



Resilience Review 2019

Confidential

Contents

1. Abstract.....	3
2. Introduction.....	3
3. Historical Context.....	4
4. Our Approach.....	4
5. Scenario A.....	8
6. Scenario B.....	10
7. Scenario C.....	12
8. Conclusion and Outcomes.....	14
9. Summary.....	14

Disclaimer

Resilience testing is not investment advice. Our resilience testing is an evaluation of our current loan book, based upon previous economic crises which impacted the residential property (housing) market. The main purpose of our testing is to evaluate our current loan criteria and processes, as well as to assess the potential impact of another housing market downturn. Although our resilience testing shows our loan book should be secure in the event of another economic crisis, past performance is not a guide to future returns and, when lending towards any investment product, your capital is at risk.

Headline Results from this Resilience Review

From our resilience review we have found:

- On our most exposed loan, in a sustained economic collapse equal to the magnitude of 2007/08, it would take 315 days past the loan end date until it entered into negative equity (where the total owed is greater than the value of the property asset)
- In a scenario where there is an immediate and sustained economic collapse of equal magnitude to the 2007/08 crisis, and where all our loans went late on the day of the collapse, our average owed at exit to GDV values would be: 71.48% at the end of the loan terms, 74.70% in the 6 months post loan term position and 77.92% in the 12 months post loan term position
- We anticipate, in the worst realistic scenario, over a period of 5 years late, the effective rate of secured interest would be over 5% - with capital never becoming exposed

1. Abstract

As part of our dedication to maintaining our best-in-class 100% capital and interest payback track record through more than 5 years of lending and our unparalleled standard of due diligence, CrowdProperty has undertaken a thorough, multi-scenario loan book resilience study on all active loans to understand the loan book's exposure to economic volatility. CrowdProperty analysed the causes of the 2007/08 and 1989/90 crises and from the aggregation of localised house price data during the 2007/08 and 1989/90 crises, derived resilience test scenarios. The scenarios, analysed and applied at localised levels given differing impacts, have been examined to test the resilience of the existing loan book to determine what economic conditions would compromise the security underpinning CrowdProperty loans, potentially compromising the 100% capital and interest payback track record of the platform to date. From this resilience testing, validation of our entry criteria for loans is detailed in this report and the resultant data analytics built into future loan appraisal assessment.

2. Introduction

In February 2017, the UK government published the main housing white paper - 'Fixing our Broken Housing Market'. Small and medium sized property businesses were specifically identified as playing a key role in solving the UK housing crisis. Proposals focused on unlocking sites, planning constraints, construction barriers and funding for this segment. The UK Government committed to 'make more land available for homes in the right places by maximising the contribution from brownfield and surplus public land, regenerating estates, releasing more small and medium sized sites, allowing rural communities to grow and making it easier to build new settlements'. ([Fixing our Broken Housing Market, White Paper](#)).

It is estimated that the UK needs 300,000 new homes each year to address our Nation's undersupply of housing. This problem is at the core of our mission at CrowdProperty: we facilitate the finance of SME developers by the Great British Public who earn inflation-beating interest whilst growing the UK housing market and increasing spend in the economy on labour, materials and services. We are, however, aware of the fears around asset bubbles, economic collapse and loss of investor's capital. Therefore, we have completed resilience analysis around our past and present loans, assessing the level of security behind our lenders' funds.

