



Momentum conference 2010
Charles Marandu



Why should the banks have all of the fun?

Celtic Manor, December 2010

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Intro

- My opinion piece
- Not the opinion of SEI
- Stimulate debate and question the status quo
- Can we build solutions that serve our clients and wider society better?

Agenda

- Economic backdrop
- UK housing market
- Long-term investor behaviour
- Social lending
- DIY lending for long-term investors

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Economic backdrop

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Markets in meltdown (2007 – 2008)

- Loose mortgage securitisation, shadow banking
- Self cert, Ninja loans, CDO, CDO squared, CDO cubed..
- US housing bubble burst
- How much are securitised assets worth? Who holds what?
- Declining trust
- Impaired banking balance sheets, hedge fund blow-ups, asset write downs
- Forced sale of Bear Stearns
- The demise of Lehman Brothers

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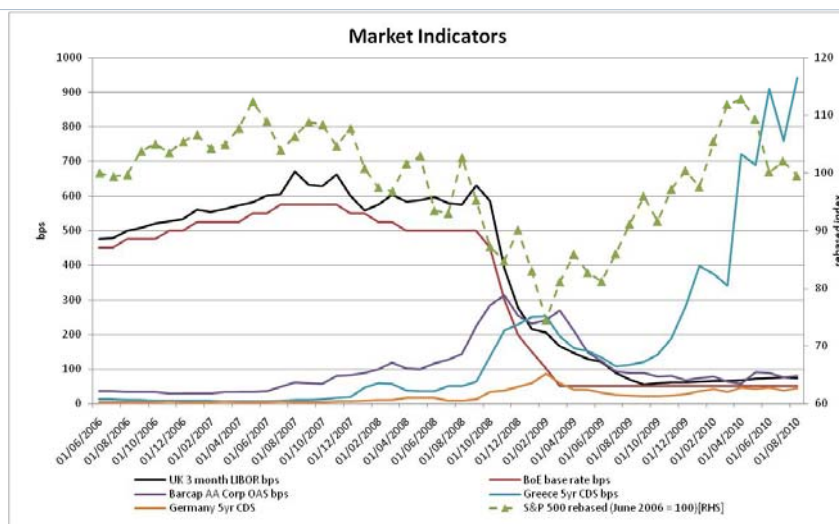
The crisis continues (2008 – 2010)

- Dislocation, interbank funding freezes, liquidity crisis, risky assets plunge
- Government financial bailouts galore
(e.g. Northern Rock, Bradford & Bingley, RBS, Citigroup, AIG, Bank of America)
- Madoff with the money
- BoE base rates to 0.5%
- Quantitative Easing
- Risk transference to governments → European sovereign debt crisis
- UK cupboards are bare – fiscal tightening, loose monetary policy
- A lot of uncertainty.... (high gold prices, low gilt yields, sideways equity markets)

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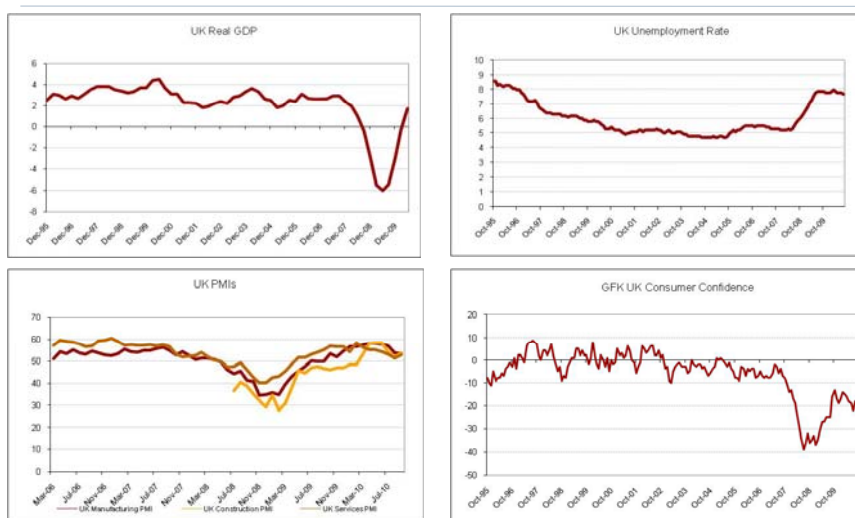
Global market indicators



