

Commercial property and financial stability

By James Benford and Oliver Burrows of the Bank's Financial Stability Directorate.⁽¹⁾

Commercial property played a key role in the recent financial crisis in the United Kingdom. A rapid build-up of debt tied to commercial property investments pre-crisis supported a boom in prices. The consequent bust led to a sharp rise in non-performing loans. This episode has many precedents in the United Kingdom and parallels across countries. The structure of the commercial property market, and in particular the role of leveraged investors with significant maturity mismatches on their balance sheets, is important in understanding the market's dynamics and the risks it can pose. The new Financial Policy Committee will be alert to these risks and deploy tools to counteract them where necessary to protect financial stability.

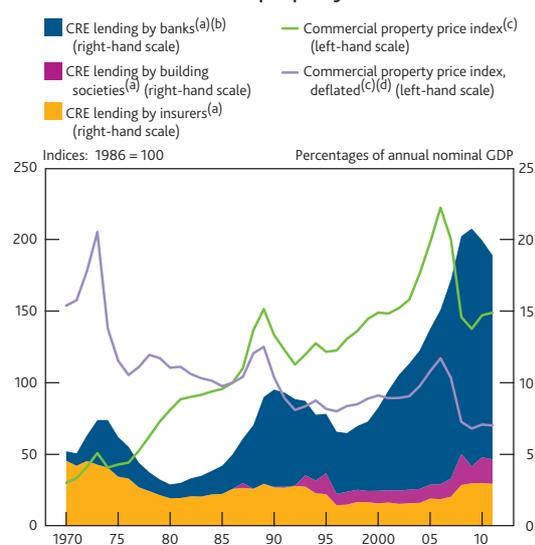
The UK financial crisis beginning in 2007 was exacerbated by a rapid build-up in debt tied to investments in commercial property, a large swing in property valuations and, in the aftermath, a sharp rise in non-performing loans. That pattern echoed the previous two episodes of distress in the UK banking sector and was not unique to the United Kingdom. A number of countries in the euro area and regions of the United States suffered their own property market boom and bust, with the associated losses particularly severe on commercial real estate (CRE) lending. The losses some large UK banks made on commercial property loans overseas were of the same order of magnitude as those on their UK commercial property loans. Commercial property lending is therefore of great importance to the stability of the UK financial system. In recognition of this, the Financial Services Act will give the statutory Financial Policy Committee the power to vary banks' capital requirements on commercial property lending.

This article focuses on the importance of commercial property for the resilience of the financial system. The first section describes the losses that have been made in the past on UK CRE lending. The second section considers the causes of variability in commercial property prices, both in general and paying particular attention to the recent financial crisis. It argues that some of the variation depends on institutional factors like leverage and maturity mismatch. A box on page 52 sets out the international context for commercial property markets in the run-up to and during the recent financial crisis. The third section explores the institutional features of the UK commercial property market and considers their role in market developments. Finally, a short section discusses policy implications in the context of recent changes to the financial policy framework.

Commercial property and the resilience of the financial system

Over the past half century, there have been three large swings in UK commercial property valuations, each associated with a large build-up in CRE lending and a subsequent period of deleveraging (**Chart 1**). Following the secondary banking crisis from 1973–75, there was a period of falling to stagnant debt levels lasting almost a decade, with CRE debt relative to nominal GDP falling by around a half. The late-1980s' boom

Chart 1 UK commercial property debt and valuations



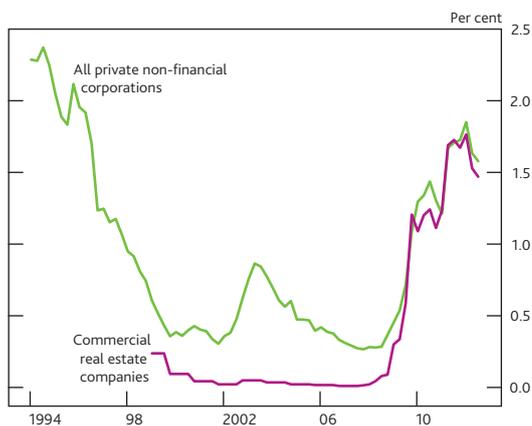
(1) The authors would like to thank Kishore Kamath for his help in producing this article.

was characterised by a rapid increase in debt levels and property valuations. CRE lending relative to nominal GDP more than doubled and real valuations increased by around 30%. When the bubble burst, prices fell by over a third, and there was a ‘near crisis’ with 25 banks failing or closing down.⁽¹⁾ Indeed, losses on commercial property lending were a key feature of bank failures in both the 1970s’ and 1990s’ episodes.⁽²⁾ The backdrop to the recent crisis involved yet another build-up in valuations and debt levels, with CRE lending exceeding 20% of annual nominal GDP, double the previous peak. By the end of 2007, CRE loans accounted for more than a third of the stock of lending to UK private non-financial companies by UK-resident banks. As the crisis unfolded, valuations fell sharply, with real commercial property prices almost a half lower than their 2007 peak by end-2012.

Losses on commercial property lending during the recent crisis

The most recent episode has demonstrated that fluctuations in commercial property prices can have a dramatic effect on loan performance. Between the period from 2000 to 2006, when commercial property prices were rising, losses on lending to commercial real estate companies were close to zero (Chart 2). As the crisis broke, the amount of CRE debt written off each year rose sharply, with — in aggregate — around 6% of the UK banks’ stock of CRE debt written off between 2008 and 2012.

Chart 2 Write-off rates on lending to UK businesses^(a)



Sources: Bank of England and Bank calculations.

