



Research
Programme
2011-2015

Issue 10

Research Newsletter



SPRING 2014

The IPF Research Programme 2011–2015 is funded by a cross-section of 22 businesses, representing key market participants. The IPF gratefully acknowledges the support of these contributing organisations:



The IPF Research Programme is the largest property investment focused research programme in the UK. The programme is fundamental to the pursuit of the IPF objectives of improving the efficiency of the property investment markets and raising awareness and understanding of property as an asset class. It is one of the most important IPF activities, along with the education and CPD programmes. As one of the benefits of membership, IPF members can download the full findings of all IPF-funded research free of charge from our website. Non-members can download summary reports free of charge.

This newsletter is intended to provide an up-to-date of the outputs of the Research Programme since the previous newsletter and advance notification of new projects in the pipeline, as well as those of other members of the Property Industry Alliance (PIA), comprising the Association of Real Estate Funds (AREF), the British Council for Offices (BCO), British Council of Shopping Centres (BCSC), British Property Federation (BPF), Green Property Alliance (GPA) and Royal Institution of Chartered Surveyors (RICS). The next bulletin will be produced in approximately six months' time.

Dissemination

The IPF is very keen that the outputs of the Research Programme are disseminated to as wide an audience as possible. Research reports are disseminated as:

- Summary reports, available to download from our website free of charge to members and non-members alike; and
- Full research findings, available to download from our website by members only for the first 12 months following publication. Non-members may purchase full research reports from the IPF in the meantime.

Full research findings are also made available to university libraries in hard copy and pdf format.

The IPF Research Programme has developed as an important provider of high quality independent research, focused specifically on property investment. We can only continue to fulfil this role due to the support of our 22 research sponsors. We are very grateful to this group of organisations for their support of the programme.

Recently Published Major Research Projects

The Role of Property in the UK Economy (March 2013)

The commercial property sector plays an important role in the UK economy, both as a direct (and indirect) employer and generator of output, and in providing other sectors, such as retailers and financial and business services, with a critical factor of production – the physical location from which to do business.

This research considered two aspects of commercial property and its relationship with the economy: the direct role the sector plays in employment and output generation; and tax take and how declines in activity in commercial property (particularly commercial property development) have impacted on the UK economy as a whole. In particular, the research considered the long-run relationship between the net stock of commercial property, the level of economic output and the rate at which new construction needs to take place to ensure that the sector can continue to play its role in facilitating economic activity in the rest of the economy.

One of the key findings of the research was that conventional measures, such as total floor space, showed little relationship between the available amount of commercial property and the size of the economy. An alternative approach, based on the perpetual inventory method, which attempts to measure the economic contribution of the stock of commercial property (thus excluding much space that is economically redundant), indicated a much closer long-run relationship.

[Click to view document.](#)

Modelling Causes of Rental Depreciation in UK Office and Industrial Properties (September 2013)

The objective of this research was to examine questions that had emerged from previous IPF studies of depreciation and to identify whether alternative methods, such as panel regression techniques, have a role in the analysis of depreciation rates. The focus of the project was on whether rental depreciation rates can be explained rather than just measured. This was attempted with reference to a panel dataset of rental values for UK commercial real estate investments and using variables that represented what previous studies identify as the principal drivers of depreciation rates.

Using more sophisticated quantitative techniques, this analysis showed that issues highlighted in previous IPF depreciation studies could be addressed in more detail. The shape of depreciation, the impact of market state, the age/quality of the building, the location, site/building value ratio and lease structure should all impact on how a property performs through time relative to its market.

[Click to view document.](#)

Recently Published Major Research Projects

Returning to the Core: Rediscovering a Role for Real Estate in Defined Contribution Pension Schemes (October 2013)

Commissioned by the IPF and co-sponsored with ARF, EPRA and the Institute & Faculty of Actuaries

Under Government legislation introduced in 2012, private sector employers must auto-enrol (A-E) practically all of their employees in a defined contribution (DC) qualifying pension scheme. This will take place over a phased period, concluding in 2018, and magnifies the effect of existing changes in market practice, where DC has almost completely replaced defined benefit (DB) schemes in the private sector.