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UK economic backdrop



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Data: Bloomberg

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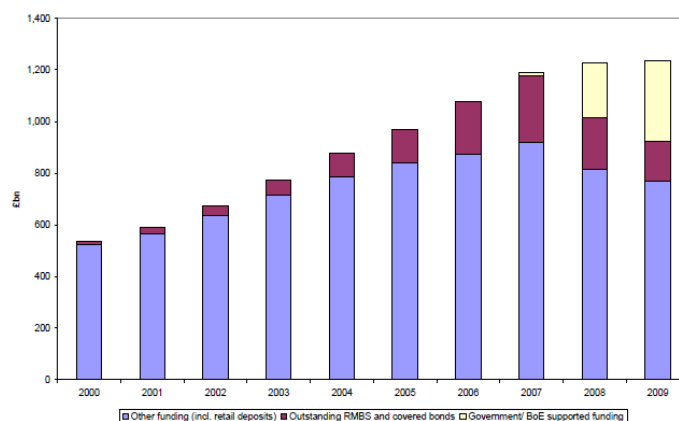
UK housing market

UK residential mortgages

- Secured borrowing for purchase of a property
- Borrowing over many (often 25) years
- Security a function of probability of personal default & loan-to-value (LTV) at time of default
- Predominantly structured in the UK with reference to short-term interest rates (tracker, variable, short-term fixed rates)
- Often referenced to BoE base rates (or the lender's own reference rate) plus a spread

Funding UK residential mortgages

The funding of UK mortgage debt



Source: Various

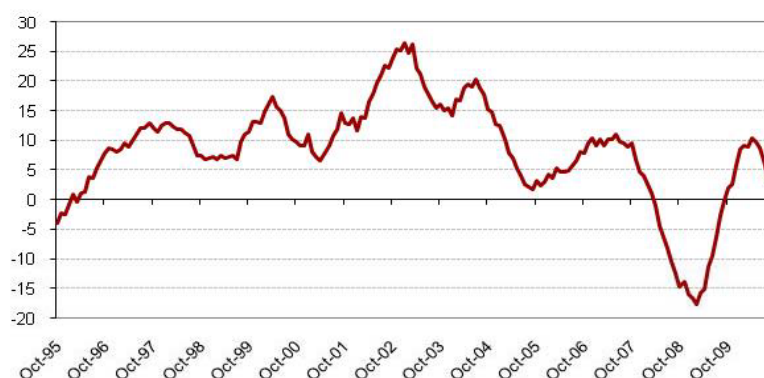
Source: Council of Mortgage Lenders

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UK house prices yoy

UK Nationwide House Price



Data: Bloomberg

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Mortgages on offer today

At a glance: Fool.co.uk's top mortgages

Compare Mortgages	Fixed Rate Mortgages	Buy-To-Let Mortgages	Offset Mortgages	Discount & Tracker Mortgages	Remortgages	Search All Mortgages
Provider & mortgage type	APRs	Max. Loan To Value	Fees & Other charges			
Initial rate & Period	Subsequent rate	Overall cost for comparison				
First Direct tracker base +2.25% for term	2.75% for term	2.75%	2.9%	65%	Arrangement fee: £99	Early repayment charge: none
Yorkshire fixed 3.94% for 5 years	3.94% to 30/11/15	4.99%	4.7%	60%	Arrangement fee: £395	Early repayment charge: 5% reducing to 3% until 30/11/12
ING Direct tracker base +2.15% for term	2.65% for term	2.65%	2.8%	75%	Arrangement fee: £345	Early repayment charge: none
Leak United fixed 4.05% for 5 years	4.05% to 30/11/15	5.19%	4.9%	75%	Arrangement fee: £395	Early repayment charge: 3% until 30/11/12
HSBC tracker base +1.65% for term	2.15% for term	2.15%	2.2%	60%	Arrangement fee: £99	Early repayment charge: none
Coventry fixed 3.05% for 2 years	3.05% to 31/12/12	4.74%	4.4%	65%	Arrangement fee: £199	Early repayment charge: 4% until 31/12/12