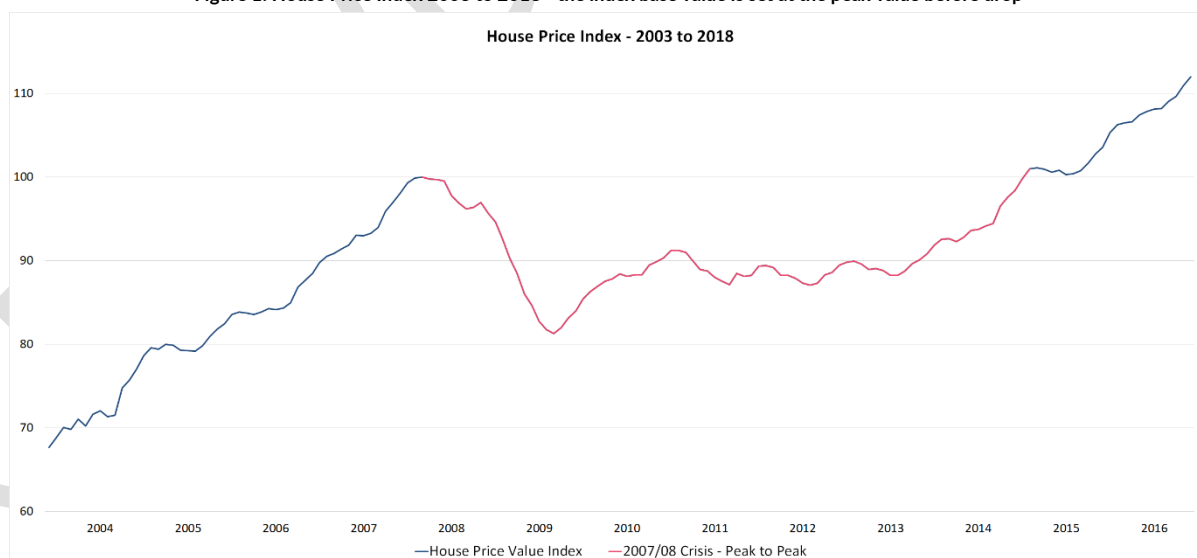
3. Historical Context

To better understand our loan book, a number of generation-defining economic events have been assessed as part of this study. We are aware that not all economic downturns impact the residential property market to the same extent nor for the same reasons, however, the following events are the best real-world examples on which to base our resilience testing.

In 2007/08 the UK economy experienced its worst recession since the [Great Depression](#) in 1929. The 2007/08 crisis was caused by a collapse in the [subprime](#) mortgage market. Years of lending to subprime borrowers - as well as overleveraging - resulted in a surge in the number of home owners ([ONS](#)), and therefore a surge in demand for homes. The resulting increase in demand for homes resulted in significant increases in house prices. The increased value of house prices allowed prior homeowners to release equity from their homes as a quick and seemingly free windfall. The release of equity grew the economy through conspicuous consumption, whilst covering up the issues of overleveraging and subprime borrowing.

When variable interest rates increased many households failed to continue to make mortgage payments resulting in thousands of mortgages entering arrears. After banks recognised the potential losses, they began exercising the legal charge on properties. The banks listed many properties for sale to recover the cost of mortgages as quickly as possible. As a result, the supply of homes increased rapidly in a market which had previously accommodated for the demand by lending to subprime borrowers. With supply exceeding demand banks were forced to lower the prices of listed homes to facilitate their sale. The resulting fall in house prices increased the leverage on mortgages, which led to many mortgages slipping into negative equity - costing financial institutions and the UK billions ([FT](#)) whilst the public experienced losses in savings with financial institutions as well as in home equity. At the trough of the crisis, UK house prices dropped on average 18.72% (March 2009) ([Land Registry Data -HPI](#)). The crisis in average house prices lasted from a peak in September 2007 and took until August 2014 to recover to previous peak levels (83.3 Months). ([Land Registry Data -HPI](#))

Figure 1: House Price Index 2003 to 2018 - the index base value is set at the peak value before drop