This research was undertaken to redress the poor understanding of the impact this regulatory change would have on allocations to real estate and providers of real estate investment vehicles.

The research found that, through A-E, the value of the market is set to increase six-fold by 2030, to assets under management (AUM) of up to £1,680bn. With over 90% of members expected to use a multi-asset default strategy, the asset allocation in the default fund is critical for the future of all asset classes. Several new A-E schemes had selected real estate as the first illiquid/alternative asset to be incorporated as a core complement of their default fund, with weightings of between 5% and 20%, the average being 10%. This implied real estate AUM could reach £170bn by 2030.

The researchers found that real estate had a unique and important role to play through the life of a pension scheme, having growth potential in the early immature phase then stable, inflation-matching cash flows when members approach retirement. This led the researchers to argue that real estate needs to “return to the core” with evidence that this trend was already underway. The research concluded with a recommendation that a cross-market working group of DC and real estate professionals be established to gain a better understanding of what DC really needs. It should also work to the removal of artificial barriers to the incorporation of real (illiquid) asset classes in default funds and the engagement of professionals in other real asset classes.

[Click to view document.](#)

IPF Work in Progress

Major Reports

The Size & Structure of the UK Property Investment Market

The size of the investment market is a useful measure, widely used to: consider the allocation of portfolios across asset classes; construct international real estate portfolios; assess the penetration of investors in the total stock of property, and estimate overall leverage of the real estate sector. It is also an indicator which, in the UK, is difficult to construct.

This project updates and expands The Size and Structure of the UK Commercial Property Market report published in 2005, which captured data to the end of 2003, and will add a new section on changes in the investor composition of the market over the past decade by capital flows, in particular the creation of new investment vehicles and the entry of new investors into the market.

Scheduled for publication in Spring 2014.

Property Liquidity

A combined team of academics from Reading and Aberdeen Universities has been appointed to identify new measures for defining liquidity and to consider the impact on the time it takes to transfer property under differing market conditions.

The project will cover three main areas of study:

A review of the conceptual developments of liquidity since the IPF published its original research into the topic (Liquidity in Commercial Property Markets, April 2004), as well as in the wake of the financial crisis, which will explore a wider range of measures than volumes and times to transact;

A more detailed study of the time to transact from both the buy and sell sides and analysis of the drivers of time to transact in the UK; and

Using selected liquidity measures to test the pricing of liquidity risk in real estate investment, the research will embed liquidity in asset pricing to identify variations in liquidity premia across different assets.

Scheduled for publication mid-2014.

IPF Work in Progress

Short Papers Series

'In Breach' and High LTV Legacy Real Estate Loans

The amount of property backed by loans that are not easily refinanced on current market terms means that there is still a significant distance to go in working out the over-leverage by the banking crisis of 2008 and subsequent valuation declines.

This Short Paper will consider the current issues surrounding these loans and what may happen next.

Scheduled for publication Spring 2014.

The Implications of Rising Bond Yields for Property Yields

It appears that the period of abnormally low long-term bond yields that followed the financial crisis is now drawing to a close. Investors are becoming less concerned about simple capital preservation and are, once again, seeking a positive real return, with long bond yields higher than inflation. Assuming long-term bond yields are on an upward trajectory, what implications does this have for property yields?

Scheduled for publication Spring 2014.

IPF Pipeline

What Constitutes Property For Investment Purposes? A Review of Alternative Real Estate Assets

Allocations to alternative property assets have more than doubled in the last decade, according to data from IPD. Assets outside the traditional property sectors, comprising retail, offices and warehouses, now account for 11% of assets (by property number) in the IPD UK Quarterly Property Index. Hotels, infrastructure and healthcare, along with residential, leisure, student accommodation, rural and forestry assets are now attracting investors looking to diversify their base of returns.