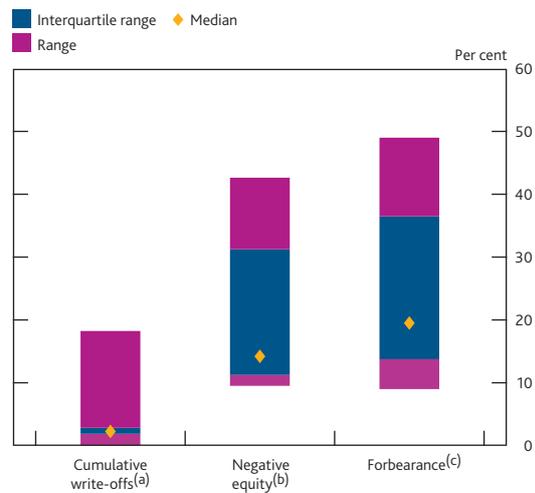
(a) Lending by UK monetary financial institutions. The series are calculated as annualised quarterly write-offs divided by the corresponding loans outstanding at the end of the previous quarter. The data are presented as four-quarter moving averages and are non seasonally adjusted. Lending in both sterling and foreign currency, expressed in sterling terms.

While the proportion of write-offs on CRE and non-CRE commercial loans is currently roughly the same, it is likely that this indicator significantly understates the scale of non-performing commercial property loans. A Financial Services Authority (FSA) survey in 2011 suggested that around a third of the outstanding stock of commercial property loans were in some form of forbearance, where the lender had

waived loan covenants, such as loan to value (LTV) requirements, or relaxed interest and repayment requirements, to make it easier for borrowers to service the debt.

Moreover, there has been a very wide range of loan performance across the large UK banks that are covered in the FSA survey. While the median cumulative write-off rate across that group was 2% from 2008 to 2012, the worst-performing bank in the peer group wrote off nearly 20% of its loans (Chart 3).

Chart 3 CRE lending for large UK banks: losses and indicators of non-performing loans



Sources: Bank of England, FSA surveys and Bank calculations.

(a) Total write-offs from the beginning of 2008 to September 2012, expressed as a share of the stock of CRE loans at end-2007.
 (b) Share of the stock of CRE loans in negative equity as at September 2011.
 (c) Share of the stock of CRE loans in forbearance in 2012 where available, otherwise 2011.

The quality of banks’ remaining loans is still in some doubt. Another survey by the FSA found that in 2011, for the median bank, 14% of the total amount of CRE debt was accounted for by loans that exceeded the value of the property against which they were secured (that is, loans that were in negative equity); for the worst performer that figure rose to over 40%. And a separate survey found that in 2012, while the median bank had just over 20% of loans in some form of forbearance, for the poorest performer on this metric, around half of the outstanding stock of CRE loans were in some form of forbearance. Many of these loans are unlikely to be refinable in current market conditions.

The success of forbearing on loans in negative equity, including by extending loans on maturity, relies in part on borrowers being able to pay down their debts through future rental income. Where this is not possible, borrowers will eventually be forced to inject their own capital or to default on the loans. Since the majority of commercial property loans are effectively set up on a ‘non-recourse’ basis, where the lender has a claim

(1) See Logan (2000).
 (2) For an extensive discussion of these two earlier episodes see, for example, Goobey (1992).

only on the underlying property in the event of default (and not the borrower's other assets), many borrowers may opt to default rather than inject more of their own capital. In that event, the lender finds itself owning an asset that is not sufficiently valuable to cover the loan.

The interplay between property values, rental income and the likelihood of default means that holding commercial property as collateral only provides lenders with limited protection in the event of default. When a borrower has defaulted, rental income is likely to be low and the property is likely to have fallen in value substantially, a form of so-called 'wrong way risk'. The next section explores the sources of fluctuations in commercial property valuations in more detail.

Explaining variations in commercial property prices

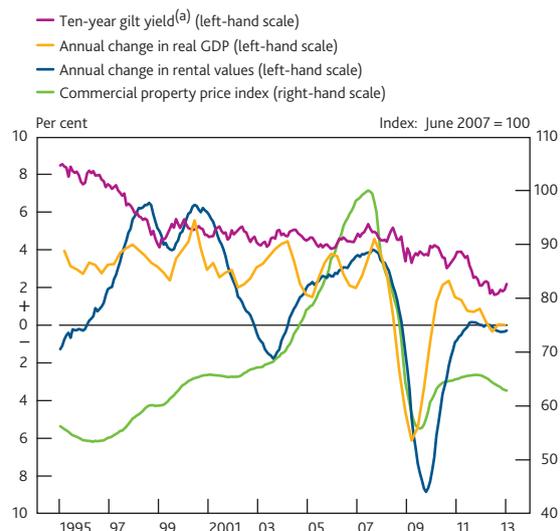
In principle, the value of an asset is related to the expected future stream of income earned by that asset, discounted by the relevant rate of interest. This can be formalised using a dividend discount model (DDM).⁽¹⁾ In the case of commercial property, the value is calculated as the net present value of future rental income, discounted by a risk-free rate plus some 'risk premium' demanded by investors.⁽²⁾ In practice, simple models like this fail to explain all of the variability of commercial property prices. This is because they make a number of simplifying assumptions: borrowers are assumed to have unconstrained access to credit and not to be 'irrationally exuberant' about the prospects for future returns, for example. These and other factors are discussed at the end of this section. Nonetheless, the dividend discount model is a useful starting point for analysing changes in property prices.

The dividend discount model

The DDM breaks down changes in nominal property valuations into changes in rental values, expectations for rental value growth and the risk-free interest rate. An increase in rents — or expected future rents — leads to higher property prices, as does a fall in the risk-free rate. The 'residual' term captures any changes in observed CRE valuations not explained by these factors. It can be interpreted as a measure of the 'risk premium': for example, an unexplained increase in property prices would be consistent with there having been a fall in the risk premium (which boosts valuations in a similar fashion to a fall in the risk-free rate). As it is calculated as a residual, however, it could also be capturing other factors that are missing from the model.

The growth in rental values — a key input to the model — has been highly sensitive to economic conditions. Rental values growth fell sharply in the aftermath of the 'dotcom' bust in the early 2000s, and sharper still — with a drop in the level of rents of more than 10% — during the 2008–09 recession (Chart 4). The variability in rental growth is not surprising. In

Chart 4 Commercial property prices and determinants



Sources: Bloomberg, Investment Property Databank, ONS and Bank calculations.

