



Research
Programme
2011-2015

Issue 8

Research Newsletter



SUMMER 2012

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 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 short papers and summary reports free of charge, together with full reports after a period of 12 months.

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. 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.
- 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 findings 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.

Property Industry Alliance

Also included is a list of research outputs from the other members of the Property Industry Alliance (PIA), comprising Association of Real Estate Funds (AREF), British Council for Offices (BCO), British Council of Shopping Centres (BCSC), British Property Federation (PF), Green Property Alliance (GPA) and Royal Institution of Chartered Surveyors (RICS).

Recent IPF Research

Major Research

Real Estate's Role in the Mixed Asset Portfolio – A Re-examination (March 2012)

This research explores the nature of commercial real estate returns in the UK in the light of the performance of the asset class over the recent financial turmoil and the apparent failure of property to provide the diversification gains hoped for in mixed asset portfolios. The project focuses on the dimensions of risk in property markets, the factors that drive returns, the relationship between real estate and other investment assets and the extent to which those relationships vary over time and are asymmetric.

Click to view document.

Four technical working papers in support of this important research have also been produced, which stand alone as individual studies, comprising:

Real Estate Returns and Other Asset Classes: A Review of Literature (April 2012)

It has long been recognised that there are significant problems with the standard arguments for inclusion of real estate in a mixed-asset portfolio. Placing real estate returns alongside equity, bond and other financial assets tends to produce high allocations to property, as real estate appears to have low correlations with other assets and low risk relative to its ex-post returns.

This paper identifies a number of issues that need to be considered in evaluating the role property can play in managing investment risk as the standard models make strong assumptions about the distribution of returns, whilst the relationships between assets may vary over time and over the market environment, and there may be more complex dependencies between assets and asymmetric relationships that need to be factored into any risk management structure.

The research concludes that real estate returns are not normal, even correcting for valuation smoothing effects. The correlation between assets is not constant over time.

Click to view document.

Private Commercial Real Estate Returns and the Valuation Process (April 2012)

This paper examines the behaviour of valuation-based measures of the commercial property market, in particular the extent to which the behaviour of real estate returns and the valuation of property vary in different economic states.

Standard techniques to de-smooth property indices typically assume that smoothing effects are constant over time and make strong assumptions about return processes. However, research indicates that both underlying market behaviour and valuer behaviour may vary over the market cycle, which suggests that analysis based on the existence of distinct market regimes – states of the world determined by particular economic conditions – may be helpful in understanding the dynamics of property returns.

Recent IPF Research

This research tests whether both the return process and the valuation smoothing process vary over time, dependent on the state of the economy or wider market conditions. A number of factors thought to drive commercial property returns are modelled, including GDP and changes in service employment, to determine whether behaviour varies over the economic cycle. The impact of interest rates is also analysed. One finding is that, after including the period following the onset of the global financial crisis, the commercial property market has become more sensitive to interest rates shocks.

Further models provide evidence that valuer behaviour is also time-varying, with smoothing more evident and stronger in the poorly performing down market states. Equity returns provide the best indicator of valuer behaviour, with very high levels of smoothing occurring when the equity market is in a 'bad' regime of sharply falling prices, coinciding with falling underlying property returns.

These findings have implications for risk management and portfolio strategy. The results suggest that return distributions are asymmetric and, critically, that the relationship between equity markets and property markets is asymmetric and time-varying. Again, this highlights the importance of the relationship between real estate risk and interest rates.

[Click to view document.](#)

Time Varying Influences on Real Estate Returns (April 2012)

Building on the evidence outlined in the preceding paper, this research explores the extent to which the relationship between real estate returns and other asset classes vary over time. Three broad questions are addressed:

- (a) Do the correlations between real estate returns (both public and private) and those of other asset classes vary over time?
- (b) How significant is the influence of the other financial asset classes on the volatility of real estate returns and does that influence vary over time?
- (c) Are there long-run linkages between property and other asset classes that lead to shocks in one market being transmitted to another?

Overall, the results suggest that there are significant financial market influences on the volatility of real estate returns, in both public and private markets. Nonetheless, much of the variability in property returns is unexplained, suggesting diversification benefits. The apparently greater independent component to private real estate might reflect the specific nature of the direct market, but may also relate to the role of valuations in private property indices.

It is evident that conventional portfolio allocation models do not capture the changing risk-return characteristics of property. There are periods in the market when the behaviour of the equity market is strongly linked to that of real estate and those periods tend to be when the stock market is performing badly. Shocks – negative shocks – in equity returns are transmitted to real estate returns and have a significant effect. A risk management strategy needs to account for these time-varying influences.