What is the definition of a property asset? Where does the cut-off point lie between real estate and other real assets? How can alternative property investments be benchmarked against traditional commercial real estate?

We will shortly commission research under the Short Papers Series to produce an industry definition of what constitutes a property for investment purposes. Part of the purpose of this exercise will be to identify whether there is a wider research agenda in this area that needs to be investigated further.

Research Proposals

We are pleased to consider unsolicited research proposals from academics and practitioners alike and, in terms of themes, specific areas of interest for the current Programme comprise:

- asset allocation;
- portfolio selection; and
- asset management.

Additionally, the Research Programme seeks to support the five issues of concern identified by the IPF membership under the IPF Vision 2011, a copy of which may be accessed via the IPF website. Research proposals will be welcomed that seek to enhance the understanding of:

- how property is financed and funded;
- the impact of legislation and regulation;
- sustainability;
- internationalisation of real estate; and
- residential property investment.

Proposals that clearly specify how the findings of such research are to be disseminated and, where applicable, how researchers will engage with industry practitioners to encourage the adoption of new approaches may given greater consideration than those that do not include such information.

Guidance notes and an application form maybe downloaded from the IPF website. If you would like to discuss a potential research proposal prior to submission, please contact Pam Craddock, IPF Research Director.

If you are in a position to provide data, contacts or any other type of support for new research projects, please contact Pam Craddock, IPF Research Director at pcraddock@ipf.org.uk.

Regular Publications

Regular Reports & Surveys are all available on the IPF website:

UK Residential Property: Institutional Attitudes and Investment Survey 2013

Now in its second year, this survey of over 40 major investors, including fund and investment managers, listed and private property companies, provides an indicator of the level of investment in UK residential property.

In the 12 months since the initial research, the proportion of investment in UK residential property, as a percentage of UK real estate assets, has risen from 4.6% to 7.0%. 84% of the 44 respondents in 2013 hold residential assets within their portfolios valued in excess of £10 billion. The main barrier to investment appears to be the low income yield but there is an appetite from both existing and potential investors to commit up to £3 billion over the next three years.

Published July 2013 **Click to view document.**

UK Consensus Forecast

Published on a quarterly basis the IPF UK Consensus Forecast provides a consensus view of the likely performance of the UK commercial property markets annually over the next five years. Contributors to the consensus are drawn from the fund management, agency, research and equity broker communities. The latest version is posted on the IPF website with a summary report available for non-members. Historic reports (published more than 12 months ago) are available free of charge to both members and non-members.

Published: February, May, August and November **Click to view document.**

European Consensus Forecast of Prime Office Rents

Published on a six-monthly basis the European Consensus forecast provides a consensus view of prime office rents in 28 European cities for the next one, two and three years. The contributors to the European Consensus Forecast are drawn from the investor, agent and research communities across Europe.

Published: May and November **Click to view document.**

Lloyds Commercial Property Market Confidence Monitor

Lloyds Commercial Property Market Confidence Monitor – provides a representative and regular view of confidence amongst financial decision makers in the UK commercial property market. The survey takes into account the opinions of principals (house builders, developers and investors) and advisors (agents, surveyors and consultants), in small, medium to large and major property businesses across the country. Courtesy of the IPF, the sample also includes the views of property fund managers.

The latest report was published in October 2013 and is available via the Lloyds website

<http://www.lloydsbankcommercial.com/Specialist-teams/Building-Construction-and-Real-Estate/Real-Estate/Commercial-Property-Confidence-Monitor-November-2013>

IPF Back Catalogue

The following projects have been funded and published through the IPF Research Programme 2011–2015. Full reports are available for download from the IPF website for IPF members only in the first 12 months following publication.

