



Government Actuary's
Department

Leasehold Reform

Deferment rates

16 January 2026

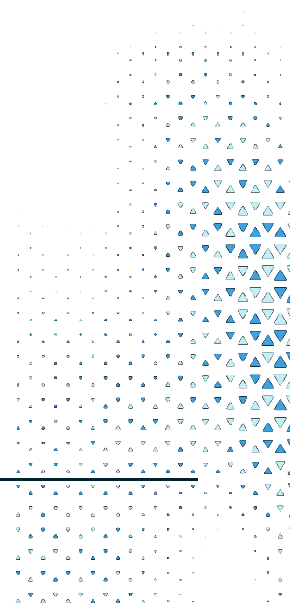
Christophor Ward, FIA C. Act

Navigating risk | Cutting through complexity

The Government Actuary's Department is proud to be accredited under the Institute and Faculty of Actuaries' [Quality Assurance Scheme](#). Our website describes [the standards we apply](#).

Contents

Executive Summary.....	3
Background and scope	7
Exercise 1	10
Exercise 2.....	17
Frequency of Deferment rate updates.....	34
Disclaimers.....	35



Executive Summary

1. This report has been prepared by the Government Actuary's Department (GAD) at the request of the Ministry of Housing, Communities and Local Government (MHCLG). This report considers the Deferment Rate, a discount rate which is used to calculate the cost of lease extensions and freehold acquisitions. Other elements of the valuation are excluded from the scope of this report.
2. The purpose of the report is for GAD to set out its update of the Deferment Rate under two approaches:
 - a. Exercise 1: Re-run Sportelli using an identical approach but drawing on recent data. We refer to this as a mechanistic update by which we mean attempting to apply the Sportelli deferment rate setting process using more recently available data. We do not comment on the appropriateness of the Sportelli methodology.
 - b. Exercise 2: Re-run Sportelli using recent data but tailoring the approach to the estimation of each component of the formula, as we (GAD) determine appropriate.
3. MHCLG have provided a detailed scoping and background document which we have followed when preparing this report. As requested, we have referred to the 2005 Cadogan v Sportelli judgement¹ and have discussed this and supporting research with MHCLG. We are not experts in leasehold reform or property valuation but we have been able to apply our experience of discounting, setting financial assumptions and financial analysis.
4. The 2005 Sportelli case established a methodology for determining the Deferment Rate for lease extensions and freehold acquisitions. Under Sportelli, the Deferment Rate is composed as:

real risk-free rate - real growth rate + risk premium *[where real means net of inflation]*

The judgement sets out the court's approach to deriving a figure for each of these components, with the values used for houses being:

$$2.25\% - 2.00\% + 4.50\% = 4.75\%.$$

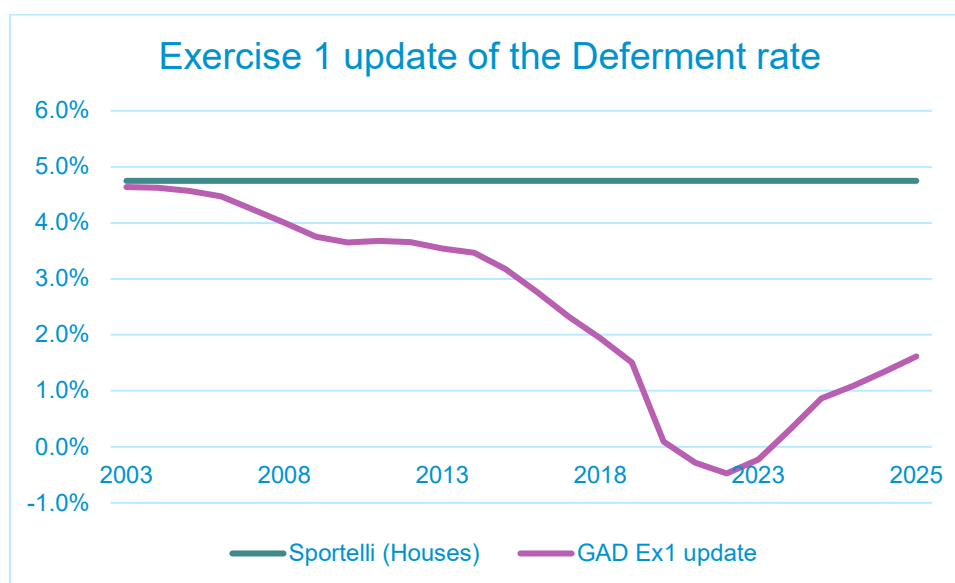
The Deferment Rate for flats is 5.00%.

5. Under Exercise 1 we have considered how each of these components would be updated in a way that is consistent with Sportelli where consistent updated data is readily available. We have been able to do that for the real risk-free rate, referring to index-linked gilt yield data published by the Bank of England and using the same approach as Sportelli.
6. For Exercise 1, we have not been able to satisfactorily update the real growth rate and risk premium parameters in a mechanistic way consistent with the original judgement. Our view is that the Sportelli judgement considered wide ranging views from experts in a way which did not prescribe a way to apply mechanistic updates.

¹ LRA/50/2005, LRA/9/2005, LRA/117&131/2005, LRA/38&40/2005, LRA/63/2005

7. Our mechanistic update of the deferment rate is shown in Figure 1 below and Table 1 later in this report. Under this approach, the Deferment Rate has reduced significantly since 2005 due to material reductions in the risk-free rate, from 4.75% to around 1.6% in September 2025. However, the approach used for this exercise (updating some parameters but not others) introduces inconsistencies. It is instructive in highlighting certain changes over time but we would not recommend it is used in isolation to set a new rate. An alternative approach whereby the real growth rate is assumed to move in line with changes in the real risk-free rate would result in the Deferment Rate remaining unchanged at 4.75%.

Figure 1



8. Further, while real risk-free rates have generally decreased since the Sportelli judgement, they have been increasing since around 2022. As at 30 September 2025, long-dated real gilt yields were back above their values in 2005 (albeit relative to a different measure of price inflation, as explained in the body of this report). This is not reflected in Table 1 and Figure 1 above due to the 5-year averaging period applied when determining the real risk-free rate in the Sportelli methodology. An alternative approach is considered in Exercise 2.
9. Under Exercise 2 we have reviewed each component of the Sportelli formula, setting out our analysis and comments on alternative approaches.
10. For the real risk-free rate we have continued to refer to Bank of England data on index-linked gilt yields. However, we propose using a 40-year spot rate averaged over the previous six months, rather than the 10-year forward rate averaged over the previous five years approach used in the original judgement. We have considered relevant data and factors affecting the real growth rate and risk premium parameters but these are more subjective. On balance we have proposed reducing the real growth rate to 0.5% but retaining the risk premium from the Sportelli judgement. We recognise that future property returns are uncertain and there is a range of plausible rates, including above or below the example values given in the following paragraphs.
11. Under Exercise 2 our alternative deferment rate for houses is:
- $$\text{real risk free rate} - \text{real growth rate} + \text{risk premium}$$

$$\begin{aligned} &= 2.05\% \quad - \quad 0.5\% \quad + 4.5\% \\ &= \mathbf{6.05\%} \end{aligned}$$

And a deferment rate of **6.3% for flats**.

12. To give some alternative examples:

- If we use a one-year smoothing period for the real risk-free rate instead of a six-month period, the real risk-free rate becomes 1.83% and the deferment rate for houses becomes 5.85% (when rounded).
- If we assume either a more modest reduction in the real growth rate relative to the Sportelli judgement (after adjusting for RPI reform), perhaps to 1.5% instead of 0.5%, or alternatively assume that the property risk premium reduces from 4.5% to 3.5% reflecting a less optimistic outlook for property returns, then the deferment rate for houses becomes 5.05%.

13. Looking across Exercises 1 and 2:

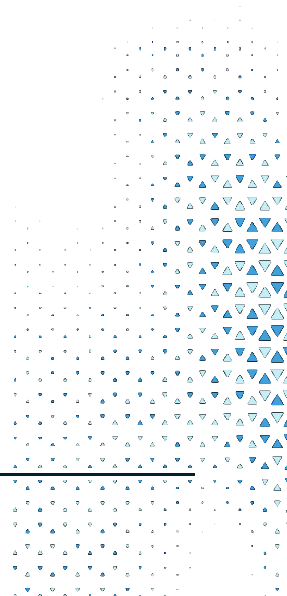
- Possible updated deferment rates range from:
 - 1.6% - if updating real risk-free rates mechanistically under Exercise 1, with the disadvantage of potentially introducing inconsistencies to the formula and with the 5-year averaging period used keeping rates below more recent values;
 - 4.75% under an alternative approach for Exercise 1, where the real growth rate is assumed to offset movements in real risk-free rates;
 - 5.05% or 5.85% for Exercise 2, with alternative parameters to our main rate;
 - 6.05% under Exercise 2 using our principal suggested parameters.
- The main differences between the main rates derived in Exercises 1 and 2 are:
 - Updating the choice of gilt yields and averaging period for risk-free rates (which serves to increase the deferment rate in Exercise 2 relative to 1); and
 - Reducing the real growth rate to reflect house price increases since the Sportelli judgement (which also serves to increase the deferment rate in Exercise 2 relative to 1).

14. We understand that your next step is to prepare a public consultation on a revision to the Deferment Rate. The purpose of this report is to, in part, inform that consultation, alongside other sources and your own research. We note our limitations in preparing this report, in that we are not property valuation experts, we have not commissioned or considered detailed stakeholder views on the outlook for property beyond the analysis described in this report, and many elements of the Deferment Rate are subjective by the

very nature of projecting future returns. The forthcoming consultation will enable you to seek the views of other experts and wider stakeholders to inform your decision.

15. We note from our conversations that you expect to see opposing views from leaseholders and landlords over how the Deferment Rate should be set which could lead to materially different expectations for their preferred Deferment Rate. Under a new scope of work we'd be pleased to help you consider these views and their underpinning validity and logic – there are similarities with setting financial assumptions in other parts of GAD's work that we could draw on to assist you if required.

Christophor Ward, FIA C. Act
Government Actuary's Department
16 January 2026



Background and scope

The Deferment Rate

16. The Deferment Rate is a percentage discount rate used to calculate one element of the cost of a leasehold extension or freehold acquisition. When valuing such costs currently, there are other elements to consider (such as ground rent and marriage value) but those elements are not in the scope of this exercise.
17. MHCLG have asked us to consider the Deferment Rate and refer to the Sportelli judgement from when the current rate was set in 2005.
18. The Deferment Rate is a discount rate, meaning that a higher Deferment Rate will result in a lower present value. For example:

Assume a flat with a value of £200,000, with 100 years remaining on its lease. Using a discount rate of **5% a year**, the present value is **£1,521**. That is calculated as follows:
 $200,000 \times (1.05)^{-100}$.

If the discount rate is **4% a year** instead, the present value increases to **£3,960**. The present value can therefore significantly affect the value or premium, especially for long-term assets.

