Jones Lang LaSalle

Real value in a changing world

advance›

From Obsolescence to Resilience

Creating value through strategic refurbishment and asset management

Introduction

Obsolescence is nothing new for office real estate, so why are we revisiting such a well-trodden path? Our Offices 2020 programme argues it is different this time. The office market across Europe and the UK in particular, has a huge problem coming its way with depreciation and obsolescence – but also an opportunity for the savvy.

We are not alone in this view. The British Council for Offices (BCO) has recently released a research programme entitled Change for the Good[1], arguing much the same thing, yet industry cynicism remains:

"You researchers bang on about obsolescence every time there's a downturn. Mark my words: as soon as the market picks up you'll forget all about it…"

The quote above is a genuine comment from an investment agent and, in fairness, it contains an element of truth. If yields are compressing, irrespective of quality or location, why should obsolescence matter? This short paper sets out to extinguish this notion.

Firstly, a quick note on definitions. This paper will interchange between "obsolescence":

"The process or condition of going out of date or being no longer in use/of utility." [2]

And depreciation

"The rate of decline in rental (capital) value of an asset (or group of assets) over time relative to the asset (or group of assets) valued as new with contemporary specification." [3]

Depreciation is the path toward obsolescence. Obsolescence, though, can be more sudden and triggered by technology or regulation. That said, understanding the changing drivers of depreciation aids our appreciation of the obsolescence risk.

[1] BCO (2012), 'Change for the good: Identifying opportunities from obsolescence'

[2] Various sources

[3] Law, V (2004) 'The Definition and Measurement of Rental Depreciation in Investment Property', unpublished PhD dissertation, University of Reading/IPF, 2005, 2010, 2011

This time it's different

It's different this time. Three critical factors, all of which are undergoing profound change, are fundamentally increasing the obsolescence risk.

"....the combination of circumstance will see obsolescence raise its head to an extent not previously seen " [4]

We have identified seven factors which will accelerate depreciation and drive obsolescence but we believe it is a critical three: legislation; corporate requirements (the preference of demand); and workplace technology that really matter for the medium term. Independently of one another, these three factors are changing. Together, they stack up to deliver systemic risk. According to our Offices 2020 research, this will change the industry irrevocably.

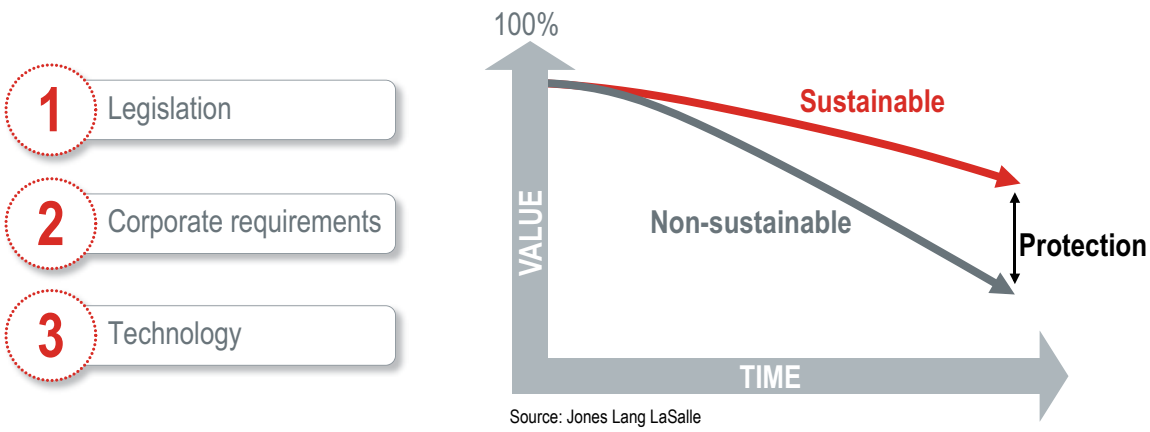
The graph below, used here in the context of sustainable real estate, provides a useful conceptual approach to depreciation – and the emphasis is rightly on depreciation, not on finding a premium.

Protecting value is paramount while the headwinds of depreciation are raging. Failing to do so will result in greater falls in capital values relative to both newer assets and those benefitting from more proactive asset management.