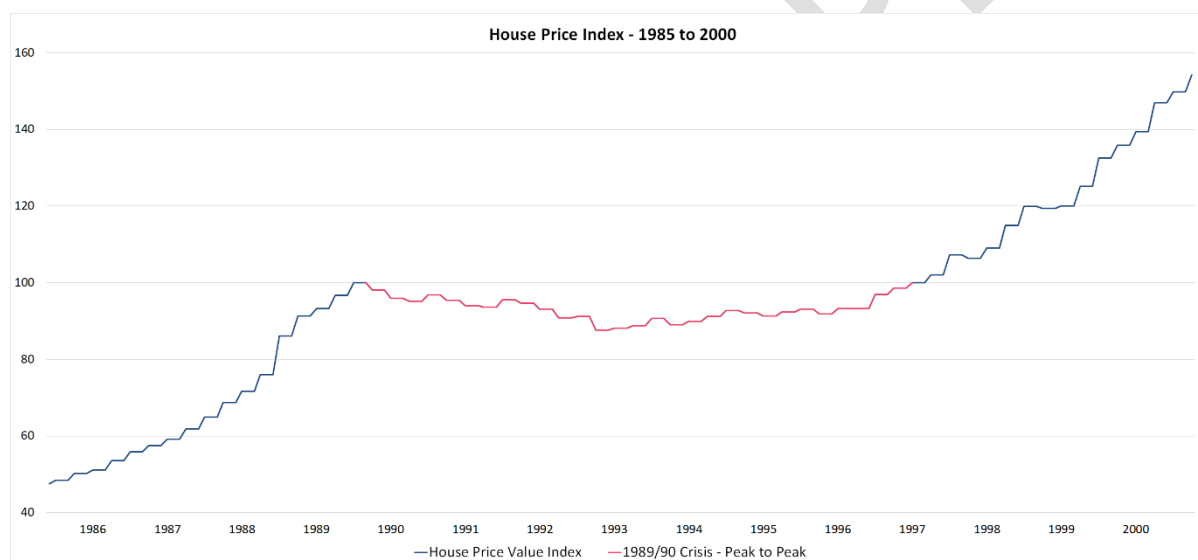


The 2007/08 crisis has been attributed to overconfident financial institutions, enabled by the deregulation of the banking and financial sector in the mid 1980's.

During the early 1990's, the UK experienced an economic downturn caused by high interest rates. High Interest rates were being maintained by the UK Government in order to meet targets set by the European Exchange Rate Mechanism ([ERM](#)).

The UK joined the ERM in 1990 in an attempt to stabilise inflation but around the time of joining, the UK economy had begun to slow. Under normal circumstances, if the UK economy began to decline, interest rates would likely have been lowered in order to encourage borrowing and therefore growth. However, the economic slowdown resulted in a fall in Sterling and, due to the targets set out by the ERM, the UK Government maintained interest rates above 9% ([Bank of England, Historic Data](#)) to encourage the value of Sterling to increase. High interest rates made mortgages and house prices unaffordable, which reduced the demand for, and price of, houses. The subsequent fall in house prices and high cost of mortgage payments reduced disposable household income. The minimal disposable income resulted in a lack of consumption spending, which in turn contributed to the continued stalling of the economy and fall in house prices. In the trough of the 1989/90 crisis, house prices dropped by 12.34% (1992). The crisis in house prices lasted from a peak in September 1989 and took until January 1997 to recover to the same peak levels (87.7 Months). ([Land Registry Data - HPI](#))

Figure 2: House Price Index 1985 to 2000 – the index base value is set at the peak value before drop



The 2007/08 and 1989/90 were crises that came from contrasting demand and supply side issues. Whilst the 2007/08 crisis was caused by an overconfident and deregulated financial sector, the 1989/90 crisis was driven by high interest rates. The 2007/08 crisis can be attributed to an issue of excessive demand in a period in which the financial sector was happy to accommodate, while in contrast the 1989/90 crisis can be attributed to an affordability issue caused by high interest rates.