19. The current Deferment Rate was set in 2005 following a legal case: Earl Cadogan v Sportelli. This established standard rates of 4.75% for houses and 5.00% for flats.
20. We have reviewed that judgement and understand the Deferment Rate for houses was composed based on a formula as follows:

$$\begin{aligned} & \text{real risk free rate} - \text{real growth rate} + \text{risk premium} \\ &= 2.25\% \quad \quad - 2.0\% \quad \quad \quad + 4.50\% \\ &= 4.75\% \end{aligned}$$

With the rate for houses being 5.00%, having a 4.75% risk premium.

21. Before we review the parameters in the Sportelli rate, we go back to first principles to consider why the rate might be composed in that way and what such understanding tells us when considering updates to the parameters. Some of the terminology and examples in the following paragraphs might be relatively simplistic and not reflect all nuances of property valuations. However, the intention is to illustrate key principles that affect our analysis in an understandable way.
22. Continuing our example of assuming a flat with a long lease is worth £200,000 (vacant possession value) now. Now assume that the freeholder doesn't have access to it for 80 years and in that time its value is assumed to grow by 4% each year. It is expected to be worth £4.6m in 80 years' time ($200,000 \times (1.04)^{80}$).

23. However, it would be excessive to sell this right for £4.6m now. Rather, a freeholder or property investor would expect to pay a much smaller sum now, but require or expect a return on that property investment of 6% p.a., (for example). This is higher than the 4% property growth rate because, for property investors, not all returns are generated from capital growth. Rather, returns also arise from sources such as ground rent, renting a property or potentially enhancing the property.
24. That means the value of the property now would be £200,000 multiplied by the growth rate $(1 + 4\% \text{ for } 80 \text{ years})$, less the required return of $(1 + 6\% \text{ for } 80 \text{ years})$. That is $200,000 \times (1.04^{80}) / (1.06^{80}) = £43,574$, much less than the £4.6m expected value in 80 years' time.
25. Approximately, the net overall discount rate in this example (ie the required return less growth rate) is 2% (6% less 4%).
26. Looking at this another way in the specific case of leasehold extensions or freehold acquisitions: effectively we are asking the question, where there is a flat with a current vacant possession value of £200,000 if available now, but instead has 80 years remaining on its lease such that it is not available to the freeholder for that period, by how much should the value be reduced to reflect the outstanding lease term. The starting point might be to consider expected returns on property, but this would be excessive since the freeholder will benefit from capital growth in the meantime. The net rate is therefore the required return on property less expected capital growth, which, in broad terms, is a proxy for the loss of potential annual income from not having access to the property.
27. Looking in more detail at the components of the Sportelli formula, the required return (ie the 6% rate in my example above) could be decomposed to be the risk-free rate plus a property risk premium. (This is the definition of a property risk premium: the amount by which expected returns on property exceed risk-free investment returns, which are often provided from gilt yields). I can choose to express the risk-free rate and the capital growth rate both as real rates, ie a rate in excess of price inflation, as in the Sportelli formula.
28. The Deferment rate would therefore be:
- $$\begin{aligned} & \text{required return on property} - \text{property growth rate} \\ &= \text{risk free rate} + \text{property risk premium} - \text{property growth rate} \\ &= (\text{real risk-free rate} + \text{price inflation}) + \text{risk premium} - (\text{real growth rate} + \text{price inflation}) \\ &= \text{real risk free rate} - \text{real growth rate} + \text{risk premium}. \end{aligned}$$
29. There are two conclusions which we draw from this reasoning for our subsequent analysis:
- A high-level broad reasonableness check for the Deferment Rate is around the annual yield or potential annual income from access to the property; and
 - The individual components of the Sportelli formula are related to each other. This means that, when updating the parameters, it is essential to check for internal consistency. Updating one parameter to reflect recent experience while leaving other parameters unchanged might produce inconsistent results. For example:

- Capital growth is one element of the total return on property. Updating the capital growth assumption without reviewing the risk premium could introduce inconsistencies.
- A material change in the risk-free rate could, for example, affect likely future property growth. Updating one of these parameters without reviewing the other could introduce inconsistencies.

Scope

30. The Leasehold and Freehold Reform Act 2024 includes a number of changes that will affect leaseholders, including a provision for the review of the Deferment Rate. We understand that MHCLG are looking at the Deferment Rate now and that their engagement of GAD will help to inform their next stage in the review which will be to go out to consultation. The purpose of this report is to, in part, inform that consultation, alongside other sources and your own research. We note our limitations in preparing this report, in that we are not property valuation experts, we have not commissioned or considered detailed stakeholder views on the outlook for property beyond the analysis described in this report, and many elements of the Deferment Rate are subjective by the very nature of projecting future returns. The forthcoming consultation will enable you to seek the views of other experts and wider stakeholders to inform your decision.
31. We have been asked to complete two exercises:
- **“Exercise 1:** re-run Sportelli using the latest data, with an identical approach. For this exercise, we would like GAD to mechanically replicate what was done in 2006, estimating each component of the formula exactly as they were in Sportelli. The analysis of the estimated outputs should include a time series, covering each subsequent year from the 2006 judgement decision to the present day.
 - **Exercise 2:** re-run Sportelli using the latest data but tailoring the approach to the estimation of each component of the formula, as GAD determine appropriate. For example, this may include analysis, as GAD have suggested, on how a change from RPI to CPI indexation may affect the Sportelli decision, as well as other factors. For this exercise we would like GAD to produce an estimate of the rates in the present day.”
32. This report goes on to describe how we have completed each exercise and our findings.
33. We understand that the current Sportelli rates apply only where the lease has 20 or more years unexpired. In this report we have not considered appropriate rates for shorter-term leases, but do acknowledge that it could be possible. We have focussed on the rate for houses. For the purposes of this report, and for consistency with the original Sportelli methodology, we have not considered detailed factors such as specific allowances for expenses or tax effects.

Exercise 1

Our mechanistic annual update of Sportelli is shown in table 1 on the next page and we explain our workings below the table. Under this approach, the Deferment Rate has reduced significantly since 2005 due to material reductions in the risk-free rate, from 4.75% to around 1.6% in September 2025. However, the approach used for this exercise (updating some parameters but not others) introduces inconsistencies. It is instructive in highlighting certain changes over time but we would not recommend it is used in isolation to set a new rate. An alternative approach whereby the real growth rate is assumed to move in line with changes in the real risk-free rate would result in the Deferment Rate remaining unchanged at 4.75%.

34. Our understanding is that the Sportelli judgement was informed by several experts. Those experts brought a range of views to the components used to inform the setting of the Deferment Rate. Those views would often differ and require a subjective judgement to then determine a single value. It's very difficult to unpick those views and then re-apply them mechanistically to different economic conditions using regularly updated values, as required for this Exercise 1. We have proceeded instead with best endeavours but as set out below, for the real growth rate and risk premium, we have not been able to come up with a satisfactory mechanistic update. This therefore introduces inconsistencies in updating some components but not others. Therefore, this Exercise is instructive in highlighting changes to certain of the parameters over time, but we would not recommend it is used in isolation to set a new rate.

Sportelli rate composition

35. The Sportelli rate for houses is derived from the formula:

$$\begin{aligned} &\text{real risk free rate} - \text{real growth rate} + \text{risk premium} \\ &= 2.25\% \quad - 2.0\% \quad + 4.50\% \\ &= 4.75\% \end{aligned}$$

36. For flats the Sportelli rate is 5.00%. This uses a higher risk premium of 4.75% (rather than 4.5%) to reflect the court's view of higher potential expenses of flats – but noting some uncertainty with that maintenance saving, hence it is an adjustment to the risk premium and not as an adjustment to the growth rate.
37. We explore the mechanistic update of each component below. In summary, we were able to mechanistically update the risk-free rate, but we were not able to find a strong or common logic, or appropriate published index, for justifying mechanistic updates to the real growth rate and risk premium. However, as described in the previous section, this introduces inconsistencies in our update, as the changes in the risk-free rate are not reflected in updates to the other parameters.

Table 1

Year	Sportelli rate	GAD update	Component parameters (GAD update)		
	Houses	Houses	Real risk-free rate	Real growth rate	Risk premium
2003	4.75%	4.64%	2.14%	2.00%	4.50%
2004	4.75%	4.63%	2.13%	2.00%	4.50%
2005	4.75%	4.57%	2.07%	2.00%	4.50%
2006	4.75%	4.47%	1.97%	2.00%	4.50%
2007	4.75%	4.24%	1.74%	2.00%	4.50%
2008	4.75%	4.00%	1.50%	2.00%	4.50%
2009	4.75%	3.75%	1.25%	2.00%	4.50%
2010	4.75%	3.65%	1.15%	2.00%	4.50%
2011	4.75%	3.68%	1.18%	2.00%	4.50%
2012	4.75%	3.65%	1.15%	2.00%	4.50%
2013	4.75%	3.54%	1.04%	2.00%	4.50%
2014	4.75%	3.46%	0.96%	2.00%	4.50%
2015	4.75%	3.17%	0.67%	2.00%	4.50%
2016	4.75%	2.76%	0.26%	2.00%	4.50%
2017	4.75%	2.33%	-0.17%	2.00%	4.50%
2018	4.75%	1.94%	-0.56%	2.00%	4.50%
2019	4.75%	1.50%	-1.00%	2.00%	4.50%
2020	4.75%	0.09%	-1.41%	3.00%	4.50%
2021	4.75%	-0.28%	-1.78%	3.00%	4.50%
2022	4.75%	-0.47%	-1.97%	3.00%	4.50%
2023	4.75%	-0.22%	-1.72%	3.00%	4.50%
2024	4.75%	0.31%	-1.19%	3.00%	4.50%
31 Dec 24	4.75%	0.87%	-0.63%	3.00%	4.50%
31 Mar 25	4.75%	1.09%	-0.41%	3.00%	4.50%
30 Jun 25	4.75%	1.34%	-0.16%	3.00%	4.50%
30 Sep 25	4.75%	1.61%	0.11%	3.00%	4.50%

Unless otherwise specified (final 4 rows), the real risk-free rate is taken at each 31 March.