In short:

- Sustainability obligations will accelerate the need for demolition of obsolete buildings but on the other hand lead to an opposing pressure to recycle and refurbish existing space.
- Sustainable refurbishment and asset management will be compounded by changes in technology and working practices.
- There are competitive bonuses to be had for those landlords who move fastest.
- Sustainable refurbishment and asset management will result in a raft of profitable advantages beyond cost efficiencies; most importantly it will become synonymous with value protection.
- Occupiers will also drive improvements as subletting or assignments become compromised by poorly specified space.

Three key factors driving obsolescence



Source: Jones Lang LaSalle

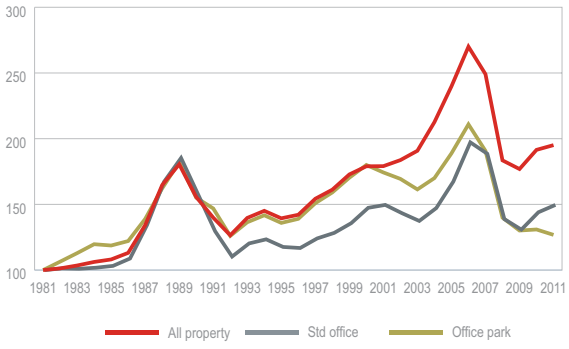
[4] BCO (2012), 'Change for the good: Identifying opportunities from obsolescence'

The seven drivers of obsolescence

The nature of offices themselves

Obsolescence impacts offices more than any other commercial sector. This is because the physical structure of office real estate has, arguably, a greater interrelationship with its occupier. By comparison, in unit shops, fit-out and location drives attractiveness but the former is something relatively easy to address. In logistics, the nature of the real estate is simpler by design. But changing corporate preferences as well as changing legislation provides arguably more regular challenges to the office investor. Staying "ahead of the game" is a perennial issue, especially when you consider the risks of owning or leasing obsolete property. The graph below shows how office values have performed relative to all commercial property values in the UK. This extra depreciation is arguably caused by the increased obsolescence risk.

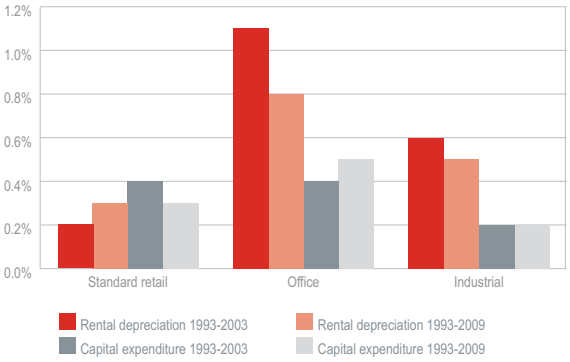
Capital Value Changes in UK Commercial Property versus Office Sector 1981=100



Source: IPD, 2012

The Investment Property Forum (IPF) has commissioned various studies (2005, 2010 and 2011) proving depreciation hits the office sector hardest. While they acknowledge some data verification issues, there is a compelling and consistent message. Annual depreciation rates for IPD standard retail, office and industrial segments were 0.3%, 0.8% and 0.5% respectively over the period 1993-2009. This order compares exactly with the 2005 study which tracked the 10 years to 2003. Capital expenditure analysis also measures "managed depreciation". While expenditure rates can be higher outside offices, capital outlay has not been sufficient to arrest sector decline.

Depreciation rates and capital expenditure in IPF Depreciation Studies 2005, 2011



Source: IPF, Jones Lang LaSalle

Lease length and landlords' obligations

In the IPF's European study published in 2010, London exhibited some of the most severe rental depreciation of the sample. Again there were some data issues, but intuitively this distribution derived from differences in lease length and repairing obligations. Consider the difference between an investor holding a new single-let 15 year full, repairing and insuring lease in London, and one holding five years in Germany or three years in Singapore, for instance. The UK investor, assuming a single let, can be relatively relaxed for the majority of the lease profile (breaks aside) knowing that significant expenditure will be infrequent. The investor in Germany or Singapore, however, will be incentivised to keep the property to a high standard as there is more regular void risk. Property will be more frequently brought up to prevailing standards until the underlying real estate is eventually no longer suitable for further change.

While longer leases with less onerous repairing obligations are understandably attractive to investors for their income stream, they are storing up obsolescence risk and will accentuate this issue, not to mention curtail easy and early investment in energy efficiency improvements by the investor.