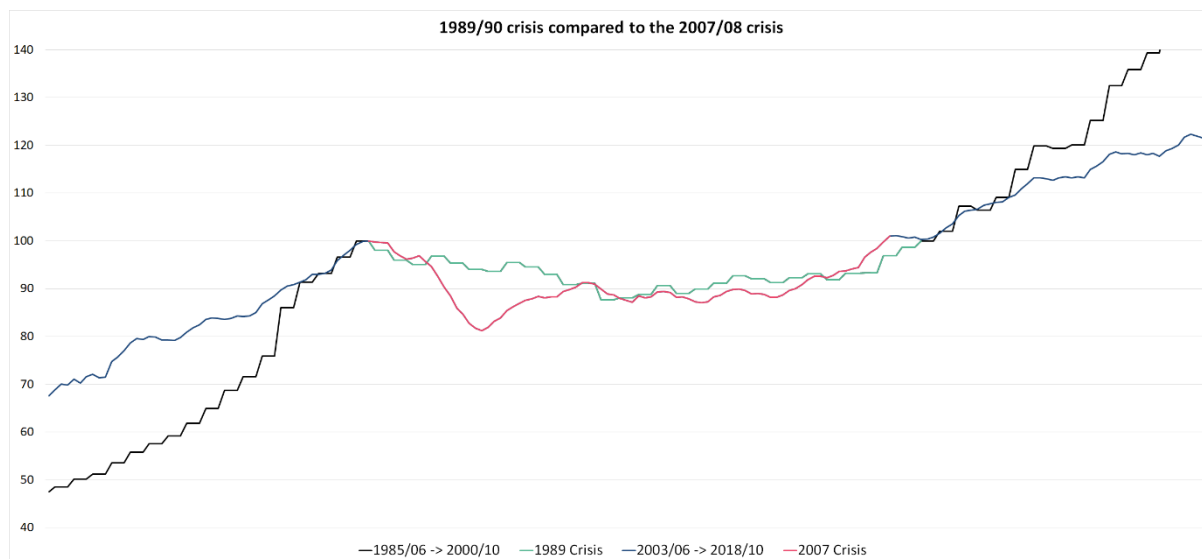


Figure 3: House Price Index of 2007/08 and 1989/90 - the index base values are set at the peak before trough of each of the respective time periods. The two crises are graphed with the start (peak) of each crisis at the same point. The interval period is in months

Despite the two crises' being caused by contrasting demand and supply side issues, the impact on house prices was very similar. Comparing both the 2007/08 and 1989/90 crises, the more dramatic crisis was in 2007/08 with the worst decline of -18.72% which was half as severe again compared to the average drop in 1989/90. However, the 1989/90 crisis lasted longer, taking 4.4 months longer than 2007/08 to recover to peak levels.

After reviewing and analysing both the 2007/08 and 1989/90 crises, we have decided for the purpose of our resilience testing to base our modelling on the most severe aspects of both crises.

4. Our Approach

When analysing the 2007/08 and 1989/90 crises, we have used the UK house price average ([Land Registry Data - HPI](#)), which is a macroeconomic approach that shows the broad average impact on UK house prices. The macroeconomic approach works well for a comparison of previous economic events on the UK as a whole, but for the resilience testing of our loan book we need more specific data which shows the variation across different geographic areas in the UK. We have accounted for variations by using Local Authority data. Local Authority data shows the variation between cities and counties in the UK, as well as accounting for different microeconomic factors that would impact specific locations.

It is important for us to specify our position and what would class as an adverse effect on our loan book. The maximum LTV we currently offer, on first drawdown against the asset is 75% for serviced bridging loans and 70% for property projects, whilst the maximum owed at exit to GDV, including accrued interest is 70%. Both LTV and GDV are [RICS](#) assessed values.

We would class a failure as a situation where the security of the asset is below the investors' capital and accrued interest. This scenario would occur where the project was already at the maximum achievable value, we had taken legal ownership over the loan and it had over 100% owed at exit (including accrued interest) to GDV. Past 100% owed at exit including interest to GDV, the loan liability would have a greater value than the property asset (CrowdProperty LTV & GDV). Based upon our assumption of failure, we have completed our resilience analysis for three different scenarios reflecting progressively worsening market events.

5. Scenario A

Scenario A is based upon applying a repeat of the 2007/08 crisis onto our complete loan book. The fundamental premise of this scenario is: "If a new economic crisis started now, how would our loan book be impacted at: the end of the loan term, 6 months post loan term, 12 months post loan term and during the trough of the crisis". This scenario is modelled on the effects of the 2007/08 crisis at a local authority level, splitting data by property type. We've chosen this scenario as the 2007/08 crisis had the most immediate severe impact on house prices and has the most reliable and granular data.