(a) Refers to zero-coupon gilts.

a downturn, as companies go out of business and employment falls, the demand for commercial property space is likely to fall. More space available for let becomes vacant and this spare capacity adds to downward pressure on rents.⁽³⁾

Chart 5 decomposes movements in commercial property prices in the run-up to and throughout the crisis using the dividend discount approach. Commercial property prices peaked in the first half of 2007, almost 60% above their 2000 value. Around a third of that rise is explained by an increase in rental incomes, with the remainder explained by residual. One interpretation is that investors came to demand a markedly lower rate of return for holding commercial property: by 2007 investors were willing to hold commercial property yielding just 4 percentage points above a UK government bond, having demanded a 6 percentage point premium seven years earlier. Under this interpretation, that fall in desired compensation for risk was enough to add around 50% to valuations.

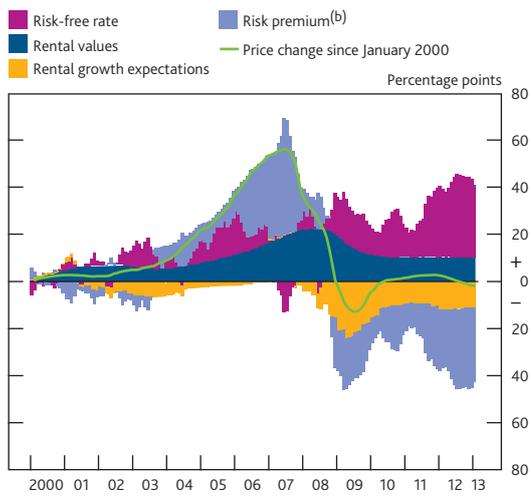
The crisis brought about large changes in all components of this dividend discount approach to property valuations. The level of rents fell by over 10% relative to its peak in 2007, leading to a fall in prices of the same amount. Expected near-term growth in rental income fell from around 4% a year to zero, further reducing valuations in the model by over 10%. Other things equal, these reductions ought to have been more

(1) For more details on how the DDM can be used, see Panigirtzoglou and Scammell (2002).

(2) In theory, this risk premium is determined by the covariance of the assets' income stream with a representative investor's future income (Cochrane (2005)). The intuition is that assets for which the income stream follows the business cycle — such as commercial property — require a higher risk premium than those which do not.

This compensates the investor for the risk of poor returns on their asset during an economic downturn when, typically, their income would already be lower than usual. (3) This is markedly different from the dynamic that exists for residential property. In a downturn, households are likely to be less confident about making a home purchase, perhaps exacerbated by tight credit conditions. Given that households need to live somewhere, they instead turn to the rental market, putting upward pressure on rents, at least in the near term. That pressure on rents eases only when households return to the owner-occupied market or the supply of rental property is increased.

Chart 5 Dividend discount model decomposition of commercial property prices^(a)



Sources: Investment Property Databank, Investment Property Forum and Bank calculations.

(a) The model used is a three-stage DDM, as explained in Panigirtzoglou and Scammell (2002). Expectations of rent are taken from the Investment Property Forum.
 (b) The 'risk premium' is calculated as the residual of the model decomposition. A positive contribution of the residual to changes in commercial property prices represents a fall in the risk premium.

than offset by the fall in gilt yields over the same period, from 5% to below 2%. The actual peak-to-trough fall of around 45% in property prices, then, is largely explained by the residual. One interpretation of the model is that the risk premium demanded for holding commercial property doubled from 4 percentage points in 2007 to 8 percentage points by 2012.

Alternative explanations for swings in commercial property prices

Attributing most of the movement to 'risk premia' abstracts from a variety of important explanations for fluctuations in commercial property prices. In reality, it seems likely that a number of factors not captured by the DDM are likely to have played a role, for instance:

- **Leverage:** the presence of leveraged investors can create a feedback loop between credit growth and asset prices, particularly in markets like UK commercial property where supply responds slowly. As prices rise, property firms have more equity with which to borrow, allowing them to buy more properties, further increasing property prices. Such credit-fuelled price rises may not be sustainable.
- **Irrational exuberance:** investors and lenders may extrapolate past gains in property prices when making investment and lending decisions, supporting unsustainable price rises. This is likely to interact with the role of leverage.
- **Maturity mismatch:** some property companies invest in illiquid property while offering their own investors the opportunity to withdraw their funds at short notice. In a downturn, this can force the property firms to sell property, exacerbating the fall in prices.

The experience of property markets in other countries lends support to the role of some of these factors in driving swings in commercial property prices. The box on page 52 describes changes in commercial property prices in the run-up to the crisis across different countries. The analysis suggests that a boost to property valuations through a compression in rental yields was common to a number of countries — including the United Kingdom — and may have been linked to leverage and irrational exuberance.

A fuller understanding of the role of these factors requires knowledge of the structure of the commercial property market. This is discussed in the following section.

The shape of the UK commercial property market

To gain a deeper understanding of the workings of the UK commercial property market it is useful to identify the key players, the roles they play and their scale in financial terms.

Most non-financial, non-CRE companies, are **occupiers** of commercial property, which can be considered to be one of their core inputs to production. Some own the property they occupy, while others rent it from landlords that represent investors. **Investors** wanting exposure to commercial property can gain it directly, by purchasing and managing the property. These include large investors, such as insurance companies and pension funds; and smaller investors, such as wealthy individuals and small businesses. Investors can also gain exposure indirectly, by investing with a specialist CRE fund. These funds can be listed, such as real estate investment trusts (REITs), or unlisted. Some funds offer investors more liquid exposure to property and most employ leverage. Finally, **lenders** provide funding to individuals and property funds to purchase property.