One mitigating factor is the trend toward shorter leases. The BPF/IPD numbers suggest the average UK office lease length is around six years, a reduction from nine years in 2002[5]. Shortening lease lengths is something the industry needs to get used to and is happening outside of cyclical market conditions. Ironically, although less secure income will have a negative impact on value, it will de-risk obsolescence by forcing more regular modernisation. We postulate, with such significant and increasing depreciation risk in offices, the loss in value created by shortening leases will be de minimis in this riskier context.

Lease lengths & repairing obligations across Europe and globally – assumes new leases on prime new build offices

Country	Lease length (years)	Repairs of common parts	External/structural repairs
UK	6-9 (was 10-15)	Landlord (tenant via service charge)	Landlord (tenant via service charge)
France	3, 6 or 9	Landlord (tenant via service charge)	Landlord (tenant via service charge)
Germany	5-10	Landlord (tenant via service charge)	Landlord
Italy	6+6 years	Landlord	Landlord
Spain	3, 5 or 10	Landlord (tenant via service charge)	Landlord
Poland	5	Landlord (tenant via service charge)	Landlord (tenant via service charge)
Russia	5-7	Landlord (tenant via operating expenses)	Landlord
Sweden	3-May	Landlord	Landlord
Singapore	3 (5+ for larger users)	Landlord (tenant via service charge)	Landlord (tenant via service charge)
USA	3, 5 or 10	Landlord (tenant via service charge)	Landlord pays capital expenses tenant pays pro-rata share

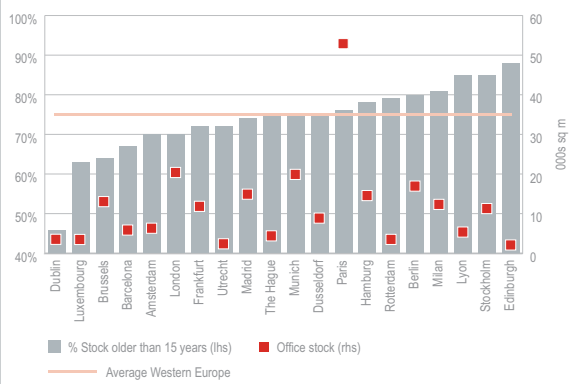
Source: BPF/ IPD, Lease Events Review and Jones Lang LaSalle, Global Standards Index

[5] BPF / IPD Annual Lease Review 2012

Development

The majority of office buildings are old. In Germany, 59% of non-domestic building stock dates between the 1950s and 1990s. Similarly in the UK, 22% of commercial building stock dates before 1960. In Paris, two thirds of office stock is over 20 years old. The rate of office building replacement across Europe has been estimated at 1-2% per year which theoretically should mean over 70% of office stock is over 15 years old. We would argue that this replacement rate is nowhere near enough to keep obsolescence at bay. Even in London City around 70% of stock is greater than 15 years old despite a much higher replacement rate of 2.7% per year over the last 10 years.

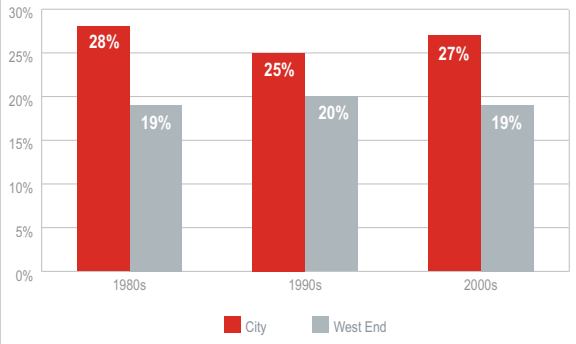
Proportion of office stock older than 15 years across Western Europe



Source: Jones Lang LaSalle

With speculative development finance so limited we estimate it will be 2017/2018 before a normal rate of completion resumes across European office markets. Certain markets will witness the implications of up to eight years of restricted development and as regular patterns return, there are several structural factors that will intensify, not least EPC regulations in 2018.

