the availability of real estate market information in Dubai's/United Arab Emirates' (UAE) Real Estate Sector.

Key observations borne out from this research include that the lack of information flows within Dubai's real estate industry and the high levels of secrecy surrounding the sharing or pooling of market data amongst firms and practitioners. Furthermore, the main provider of real estate information, REIDIN, has been reported as being fundamentally flawed and lacks the credibility of information sources available in more mature markets.

Paper Number: 380

PhD Paper

Appreciation of the property market maturity framework to a developing country: The case of Nigeria

Solomon Akinbogun, Heriot-Watt University

Date: Wednesday 13th June

Time: 1530-1700

Parallel Session 2C

This paper explores the application of the maturity concept to the residential property market in Nigeria as a developing country. It reviews and appraises the application of the established market maturity framework primarily designed for comparing markets in European countries to such a developing country. The paper adapts the relativity of market maturity measures to develop a checklist of characteristics for assessing the maturity of residential property sub-market in Nigeria property market. While the paper recognizes the place of information in property markets in maturity determination it suggests that in the current situation of the Nigeria residential property market the level of compliance with and implementation of urban planning is the most important criterion for determining the state of market maturity. The paper argues for the enforcement of market regulatory frameworks such as; development control, adequate land spatial infrastructure, land registration to enhance market maturity.

Paper Number: 384

PhD Paper

Urban villages' Redevelopments in Weihai China: Physical and Social Changes

Hui Fang Cong, Heriot-Watt University

Date: Wednesday 13th June
Time: 1330-1500
Parallel Session 1B

Under the influence of rapid urbanization and economic development, many Chinese cities and towns have doubled or tripled in term of population and land use. As a result, a large number of traditional rural villages, located in the suburban areas of cities, became part of the built up areas. They have been turned into the so-called 'urban villages'. Recently, thousands of such villages have been demolished and rebuilt every year. The redevelopments of urban villages and the socio-economic and housing arrangement for the original village residents vary from city to city. This paper examines the redevelopment of urban villages through a case study of Weihai City in Shandong Province. It will examine the process of urban village redevelopment and discuss the diversified consequences of physical and social changes in different villages. The discussion and analysis is based on examination of local official documents, village redevelopment plans and policies and interview of local government officials and village residents.

Paper Number: 385

Poster

Walk Score and Energy Score – A new approach for real estate transaction analysis

Michael Dinkel, University of Kaiserslautern

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

Walk score and energy score are new variables to analyze real estate transactions. The integrated accessibility indicator "walk score" is based on Google Maps and measures the walking distance between the location and amenities and is free available for every location. Recent US research ascertained that walk score is a reliable tool. But the reliability of German walk scores has not yet be proven. The energy score measures the energy efficiency in nine categories and is also a simple tool. The tool is empirically verified and more reliable than most energy efficiency certificates. The empirical research analyse the influence of both scores on residential properties in different settlement structures. Further the study inquires if both tools could be incorporated in real estate transaction analysis.

Paper Number: 387

Poster

Accounting for uncertainty in real estate appraisals

Stephan Lang and Alexander Scholz, University of Regensburg

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

The objective is to address the problem of uncertainty in the valuation process and to derive recommendations for risk quantification. Simulation-based methods are applied, allowing to create a market value distribution and therefore to transform uncertainty into risk. Using predefined risk measures, valuation risk can explicitly be assessed and major risk drivers can be identified. Furthermore, we examine the spreads between transaction prices and market values so as to identify crises impacting valuation accuracy. This study makes a significant contribution to improving the valuation and thus to professionalize the real estate industry.

Paper Number: 391

Poster

Examination of property forecasting models - accuracy and its improvement through combination forecasting

Arvydas Jadevicius, Napier University

Date: N/A

Time: N/A

Parallel Session Displayed in Appleton Tower Foyer

This paper investigates property forecasting accuracy and its improvement. As it suggests, despite increased sophistication of property market modelling and forecasting, there still remains a degree of inaccuracy between model outputs and actual property market performance. Subsequently, the paper presents the principle of combination forecasting as a medium helping to achieve greater predictive accuracy. The research implements combination forecasting principle. It assesses whether combination forecasts from different forecasting techniques are better than single model outputs. It examines which of them - combination or single forecast - fits the UK property market better, and which of these options forecasts best.