There is no single, comprehensive source of data on UK commercial property. But data from a range of sources can be brought together to sketch a picture of the structure of the market. These data are described in the following subsections and summarised in **Figures 1, 2 and 3** for CRE **occupiers, investors and lenders**, respectively. The importance of each of these groups from the perspective of financial stability is highlighted throughout. In addition, the box on page 55 explores the role of institutions and market structures in the recent boom and bust.

(i) Non-financial, non-CRE companies (Figure 1, balance sheets 1–5)

As occupiers of property

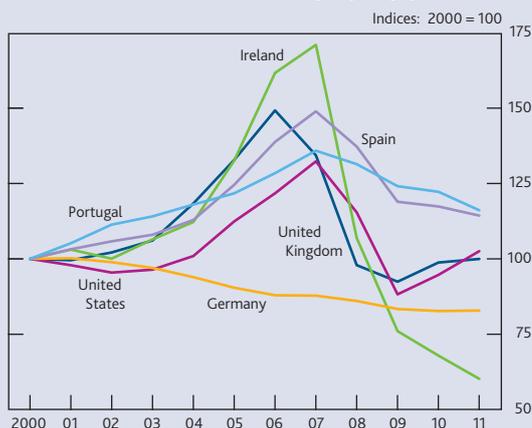
Almost all non-financial companies occupy premises of some sort. One method of estimation suggests that around £465 billion of UK commercial property is occupied by renters — shown on balance sheet 5 in **Figure 1**. The remainder of

Understanding cross-country variation in commercial property prices

Movements in commercial property prices prior to, and during, the recent financial crisis differed across countries. This box sets out the international context for the recent swing in commercial property prices in the United Kingdom.

As in the United Kingdom, there has been a large swing in property prices in a number of countries within the euro-area periphery over the past decade. Irish commercial real estate prices climbed 70% above their 2000 level by their 2007 peak and Spanish and Portuguese prices were around 35%–50% higher (Chart A). In contrast, Germany experienced no boom nor bust, with valuations flat to falling across the 2000s. And although there was, on average, a large swing in property prices in the United States, patterns across the regions differed markedly.

Chart A Nominal commercial property price indices^(a)



Sources: Thomson Reuters Datastream and Bank calculations.

(a) Annual end-year data.

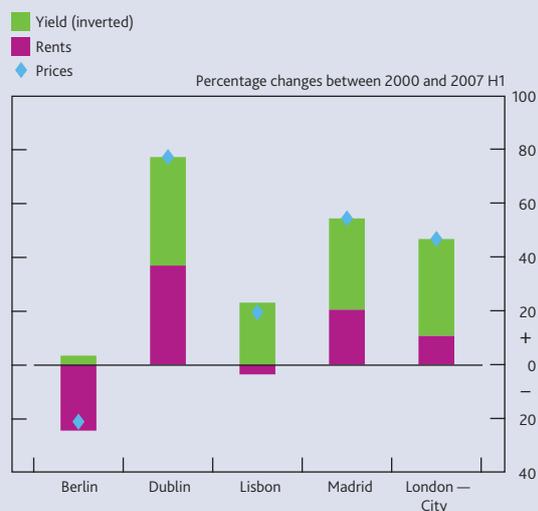
Data on property valuations and rental values for offices in European capitals helps decompose movements in prices (Chart B). In Dublin, Madrid and London a compression in rental yields (equivalent to a higher price to rent ratio) from 2000 to 2007 of around 2 percentage points was enough to boost valuations by 30%–40% relative to rental values. One

properties — an unknown amount — is occupied by owner-occupiers (balance sheets 1, 2 and 3). Leases on rented premises are one of the largest financial obligations of the private non-financial corporation (PNFC) sector, along with debt and taxes. Failure to pay landlords is a common trigger of insolvency proceedings.

Some owner-occupiers have a legal structure that separates the property from the rest of the company's balance sheet. The property is held in a 'PropCo' (short for property company) and is leased to an 'OpCo' (short for operating company), which contains the rest of the assets and liabilities of the

possible explanation is that investors extrapolated from previous increases in rental incomes and revised up their expectations of how these would evolve in the future — the cities that had more robust growth in rents experienced larger falls in rental yields. In addition, encouraged by the easy availability of bank credit and a number of years of increases in property prices, investors may have revised down the yield they were prepared to accept on property investments. This is consistent with the fall in the measured risk premium in the United Kingdom in the run-up to the crisis, shown by the positive lilac area in Chart 5.

Chart B Nominal office prices in European cities^(a)



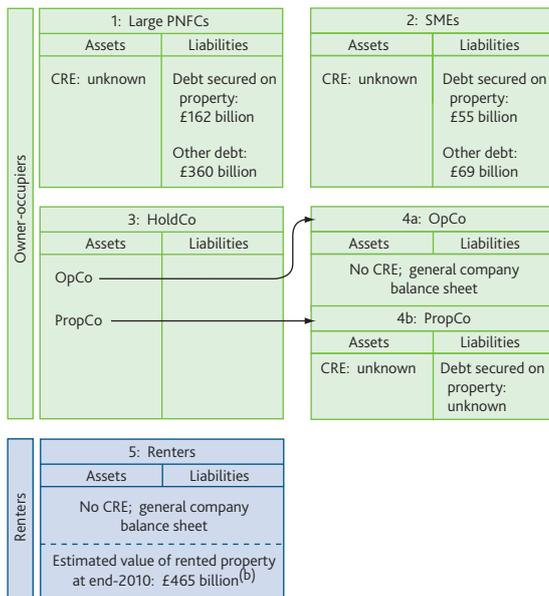
Sources: CBRE Group and Bank calculations.

(a) Data for rents and yields, in local currency, are from CBRE. The price is calculated by dividing the rent by the yield.