Total refurbishment and redevelopment over the last 30 years in London (% stock)

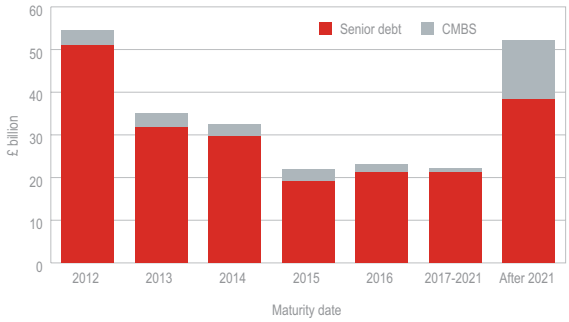


Source: Jones Lang LaSalle

Finance

With bank finance restricted, more general capital expenditure will be challenging. This will have a greater effect on secondary quality product, which requires more expenditure than prime. The volume of distressed product held by banks also suggests greater depreciation risk (banks are unlikely to inject capital to protect value while controlling loans). A recent De Montfort study suggests there is £212 billion of outstanding real estate debt of which around 20% has a loan to value ratio in excess of 100%. Value depreciation in secondary product has further polarised markets, exacerbating technical loan breaches. This may enforce more disposals but is more likely to keep assets "locked in" while values continue to fall in an accelerating depreciation spiral.

The value of outstanding commercial real estate debt



Source: DeMontford and Fitch Ratings, 2012

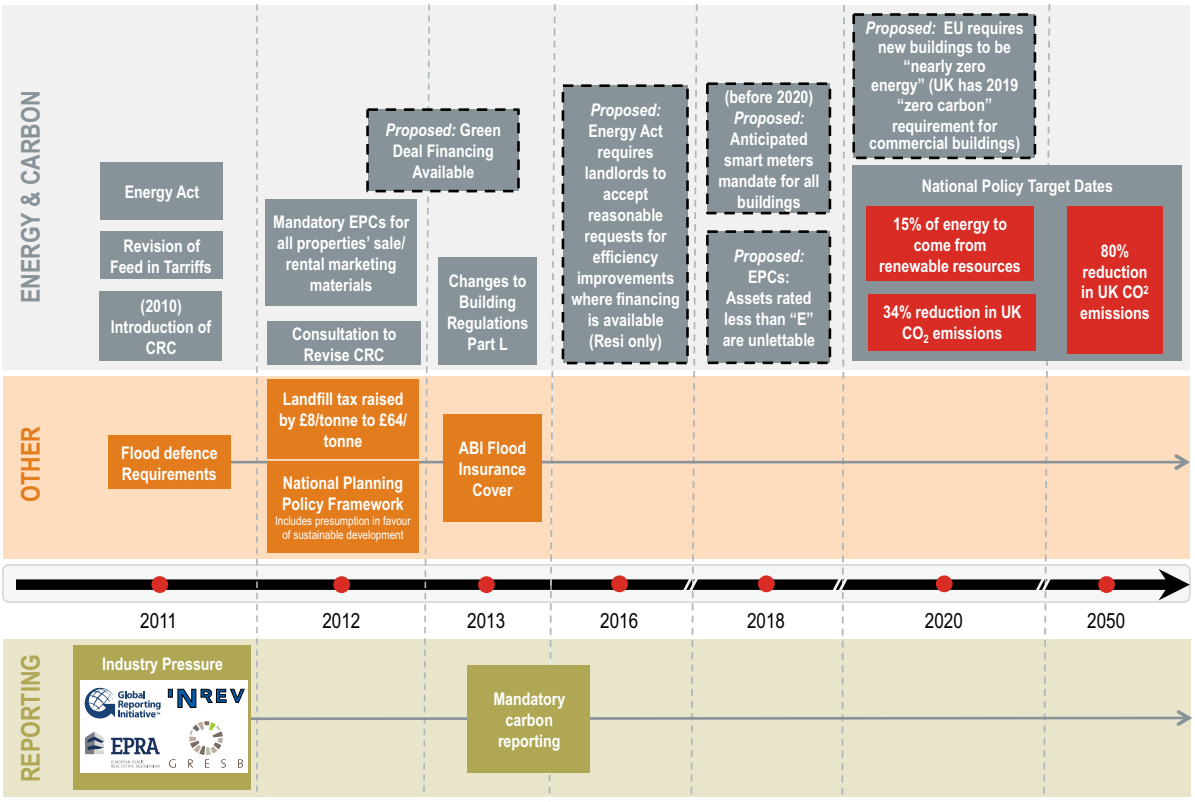
The first of the big three factors - legislation

There are many new environmental laws driven by the EU and the most proactive nations. However, as we have seen with the UK government's procrastination on mandatory carbon reporting and feed in tariffs, governments are also failing to provide sufficient certainty to investors about implementation timescales. What is certain is that green imperatives will increase as legislation becomes more stringent. For instance by 2020 the EU requires all new buildings to be "nearly zero energy". In the UK the Energy Act 2011 will make it unlawful to lease a property from 2018 below a minimum energy rating expected to be "E". According to the Department for Energy and Climate Change (DECC) around 18% of non-domestic properties with EPCs have a rating of F and G. This is likely to increase as the decade progresses, as finance for capital expenditure will remain challenging with uncertainty surrounding the Green Deal and a lack of available capital. The goal posts for EPC rating are also moving – something "safe" today may not be in 2018, ceteris paribus.