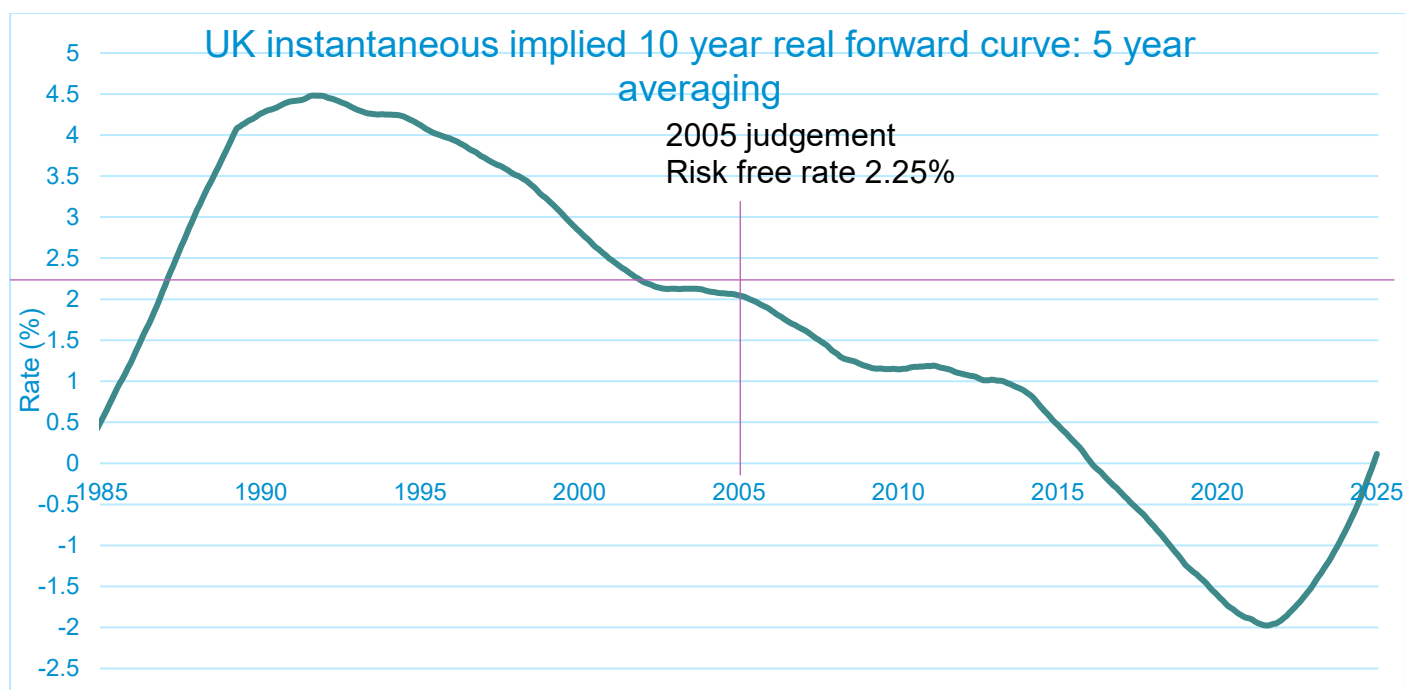
38. In the GAD update real risk-free rate column we have rounded to 2 decimal places.

39. From 2020 we have applied an adjustment to the real growth rate due to RPI reform, to be broadly consistent with the change in inflation measure underlying the real risk-free rate, at least in theory. However, this is subjective and is discussed further below.

Real risk-free rate

40. We understand that in Sportelli, this was derived by referring to the real yield on index-linked gilts using 10 year forward rates. (A 10-year forward rate means the rate which is expected to apply in 10 years' time for a short-term investment.) Of these, a rolling 5 year average was taken (in other words, the average of the corresponding rates over the previous 5 years). It appears that the 10 year forward rate was used to avoid potential distortions at longer (than 10 year) term yields from high demand by pension schemes and the 5 year average was used to smooth out short term volatility.
41. We have plotted the rolling 5 year average of 10 year forward rates below, adding a horizontal line showing the Sportelli real risk free rate of 2.25%. The rates provided by the Bank of England are continuously compounded and we have not applied any adjustments to annualise them.

Figure 22



Source: Bank of England

42. We have added a vertical line at 2005 which is around the year of the Sportelli judgement. However, the Sportelli rate wasn't set at a specific date, we know it was considered over a period of several years. The main conclusion is that 10-year forward real risk-free rates (on a 5-year rolling average) have fallen materially since 2005. In isolation this would suggest a decrease in the Deferment Rate.
43. You asked us to provide annual updates for each year since the Sportelli judgement. We have provided values at each 31 March (but using the 5-year average of rates to each 31 March, consistent with the Sportelli methodology). However, the real risk-free rate is volatile and can change materially even over a short period, despite the 5-year averaging. We illustrate this by providing quarterly updates for the most recent period in table 1.

44. While real risk-free rates have generally decreased since the Sportelli judgement, they have been increasing since around 2022. As at 30 September 2025, long-dated real gilt yields were back above their values in 2005 (albeit relative to a different measure of price inflation, as explained in the following section). This is not reflected in Table 1 and Figure 2 above due to the 5-year averaging period applied when determining the real risk-free rate in the Sportelli methodology. This is discussed further in Exercise 2.

RPI v CPI and CPIH

45. At the time of Sportelli, RPI was assumed to be continuing in its current form. Although its limitations were known due to flaws in how it is calculated we do not believe that there were any credible reasons to assume it wouldn't continue to be published for the foreseeable future (the government was still issuing index-linked gilts linked to RPI, for example). This is likely to be why the Sportelli judgement doesn't refer to specific inflation measures, but for reasons we go on to explain, we believe it is now important to be clear on what inflation measure the real rate components are set relative to.
46. In March 2020 a consultation was launched on the future of RPI and in November 2020 it was announced that the calculation methodology for RPI would be changed to align with CPIH from 2030. This reflected increased use of CPI and CPIH, and growing awareness of the flaws with the RPI calculation methodology. There was a judicial review of this decision, brought about by three large pension schemes, but it was dismissed. That marked a general acceptance that RPI reform would happen, and the calculation of RPI increases will change from 2030 onwards.
47. For at least the last 30 years or so, RPI has spent more time above CPI and CPIH than below, although that relationship has at times fluctuated. In recent years, RPI has exceeded CPI and CPIH on average by around 1%. There are differences between historical rates of CPI and CPIH increases, and such increases are expected to persist into the future, but such differences are generally expected to be relatively small (of the order of 0.1% a year). In the context of other uncertainties with the Deferment Rate parameters, and for simplicity, we have not gone into those differences in further detail for the purposes of this paper, and make the simplifying assumption that CPI and CPIH increases are expected to be broadly similar on average over the long-term in the future.
48. Assuming that a 1% gap between RPI and CPI measures persists (often referred to as the 'RPI CPI wedge'), in theory, the real risk-free (index-linked gilt) rates shown in table 1 change their inflation measure during the period under consideration: before 2020, they reflect future expectations of RPI inflation. From 2020 onwards (broadly, as discussed further below), we expect them to be relative to the CPI measure of inflation: partly because the change to RPI was largely confirmed in 2020, and partly because the change in RPI methodology is expected to apply from 2030, which would start to impact the 10-year forward rate from 2020. (We discuss RPI, CPIH and CPI further in [our blog](#).)
49. We haven't adjusted the real risk-free rate for this change, but we expect market pricing to be starting to reflect CPIH rather than the RPI measure of inflation from broadly 2020 onwards.
50. Internal consistency is important in the Sportelli formula as discussed above. Both the risk-free rate and the growth rate are expressed in real terms, and consistency requires the underlying measure of inflation to be consistent in both cases. As explained above, the market-based data giving real risk-free rates is expected to have reflected a change from RPI

to CPIH inflation over the period being considered. We therefore need to make an equivalent change to the inflation measure underlying the real growth rate, assuming that the rate set in Sportelli reflected RPI. We have therefore increased the real growth rate parameter in table 1 from 2% (as in Sportelli) to 3% from 2020. Assuming that RPI exceeds CPIH by 1% a year, if property growth were to be 2% a year above RPI inflation, that equates to around 3% a year above CPIH inflation, to produce an assumption on a consistent basis with the post-2020 real risk-free rates provided by market-based index-linked gilt yield data.

51. Regarding the specific timing, applying a step change to the real growth rate parameter from 2020 is somewhat simplistic, partly because such a step change is not visible to index-linked gilt pricing or their yields, perhaps because the exact timing of reflecting this change in market values is likely to have been gradually priced in, reflecting how the announcement was made and some initial reticence pending the judicial review. Further, the 5-year averaging means that we would not expect the impact to be fully reflected in the rates under the Sportelli approach until 2025. An alternative approach would have been to phase in the change increase from 2% to 3% in the real growth parameter between 2020 and 2025 to reflect the 5-year averaging. Please let us know if you would like us to make such an update, which would not affect the values shown in table 1 before March 2020 or after March 2025, but would affect the pattern of rates in between those two dates (the March 2020 rate would be 1 percentage point higher than shown in table 1, with the difference reducing to zero by March 2025).
52. There is a wider point that should be borne in mind with the review of the Deferment Rate, in that where real figures are used (ie above inflation), it is important to be clear on what measure of inflation those figures are relative to and to ensure consistency within the formula.

Real growth rate

53. The Sportelli judgement set the real growth rate at 2% ie the projected growth in residential house and flat prices above price inflation. The judgement stated that 2% was lower than historical averages, reflecting their view of a more modest outlook.
54. On balance we consider it appropriate to leave this rate static for Exercise 1, besides the RPI / CPIH adjustment described above, because we do not believe there to be any significant changes to the forward—looking long term growth rate which we can mechanistically apply based on regularly updated data. The residential property price data we have found is backward looking and there has not been a mechanistic link to long term projected growth.
55. We did consider proxies such as projected returns on investment asset classes or wider economic indicators such as Gross Domestic Product. However, they also cover other factors (besides UK residential property) which in our view adds too many other diluting factors besides UK residential property. In forming this view we have performed desk top research into possible approaches but we have not interviewed property professionals or done a full academic review of data sources. From what we can see, the Sportelli judgement does not cite a single, clear data source for this assumption which could be updated.
56. We do purchase asset class projections from Moody's Analytics and Moody's could create a UK residential property projection for us, however, it's not an off-the-shelf category so there would be an additional cost to this data and Moody's would look to us to determine its characteristics. That then becomes circular, as we may then need to work with Moody's to

determine relevant factors such as dependencies back to interest rates and GDP, for example, and basing projections off back testing, and therefore likely contain too much subjective bias to be reliable for our scope under Exercise 1.

57. A further rationale supporting not applying a mechanistic update, is that the real growth rate would be expected to consider expectations over a relatively long time horizon, which might suggest the rate would be expected to be relatively stable. However, that is at odds with the real risk-free rate looking over a shorter period, of 10 years.
58. There is an inconsistency in our updating the real risk free rate and not the real growth rate, as highlighted previously. An alternative approach could be to assume the real growth rate moves directly in line with changes in the risk-free rate, consistent with an assumption of a constant risk premium (see next section). This does not require any computation, since such a scenario would result in the Deferment Rate remaining unchanged at 4.75%, with changes in the real risk-free rate being exactly offset by changes in the real growth rate.

Risk premium

59. The Sportelli judgement considered the main components of the risk premium to be volatility, illiquidity, deterioration and obsolescence. In the experts' view, volatility and illiquidity would have the greatest impact on the risk premium. Their risk premium of 4.5% for houses was broadly composed as:

Volatility	2.75%
Illiquidity	+1.00%
Depreciation	+0.75%
Total	4.50%

60. It appears that the experts cited deterioration and obsolescence as factors, but consolidated that into depreciation when assigning values.
61. 4.50% is the risk premium for houses. For flats an additional loading of 0.25% was applied, reflecting potentially higher maintenance costs for flats versus houses and so a total risk premium for flats was 4.75%.
62. We have decided that it is appropriate to leave the risk premium static over the period for Exercise 1 as we have been unable to identify a practical, objective method to mechanistically apply annual updates. As with the real growth rate, we also believe that the risk premium is considered a long term measure and would be relatively stable, notwithstanding that the component factors may have short-term volatility.
63. We could not find any long-term projections for the risk premium components. We did find various backward-looking measures and short-term forecasts. An example is during the COVID-19 pandemic when liquidity (of residential property) reduced (evidenced by the number of property transactions and the time to sell a property), which could lead to an increase in the risk premium. However, that was considered to be an interruption, and the data goes on to demonstrate a rebound in property sales that peaked to correct for the pandemic hiatus and then broadly settled with where pre-pandemic trends were heading, suggesting no change to the longer-term expectation.