Berlin's experience was clearly very different. An important factor in Germany was the after-effects of the long boom in construction that followed reunification throughout the 1990s. A demographic trend towards an ageing and declining population subsequently exposed an oversupply of property throughout the 2000s which then led to a slow decline in rents. Valuations have tended, historically, to closely follow rents in Germany, supported by a practice among surveyors of valuing properties at a long-run average of rental yields.

company (balance sheets 4a and 4b in Figure 1). Both the OpCo and the PropCo are owned by a parent 'HoldCo' (balance sheet 3 in Figure 1). This separation of assets was popular in the 2000s, particularly with private equity firms, and appears to have been motivated by a desire to reduce a firm's overall funding costs. An article on pages 38–47 of this *Bulletin* investigates the implications of corporate debt arising from private equity deals for financial stability. 'Sale and lease back' structures, where the PropCo is sold to a group of investors, were also popular in the 2000s, particularly with supermarket chains and other businesses with large property estates.

Figure 1 Occupiers of CRE (non-financial, non-CRE companies)^(a)



Note: PNFCs: private non-financial corporations; SMEs: small and medium-sized enterprises; HoldCo: holding company; OpCo: operating company; PropCo: property company.

Sources: British Bankers' Association, Investment Property Databank (IPD), ONS, SME Finance Monitor, S&P Capital IQ and Bank calculations.

- (a) All figures are indicative, based on available data sources. Figures refer to end-2010 data where possible.
- (b) This number is derived from adding the £94 billion of CRE owned by insurance companies, pension funds and asset managers (Figure 2) to the estimated value of rented property owned by property companies of £371 billion. The £371 billion is based on dividing £28 billion (total rents earned by property companies in 2010 from the ONS Annual Business Inquiry) by 7.6% (the average rental yield in 2010, from IPD).

Both structures have encountered problems since the start of the crisis. The cheaper funding costs attracted by the PropCo, for example, appears to have rested in many cases on an underestimate of the credit risk in the long lease to the OpCo (often struck at an inflexible rent). In addition, in many cases it has become apparent that the resale value of the property had been overestimated in the event of failure of the operating company. The financial restructurings of some high-profile healthcare providers and pub chains have led to significant losses for lenders and brought some applications of this model into question.

As users of property as collateral

As well as occupying premises, it is common for owner-occupiers to use their property as collateral to reduce borrowing costs. Published accounts data suggest that for larger PNFCs, at least 35% of bank loans and 15% of bond issuance is secured, with the security most likely to be property (balance sheet 1 in Figure 1). For smaller companies, property likely plays an even larger role as collateral (balance sheet 2 in Figure 1). Data from SME Finance Monitor on new loans and overdrafts arranged in 2012 Q2 suggest that around 44% of SME bank loans, by value, were secured on property (25% for overdrafts and 47% for loans).⁽¹⁾ As property prices rise, firms' access to credit eases as they have a greater value of property

collateral to pledge against the loan. Conversely, as property prices fall, their access to credit is reduced.⁽²⁾

(ii) Investors in property (Figure 2, balance sheets 6–14)

Commercial property is a significant investment class for many investors, particularly those with longer investment horizons, such as insurance companies and pension funds. Investors hold exposure to CRE to earn rental income, to benefit from anticipated capital gains and as an inflation hedge. Some investors hold commercial property directly, while others seek exposure via specialist investment firms. Rough estimates based on available data suggest a fairly even split between the two.

Direct investors in CRE

Direct investors in property can, for the most part, be split into two very different groups. First, there are large institutions — such as insurers, pension funds and sovereign wealth funds — that invest in 'prime' commercial property with a long-term investment horizon.⁽³⁾ They are sufficiently large to be able to build a diversified property portfolio despite the lumpiness of property. These institutions do not tend to make significant use of leverage or operate with maturity mismatches. The second class of investors comprises wealthy individuals. They often invest with large amounts of leverage. Information gathered from the Bank's Commercial Property Forum suggests that such wealthy individuals and small local businesses accounted for a significant amount of the investment in the small, local units that constitute much of the stock of 'secondary' quality commercial property.

ONS data on insurance companies and pension funds put their direct holdings of property at around £77 billion (balance sheet 6 in Figure 2).⁽⁴⁾ Estimating non-resident institutions' holdings of CRE is harder, although transactions data from Property Archive suggest that it is likely to be at least £100 billion (balance sheet 8). The holdings of wealthy individuals — both directly and indirectly via unlisted property vehicles — is not easily estimated, although it is likely to be substantial.

Specialist CRE funds

Direct investment in property is difficult for smaller investors that wish to gain a diversified exposure to the sector. Property funds offer a solution to this problem, allowing small

(1) While some of these loans were secured on personal property, the majority were secured on business property.
 (2) See Bernanke, Gertler and Gilchrist (1996).
 (3) 'Prime' and 'secondary' property are terms commonly used in the commercial property market to describe the segmentation of the market. While there is no universally agreed definition, 'prime' property is generally considered to refer to larger properties often located in London or other large cities, often with strong leases that create an investment similar to a bond. 'Secondary' property refers to all other commercial property; it is typically smaller, with shorter leases and requires more active management.
 (4) Bottom-up analysis of individual firms' balance sheets, using S&P Capital IQ, suggests UK-based asset managers hold at least a further £17 billion.

Figure 2 Investors in commercial property^(a)

		6: ICPFs ^(b)		7: Asset managers ^(b)	
		Assets	Liabilities	Assets	Liabilities
Direct owners of CRE		CRE: £77 billion		CRE: at least £17 billion	
	Property funds	8: Non-residents 9: Wealthy individuals		CRE: £301 billion of which: Non-residents hold at least £100 billion. Open-ended and closed-ended funds hold around £45 billion each.	Loans and bonds: £213 billion
		Unlisted	10: Open-ended funds 11: Closed-ended funds 12: Other		
	Listed	13: REITs		14: Other listed	
	Assets	Liabilities	Assets	Liabilities	
	CRE: £47 billion	Debt: £20 billion Equity: £27 billion	CRE: at least £18 billion Other: £5 billion	Debt: £14 billion Equity: £9 billion	

Note: ICPFs: insurance companies and pension funds; REITs: real estate investment trusts.

Sources: ONS, Property Archive, Property Funds Research, S&P Capital IQ and Bank calculations.