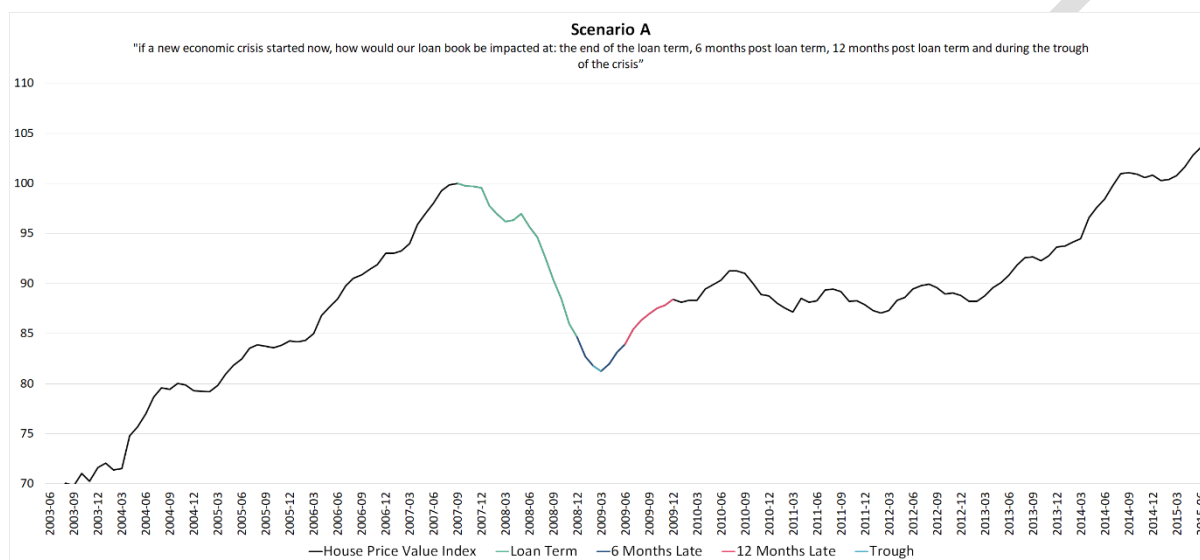


Figure 4: House Price Index for scenario A. It is an average example, based on the average loan term being 15 months – this is purely an example, not every loan will have this profile as loan terms differ. Index base point is set at the peak before the decline in 2007-08

The results show the owed at exit to GDV percentages at the end of the loan term, 6 months late, 12 months late and during the trough - accruing interest relevant to the period. The RICS assessed GDV value for this scenario is assumed to have been completed the day before the decline began. The GDV values in this scenario reflect an adjusted value relative to the decline of the time, split by local authority and property type (if developing multiple different unit types, it is an overall average).

The results for scenario A show us that not a single loan on our loan book passes 100% owed at exit to GDV at any point. The average owed at exit to GDV percentage assessed before launch was 57.89% across our entire loan book. In this scenario the average owed at exit to GDV was 68.95% at the end of the loan terms, 70.85% at the 6 months post loan term position, 72.07% in the 12 months post loan term position and 66.63% during the trough of the crisis. The highest owed at exit to GDV percentage was at 98.07% on a loan which has already been paid back in full. From our current active loan book, the highest owed at exit to GDV percentage stands at 96.89%, which is on a multiphase loan, in the 12 months late position in this scenario.

When loans are due to be repaid, our in-house team formally notifies the borrower 3 months prior to their expected repayment (in addition to ongoing communication throughout the project). If the borrower expects to repay the loan late (past the agreed loan term), our team and our Property

Director would follow up with the borrower on a weekly basis to assess the status of the project and what actions should be taken in the best interests of all parties.