- Returning to the Core: Rediscovering a Role for Real Estate in Defined Contribution Pension Schemes (October 2013)*
- Modelling Causes of Rental Depreciation for UK Office and Industrial Properties (June 2013)
- The Role of Commercial Property in the UK Economy (March 2013)
- The Future of Property Forecasting (November 2012)
- Reassessing the Accuracy of UK Commercial Property Forecasts (November 2012)
- Costing Energy Efficiency Improvements in Existing Commercial Buildings (October 2012)

Projects funded and published through the IPF Research Programme 2006–2009:

- Real Estate's Role in the Mixed Asset Portfolio: A Re-examination:
 - Real Estate Returns and Financial Assets in Extreme Markets (May 2012)
 - Time Varying Influences on Real Estate Returns (April 2012)
 - Private Commercial Real Estate Returns and the Valuation Process (April 2012)
 - Real Estate Returns and Other Asset Classes: A Review of Literature (April 2012)
 - A Re-examination Summary Report (March 2012)
- Depreciation of Commercial Investment Property in the UK (November 2011)
- Property and Inflation (April 2011)
- Risk Web 2.0 An Investigation into the Causes of Portfolio Risk (March 2011)
- UK Institutional Investors: Property Allocations, Influences and Strategies (July 2010)
- Depreciation of Office Investment Property in Europe (March 2010)
- ISPI (UK): Creating a Sustainable Property Investment Index (October 2009)
- The Treatment of Covenant Strength by the UK Property Industry (August 2009)
- Urban Regeneration: Opportunities for Property Investment (August 2009)
- Greening Leases – The Landlord and Tenant Relationship as a Driver for Sustainability (August 2009)
- Demand for Sustainable Office Buildings in the UK (May 2009)
- Real Estate Investment Trusts: The US Experience and Lessons for the UK (May 2009)
- Costing Energy Efficiency Improvements in Existing Commercial Buildings (January 2009)
- Implication for the Strategic Development of UK REITs from the Experience of LPTs in Australia (April 2008)
- Retail Investor Attitudes to Commercial Property Investment (May 2008)
- Alpha and Persistence in UK Property Fund Management (April 2008)
- Risk Management in UK Property Portfolios: A Survey of Current Practice (December 2007)
- Large-scale Investor Opportunities in Residential Property: An Overview (November 2007)

IPF Back Catalogue

- The Energy Performance of Buildings Directive and Commercial Property Investment: A Situation Review (September 2007)
- The Use of Periodic Valuations in Indirect Property Investment (June 2007)

Short Paper Series

- Constructing an Effective Rental Value Index (January 2013)
- A Decade of Fund Returns (July 2012)
- Implications of the Eurozone Crisis for the UK Real Estate Market and UK Investors (June 2012)
- Institutional Attitudes to Investment in UK Residential Property (June 2012)
- Property Banking Forum: Outlook for Development Finance (November 2011)
- The Outlook for UK CMBS (November 2011)
- Property Banking Forum: Lending Intentions Survey 2011 (March 2011)
- A review of the Current State of the UK CMBS Market (February 2011)
- Rent Reviews – Revolution or Evolution? (November 2010)
- Break Clauses – Who Holds the Risk in your Rental Income? (November 2010)
- Prepack Administrations and Company Voluntary Arrangements (February 2011)
- Real Estate Debt – an update (January 2010)
- The Evolution of the Market for Indirect Investments in Commercial Property (February 2010)
- The Robustness of Property Income (November 2009)
- Repricing Property Risk (November 2009)
- Issues in Property Investment Valuation (October 2009)
- The IPF UK Consensus Forecast and the Returns Implied by Property Derivative Pricing: Evolution, Record & Influence (August 2009)
- UK Real Estate Debt: Problem for the Borrowers and the Banks (July 2009)

IPF Back Catalogue

In addition to the projects listed above, the following research projects have been funded through the IPF and IPF Educational Trust Joint Research Programme, some with additional partnership funding:

- Planning Policy and Retail Property Market Performance in English Towns and Cities (October 2008)
- Asset Allocation in the Modern World (July 2007)
- Index Smoothing and the Volatility of UK Commercial Property (March 2007)
- Risk Reduction and Diversification in Property Portfolios (February 2007)
- Property Stock Selection: Organisation, Incentives and Information (November 2006)
- The Sustainable Property Appraisal Project† (November 2006)
- Pricing Property Derivatives: An Initial Review (September 2006)
- The Investment Performance of Listed Office Buildings† (May 2006)
- Institutional Investment in Regeneration: Necessary Conditions for Effective Funding† (May 2006)
- Disagreement and Uncertainty in UK Property Market Forecasts (January 2006)
- Depreciation in Commercial Property Markets (July 2005)
- Investment Performance and Lease Structure Change in the UK (July 2005)
- The Size and Structure of the UK Property Market (July 2005)
- Opening the Door to Property: Assessing the Needs of Small Investors in Property (September 2004)
- Liquidity in Commercial Property Markets (April 2004)

PDF copies of all these reports are available to download free of charge from the IPF website,

https://www.ipf.org.uk/home/research/research_archive/default.aspx

If you have any questions about the IPF Research Programme or about any of the reports listed above, please contact Pam Craddock (pcraddock@ipf.org.uk).

Recent BCO Research

Britain's Energy Gap (November 2013)

The UK has a very reliable electricity generation and supply network. However, the likelihood of a short voltage reduction (a brownout) or a controlled shutdown (a blackout) will increase significantly, reaching a maximum in around 2015–2016, when more than one-third (35%) of businesses could be affected by a blackout.

The immediate cause of the change in risk is the reduction in thermal power generation arising from the closure of a number of older power stations. The effect of changing the generation mix is to reduce the de-rated marginal capacity: the electrical generation capacity of the system, de-rated to reflect the availability of plant, less the peak electricity demand. This margin is forecast to decline from in excess of 15% to below 4% by 2015 to 2016. As this margin decreases, so the risk of brownouts and blackouts increases.

BCO Guide to Lighting (September 2013)

The new BCO Guide to Lighting was written by leading lighting professionals practising in the office sector. The world of lighting is currently going through some dramatic changes as there is a drive to reduce carbon emissions and lamp technology is evolving and changing at a fast pace.

The main message is to use daylight effectively and use artificial lighting only where and when it's needed. This objective also helps us to reduce the amount of energy consumed by lighting which is further helped by the new technology available in lighting.

This new Guide is split into three sections: the first focuses on daylight and energy use, the second looks at the science and principles behind the lighting practice and the third gives examples and specific guidance for shell and core, Category A and Category B lighting solutions.

It is aligned with the latest guidance from the British Standards Institution (BS EN 12464-1) and the Society of Light and Lighting.

BCO Occupier Density Study (September 2013)

Commissioned to inform the next edition of the BCO Guide to Specification, this report looks at how densely organisations occupy almost 2.5 million square metres of office space, spread across 381 properties and 1331 individual floors. It considered the number of workplaces in offices and found that the financial and insurance sectors have the most densely occupied offices. Other sectors in the study were corporate, professional services, public sector, and TMT. It also looked at densities across the regions finding that London had the least dense offices as a result of the number of HQ buildings containing meeting rooms in the capital.

Building Information Modelling (BIM) (May 2013)

BIM is transforming how buildings are designed, constructed and operated, at present the greatest value being realised from BIM in the commercial office sector is through de-risking construction.

The BIM process delivers fully coordinated design at an earlier point in the process, significantly reducing uncertainty in the construction phase and allowing faster construction with less waste of material and time.

Recent BCO Research

What Workers Want (April 2013)

The BCO and Savills commissioned this report to look at what workers want from their office workplace. The increasing amount of consultation with staff before and after an office move highlights the growing importance of staff concerns in boardroom decisions. The purpose of this survey was to identify those staff preferences and to provide insight into what occupiers want from their office space. The findings showed that employees want a comfortable office space with adequate temperature control, lighting and space.