France is leading the way in Europe with new voluntary certifications governing improved green performance of existing offices: 'Haute Qualité Environnementale (HQE) Exploitation' and 'HQE Rénovation'. Strict legislation under the Environmental law package called "Grenelle Environnement", also obligates investors and corporate owners to undertake energy performance retrofits of all existing commercial real estate by 2020, decreasing energy consumption by at least 25%. These Grenelle laws, first introduced in 2009, are expected to further decouple prime and secondary valuations. They impose more obligations and cost on investors - and occupiers - and the logical consequence will be value erosion.

Meanwhile the use of BREEAM, LEED and EPC's will become more important for both the marketing of property and its energy measurement. It is not the purpose of this paper to discuss the merits of each, but rather to point out that rating systems will provide a measure for likely depreciation risk.

Sustainability legislation timeline - UK



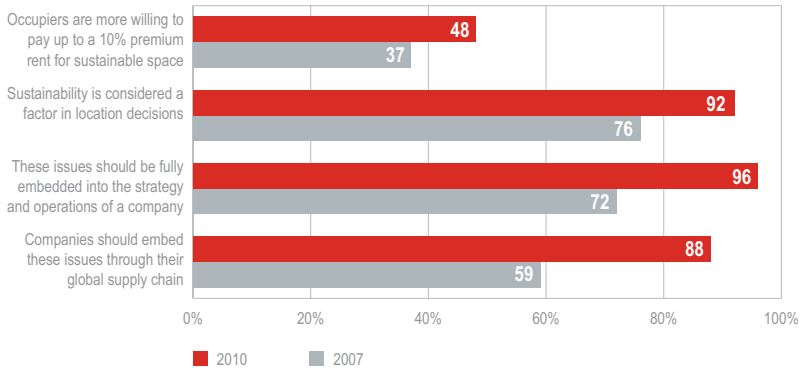
Source: Jones Lang LaSalle

The second key factor - corporate requirements

Corporate occupiers have stronger internal real estate teams, more sophisticated requirements and ever more see real estate as fundamental for recruitment, retention, productivity, collaboration and – increasingly – branding. This is not necessarily a logo on the side of a building but a dedicated entrance, a workspace that can be identifiable as part of their "corporate brand" and product that helps meet Corporate Social Responsibility (CSR) requirements. Buildings which fail to enable these evolving preferences will become obsolete for the larger user.

And, of course, occupiers themselves are driving changes in sustainability and will increasingly do so as voluntary and non-voluntary "in-use" measures become more commonplace. Studies have shown despite global economic uncertainty sustainability is increasing in importance to occupiers. "Prime" will increasingly be synonymous with "sustainable", and made visible via green building certification schemes (BREEAM, LEED etc.) or Energy performance labels (Energy Star, etc.). The graph below shows how corporate priorities have changed over a three year period. We would argue the most important observation here is that sustainability imperatives have increased in importance over a time period in which one would expect them to have decreased: under the worst recession in living memory many corporates would have been forgiven for concentrating on survival rather than the environment.

Changing corporate requirements



Source: Corenet / Jones Lang LaSalle

The third key factor - workplace technology

We predict five technological changes will help shape the office sector over the next 10 years:

1. The provision and delivery of electricity
2. Sustainable technology
3. Cloud computing
4. Collaborative technology
5. Mobile technologies.

New build is naturally more “future proofed” than older stock, but there are exceptions: providing the underlying real estate is good and well located, more strategic refurbishments can be expected, especially as the requirements for cabling in occupation diminish. Technologies will have their greatest impact on configuration. Collaborative technology will have a direct impact, by its nature, whether hi-tech video conferencing or low-tech break out areas, but mobile ways of working will also mean workers become more mobile in their mentality: when one is used to working away from the office, the requirement for fixed, structured ways of working within the office diminishes, while the value of face time increases. So not only will real estate need to be flexible for changing technological requirements, it also needs to have floor plates capable of adapting to changing and more collaborative configurations. Product that cannot match these needs will trend toward obsolescence.