(a) All figures are indicative, based on available data sources. Figures refer to end-2010 data where possible.

(b) ICPFs and asset managers also hold CRE loans as assets (these are shown in Figure 3).

investments in diversified property portfolios. They also allow a far more liquid exposure to property, with listed funds offering equity securities that can be bought and sold during market hours and some unlisted funds willing to return investments at a month's notice. While attractive for end-investors, from the perspective of financial stability, property funds can combine leverage and maturity mismatch in ways that can exacerbate swings in property prices, potentially exposing both borrowers and lenders to larger losses.

Listed property funds account for around £70 billion of commercial property holdings (balance sheets 13 and 14 in Figure 2). More than two thirds of this is held in REITs. All listed property funds can choose to apply for REIT status, which confers tax advantages but applies restrictions on investment behaviour. Both REITs and other listed property companies tend to have reasonably modest leverage, with median debt/assets at end-2011 of around 40% and 50%, respectively. Shares in listed companies are publicly traded, making them highly liquid in the sense that they can be bought and sold easily at a market price. However, the underlying property is generally considerably less liquid and REITs can trade at large and volatile discounts or premia to their net asset values. From the perspective of an investor, this means their investment can depart substantially and persistently from the value of the underlying property to which they want exposure. Listed property funds target both retail and institutional investors.

Unlisted funds appear to account for at least £90 billion of indirect investors' holdings of real estate (balance sheets 10–12 in Figure 2).⁽¹⁾ Like listed funds, unlisted funds offer exposure

to diversified portfolios of property, but they are priced based on valuations of the property, rather than in a market for their securities, as is the case for listed funds. Unlisted funds can be split by their liquidity profile into open-ended and closed-ended funds.

Open-ended funds sell equity to new investors and allow them to sell shares back to the fund directly on a monthly, quarterly or annual basis, although redemptions can generally be suspended in stressed market conditions. To accommodate a fluctuating fund size, the fund manager must hold some liquid reserves (often cash or shares in REITs) and must buy and sell property as the fund grows and shrinks. These funds do not operate with a fixed time horizon. Much indirect exposure to 'core' commercial property — existing, high-quality buildings with long leases — has traditionally come via open-ended funds.

Closed-ended funds instead lock up investors' money for a pre-agreed period — often around ten years — and dispose of the investments prior to winding down the fund and returning capital to investors. This has traditionally allowed them to invest in more speculative property classes, including property with weak or no leases and land or buildings that require development. Closed-ended funds, including those run by private equity firms, are likely to employ higher leverage than open-ended firms.

The role of different investors in the crisis is explored in the box on page 55. It argues that the share of the CRE market held by specialist CRE funds increased markedly during the boom period and that the leverage and maturity mismatches of these investors played an important role in the market dynamics seen in both the boom and the bust.

(iii) Lenders to commercial property firms (Figure 3, balance sheets 15–19)

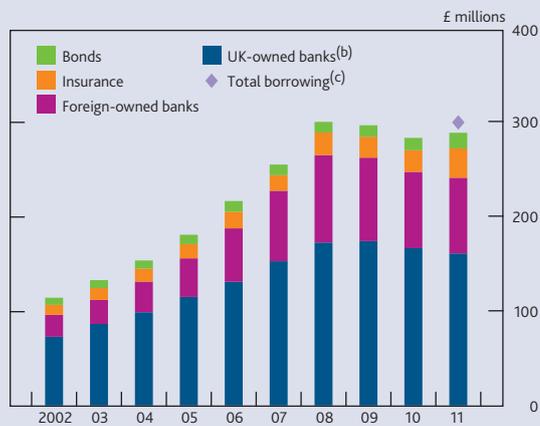
Figure 3 shows aspects of the balance sheets of lenders to CRE companies (this does not include lending to non-CRE firms that is secured on property, which is shown separately in balance sheets 1 and 2 in Figure 1). The majority of lending is accounted for by UK-owned banks and building societies (£166 billion) and the branches and subsidiaries of foreign-owned banks (£81 billion), shown on balance sheets 17 and 18 in Figure 3. Insurers and pension funds account for a further £27 billion of loans (balance sheet 15) while other asset managers, including private equity firms and specialist debt funds, provide a small additional amount of funding. Of the bank lending, the majority has remained on balance sheet, although £56 billion of loans have been securitised and funded via the issuance of commercial mortgage-backed securities (CMBS). The lending of non-resident banks is not captured in

(1) The true figure is likely to be higher, as Property Funds Research does not claim full market coverage.

The role of different investors in the recent crisis

The late 1990s and early 2000s saw the market share of traditional, long-term, unleveraged investors (primarily insurance companies and pension funds) decline in the face of a rapid growth of investment funds. Lending to commercial real estate (CRE) funds grew very rapidly from 2002–08 (Chart A), driven almost entirely by banks, suggesting an easing of bank credit conditions. As property prices started to rise CRE firms' equity increased, further easing their access to credit and starting a positive feedback loop between commercial property prices and lending to commercial property companies.

Chart A Borrowing by UK CRE companies, by source^(a)



Sources: Association of German Pfandbrief Banks, Bank of England, Dealogic, De Montfort University, ONS and Bank calculations.

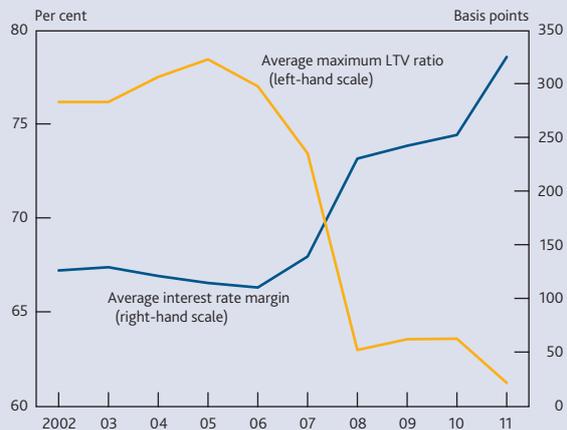
- (a) End-year data.
- (b) Includes building societies.
- (c) 2011 total borrowing taken from the De Montfort survey (Maxted and Porter (2012)).