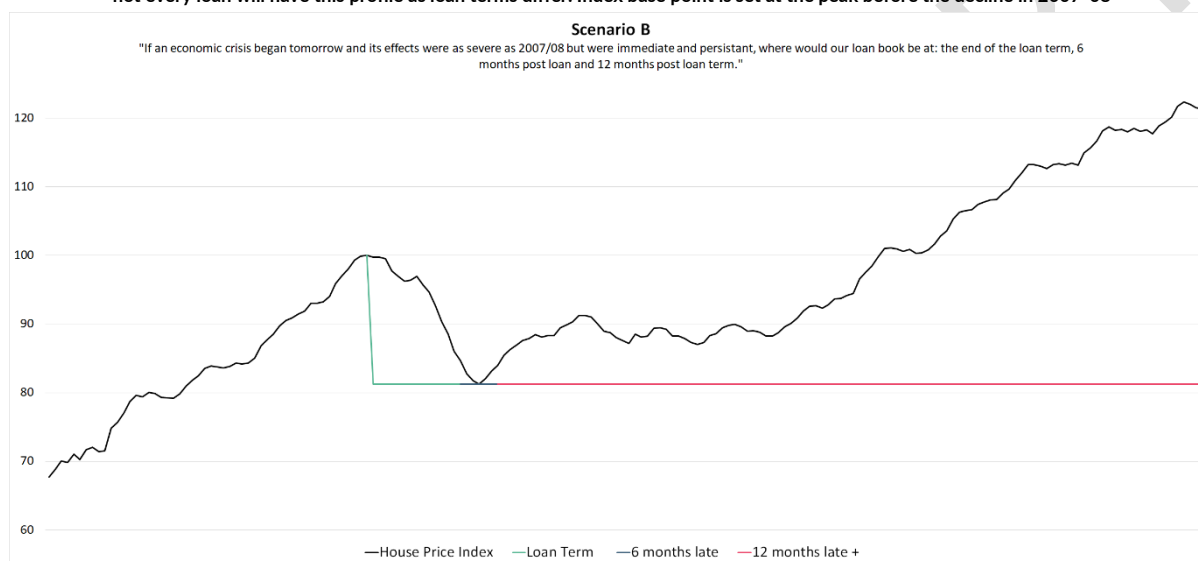
We are aware of the differing levels of exposure on our loans and manage the higher risk loans (based on quantitative exposure metrics and qualitative assessments via our direct relationships) more closely in the event of another economic crisis and close monitoring of the actual and expected effects. We are therefore aware of loans likely to go late well in advance of its due date, through IMS reports, consistent communication with the borrower throughout the project, and close monitoring of the UK housing market, becoming board agenda items as well as a priority for our Property Director and team.

It is important to note the reasons for late repayment can include, but are not limited to, the development may not be finished, or a potential sale or refinance may be taking longer than previously expected. Each project is different, and therefore the best course of action will be chosen, driven ultimately by the best interests of lenders with intimate knowledge and expertise on all potential courses of action available, constantly assessing the level of exposure on a late loan.

6. Scenario B

Scenario B is a more severe version of scenario A. Scenario B represents: “a repeat of the 2007/08 crisis, but the complete collapse is immediate and, instead of house prices recovering, they remain at trough (lowest) levels”. Scenario B is the most severe scenario that could be realistically anticipated based on historical data, it reflects a more severe version of the stagnation in house prices after 1989/1990 with a decline reflecting the same magnitude as 2007/08. The data used is reflective of scenario A, the fall in house prices is based on local authority data split by property type. Again, as with scenario A, the owed at exit to GDV is calculated using interest accrued based on the date and an adjusted GDV value – based on the initial RICS assessed value assumed to be the peak value before the decline.

Figure 5: House Price Index for scenario B. It is an average example, based on the average loan term being 15 months – this is purely an example, not every loan will have this profile as loan terms differ. Index base point is set at the peak before the decline in 2007-08



The results of scenario B show two of our loans exceeding 100% owed at exit to GDV, both of which have paid back in full. One of these two loans was in 2015, very early in the lifetime of CrowdProperty. The owed at exit to GDV assessed upon launch of this project was 76.34% - the project was 8 months long and was a bullet bridging loan. The loan was funded in order to allow the borrower time to acquire HMO licencing, ie with no development risk. This loan reaches 101.35% in the 12 months post loan term position of scenario B. In our resilience testing this is considered an outlier as applying 12 months additional interest more than doubles the total loan length. In addition, the owed at exit to GDV exceeds our current criteria by 6.34%; if this loan was funded today, we would offer less to the borrower, for example using a serviced product (where the borrower pays interest monthly) to slow the increase in leverage, or would retain the interest payable up front, with the 70% level being the gross loan amount. It should be noted that our lending criteria have tightened since 2015 and as a policy only ever tighten.