64. We therefore didn't find any evidence to support making year on year adjustments. We do however explore some alternative trends under Exercise 2.

Exercise 2

Under exercise 2 we consider each component of the Sportelli formula, setting out our analysis and comments on alternative approaches. A possible alternative Deferment Rate retaining the Sportelli methodology but updating the rate to reflect more recent economic data would be 6.05% for houses. We also show examples of different parameter choices that would result in rates of 5.05% or 5.85%. Future property returns are uncertain and there is a range of plausible rates, including above or below the values given here.

Risk-free rate

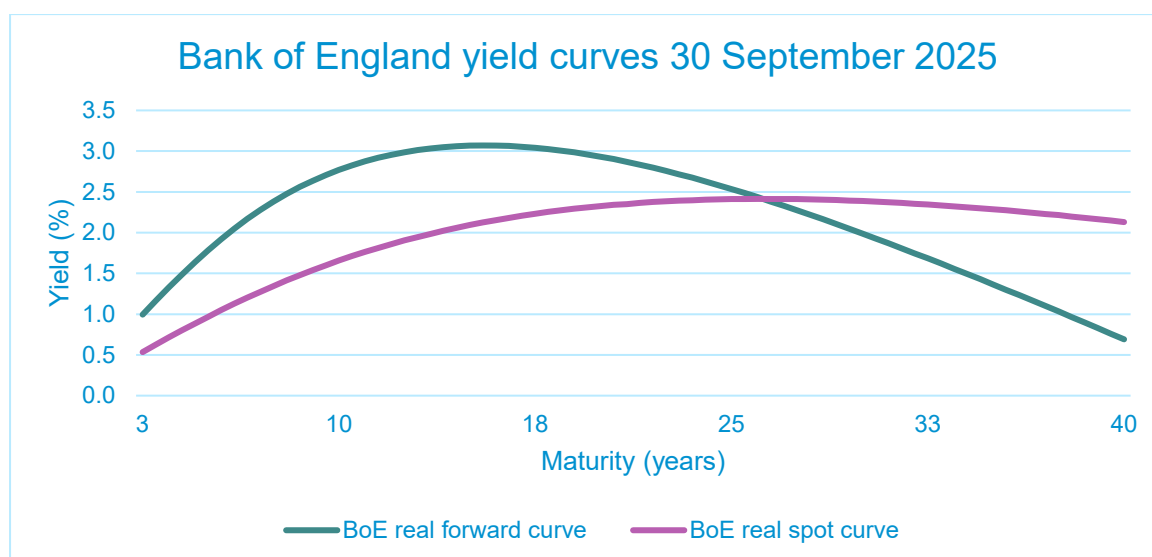
65. Taking a step back, we agree it is reasonable to include a risk-free rate component in the formula, in that a rational property investor should consider the return they can generate with no risk, and look to residential property, as an investment option with risk, to deliver a premium to the risk-free rate. Some property investors may also have non-financial motivations. We think those cases are likely to be in the minority and shouldn't detract from this approach. However, those cases could become more prevalent if the Deferment Rate was to become significantly higher or lower (e.g. at that time social utility from property investing may change in importance).
66. Similar methods are used when setting forecast returns for pension scheme investments by setting a premium to gilts, reflecting the additional reward that is expected from investing in company debt and equity, given the potential risk of default or the risk of companies falling in value or ceasing business altogether, for example. An advantage of the risk-free rate is that it can be derived on a daily basis from market data on gilts (assumed to be a risk-free asset).
67. However, the risk-free rate is determined by the supply (from government raising debt) and demand (from investors purchasing the debt). The secondary market trading already-issued government debt provides us with risk-free rate data as we referred to in Exercise 1. One of the drivers of demand for risk-free assets will be investor sentiment and views of the economic outlook, and relative to other asset classes. For example, gilts are often used as safe-haven assets when investors are concerned about the risk of corporate debt and equity. Such sentiment can quickly change and can result in large changes to risk free rates. We discuss this, and its implications for a deferment rate, further below. Accepting the premise of a risk-free rate, there are several areas we have considered regarding which rate to use, which are set out in the following paragraphs:
68. Conventional or index-linked gilt yield:
 - This is largely a presentational impact, in that if you decide to use a nominal risk-free yield instead of a real yield, you'd need to similarly include inflation in the growth rate parameter and the net effect would be unchanged.
 - We believe that continuing with the index-linked gilt (ie real) yield is sound. This is most consistent where you believe that property prices (and other returns from property ownership) increase broadly in line with changes in inflation at least over the long-term (see the discussion below on the use of an inflation-risk premium).

- However, in setting a real rate (ie a risk-free rate in excess of price inflation), we emphasise our earlier point on the importance of being clear on the underlying price inflation measure, and ensuring consistency with the real growth rate parameter in this regard.

69. Spot yield or forward yield:

- The Sportelli methodology uses forward rates, ie the market expectation now of gilt yields at a future point in time. So, for example the 10 year forward rate is the implied instantaneous rate in 10 years' time (ie in 10 years' time, the rate you'd get for investing for a very short period of time). Conversely, the spot yield is the current return you would get if investing now, and holding the gilt until it matures in 10 years' time, assuming the gilt does not pay any coupons (ie no regular income). The chart below shows a comparison between the real spot and forward curves as at 30 September 2025.

Figure 33



- We have a preference here for using spot rates, ie the rate of return over the next X years on making a risk-free investment now, as we believe this better reflect the purpose of the deferment rate. We also think using the spot rate is consistent with how the real growth and risk premium assumptions are set, which consider the expected real growth rate and risk premium starting now, projecting many years into the future – not starting in X years' time.
- The Bank of England provides daily data on gilt yields showing continuously compounded rates. We have not made any adjustments to these rates to convert them to annualised rates. If an adjustment was applied we would expect a difference of around 0.02% to the risk-free rate which, in our view, is not material to the derivation of the risk-free rate.
- A caveat to this is that we understand that the Deferment Rate will be subject to review, possibly at 10 year intervals for example. You could argue that the Deferment Rate should therefore reflect what markets are expecting the relevant rates to be over the period to its next review. Besides adding another layer of

complexity to an already challenging task of forecasting economic performance, we think any financial impact from this should be relatively limited in the context of the multi-decade terms over which a deferment rate is applied in practice – but we discuss the term further below.

70. Term to maturity:

- The Sportelli methodology used a 10 year forward rate i.e. the instantaneous return you'd get for committing now to invest in 10 years' time. The reason cited for not selecting a period longer than 10 years was because of perceived distortions to the risk-free rate due to high demand of gilts by pension schemes (the judgement called it 'pension panic'). We do agree on the possibility of supply and demand distortions, but that may also exist at the 10 year point – perhaps more so now given the maturing of pension schemes. The reasoning in the original judgement also reflected the 10 year rates as being considered representative of (and broadly similar to) longer- term rates.
- Our preference is to use a long-term spot yield, reflecting the term of the leases that are being valued. We understand that the deferment rate is typically only applied for terms of at least 20 years, and more commonly in excess of 80 years, although we understand that under leasehold reform the terms in question may reduce to potentially even just a few years with the abolition of consideration of marriage value. It could be helpful to gather evidence on the average applicable time frames, because an appropriate deferment rate may differ considerably based on the forecasting period (say 5 years versus 100 years).
- The Bank of England publishes spot gilt yield data out to 40 years' maturity. 40 years seems an appropriate term for this purpose given the likely term of leases being valued, and attempting to seek a balance between robustness of data with matching the applicable term. There are other market data sources for gilt yields for terms beyond 40 years, but data volumes underlying the rates will reduce as term increases. An advantage of a 40 year term is that freely-available Bank of England data is published daily that reflects large and highly traded gilt markets at that term. We separately consider the impact of excess demand by pension schemes in the "inflation risk premium" section below.
- It is common for institutions such as insurers and investment managers to procure or compile their own forecasts for how the risk-free rate may change over time. We currently buy forecasts from Moody's, primarily to assist with our modelling and risk analysis, rather than to use as firm views of future asset returns. However, such analysis could be applied to form views on the future evolution of the risk-free rate, and to help consider scenarios for how that rate may change, for example, by providing a statistical distribution for changes in the risk-free rate.

71. Averaging period:

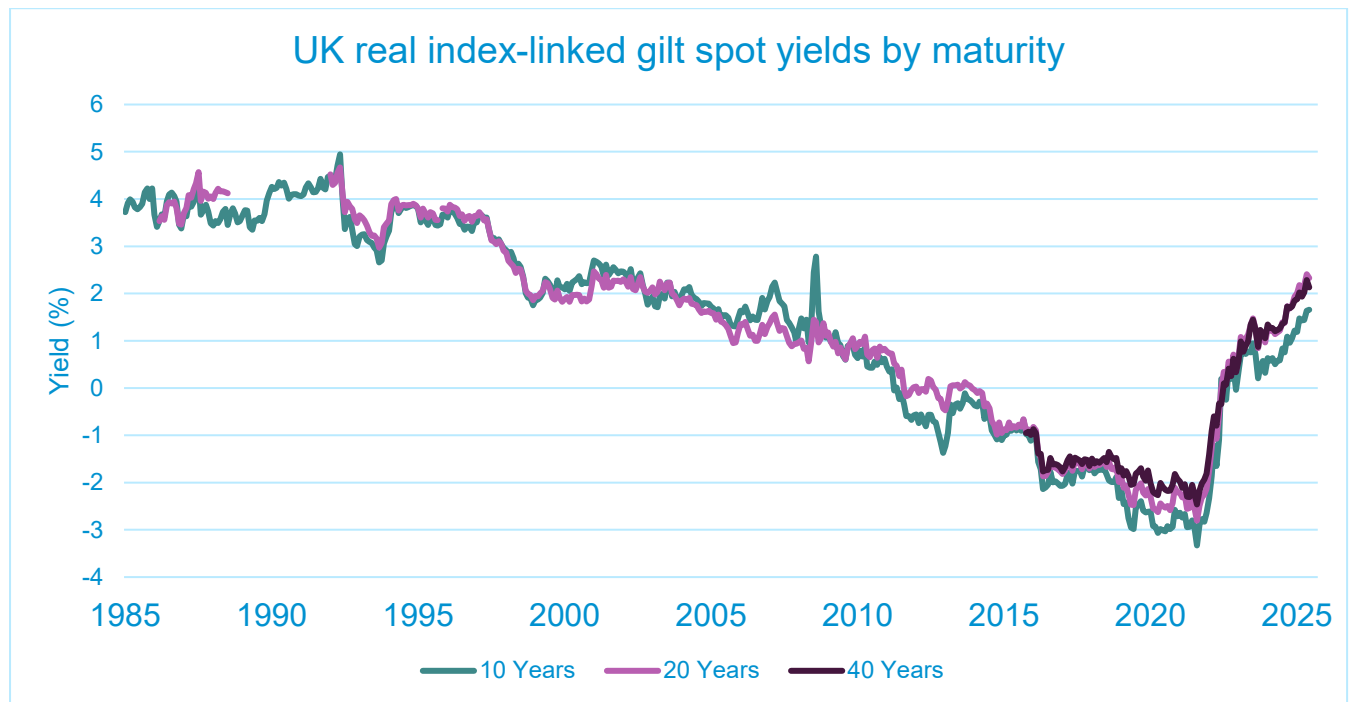
- The Sportelli methodology took a rolling average of the 5 years of preceding 10 year forward gilt yields as the real risk-free rate. In forming this view we believe the experts aimed to use an average to minimise distortions with day-to-day market pricing.