1 Electricity: 12V technology rather than 240V

Could eliminate raised floors and could bring many older buildings back into play

2 Sustainable technology

Photovoltaic rooftop generation, high efficiency heating, cooling, water usage, waste energy recovery

3 Cloud computing

Can empty offices of almost everything apart from people. Engenders flexibility and fluidity in location

4 Collaborative technology

The ratio could shift to 70% social and 30% individual

5 Mobile technologies

Where, when and how we work and how we think about work and the office

Implications

Outperformance will logically derive from high quality sustainable product but also from the proactive refurbishment and upgrading of suitable stock to mitigate depreciation caused by the other two main factors - changing corporate requirements and technology.

"95% of unlisted UK and continental European real estate fund managers believe there is a relationship between environmental performance and financial returns. However, the majority felt this relationship was difficult to quantify at the current time." [6]

The industry has moved on from 2009. There is proof from global markets that sustainable product can achieve capital value and rental premiums. The US has shown rental premiums between 5%-17% for LEED buildings.[7] In five 2010-2011 studies cited in the 2011 Green Building Market and Impact Report, LEED buildings were also found to command sale price premiums of 8.5% to 25%. In Australia, studies show NABERS ratings leading to capital value premia of between 2% and 9%.[8] Evidence is improving for Europe, particularly concerning extra depreciation risk, although proof for premiums remains relatively absent. The corporate study in the previous section does show an increased willingness to pay for sustainable space – but this is not the actuality.

We would argue proving a premium is increasingly irrelevant as the reduced depreciation of a sustainable building relative to a non-sustainable one is intuitive and provable. Poorer quality product will exhibit:

- Longer void risk on expiry
- Reduced rental growth (increased rental depreciation)
- Longer rent frees on renewal
- Higher exit yield
- Lower liquidity (saleability)
- Higher capex requirements
- Potentially lower covenant strength as more sophisticated "better" corporates gravitate toward more sustainable product

All these factors will significantly alter value under discounted cash flow and Jones Lang LaSalle has developed models to assess the potential impacts on value.

In addition, we are increasingly seeing instances of institutional funds targeting sustainability criteria to meet both their own CSR requirements and the demands of retail investors, as well as mitigating depreciation risk. More banks will demand sustainable development (where pre-let) for similar reasons. These are self-reinforcing trends. Active asset management will be required more than ever before. "Average" product with limited refurbishment potential and inflexible floor plates that does not have a compelling story will increasingly trend toward full obsolescence followed by demolition or change of use. A compelling statistical example derives from Birmingham. During 2011 and 2012 around 530,000 sq ft was let in units

[6] Aviva Investors and the Environment Agency Pension Fund (2009)

[7] Jones Lang LaSalle, Global Sustainability Perspective, 2012

[8] GreenBiz, Green Building Market & Impact Report, 2011

over 10,000 sq ft. But over the same period 700,000 sq ft of office stock was allocated to alternate uses. Similar trends can be expected in markets exhibiting high overall supply as values become increasingly polarised. In Amsterdam for instance, take-up over 10,000 sq ft totalled 1.6 million sq ft in 2011. This compares with over 930,000 sq ft of office space allocated to alternative uses.

Implications for occupiers

Certain critics maintain that the extra cost of building sustainable product will have to be passed onto the occupier resulting in higher rents and encouraging occupiers to find value from poorer product. While there may be examples of this, the investor and occupier community will move progressively toward an overall cost per head measure of value rather than headline rent per sq ft. New or refurbished product that offers lower energy costs and enables more flexible and intensive occupation can be cheaper in use than unsustainable inflexible product and "green" buildings are rapidly becoming the standard in core markets.

There are also risks to occupiers. Like investors, occupiers need an "exit strategy" should they wish to sell an owner-occupied asset or sublet or assign lease liabilities. This flexibility is vital for managing portfolios. Obsolescence and legal restrictions on disposing of energy inefficient space will severely restrict this flexibility. We can expect more refurbishment in situ and partnership approaches between investors and occupiers to alleviate risks for both parties, despite the inevitable upheaval.