There is evidence that the relationship between asset classes depends on the returns in those asset classes: in particular, that there may be stronger correlations between assets – between property and equity – when both are under-performing. This suggests that the relationship between assets at the extremes of their return distributions need to be considered.

[Click to view document.](#)

Recent IPF Research

Real Estate Returns and Financial Assets in Extreme Markets (May 2012)

The benefits of diversification, associated with adding real estate to a mixed-asset portfolio, are often established on the basis of low average correlations. However, research suggests that correlations vary through time – they tend to increase in periods of higher uncertainty and after negative return shocks. This study produces a comprehensive and, importantly, statistically robust description of the dependence structure between real estate and other asset classes. Applied to a large sample of UK real estate investment returns from direct (smoothed/unsmoothed) and indirect real estate holdings, in summary, asymmetric dependence is found to be less universal a problem than sometimes suggested in the literature, especially for direct real estate investments that tend to be characterised by longer holding periods.

This finding is of major importance to real estate investors since the benefits of diversification offered by real estate appear to be stronger than sometimes suggested in recent studies about asymmetric dependence. The study also reveals that the relationship between government bond returns and real estate performance is more complex than often portrayed, resulting from the contradictory impacts of interest rates (with falling rates associated with rising bond and real estate prices) and risk premia effects, where, in troubled markets, ‘flight to safety’ effects push bond prices (and returns) higher and other asset prices lower.

[Click to view document.](#)

Property Banking Forum Lending Intentions Survey 2012 (May 2012)

In association with the Association of Property Bankers, the IPF now undertakes an annual survey of lending intentions. Aspects covered include the amount of senior debt likely to be available for UK lending and new sources of funding, as well as the broad terms and type of real estate that lenders will consider as security. Additionally, the research considers the impact of regulation and other issues affecting the volume of capital available to the UK debt market.

[Click to view document.](#)

Institutional Attitudes to Investment in UK Residential Property (June 2012)

A survey of institutional investors was conducted to inform the IPF’s response to a Government consultation led by Sir Adrian Montague. The results of the survey have been used as the basis for this short research paper by the IPF’s Residential Special Interest Group.

[Click to view document.](#)

Costing Energy Efficiency Improvements in Commercial Buildings (July 2012)

This research up-dates earlier IPF research, published in January 2009. The original report elicited considerable interest within the IPF membership and across the wider industry in view of the limited data available at that time on the costs of upgrading existing commercial stock to reduce carbon emissions.

This information is important to inform investment decisions. The research examines opportunities for reducing carbon emissions from existing buildings through energy efficient improvements and the respective cost implications both in terms of initial capital costs and payback.

[Click to view document.](#)

IPF Work in Progress

Major Reports

Forecasting Accuracy

This research analyses the distribution and information content of individual forecasts and assesses variations in the performance of the forecasting organisations contributing to the IPF's quarterly UK Consensus Forecasts.

Due for publication summer 2012.

Depreciation in Commercial Investment Property in the UK – Phase 2

Using different analytical methodologies, this research will build on earlier studies to increase the understanding of the drivers of depreciation and how depreciation rates might change in different market states.

Due spring 2013.

The Role of Property in the UK Economy

This research seeks to measure the impact of commercial property on the performance of the wider economy, identifying the sector's influences and impacts on such aspects as GDP growth (both positive and negative influences) and productivity increases/decreases, as well as the expansion/contraction of employment.

An initial report is due for publication summer 2012.

The Size & Structure of the UK Property Investment Market

Cass Business School has been commissioned to update and extend the earlier IPF report published in 2005, as well as consider changes in the market fashioned by capital flows through the 1990s.

This report is scheduled for publication autumn 2012.

The Future of Property Forecasting

Nottingham Trent University has been commissioned to examine the range of techniques currently used by practitioners in forecasting rental growth and yield change and how results are applied in the investment decision process. They will also consider the feasibility of using other forecasting techniques currently practised in other fields, the applicability of methods, which take a longer term view of future trends (one more commensurate with typical holding periods), and the viability of drawing upon signals from bond and equity markets in formulating short-term forecasts.

Due for publication autumn 2012.

Short Papers Series

A Decade of Pooled Fund Returns

This short paper considers how much this route to market alters investors' delivered return, particularly the impact of fund costs, cash, debt and fees.

Due for publication summer 2012.

IPF Work in Progress

Eurozone Discussion Paper

A group of senior industry figures, representing a cross-section of interests and disciplines, was invited to debate the implications of the eurozone crisis. A discussion paper will be published and disseminated to encourage further debate and understanding of the ramifications of this fundamental issue.