- We agree that setting a real risk-free rate by a long-term spot gilt yield on a single date may have a higher chance of distortions than being informed by data over a longer period. This is because market sentiment on a single day may have over- or under-reactions, and over several (or more) days the market should adjust and settle down. For example on Wednesday 28 September 2022 the intraday range of the yield on 30 year gilts was 1.27%², following the 28 September 2022 mini-budget.
- On the other hand, a disadvantage of an averaging period is that it weakens the link to latest forward-looking market expectations, with the rate chosen reflecting, in part, historical out-of-date data.
- As you can see from Figure 4 below, we are in a period where gilt yields have been volatile over the last 5 years. We would therefore be reluctant to continue with a 5-year averaging period now, even if it were appropriate when the Sportelli methodology was set.
- On balance, we believe an appropriate averaging period for this purpose should be more than a few weeks, to allow any very short-term distortions to average out, but less than 5 years. We settle on 6 months, but this is a subjective and potentially material parameter. A shorter averaging period increases the variability of the overall deferment rate depending on the effective date of the data used to set the rate. The following paragraphs go on to expand on the rationale for our proposal of a 6 month averaging period.

2

<https://committees.parliament.uk/publications/30136/documents/174584/default/#:~:text=Bank%20of%20England,-Page%209&text=In%20the%202018%20assessment%20noted,leading%20to%20effective%20policy%20outcomes.>

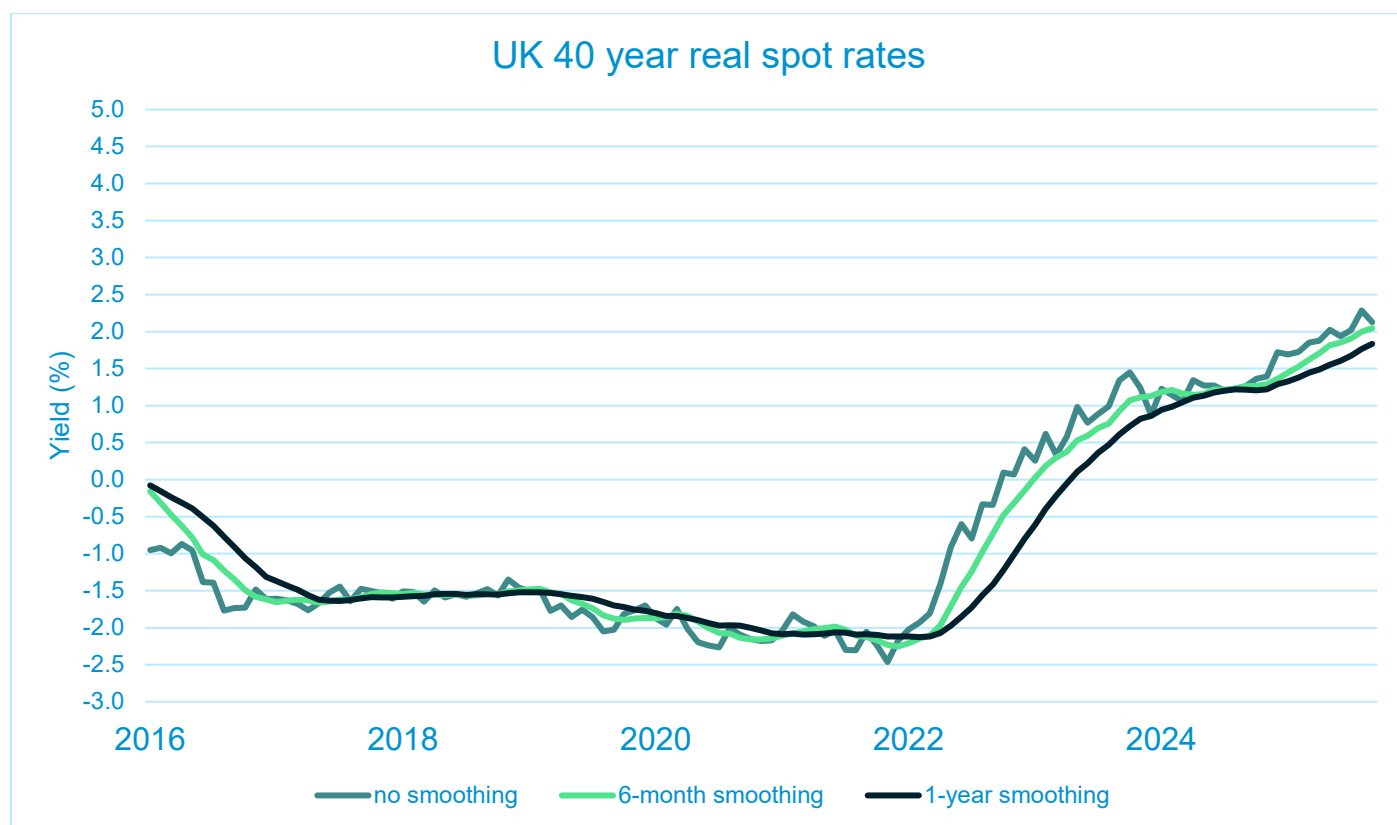
Figure 44



Source: Bank of England

72. Figure 4 above shows rates that are not averaged and illustrates the significant changes in real index-linked gilt yield spot rates since the Sportelli judgement, with a significant fall in yields to around 2022, then an increase. You might ideally want to select an average 'smoothing period' which results in a more stable longer term rate, but we don't know how future rates will move and do not want to try and forecast the market.

Figure 55

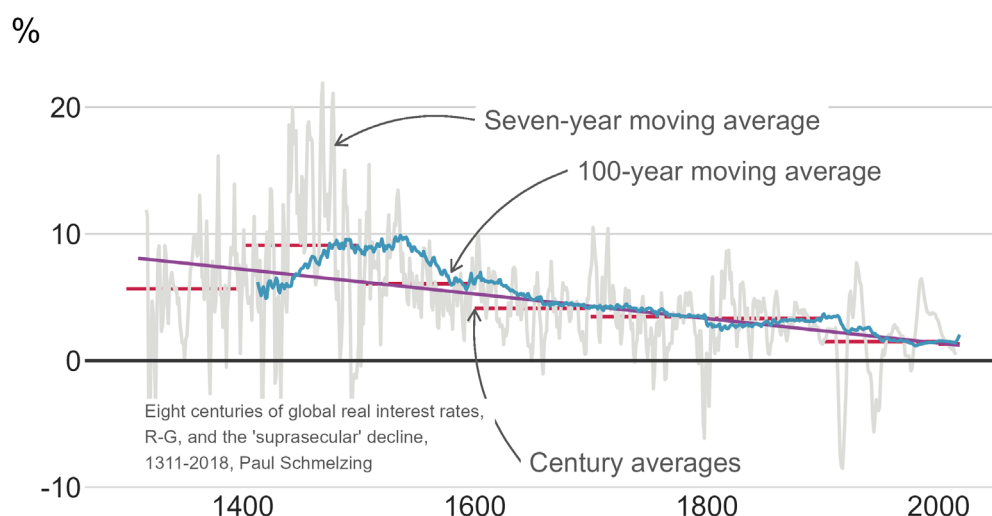


Source: Bank of England

73. Figure 5 shows the effect of applying smoothing to 40-year real spot rates. As stated above, we believe that smoothing should be applied to remove the volatility displayed in the un-smoothed rates. We can also see that there can be material differences in the real risk-free rate depending on the period of smoothing applied. It remains a subjective decision as to the period over which to apply smoothing and reasonable arguments could easily be made for different periods. We believe that Figure 5 shows that a 6-month smoothing period significantly reduces the day-to-day volatility present in the un-smoothed rates while not lagging too far beyond the latest market data.
74. By way of context, we reproduce a Bank of England chart showing the real risk-free interest rate going back 500 years in Figure 6 below, with 7 and 100 year averaging applied. We are not endorsing those periods specifically, but use that graph to give some comfort and context that the rate implied by our suggested 6 month smoothing period is not a big outlier relative to historical rates, and also to illustrate how volatile yields have been.

Figure 66

Risk-free real interest rates have been falling for centuries



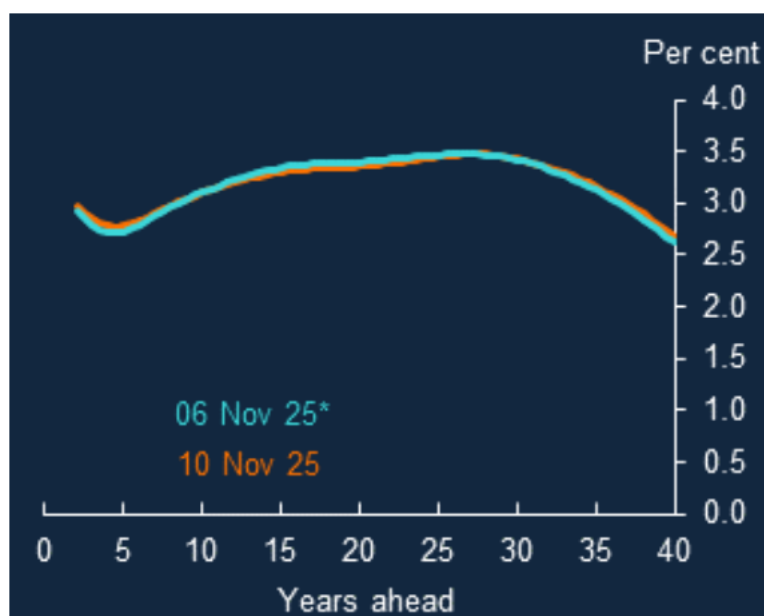
Source: Bank of England Staff Working Paper No. 845

4most
ANALYTICS CONSULTING

75. The final element of the real risk-free rate to consider is the possible inclusion of an “Inflation risk premium”:

- Gilt implied ‘breakeven’ inflation can be derived from the difference between nominal and real gilt yields. Due to the high demand for inflation protection from institutions such as insurers and pension schemes purchasing index linked gilts, actual expectations of inflation may be lower than the gilt implied breakeven inflation. This is known as an inflation risk premium. The inflation risk premium cannot be observed directly and is expected to vary over time.
- By way of an example, we show market implied inflation using a Bank of England graph below showing November 2025 data, with the market’s expectation of inflation derived in this way being around 3% over the long term. That is well above a rate consistent with the Bank of England’s long-term inflation target – the reason may be a belief by markets that the Bank will, on average, overshoot its target, but it could also be a distortion due to excess demand, or a combination of both (or other) factors.