Opportunities for investors

Value depreciation on secondary quality stock will provide opportunities for savvy investors to access problematic, but appropriate, stock cheaply and refurbish.

There is great potential for refurbishment with replacement rates so low. Speculative bank finance will be limited for at least the medium term but partnerships with occupiers will open up pre-let funding and alternative sources of equity offer huge potential.

We hope the above analysis provides ample argument as to why depreciation will accelerate, shortening the path to obsolescence and contracting building lifecycles. Progress is limited by the lack of capital expenditure in our industry, the investor friendly nature of our leases, and the landlord and tenant act, and, we should not forget, short term focus and continued cynicism concerning sustainability by the less enlightened in our industry.

The following section provides case studies and some practical examples on how to mitigate this risk.

Potential for greater profitability in refurbishment

Budget & construction programme	Speed to market and certainty
	Lower professional fees linked to build cost
	Potentially less tax
	Potential to maintain income
Lettable value & specification	Potential to increase lettable area and rental income
	Maximise occupancy levels
	Provide more strategic flexibility
	Optimise specifications
Environmental sustainability	Improved environmental ratings
	Lower emissions
	Lower energy bills on occupancy
	Future proof against environmental regulation

Source: Jones Lang LaSalle

Obsolescence and Refurbishment Strategies

Our research has shown that over the past few decades, there has been a substantial build-up of obsolete real estate assets. Fast evolving corporate requirements, shortening lease lengths, a lack of new development activity - linked to the shortage of finance, have provided an increasing pipeline of refurbishment opportunities.

Depending on the degree of obsolescence and market context we can distinguish between three main refurbishment strategies in order to maintain or increase a building's asset value. Each strategy is aligned with its main goal and takes into account capital expenditure, value creation potential and underlying risks and market requirement.

Low level of obsolescence: Retention Strategy

Buildings with normal obsolescence at a given moment in their life cycle, typically after 10 to 15 years or at the end of their main tenants leases are in need of a Cat A (potentially accompanied by a Cat B) refurbishment. Its aim is to keep a good quality tenant and to bring the building up to architectural, technical and environmental standards, be they mandatory or voluntary.

Medium to high level of Obsolescence: Rebirth Strategy

Office buildings with above average levels of obsolescence or which have not had a major refurbishment for decades would be targets for a rebirth strategy. Most of the core and structures would be retained, but all architectural and technical features would be reviewed to attract tenants with a strong covenant. Increased sub-divisibility of buildings and fit-out flexibility are key to attract a broad spectrum of tenants. The aim is also to target environmental standards that provide a good level of future proofing.

High Level of Obsolescence: Reinvention Strategy

Assets with high levels of vacancy, or that are underutilised, often reflecting the advanced state of their underlying physical quality or location or that have been neglected or fallen behind local market needs, are perfect targets for a reinvention strategy. Its aim is to either redevelop a site or change its use, transforming it from an office into a hotel, residential units or into a mixed-use scheme. Capital expenditure is substantial and often reaches levels of rebuild costs. Environmental quality standards are typically set to a very high level in order to ensure the asset will not fall into regulatory obsolescence before the end of its useful functional and technical life cycle.

Overleaf we have put together some case studies that highlight solutions that Jones Lang LaSalle can provide through our wealth of refurbishment, sustainability, valuation and asset management experience.

Case study
Building Retention Strategy: Abbots House, Reading

100,000 sq ft, 5 storey office building owned by Scottish Widows Investment Partnership

Appointed as Project and Cost Manager to deliver the refurbishment of this ageing 20 year old building in order to retain the existing tenants. This was achieved by delivering a modern and environmentally efficient design whilst working with the tenants to ensure the refurbishment met expectations on quality and CSR.

Scottish Widows Investment Partnership (SWIP) completed the refurbishment as part of the agreement for tenants, Deloitte and Boyes Turner, to enter into new 15 year leases. The SWIP Cat A office refurbishment provided:

- An additional 5,000 sq ft (NIA) through the conversion of the fourth floor plant rooms.
- Extension of ground and first floors into the central atrium in a terrace design providing an additional 6,000 sq ft (NIA), with acoustic canopies over break out areas open to the atrium.
- New feature cantilever atrium stairs linking the open lift lobbies.
- Reconfiguration of upper floor lift lobbies to provide dual access points to each floor for future sub-divisibility.
- Modernisation of finishes, the main building reception and common parts circulation.
- Conversion from VAV to 4 pipe fan coil air conditioning and all new central services.
- Reconfiguration of basement car park entrance and car park layout including integration of secure cycle parking.
- Upgrading of fire strategy with stair lobbies and disabled refuges.
- Renewal of flat roof covering and provision of roof insulation over fourth floor office areas.