This report looks at staff preferences in property decisions in office moves. Savills 2009 occupier survey found that staff availability/ retention issues were the third ranking concern when selecting new space. The increasing consultation of staff before and after an office move highlights the rise of staff concerns in boardroom decisions. This finding motivated us to investigate what employees rate as important in their workplace.

All research can be downloaded by BCO members via the BCO website, www.bco.org.uk.

Recent BCSC Research

Servicing Food and Beverage (June 2013)

Food and beverage is playing an ever increasing role within our shopping centres. The guidance paper describes some of the engineering constraints that need consideration when increasing catering within existing centres and when designing new multiple tenancy foodhall type offers. It provides guidance for owners, developers, agents, centre managers, designers and others considering the provision catering uses within existing or new build developments.

Building Information Modelling (BIM) – Guide to Best Use (July 2013)

This paper provides an overview of what Building Information Modelling (BIM) is. It looks at a number of different aspects that all parties to a project should think about and value if they are considering utilising BIM on a scheme. The extent and way in which BIM is to be incorporated into a project will depend to some extent on the procurement method to be followed, and whether the client wishes to retain and manage the asset at the end of the design and construction period or to sell it on.

Service Areas in Shopping Centres: 2013 (October 2013)

Due to the many changes that have taken place in recent years with electronic stock control, just in time deliveries, multi-channel shopping and other technological advancements, this new 2013 document has been prepared based on actual observations of servicing at typical existing shopping centres.

Beyond Retail: Redefining the Shape and Purpose of Town Centres (November 2013)

Commissioned by the Distressed Town Centre Property Taskforce

In response to the Portas Review, Government established the Distressed Property Taskforce to examine the property related issues that are impacting on the health and vitality of town centres and in particular to identify the reasons why particular towns are in 'distress'. Specifically the Taskforce through the research is seeking to assess where property investment, ownership and management is a barrier to improving the vitality, performance and physical appearance of a particular town. A copy of the free report may be downloaded via <http://policy.bcsc.org.uk/beyondretail/index.asp>

All research can be downloaded via the BCSC website, www.bcsc.org.uk.

Research in progress

The Role of Food and Beverage in Shopping Centres

Retail today is not as we used to know it. The impact of multi-channel retailing, food and beverage (F&B), and leisure are all structural changes having profound effects on how, where and when the consumer shops. The profile of shopping centres of the future will probably be different as to what we have observed over the last decade, especially as the sector grapples with retailers exiting, the challenges presented in filling vacant space and achieving the right occupier mix. The additional challenge is what do landlords do in reconfiguring current stock with limited new developments on the next 5-7 years horizon?

This project seeks to explore how F&B is influencing the retail mix, in aspiring to meet the ever changing needs of the consumer and the role it will play in driving change throughout the industry.

Publication date: Spring 2014.

Recent BPF Research

De Montfort University Commercial Property Lending Report (with 13 others) (May 2013)

De Montfort University's Commercial Property Lending Report is the most comprehensive report into commercial property lending in the UK and has become a benchmark industry report for the sector. The reports cover various aspects of the commercial property lending market including its size, recent lending activity and typical loan terms. The reports are compiled from data provided by approximately 60 of the major commercial property lenders operating in the UK. These organisations are prepared to provide data because it is collected and analysed by De Montfort University operating as a totally independent body.

[Click here for further information.](#)

IPD Lease Events Report (with Strutt & Parker) (November 2013)

An new annual report combining two pieces of research on leases – the IPD Annual Lease Review into new lease terms commissioned by the British Property Federation, and the Annual Lease Events Report commissioned by Strutt & Parker. This Lease Events Review for the year 2012, by IPD, provides empirical evidence on the likelihood of the different events. The analysis for 2012 is based on a sample of over 93,000 leases held in the IPD UK Annual and Quarterly Property Universe. The new leases analysed are reported up to Q2 2013, whilst the impact of lease events is a snapshot also taken at Q2 2013, reporting on the latest status of properties that experienced a lease event in 2012.