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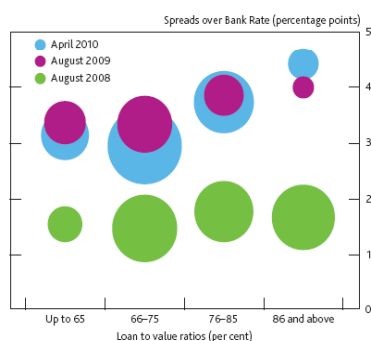
• <http://www.fool.co.uk/mortgages/compare-mortgages.aspx> (Motley Fool 22/10/2010)

- Few LTV above 75%
- Few fix beyond 5 years
- Term trackers – lower introductory rates then switch to higher standard variable rate
- Linkage to variable BoE base rate (0.5%)
- Spreads above base by at least 1.69%pa
- Arrangement Fees

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Higher spreads, banks de-risking

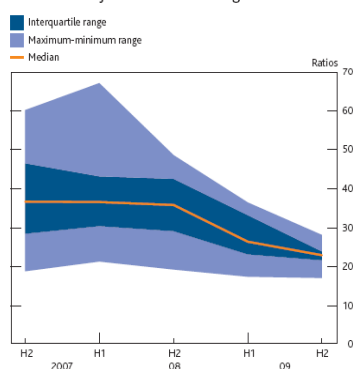
Chart 1.14 Floating-rate mortgage spreads and product availability across loan to value ratios^(a)



Sources: Moneyfacts Group and Bank calculations.

(a) End-month advertised rates for products with different loan to value (LTV) ratios. Size of bubble reflects product availability. The spread is calculated over Bank Rate at the end-month for the relevant period. The first observation on the left is for products up to a 65% LTV ratio, the second is for products in the 66%–75% range, the third in the 76%–85% range, and the final observation on the right is for products above 86%.

Chart 1.7 Major UK banks' leverage ratios^(a)



Sources: Published accounts and Bank calculations.

(a) Leverage ratios are calculated as adjusted assets over adjusted capital. Assets are adjusted by netting derivatives and adjusting for cash items, tax and intangible assets. Capital excludes Tier 2 instruments, preference shares, hybrids and intangibles. Chart includes Banco Santander, Bank of Ireland, Barclays, Co-operative Bank, HSBC and Royal Bank of Scotland for the entire sample, and Alliance & Leicester, Bradford & Bingley, Britannia, HBOS, Lloyds Banking Group and Lloyds TSB for part of the sample, as appropriate.

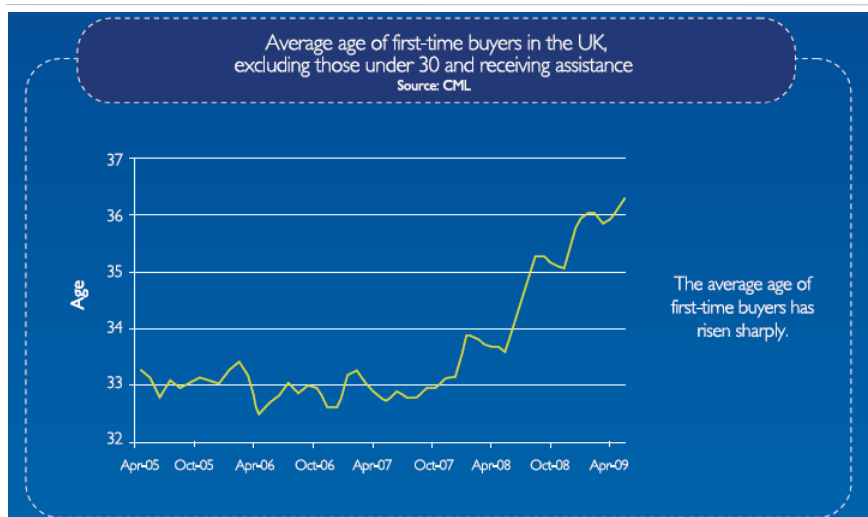
<http://www.bankofengland.co.uk/publications/inflationreport/ir10may.pdf>