Much of the CRE-related lending was to highly leveraged investors. Data from Property Funds Research suggest that assets under management of unlisted funds — one such type of leveraged investor — grew from around £40 billion in 2000 to around £130 billion in 2007, with the number of funds increasing nearly fourfold over the period.⁽¹⁾ Given their relatively high leverage targets, they accounted for a substantial part of the total increase in CRE-related debt. Smaller funds, private equity funds and private individuals are likely to account for the remainder.⁽²⁾ Discussions at the Bank's Commercial Property Forum have suggested that some of these investors were attracted to commercial property by potential capital gains, rather than as a long-term investment.

This pattern of investment in the CRE market may help explain not only the rise in property prices in the run-up to the crisis, but also its subsequent fall. As discussed earlier, commercial property is by nature lumpy, making it subject to periods of more intense illiquidity than equity or bond markets, as the weight of investors' expectations of near-term returns turn

from positive to negative. The presence of short-term investors hoping for capital gains, and their investment via leveraged and open-ended funds, likely exacerbated the falls in property prices. As fears about the US property market spread around the world in 2007, there was a sharp reduction in credit supply to UK CRE firms, as partly evidenced by the falling loan to value (LTV) limits and rising margins on lending (Chart B). The reduced access to finance prevented them buying property as other investors started to sell. And while long-term investors could choose not to sell as prices started to fall, open-ended funds that offered liquidity to their investors were faced with large redemptions, forcing them initially to run down reserves and sell investments in real estate investment trusts (REITs) (exacerbating the fall in REIT prices) and then property, but also to suspend redemptions (Chart C). The forced sales of property is likely to have further depressed prices.

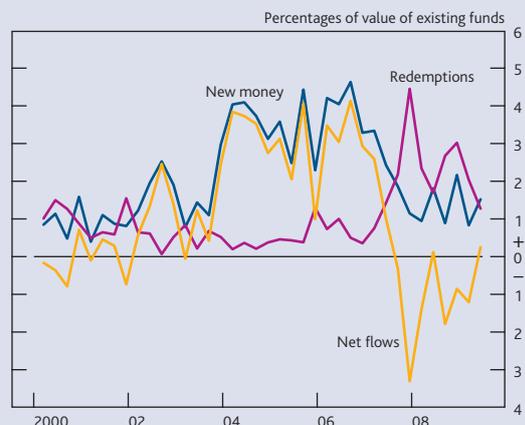
Chart B Lending terms for CRE firms^{(a)(b)}



Sources: De Montfort University and Bank calculations.

- (a) End-year data.
- (b) CRE firms refer to the unweighted average of prime office, prime retail, prime industrial, secondary office, secondary retail and secondary industrial property.

Chart C Unlisted property funds' inflows and outflows



Sources: The Association of Real Estate Funds and Bank calculations.

- (1) See Baum (2008).
- (2) See Chart 6 and associated discussion.

Figure 3 Lenders to CRE companies^(a)

Lenders	15: ICPFs ^(b)		16: Asset managers ^(b)	
	Assets	Liabilities	Assets	Liabilities
	CRE loans: £27 billion		CRE loans: unknown	
	17: UK-owned banks and building societies		18: Foreign-owned banks	
	Assets	Liabilities	Assets	Liabilities
	CRE loans: £166 billion ^(c)		CRE loans: at least £81 billion ^(c)	
	of which 19: CMBS			
	Assets	Liabilities		
	CRE loans from UK and non-UK banks	CMBS: £56 billion		

Note: ICPFs: insurance companies and pension funds; CMBS: commercial mortgage-backed securities.

Sources: Association of German Pfandbrief Banks, Bank of America Merrill Lynch, Bank of England, Commercial Real Estate Finance Council Europe, ONS and Bank calculations.

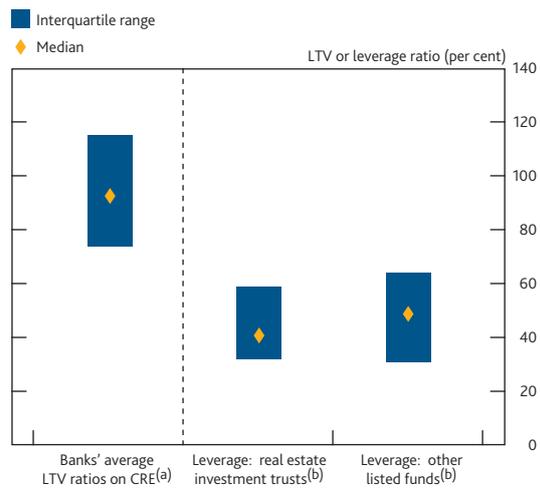
- (a) All figures are indicative, based on residual data sources. Figures refer to end-2010 data where possible.
 (b) ICPFs and asset managers also hold CRE assets directly (these are shown in Figure 2).
 (c) UK and non-UK banks, together, have issued £56 billion CMBS.

these data, but one method of estimation suggests that it is small.⁽¹⁾ Finally, a small number of CRE funds, including some REITs, issue bonds.

While the lenders' balance sheets cannot be matched with the borrowers' balance sheets with complete confidence, it is relatively clear that the majority of lending is to unlisted property companies and wealthy individuals.⁽²⁾ Chart 6 shows that LTV ratios on CRE lending of UK banks is high (around 95% for the median bank in the sample). One would expect the ratio of debt to total assets — that is, the leverage — of CRE investors, in aggregate, broadly to match this figure. Listed firms appear in aggregate to be quite lightly geared — the median leverage of both REITs and other listed CRE funds is less than 50% — suggesting that unlisted property companies and private individuals are, as a whole, very highly geared.