Due for publication summer 2012.

IPF Pipeline & Regular Publications

Pipeline

Property Allocations in Retirement Saving Schemes (with AREF, EPRA and Institute & Faculty of Actuaries)

Over the last decade, defined contribution (DC) schemes' share of UK pension funds has risen to 40%, largely at the expense of defined benefit (DB) schemes. This study will research the impact this move might have on the way assets are allocated in pension funds and other forms of financial provision in retirement, particularly in respect of allocations to commercial property.

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 and surveys are all available on the IPF website, www.ipf.org.uk.

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 are available free of charge to both members and non-members.

The most recent results were published in May 2012. **Click to view latest report.**

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.

The results of this survey are published in May and November each year. **Click to view latest report.**

IFA Survey

An online survey of Independent Financial Advisors is run three times a year to find out more about IFA attitudes to commercial property investment. The outputs include data on the recommendations IFAs make regarding property allocations within portfolios, the returns expected by their clients and how their views of property as an asset class have changed over the last few months. The repetition of the work every four months enables us to develop longitudinal data, tracking IFA attitudes to commercial property as an asset class.

The results of this survey are published in February, June and October each year. **Click to view latest report.**

Lloyds Quarterly Commercial Property Market Confidence Monitor

This quarterly survey by Lloyds Bank Corporate Markets, in association with the IPF, garners the opinions of up to 50 fund managers as part of its provision of a regular view of confidence amongst financial decision makers in the UK commercial property market.

The most recent report, published in April 2012, is available via the IPF website, www.ipf.org.uk.

IPF Back Catalogue

The following projects have been funded and published through the IPF Research programme 2006–2009. Full reports are available for download from the IPF website.

- Real Estate's Role in the Mixed Asset Portfolio – A Re-examination: Real Estate Returns and Financial Assets in Extreme Markets (May 2012)*
- Real Estate's Role in the Mixed Asset Portfolio – A Re-examination: Time Varying Influences on Real Estate Returns (April 2012)*
- Real Estate's Role in the Mixed Asset Portfolio – A Re-examination: Private Commercial Real estate Returns and the Valuation Process (April 2012)*
- Real Estate's Role in the Mixed Asset Portfolio – A Re-examination: Real Estate Returns and Other Asset Classes: A Review of Literature (April 2012)*
- Real Estate's Role in the Mixed Asset Portfolio – 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 (June 2010)
- Depreciation of Office Investment Property in European Markets (March 2010)
- ISPI – The Development of a Sustainable Property Investment Index (October 2009)
- The Treatment of Covenant Strength by the UK Property Industry (August 2009)
- Evaluation of Investment Vehicles in Urban Regeneration: a scoping study (August 2009)
- Greening Leases – The Landlord and Tenant Relationship as a Driver for Sustainability – Research Findings (August 2009)
- Occupier Demand for Sustainable Buildings (March 2009)
- UK REITs: What can be Learnt from the US Experience? (March 2009)
- Costing Energy Efficiency Improvements in Existing Commercial Buildings (January 2009)
- Implication for the Strategic Development of UK REITs from the Experience of LPT's 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)
- 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)
- Risk Reduction and Diversification (May 2007)

* Available to IPF members only

IPF Back Catalogue

Short Paper Series

- 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)

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

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

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

Property Industry Alliance – BCO Recent Research

The Olympics – Business as Usual? (February 2012)

The BCO commissioned YouGov to survey 1,000 office workers to get their views on how the Olympics were likely to affect their working lives. Most office workers were hoping that their companies would allow flexible working during the London Olympics.

Whole-life carbon footprint measurement and offices (March 2012)

The key contribution that whole-life carbon reporting makes is its ability to take account of all sources of carbon emissions associated with buildings, and not just those that arise when buildings are used. This more substantial follow-up report by the BCO delves into the whole area of carbon emissions and office buildings.

An analysis of the new lease accounting changes on the UK real estate market (April 2012)

New lease accounting standards are to be finalised in the second half of 2012 and they will have a significant impact on key financial accounting ratios. The impact of these new standards on the real estate industry will be substantial, and companies worldwide will be required to re-evaluate their corporate real estate (CRE) strategies. This report explores previous literature on lease capitalisation and focuses on the impact on the UK real estate market.

Making the grade – the impact of office development on employment and city economies (May 2012)

The structure of the UK economy has undergone huge change in recent decades. The continued patterns of globalisation mean that the UK is likely to continue to specialise in higher value, office-based employment. This makes the provision of office space very important for the future economic growth of our cities.