[Click to view document.](#)

Property Industry Alliance Research

Property Data Report 2013 (September 2013)

Drawing together key facts about the commercial property sector, this annual publication provides statistics demonstrating the link between UK commercial property markets and the wider economy and aims to raise awareness of the contribution of the commercial property sector to UK GDP, employment, pensions and savings.

Larger than the banking leisure, communications and transport sectors, commercial property is also a significant investment asset for the pensions industry, hence contributing to the financing of the population's retirement. This latest up-date also includes information on property debt and about the sustainability of the commercial property sector.

Available on all PIA member websites.

Green Property Alliance Pipeline

Energy & carbon incentives & penalties affecting the built environment: how effective are they?

This project will analyse the range of legislative and fiscal levers and penalties that apply to building energy and carbon performance, comparing their objectives and examining a series of questions, including what they seek to achieve, to what extent they have been successful in their objective and whether any of the fiscal incentives or legislative measures lead to unintended or undesirable consequences or behaviours.

Due for publication Q1 2014.

Recent RICS Research

Decision Making by Australian Property Funds (March 2013)

The research investigates the property investment decision making process adopted by Australian unlisted property funds, through the use of semi-structured interviews with the decision makers for nine of the largest unlisted property fund managers in Australia.

[Click to view document.](#)

Changing the culture of Scottish planning (March 2013)

This report improves the understanding of Scotland's planning culture, practices, power relations and identities that shape this as well as the role of cultural change in the implementation of planning reform.

[Click to view document.](#)

Commercial awareness in real estate graduates (April 2013)

The research evaluates how and to what extent real estate courses equip graduates with commercial awareness. The research gathered the views of UK academics, practitioners and students on commercial awareness in order to develop the commercial awareness taxonomy.

[Click to view document.](#)

Land administration and economic development (June 2013)

This research undertaken by the University of Reading's Henley Business School investigated the relationship between land administration and economic development and a greater understanding of the role of land administration in developing countries.

[Click to view document.](#)

Infrastructure Investment in Bengaluru, India (June 2013)

Understanding the impact of public infrastructure spending is imperative to government policy framework in India. This research looks specifically at sectoral and spatial spillover effects in Bangalore, and how infrastructure investment may stimulate investment in other sectors.

[Click to view document.](#)

Urban heat island in Chongqing, China (September 2013)

The report looks at the environmental impact of the Three Gorges Dam construction project in China. It monitors environmental parameters such as flow rate and temperature, air temperature and humidity which have a potential impact on the built environment.

[Click to view document.](#)

Recent RICS Research

The Housing Sector in Europe - Household Consumption Long Term and During the Crisis (September 2013)

This report looks at long term trends in housing consumption across Europe in the light of the global financial crisis. It looks at the most common areas of household consumption including the split between rented housing and owner occupation.

[Click to view document.](#)

Professional Competency Mapping Framework (September 2013)

This research proposes a competency mapping framework (CMF) system for maintaining and improving quality and professional standards of quantity surveying degree programmes accredited by RICS.

[Click to view document.](#)

British Woodlands 2012 (October 2013)

This survey was a collaborative initiative between the Sylva Foundation and the Department of Land Economy, University of Cambridge, which permitted the inclusion and update of a long-standing survey of a targeted group of large estates in England & Wales.

[Click to view document.](#)

Sustainable Retirement Communities (October 2013)

Using Australia as a case-study, the research examines how to improve wellbeing of retirement village residents. It identifies unique ergonomic requirements and provides facility managers with a guideline for sustainable facility management.

[Click to view document.](#)

The Global Infrastructure Challenge: The Role of PPP in a New Financial and Economic Paradigm (October 2013)

The research provides an updated position on the global PPP market and the role PPP could occupy in redressing the global infrastructure investment gap. The research outlines the increasingly urgent need for new investment models, better data analysis and increased capability in infrastructure delivery. The key findings of the report reflect the views and experiences of a diverse range of stakeholders groupings across Australia, Canada, India, the UK and the US.

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