Figure 77



Source: Bank of England.

- We therefore consider whether to make an adjustment to real gilt yields for this inflation risk premium. Relevant arguments to consider include.
 - i. Investors may hold property in the view that its investment performance is broadly protected against, at least over the long-term on average. If so, the investor's expected returns already reflect such a premium (as also exists with index linked gilt yields), so it should not form part of the calculation. Our view is that investors may hold property for many reasons, including for its qualities of often moving in step with inflation over the long term (ie, investors hold property for reasons that are in common with investors in assets such as equities, say).
 - ii. We should consider consistency with other components of the Deferment Rate formula, in particular the risk premium. This is effectively all the other risks taken by freeholders, as property investors. We break it down into volatility, liquidity and depreciation. All three of those elements will include dependencies on inflation e.g. if inflation is uncertain, volatility is likely to increase, liquidity may reduce and depreciation may increase. So in our view there is already a form of inflation risk premium included in the risk premium. To include a separate inflation risk premium may double count what investors are already factoring into their overall risk premium.

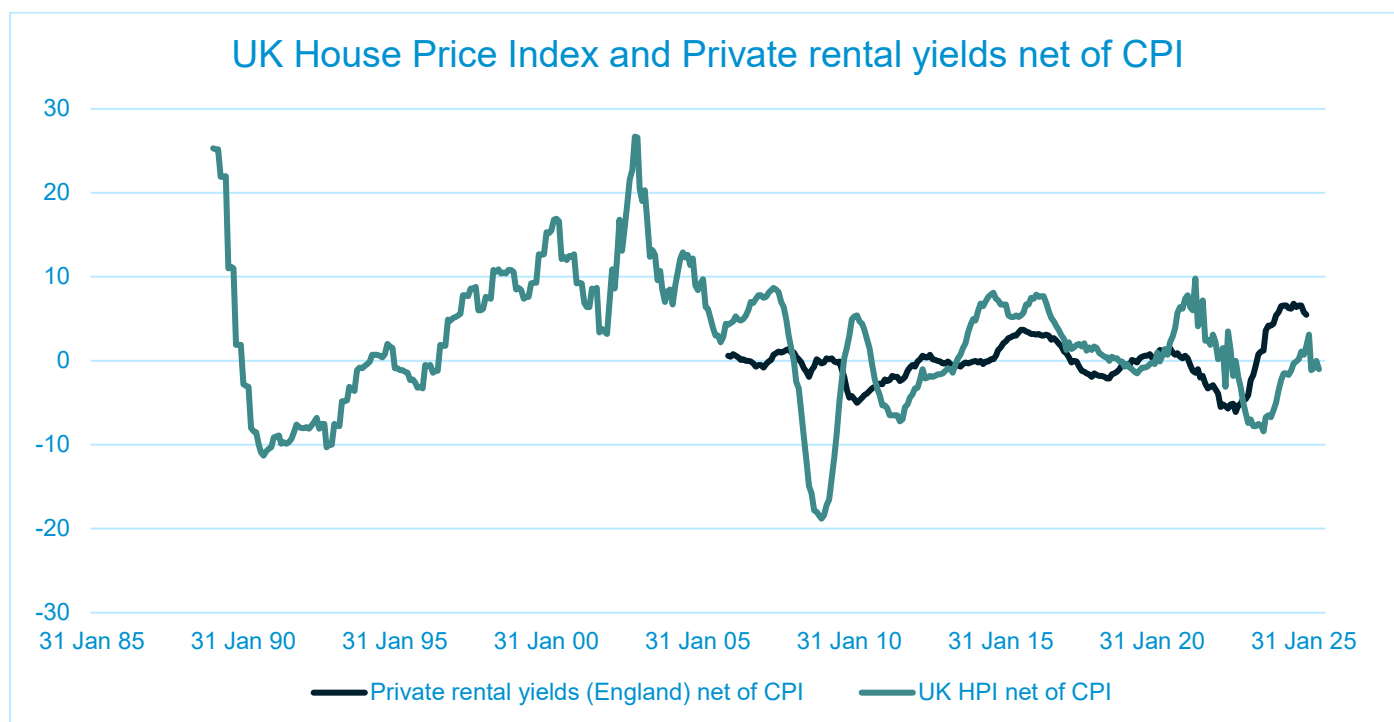
76. In summary, we propose setting the real risk-free rate using real gilt yields on index-linked gilts, taking the 40 year spot yield averaged over the previous six months. As in Exercise 1, it is important to be clear what price inflation measure underlies this real rate. A 40-year period from late 2025 onwards includes around 4-5 years where index-linked gilt yield proceeds reflect the current calculation of RPI, and over 35 years of revised RPI increases, consistent with the current CPIH index. We therefore are content to consider such a rate to be broadly relative to CPIH price inflation. Any adjustment to the rate to reflect the change to RPI in 2030

would be expected to be of the order of around 0.1 percentage points, which is not especially material in the context of the range of plausible values for the deferment rate altogether.

Real growth rate

77. In order to determine the *real* growth rate, we need to consider expected growth in property values relative to price inflation. Here we consider price inflation to be CPIH, for consistency with the real risk-free rate post 2030 (when RPI methodology aligns with CPIH).
78. However, some research considers price inflation using CPI rather than CPIH. We haven't sought to make any adjustments noting that historically CPI and CPIH have been relatively close (we assume a difference of around 0.1 percentage point going forwards), and there will be more material uncertainties in the relevant parameters.
79. A useful starting point for determining a real growth rate assumption [of UK residential property] is to consider data on UK house prices. The majority of this data is backward-looking, including the UK House Price Index (HPI) and private rental yields, both published by the Office for National Statistics. Figure 8 compares these two series.

Figure 88



Source: ONS

80. Taking into account CPI inflation, on a real basis prices have not produced a positive return for most of the last 4 years. That follows a long period of volatile increases which appear, on average, to have been positive growth in real terms. In particular, price increases appear to have been lower on average over the period since the Sportelli judgement than in the 10 years previous to the judgement. It can be tempting to infer that recent trends will continue although past performance may not be a guide to the future. An

alternative hypothesis is that there will be a rebound in pricing as these assets could represent increasingly good value in real terms, for example.

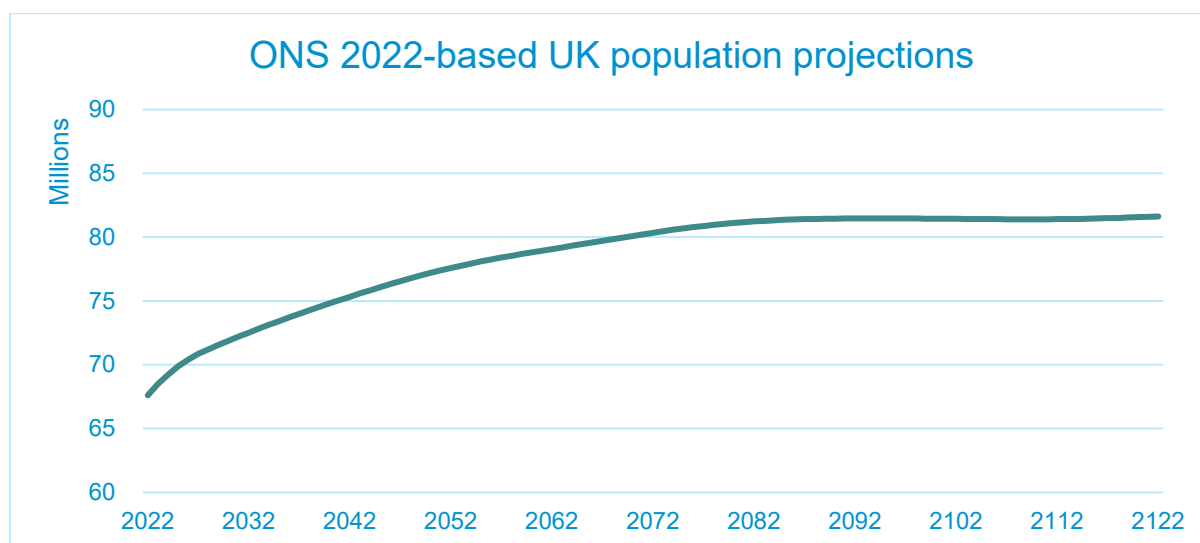
81. There are other data sources that track property pricing, with details around value and location. We haven't explored historic data sets in any more depth for this report, as the data is backward looking with limited inference on the long-term future outlook. We also have not explored regional variations for this purpose. The historical data does illustrate variations but is not clear on arguments for those differentials to consistently persist (ie into the long term, as we are considering here). We expect the forthcoming consultation presents an opportunity to collect a range of expert views on expectations for future price growth.
82. The Office for Budget Responsibility provides official forecasts for UK house price growth, although projections only cover a five-year time horizon, and as such are of limited use in this case. Nonetheless, the OBR is forecasting real house price growth (relative to CPI) of around 0.5% a year until the end of 2029³. This increase is net of a reduction to the average house price of around 0.8% by 2029 as a result of planning reforms.

Housing supply and demand

83. Beyond forecasts for house price growth, we can infer expectations for future real growth from factors that may affect pricing, such as changes to the housing supply (ie affecting the supply of housing stock) and population estimates (that may drive demand for housing, including type and location of housing). For example, if housing stock doesn't grow by as much as the population, all else being equal we'd expect rising demand and rising house prices in real terms. It is however a complex system with numerous dependencies that will change over time and becomes increasingly difficult to forecast confidently.
84. An example of a possible factor is the projection of the UK's population. The graph below shows the projected UK population from the ONS 2022-based national population projections. The projection shows growth in the UK population up to around 2080 where it appears to peak and the rate of growth levels off. The context to this however would be a projection of residential stock over that time, to give an indication of demand versus supply.
85. Population growth, considering fertility, migration and mortality, is a traditional actuarial area and one that we would be pleased to consider further, beyond the scope of this report. It would also be a perspective that does not appear to have been covered explicitly in the Sportelli judgement. There are projections available for parameters such as fertility rates, net migration and mortality, which we could consider along with how that may impact demand for residential units, while recognising the considerable uncertainties that are inherent in applying such projections to infer housing demand over very long-time periods.

³ [Housing market - Office for Budget Responsibility](#)

Figure 99



Source: [National population projections table of contents](#) - Office for National Statistics

Summary of real growth rate

86. We propose a potential real growth rate parameter for the purposes of Exercise 2 to be around 0.5% a year (relative to CPIH inflation). This is considerably more pessimistic than the Sportelli judgement and reflects the material described above. In particular we note the OBR's 5 year forecast for real housing price growth of 0.5% and have continued this rate into the future. A reduction in the rate since the Sportelli judgement is consistent with data on house price increases relative to CPI over the last 20 years.