There is less flexibility to modify or refinance loans funded through CMBS vehicles than there is for loans retained on banks' balance sheets. These vehicles tend to be structured so that the loans mature two to three years before the CMBS, giving the loan servicer some time to resolve problematic loans. But forbearance that materially changes the value of investors' interest in the CMBS requires majority support. Where such support is not forthcoming, failure to repay a loan will automatically trigger the repossession and sale of the underlying property. In an environment of tight refinancing conditions, then, the use of CMBS as a financing tool for commercial property lending is likely to bring forward the date upon which the loans are foreclosed.

Chart 6 CRE investor leverage and banks' LTV ratios



Sources: De Montfort University, Property Funds Research, S&P Capital IQ and Bank calculations.

- (a) Data refer to LTV ratios for individual loans, as of end-2011.
 (b) Data refer to balance sheet leverage, calculated as total debt/total assets, as of end-2010. This differs conceptually from LTV ratios. For example, investors hold equity on their balance sheets over and above the equity held in individual properties.

The role of the Financial Policy Committee

Looking ahead, the statutory Financial Policy Committee (FPC) will have specific tools to address threats to stability posed by commercial property lending. The Financial Services Act will establish an FPC, tasked with a primary objective of protecting and enhancing the resilience of the UK financial system.

Parliament has vested in the statutory FPC two sets of powers. The first set is to make recommendations on a 'comply or explain' basis to the UK conduct of business and prudential regulators. As an example, the interim FPC recommended in November 2012 that the prudential regulator take action to ensure UK bank and building societies' assets were properly valued, particularly those relating to the commercial property sector.⁽³⁾

The second set of powers is to direct regulators to adjust specific macroprudential tools. That includes a *general* tool — the countercyclical capital buffer (CCB) — to require banks, building societies and investment firms to have an additional buffer of capital to absorb potential losses on UK lending; and a *specific* tool — sectoral capital requirements — to adjust capital requirements on particular classes of exposure, including commercial property.

- (1) The data on foreign-owned banks cover all UK-resident foreign-owned banks and non-resident German Pfandbrief banks. The De Montfort survey (Maxted and Porter (2012)), which aims to capture the lending of foreign-resident banks, produces a similar total lending figure. Taken together with the Bank data, this suggests that lending from other foreign-resident banks is small.
 (2) This can be inferred by noting that CRE lending shown in Figure 3 is much larger than the debt held by listed property companies in balance sheets 13 and 14.
 (3) This recommendation was not strictly issued on a 'comply or explain' basis as the interim FPC does not yet have that power.

Differences in the timing of cycles in property prices across countries (see the box on page 52) support the idea of a different setting for macroprudential policy for the same exposures in different jurisdictions.⁽¹⁾ There is room for such national flexibility within the new Basel III capital framework. Under Basel III, the setting for an individual firm's CCB will depend on the product of a series of national CCB rates and the firm's exposures in each of those countries. Once Basel III's CCB provisions are implemented in the EU by the forthcoming revised Capital Requirements Directive (CRD4), the FPC will set the CCB rate applied to UK exposures.

In anticipation of the creation of the statutory FPC, the interim FPC recently published a draft policy statement setting out the circumstances in which it anticipates using these macroprudential tools, including a list of core indicators to which the Committee will refer in making decisions. These include the rate of growth of lending to commercial property companies, a measure of rental yield for commercial property and a measure of spreads on new lending to commercial property. These indicators would have given some warning of growing fragility in the commercial property lending ahead of the crisis, particularly in the case of the lending growth indicator. But a proper appreciation of the risks will require a more detailed understanding of the evolving structure of the commercial property industry and those that lend to it.

Had the authorities exercised a power to increase capital requirements on commercial property lending as debt grew rapidly in the years that preceded the crisis, banks would have

been better placed to withstand the downturn. Having set more capital aside, banks would have had more resources with which to absorb losses made on CRE lending. It is also possible that hikes in capital requirements during the boom years would have encouraged banks to moderate their lending growth by tightening the terms on new lending. Had fewer loans been made and/or LTV ratios been lower, the potential for losses in the bust would have been curbed. Alongside higher capital levels, that would also have underpinned the resilience of the banking system.

Conclusion

Commercial property played a significant role in causing destabilising losses for banks in the recent crisis. History suggests that this has occurred before in the United Kingdom and elsewhere. This article has examined the recent boom and bust episode in UK commercial property in some detail. It has argued that while long-term interest rates and a variation in rents played a role in explaining the variation in commercial property prices, other factors were more important. While they cannot be identified individually, leverage, maturity mismatch and irrational exuberance on the part of both investors and lenders appear to have played important roles. This suggests that it is important for policymakers to monitor developments closely in commercial property lending and the commercial property market. Going forward the FPC will have powers to recommend, or direct, regulators to take action where it identifies threats to stability.

(1) See Dombret and Tucker (2012).

References

Baum, A (2008), 'The emergence of real estate funds', in Peterson, A (ed), *Real estate finance: law, regulation and practice*, London, LexisNexis.

Bernanke, B, Gertler, M and Gilchrist, S (1996), 'The financial accelerator and the flight to quality', *The Review of Economics and Statistics*, Vol. 78, No. 1, pages 1–15.

Cochrane, J (2005), *Asset pricing*, Princeton University Press.

Dombret, A and Tucker, P (2012), 'Blueprint for resolving regulation', published in the *Financial Times* on 20 May 2012.

Goobey, A (1992), *Bricks and mortals: dream of the 80s and the nightmare of the 90s — inside story of the property world*, Century Business.

Logan, A (2000), 'The early 1990s small banks crisis: leading indicators', Bank of England *Financial Stability Review*, December, pages 130–45.

Maxted, B and Porter, T (2012), 'The UK commercial property lending market research report: year-end 2011', De Montfort University.

Panigirtzoglou, N and Scammell, R (2002), 'Analysts' earnings forecasts and equity valuations', *Bank of England Quarterly Bulletin*, Spring, pages 59–66.