The second loan which passes 100% owed at exit to GDV was a 15-month loan which launched in 2017; the loan reaches 101.15% also in the 12 months late position. Although this loan does exceed 100% owed at exit to GDV, it actually paid back in two partial repayments which would have prevented the loan ever reaching 100% owed at exit to GDV. From our loan book 54 are loans on

projects developing multiple units, these projects are more likely to partially payback in phases before the loan end date. Partial repayments reduce the leverage and risk of the loan (as partial payback on realising unit exits always reduces leverage as a policy) and therefore having the vast majority of our loans funding multiple unit developments is a benefit. Additionally, the second loan similarly to the first, exceeds our current GDV and LTV criteria with an owed at exit to GDV of 72.58%, 2.58% greater than the level we would currently offer.

Although these loans do exceed 100% owed at exit to GDV they are less of a concern, as not only have these loans been paid back in full and on time, but they do not adhere to our current criteria and would not have been funded to the same extent today. This is an important element of operating experience driving both organisation and policy improvements.

These loans reassure us that our current criteria is fit for purpose, as with our current active loan book, not a single loan exceeds 100% owed at exit to GDV in the 12 months post loan term position. The average owed at exit to GDV percentage with the adjusted GDV values across our entire loan book are: 71.48% at the end of the loan terms, 74.70% in the 6 months post loan term position and 77.92% in the 12 months post loan term position.

7. Scenario C

The final scenario is a continuation of scenario B and is a test of how long our loan book could last under the conditions imposed under scenario B. Scenario C presents the strength and resilience of our total loan book in the severity of scenario B by calculating the level of exposure on both interest and capital as well as calculating the expected lender returns in this scenario.

The results of scenario C are shown below.

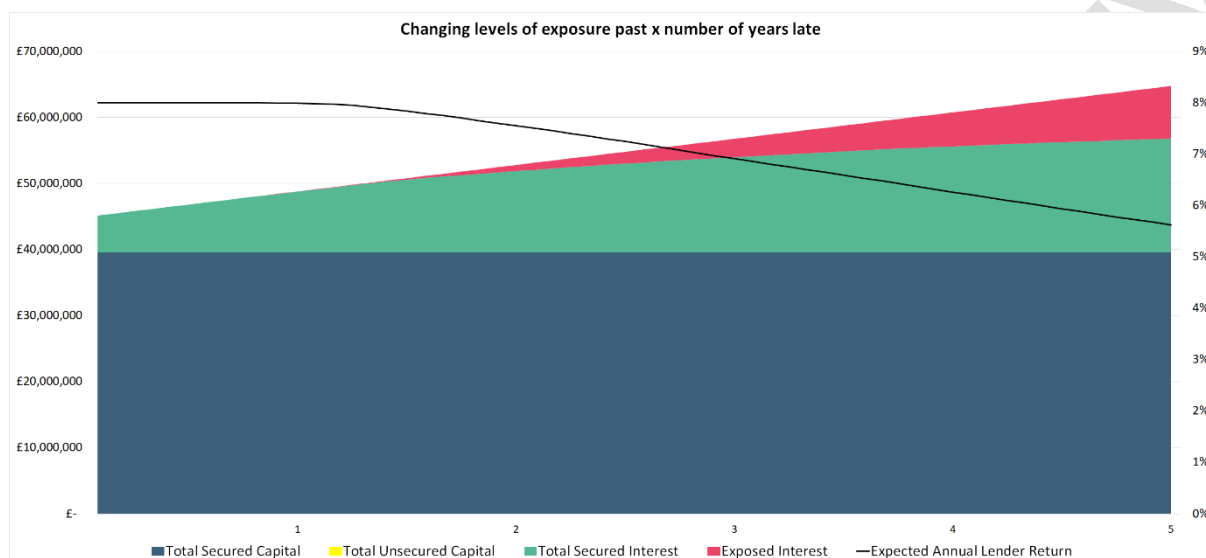


Figure 6: Scenario C shows the exposure of our loan book, assuming all of our loans went late at the same time, in the same adverse conditions of scenario B where GDV values are adjusted accordingly. Including a measure of expected lender returns, adjusted for exposed interest