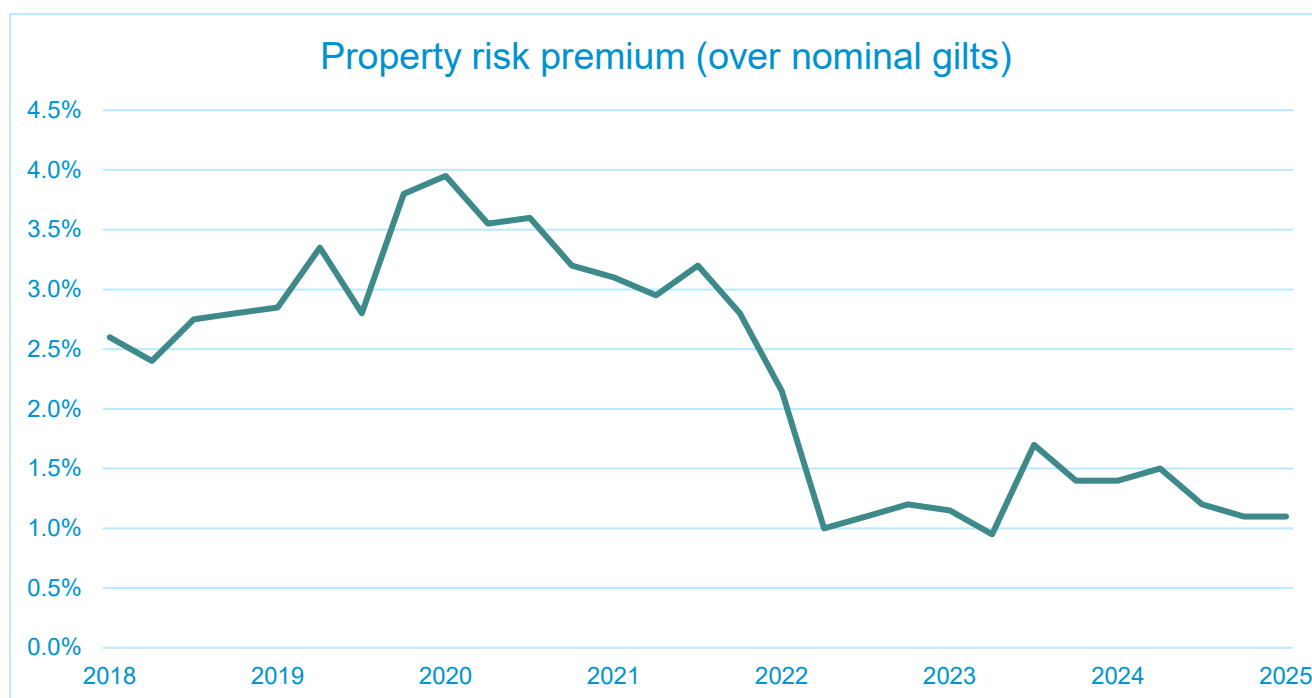
Risk premium

87. The risk premium is intended to capture the additional return an investor should expect to derive from residential property investing relative to a risk-free investment such as a gilt. With the potential for additional risks, an investor would expect some financial reward.
88. The Sportelli judgement considered the risk premium to include several components and values were shared against these in the judgement, with those components being volatility, illiquidity and depreciation. We do consider these components, but first consider an alternative approach.
89. The Sportelli judgement initially considered using a Capital Asset Pricing Model (CAPM) approach for the risk premium but rejected it due to challenges in being able to apply the model to residential property consistently. GAD uses a CAPM-led approach for its internal financial assumption setting for pension scheme valuation work. We consider UK core property for this purpose, reflecting property types such as industrial, retail, offices and a small proportion within that as residential. We state a total return ie it includes the return expected to be derived from property price increases as well as rental income.
90. We've shown our assumed property risk premium for recent years in Figure 10. Some inference could be drawn for the purpose of the deferment rate, as there are some similar characteristics, and it is an alternative investment available to UK residential property.

owners. Our assumption looks ahead for around 20 years on average, which we believe to be a shorter period than appropriate for the Deferment Rate.

91. Figure 10 shows a risk premium that has moved within the 1% to 4% range in recent years. Focussing just on residential may justify a slightly higher premium, reflecting a more concentrated investment and what is still a relatively novel area for institutions. Further, it should be noted that the analysis underlying the assumptions shown in Figure 10 is somewhat broad with property being only one of several asset classes considered.

Figure 1010



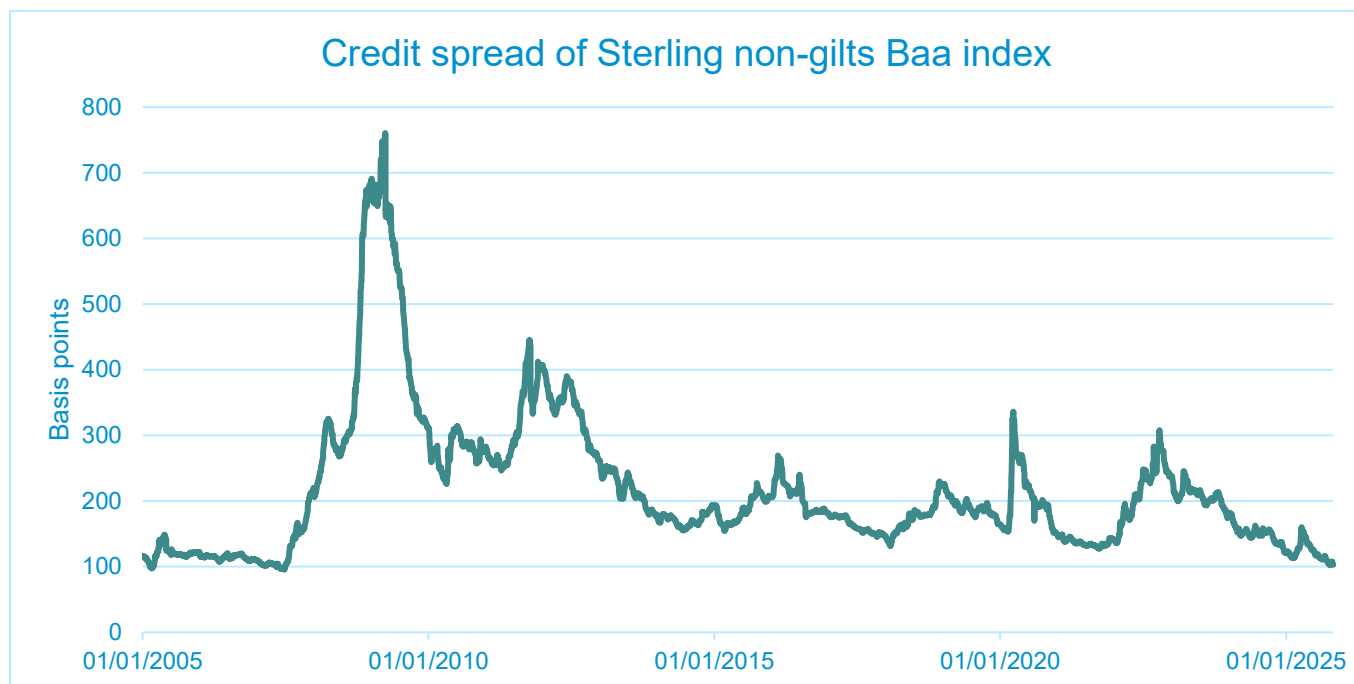
Source: GAD internal assumptions

Credit spreads

92. Credit spreads from UK investment grade bonds could be a proxy for the movement in the risk premium on other asset classes (ie how the risk premium changes, and not for the absolute level of risk premium). Credit spreads jumped significantly during the global financial crisis, with other notable spikes early in the Covid-19 pandemic and again as UK inflation increased in 2022. However, those spikes were not sustained, which could imply the use of smoothing if looking to set long term projections based on credit spreads.
93. We briefly consider this, using spreads on Baa rated corporate bonds (relative to gilts). Current spreads are at around 1%, similar to where they were around the time of the Sportelli judgement, which could support maintaining the property risk premium at 4.5%.
94. However, there are challenges with relying on spreads. Corporate bonds are usually over terms of less than 20 years ie shorter than the deferment rate application (but noting future deferment rate time periods may be more varied), consequently they can more acutely bear the impact of shorter-term market trends. The risks borne by corporate debt are different to property, so are the rewards. We therefore believe they can be an indicator of

market views on overall risk premium, but of limited value in determining timing or quantum.

Figure 1111



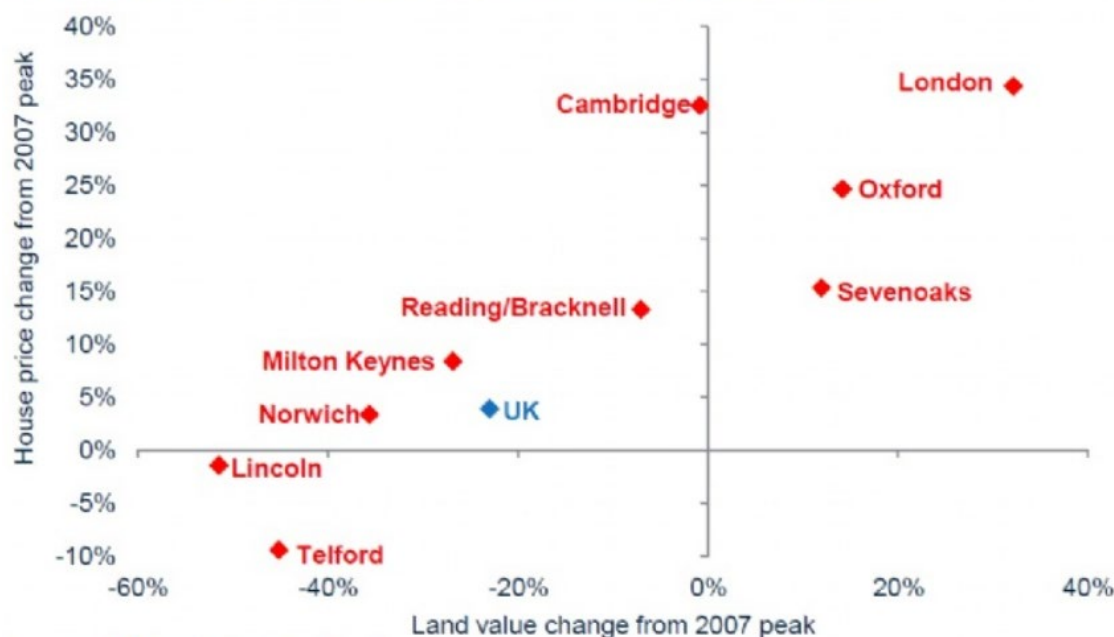
Source: Bloomberg

Land value as a percentage of total property value

95. One of the components of the risk premium considered by Sportelli is depreciation, related to the maintenance cost of property. The nature of those maintenance costs and how they may inflate over time could be the subject of a separate study. Here we focus on the those costs as a proportion of the overall property value (ie overall property value consists of the land value plus building value).
96. If building values account for a higher proportion of the overall property value, depreciation would be higher, all else being equal (and assuming real growth in property prices). This could imply an increase to the risk premium, from increasing the depreciation component. Alternatively, you could argue that if depreciation is higher, net real growth is lower. Data from Savills appears to confirm that building price has risen and land value has declined since 2007 as shown in the chart below, noting discrepancies between different areas of the UK. An example of this was the increase in building materials costs during the COVID-19 pandemic, and their prices have remained elevated. As a property owner this does add to the risk of owning a property, as you bear a higher risk from potential increasing maintenance and development costs, and so would seek a reward from that (by way of higher risk premium).