This report finds that, despite strong demand, some of our most successful cities have not seen large increases in the supply of office space. The paper explores patterns of office development by looking at case studies of two large cities - Bristol and Manchester - and two small cities - Cambridge and York - to gain a better understanding of how the office development market differs in these places.

Change for the good – identifying opportunities from obsolescence (June 2012)

Obsolescence is not well understood, and difficult to measure, but an understanding of the drivers of obsolescence is critical to retaining office performance, particularly during a downturn. The objectives of this research report are to identify the main drivers of obsolescence over the next five years and beyond and to identify the various strategic approaches to managing obsolescence for owners, developers and property companies.

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

Property Industry Alliance – BCSC Recent Research

Social Media: Do We Really Know What We Are Doing?

Communications technologies and trends have been transformed in recent years, fundamentally changing the way consumers converse particularly through social media. Smart consumers are engaging directly with retail brands and, in doing so, are having a significant influence on brand profiling and positioning. Retailers are engaging well with consumers through social media but are shopping centres following their lead? Indeed should they even be using social media for the same purpose? What is the benefit for shopping centres in engaging through social media and how can its value be measured? This report seeks to address these questions and more.

Report and best practice guidance published December 2011.

BCSC/Lunson Mitchenall Shopping Centre Development Pipeline 2012

The annual paper presents an industry view of the development pipeline ahead. It focuses attention on what is happening with retail schemes over 50,000 sq ft.

Report published April 2012.

In Search of Brand Engagement – The Experiential and Event Industry

Experiential marketing is the largest single area of marketing investment in the UK. As a branch of promotional marketing, experiential marketing has previously suffered from a lack of formal research into how effective it is. There are many ways in which this activity could be described in the marketing budget but it is really the connecting of a brand and its potential customers by deliberate, meaningful and relevant face-to-face experiences either through taste, feel, smell, sight or use of a product or service.

This research document was produced by the Institute of Promotional Marketing (IPM), with the concept and financial support coming from ourselves. It explores how and why shopping centres are the most effective venues for brand engagement and experiential marketing.

Report published May 2012.

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

Property Industry Alliance – BCSC Upcoming Research

Low Carbon Fit-Out

There is no shortage of advice on low carbon buildings but there is a great deal of confusion about what actually works and what it means for retailers. Industry and Government have yet to make a convincing case for how to build and operate low carbon properties, and the financial implications that follow.

In the absence of knowing what is required, what it costs, what works, and what it means, businesses are naturally reluctant to act. What retailers need is less advice and more proof: evidence that shows in practice how to construct and operate a desirable low carbon retail environment. This advice needs to be embedded in the capital and operating costs of low carbon fit out versus a standard fit out.

BCSC has commissioned Gardiner & Theobald and Wright Energy and Environment, to provide answers to the above issues based on actual case studies and building data. Evidence-based, real life examples of low carbon fit out outcomes will help members to understand and frame their approach to the low carbon agenda.

To be published: Launch autumn 2012.

The Impacts of Multichannel Retailing

Multichannel retailing can be defined as click, brick and flip – encompassing the internet, stores and catalogue. Retailing is revolutionising very quickly where retailers are attune to amalgamating technology through operations which is core to the business strategy. But how is the retail property sector responding? Will there still be an appetite to build large centres / shop units for the future? How does leisure and entertainment complement multichannel retailing?

BCSC has commissioned Jones Lang LaSalle to research and understand these issues, and future implications of multichannel for the future development of shopping centres as well as for existing stock.

To be published: Launch at BCSC Annual Conference 2012.

Update to 2005 BCSC Customer Care Guide

The Customer Care Guide is BCSC's thought-leadership document on retail property delivering customer experience and care to their customers (whether they are shoppers, occupiers or other stakeholders). The guide was first published in 2005 and while it remains a pre-eminent document, it needs updating for the following reasons:

- Achieving Customer Excellence (ACE) Awards
- How shopping is changing
- Delivering customer excellence through partners

RealService has been commissioned to undertake this update, with the support of the BCSC Educational Trust.

To be published: Launch at BCSC Annual Conference 2012.

Property Industry Alliance – BCSC Upcoming Research

Shopping Centres and Community Engagement

Shopping centres are the hubs of local communities. They provide safe, secure clean environments for people to shop, dine, relax and be entertained. What is less well known or discussed is the fact that many shopping centres also provide significant levels of support to the communities in which they operate; often developing skills of the local workforce; sometimes rehabilitating and nurturing those that might have stumbled along the way such as disaffected youths or recently released prisoners; frequently raising funds for local charities; investing time and energy into improving the local landscape; brokering partnerships between local organisations, and very often providing the local leadership needed to push great community projects forward.