Scenario C's graph shows, in the conditions of scenario B, total lender capital would never become unsecured and lenders would maintain a return of their capital between 8.0% and 5.5% even when our loans have accrued unsecured interest at a period of 5 years late. This is also why we encourage diversification across many loans, achieved via purposeful selection or via the CrowdProperty AutoInvest product.

The [P2PFA](#), the leading association of Peer to Peer Lenders and the FCA ([in CP18-20](#)) defines "bad debt" (non-performing loans) for property loans specifically as a loan that has past 180 days late. Every loan from our overall loan book, past and present, in the very worst-case scenario, could last at least 315 days post the original loan end date before any of lenders' capital or interest is at risk.

Our Property Director, [Andrew Hall](#) believes it would take us in a worst-case scenario, a maximum of 12 months past loan end date, to sell a property at market value. The breakdown of this would be: a 45-day period, where the borrower is given time to sell the property; a 90-day legal process to exercise our first charge security and a maximum of 6 months to finally sell the property.

From our current active loan book, our most exposed loan could accrue just under 12 months of late interest before accruing unsecured interest. This example shows us why our resilience analysis is important. Our analysis gives us further insight into the economic volatility of the UK – allowing us to

manage our current and future loans effectively to ensure we are always acting in lenders' best interests and striving to keep our 100% capital and interest payback track record.

As part of the management of future loans, the data and results used in this resilience statement are incorporated into our appraisal system which we use to evaluate every project proposed to the CrowdProperty website. We evaluate the location of project, assess historic economic factors, liquidity as well as potential future development of an area. We also plan the structure of loans into phased raises, in order to reduce exposure and leverage - structuring loans into separate phased raises reduces the total interest accrued therefore reducing owed at exit to GDV. In total, through over 5 years of operating, to 30/06/19 we have assessed over 1700 project applications with a combined value of £1.4bn and funded a total of £40.5m. The efficient (enabled by technology), effective (enabled by expertise) and rigorous due diligence alongside assessing a highly significant portion of the SME property project market (with annualised application run-rate of £1.7bn) demonstrates that CrowdProperty applies a prudent approach to lending.

8. Conclusion and Outcomes

Our resilience testing reassures our belief that our loan book represents best in class. CrowdProperty's 100% capital and interest payback record and confidence in our loans' ability to maintain security cover in any reasonable economic downturn shows our potential to provide sustainable performance in a significant economic downturn.

We are a reliable, stable and proven platform. What we are doing to help build Great British Homes is both sustainable and greatly needed in the current economic climate; we are part of the solution to tackling housing under-supply and increasing spend in the economy. As mentioned in the Government's White Paper, SME developers are crucial to tackling years of housing under-supply, SME's property professionals are the developers we work with and support with affordable property finance. Together across our marketplace, CrowdProperty will sustainably help build a material proportion of the estimated 300,000 Great British homes needed to satisfy demand.

9. Summary

In summary, the resilience testing undertaken in this report has been based on the historical data points from the two previous economic crises affecting house prices. The Scenarios based on this data have shown that our current entry criteria for loans are fit for purpose. As our product offerings diversify, continued resilience testing based on these data sets (and others where relevant) will be key to continually testing the resilience of our active loan book and our entry criteria for new loans.

Our resilience testing shows our current active loan book should not accrue major losses in any reasonable economic downturn with proposed Scenario C presenting the most exposed loan in our current book, as being able to sustain 315 days of post loan term interest without slipping into negative equity during a worst-case economic crisis. Due to our resilience testing for 2019, we have confidence that our loan book will continue to maintain our 100% capital and interest payback track record for Lenders in any reasonable scenario and we will continue to learn and make tightening changes to our lending criteria based on the large sample of property projects we assess.