As part of the agreed works, the third and fourth floors were refurbished to Category A standard. The tenant, Boyes Turner, completed their own fit out of these floors and relocated from the first floor during refurbishment. Boyes Turner remained in occupation for the duration of the works with business continuity maintained throughout.

As part of the refurbishment, SWIP delivered the Deloitte fit out of part basement, ground, first and second floors as a turnkey Category A and Category B refurbishment. The Deloitte Cat B office fit out included:

- Provision of basement gym, changing rooms, showers and drying rooms.
- Ground floor client catering facilities.
- Break out spaces formed on open terraces within the atrium at first and second floors.
- New Deloitte designated client entrance and reception at ground floor with client meeting room and dining suites.
- Installation of IT rooms and generator backed services.

SWIP and Deloitte worked closely to ensure that the combined works achieved a BREEAM Excellent rating and the EPC rating was improved from Grade E to B.

Jones Lang LaSalle's Project & Development Services team delivered the project for £14 million, within the joint budget and on programme. Both tenants renewed their leases for a 15-year period. The building is up to modern office standards and future-proof environmental, energy rating and health & safety levels.

Case study
Building Rebirth Strategy:
Bush House, London



450,000 sq ft, 4 block iconic 1920's office complex owned by Kato Kagaku, a Japan based investor.
Appointed as Development, Project and Cost Managers to deliver the refurbishment of this 90 year old iconic complex of four interlinked blocks. The brief was to create space that will deliver long term rental return from good tenant covenants whilst preserving the basic structure, exterior and internal ambience of these, part listed classical and Art Deco buildings.

The detailed design brief incorporates input from Jones Lang LaSalle's Leasing and Capital Markets teams.

Kato have commissioned detailed design solutions and commenced construction works with target completion for summer 2014.

The refurbishment, one of the largest of its kind in London, will provide:

- Space which will secure optimal rentals from good covenant tenants.
- Space designed and constructed to BCO standards.
- Re-branding of the buildings and provision of defined entrances and reception areas for each block.
- Physical separation of the buildings to provide flexibility.
- BREEAM Excellent sustainability rating and target EPC rating of B.
- Retention and refurbishment of stunning classical and art deco main entrance, staircases and common parts
- Renewal of all mechanical plant, lifts and services installations.
- Reconfigured cores and office floors to optimise net lettable floor areas, whilst providing excellent circulation routes, lift services and WC facilities.
- Ability to sublet per floor and with tenant plant and riser provision.
- Rejuvenated courtyard to facilitate ease of deliveries, waste away and car parking.
- Secure bicycle storage and shower areas.

On behalf of Kato, Jones Lang LaSalle has placed the construction contract with phased delivery through summer 2014.

The letting campaign has launched with a target of substantially increasing rental income and capital value.

Case study
Building Reinvention Strategy:
Brentwood House, Essex



A 1950's office complex owned by Amsprop.
Appointed to support Whitbread Plc in considering the regeneration/ conversion strategies for this building. Whitbread's objective was to drive best value from optimal expenditure to satisfy the commercial returns targeted by the property owner Amsprop London Ltd.

The building had physical limitations in terms of its ability to provide an office environment that satisfied the requirements of modern corporate occupiers and the commercial property market in the area had been flat for a number of years.

However, the town centre location and available floor space suited Whitbread's business objectives. The client brief was to find ways to create best value for the future.

Jones Lang LaSalle helped Whitbread to develop option studies identifying the optimal solutions. This resulted in a decision to change the use of the building from office to hotel accommodation.

A pre-let was agreed with Premier Inn. The scope of works provided for:

- Removal of asbestos.
- Stripping back to shell and façade.
- Overhaul of facade and fenestration.
- Installation of three new lifts.
- Formation of 120 new hotel rooms.
- A new restaurant, reception area and front of house spaces.
- New service installations, heating, cooling.
- Improved energy performance and EPC score.

The completed building is currently occupied by Premier Inn.

The hotel is trading well.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From Obsolescence to Resilience – 2013

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