This project seeks to understand the type and level of engagement shopping centres have with their communities.

To be published: Launch autumn 2012.

Property Industry Alliance – BPF Recent Research

BPF/IPD Annual Lease Review

The 2012 BPF/IPD Annual Lease Review was published in May and provides a full and detailed analysis of lease lengths, break clauses, rent free periods and income profiles. The analysis has now been extended to incorporate the 10,316 new leases granted in 2011. Some of the key findings were that:

- The average length of all lettings fell from 5.3 years in 2010 to 4.8 years in 2011, measured on an equally weighted basis and including the first break where applicable.
- The average length of all new leases weighted by rent (including break clauses) continued to rise to 9.8 years in 2011, the longest recorded since 2007. 2011 saw an increase in the proportion of leases granted up to five years in length, from 63% in 2010 to 76% in 2011.
- The proportion of leases with break clauses increased in 2011 to 33.2%, compared to 31.1% in 2010.
- The proportion of leases with breaks increased on all leases except those that are less than 5 years in length or between 16–20 years.

The full Lease Review can be viewed on the BPF website, www.bpf.org.uk.

Property Industry Alliance – RICS Recent Research

The impact of economic recession and spending cuts on Business Improvement Districts (BIDs) in England: Threats and Opportunities (December 2011)

Investigates how the recession impacts the way BIDs operate, and identifies the threats and opportunities to them as stakeholder-led instruments for the management of town centres, commercial and industrial areas.

[Click to view document.](#)

An examination of the use of mobility expectations data in estimating future housing need and demand (February 2012)

Looks at the reliability of data collection for Strategic Housing Market Assessments, which estimates future housing need and demands.

[Click to view document.](#)

Tax Increment Financing: an opportunity for the UK? (February 2012)

Looks at the most appropriate version of Tax Increment Financing (TIF) used in the US to be operated in the UK. TIF is a favoured model for funding infrastructure and development. The successful implementation of TIF schemes in the UK would provide a much needed stimulus to depressed property markets.

[Click to view document.](#)

Improving the accuracy of ASTER elevation data for glacial change assessment in Antarctica (March 2012)

Enhances the assessment of glacial change to refine understanding of climate trends, supporting development of sustainable engineering strategies for the UK. The research benefits UK Geomatics professionals.

[Click to view document.](#)

Commercial Real Estate Climate Change Model (March 2012)

Identifying the effects of climate change on the energy performance characteristics of commercial real estate and associated costs in terms of heating and electricity.

[Click to view document.](#)

Supply, Demand and the Value of Green Buildings (March 2012)

Looks at the expanding supply of 'green' buildings within a given London neighbourhood that has a positive impact on rent prices in general, but reduced rents and prices for environmentally-certified real estate.

[Click to view document.](#)

Property Industry Alliance – RICS Recent Research

Hotting up? An analysis of the Low Carbon Transition plans of UK Cities (March 2012)

Analyses the low carbon transition plans (including climate change action plans) of UK cities in order to provide a critical review of how well prepared our cities and towns are for future climate change and its associated environmental impacts.

[Click to view document.](#)

Investigating the impact of social and economic reforms on construction cost management systems in China (March 2012)

A more efficient and cost effective construction industry is high on the Chinese government agenda. There is an increasing demand for construction/surveying professionals in this region.

[Click to view document.](#)

Waste and the built environment: A case study from the UK (April 2012)

Looks at how our cities and buildings function and the impact on the amount of waste we produce. Highlights the pressures to achieve more sustainable waste management.

[Click to view document.](#)

Tropospheric effects on GNSS positioning for airborne applications (April 2012)

Looks at more accurate digital surface models for highway levelling and flood modelling. More accurate GNSS is used for commercial aviation navigation. This will improve height information for surveyors.

[Click to view document.](#)

Local Empowerment and Strategic Co-ordination: a review of changing practices in infrastructure planning at the subregional level in England (May 2012)

Examines the transitional arrangements for sub-regional planning put in place to deliver enabling infrastructure associated with housing growth.

[Click to view document.](#)

The changing effects on domestic energy expenditure from housing characteristics and the recent rapid fuel price movements (May 2012)

Analyses the effect of the recent rapid fuel price movements, peaking in 2006–8 and deflating in 2008–9, on household energy expenditure.

[Click to view document.](#)

Property Industry Alliance – 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.



Research
Programme
2011-2015

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