Figure 1212

Fig 4 – Development Land Value & House Price Change From 2007 Peak



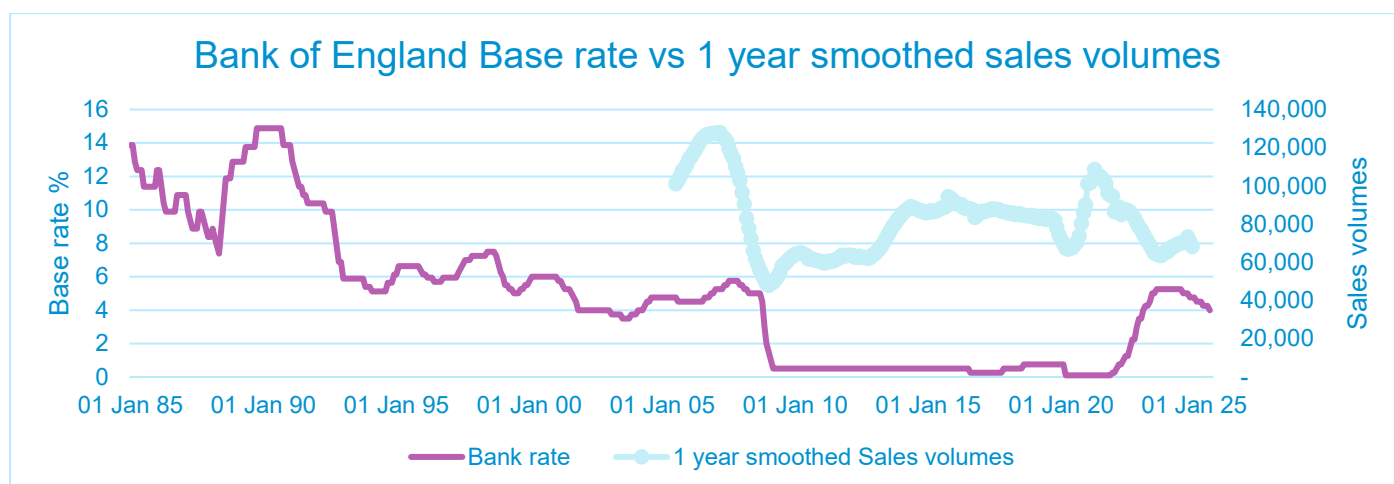
Source: HM Land Registry, Savills

Source: Savills

Illiquidity premium

97. Another component of the risk premium is the illiquidity of property ie it takes time to sell a property and if wishing to transact quickly you may have to sell at a discount. Therefore an investor requires a higher rate of return on a property investment in order to compensate for the risk that they may need to sell the asset at a time when prices are depressed and to account for high transaction costs.
98. We have looked at sales volumes compared with the Bank of England base interest rate in Figure 13. This was to test a hypothesis of inverse relationship ie as the base rate increases, sales volumes reduce, and then extrapolate a theory that the base rate may decrease slowly over the next few years as inflation subsides, potentially reducing the liquidity premium and therefore lowering our estimate for the risk premium. However, Figure 13 does not show any clear relationship and extrapolating many years into the future makes a significant macroeconomic judgement on interest rates which we feel is not appropriate.

Figure 1313



Source: Bank of England and HM Land Registry

Volatility

99. Another component of the risk premium considered in the Sportelli judgement is volatility ie if returns from property investing are expected to be volatile, an investor would demand compensation for that by way of additional return. Property investments are interchangeable with other investments, and a rational investor would use other investments if they could achieve the same expected return with lower volatility. However, property may be more 'sticky' than other investments, as it is expensive and time consuming to transact.
100. As with other measures in this note, we have not found any forward-looking measures of expectations of residential property price volatility. You could try and infer volatility from other measures, such as historic property pricing, and how that may change over time.
101. We have referred to the Prudential Regulation Authority's (PRA's) research on the deferment rate volatility parameter in respect of equity release mortgages. The PRA however are looking for views reflecting shorter term market sentiment, rather than a long term view which we are interested in. We do however, find it helpful in what they infer around a degree of expected stability, but do acknowledge volatility from idiosyncratic risk ie unique factors specific to property. However, such factors may be more acute over shorter periods but over the long term they may broadly average out.

Houses versus flats

102. The Sportelli judgement made a 0.25% addition to the risk premium for flats versus houses. The reason given was due to potential for higher maintenance costs on flats.
103. We feel such an addition seems reasonable, given flats tend to also require maintenance of communal areas and typically outsource all communal and structural maintenance work through a management body (that is typically remunerated), whereas houses can have more resident-led maintenance. There are however counter arguments – such as flats should have established networks of reliable and competitively-priced professionals, and

may have some economies of scale with pooling of maintenance across multiple residencies within a single building.

104. A quick desktop search did not show any analysis directly covering this topic (besides Sportelli). We did see lots of information on maintenance costs and anecdotal guides to maintenance costs. However, we would need to conduct deeper research to understand if we can form a view that is relevant to leasehold properties and making fair comparisons between houses and flats. There is also some circularity with points covered earlier on development of future residential stock, will design changes affect maintenance costs for example, and how may maintenance costs inflate relative to a measure such as CPIH. In summary we did not find any evidence to support changing this addition.

Risk premium summary

105. We believe retaining a risk premium of 4.5% as used in Sportelli is not unreasonable, for housing, and 4.75% for flats. That is supported by credit spreads now being back at broadly where they were 20 years ago. Such a risk premium would be a little higher than implied by a core property portfolio from our internal asset return assumptions in recent years. We have looked at the Sportelli composition of the risk premium, examining aspects of depreciation, volatility and liquidity, but did not identify trends that we could confidently make inferences on.

Exercise 2 summary

106. Considering our views as set out above, a possible alternative Deferment Rate adopting the Sportelli methodology but updating the rate to reflect more recent economic data would be as follows:

real risk free rate - real growth rate + risk premium

= 2.05% - 0.5% + 4.5%

= **6.05% (for houses)**

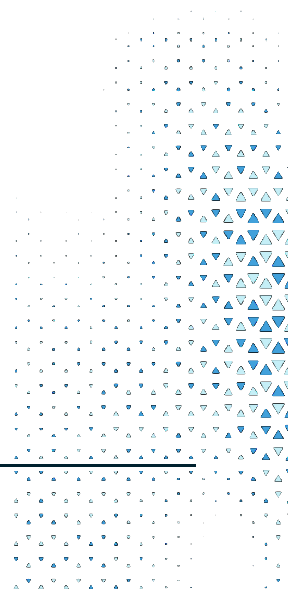
And a Deferment Rate of **6.3% for flats**.

107. However, a range of values could be considered reasonable – as was clear from the Sportelli judgement when the experts presented divergent views on method as well as the value of each assumption.

108. To give some examples:

- If we use a one-year smoothing period for the real risk-free rate instead of a six-month period, the real risk-free rate becomes 1.83% and the deferment rate for houses becomes 5.85% (when rounded).
- If we assume either a more modest reduction in the real growth rate relative to the Sportelli judgement (after adjusting for RPI reform), perhaps to 1.5% instead of 0.5%, or alternatively assume that the property risk premium reduces from 4.5% to 3.5% reflecting a less optimistic outlook for property returns, then the deferment rate for houses becomes 5.05%.

109. The Deferment Rate reflects estimates of future economic outcomes. The future is uncertain and it is expected that you would see a range of forecasts from different commentators. Whilst you have asked us to provide single rates in Exercises 1 and 2, the above comments provide some indication of the extent to which different, plausible rates could be derived. However, the values given above do not represent upper and lower boundaries for the deferment rate – more extreme values could also be possible. We are aware that you intend to supplement the analysis in this paper with your own research and then seek wider views through a public consultation, through which experts in property valuation will have an opportunity to express their views. We would be pleased to consider what range of values could be considered reasonable following that process by reviewing and testing the consultation responses and analysis provided from other parties.



Frequency of Deferment rate updates

110. We understand that the deferment rate will be reviewed every 10 years, with the ability to call an earlier review. You did not ask us to comment on an appropriate review period or catalysts for an out of cycle review, but we briefly touch on those as they are related to how the rate is set now. We start by considering two other long-term discount rates.
111. **Personal Injury Discount Rate for England & Wales.** This is a discount rate that reflects the investment return of a portfolio of investments, with certain deductions, such as for costs and tax. The rate is reviewed every five years, although an earlier review can be called. It is a long term rate so frequent changes are not expected, and whilst users of the rate would like it to remain current and fair, they also appreciate the stability afforded by a rate staying in force for several years.
112. **Defined benefit pension scheme discount rates.** This represents an expected return for a pension scheme's investment strategy, over the life of the pension scheme (typically looking ahead several decades). Pension schemes have to complete an actuarial funding valuation at least every three years, which includes updating the discount rate. Although it is a long-term rate, this acknowledges that discount rates will be sensitive to market sentiment even over a three year period.
113. As you have seen in this report, the Deferment Rate may have moved significantly due to changes in the risk-free rate over the last 20 years, subject to the extent to which other parameters in the formula need to be updated for consistency.
114. If the objective is to have a Deferment Rate that attempts to maintain parity for leaseholders and landlords under changes in economic conditions, to achieve that it would appear that regular updates should be considered, and to include a mechanism for considering whether to trigger an earlier review.
115. Under the Sportelli methodology, the Deferment Rate was not set in a mechanistic way. The risk-free rate was in part mechanistic but still required judgement in terms of the exact rate used and smoothing period. Not being mechanistic means that triggers for a review may not lend themselves to being prescriptive. And come the review, we'd then expect a deeper study being needed, with more scope for judgement.
116. On the other hand, a more mechanistic process could incorporate triggers for reviews and a relatively quicker process to complete that review. However, in return there would be less scope for judgement to reflect expert opinion, views of future investment returns and nuances of property investing or circumstances of the moment that are not reflected in published metrics.
117. We would be pleased to offer further thoughts on these choices at the appropriate time. A related point is the granularity of the rate: whether the rate follows a similar format to Sportelli (with one rate for houses and another for flats where the relevant term exceeds 20 years) or whether there is greater variation (such as by region or lease length, for example). That will have a bearing on the time to complete a review and the amount of data and expert judgement required. In this report we have assumed no change to the current approach, as requested.

Disclaimers

118. In preparing this advice, we have considered the extent to which our analysis may be affected by material macro-level risks or uncertainties, such as climate-related risk, the impact of high inflation, pandemic risks. Any explicit adjustments made to reflect such risks are discussed elsewhere in this report.
119. This work has been carried out in accordance with the applicable Technical Actuarial Standard: TAS 100 issued by the Financial Reporting Council (FRC). The FRC sets technical standards for actuarial work in the UK.
120. This report has been prepared for the use of MHCLG and must not be reproduced, distributed or communicated in whole or in part to any other person without GAD's prior written permission.
121. Other than MHCLG, no person or third party is entitled to place any reliance on the contents of this report, except to any extent explicitly stated herein. GAD has no liability to any person or third party for any action taken or for any failure to act, either in whole or in part, on the basis of this report.