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Pulling the ladder away

Average age of UK 1st time buyers ex BOMAD is rising

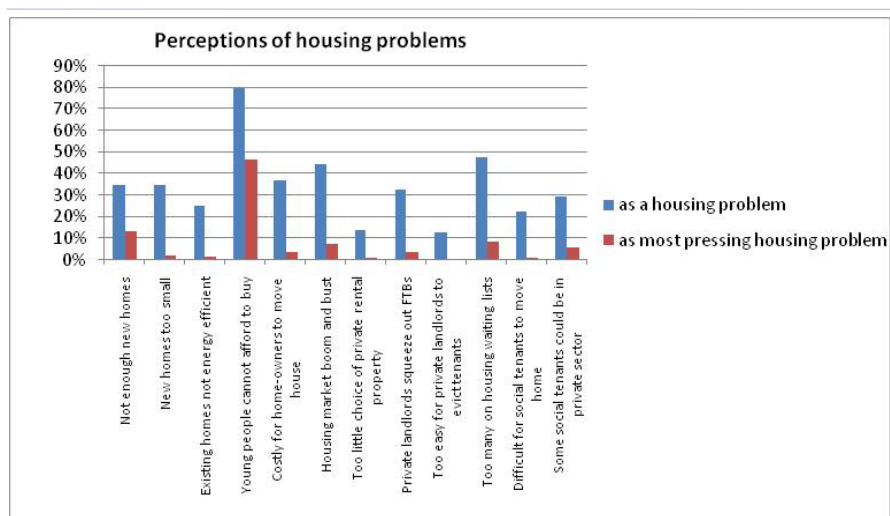


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Pulling the ladder away

(Not) getting on the ladder is the most pressing housing concern today

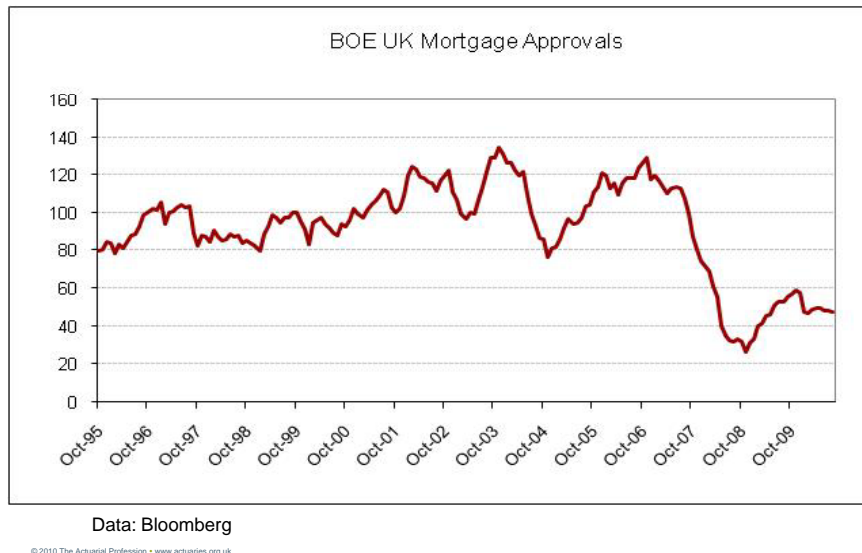


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Council of Mortgage Lenders YouGov survey published September 2010

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Mortgage approvals are historically low



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Is this a market failure?

An economic term that encompasses a situation where, in any given market, the quantity of a product demanded by consumers does not equate to the quantity supplied by suppliers. This is a direct result of a lack of certain economically ideal factors, which prevents equilibrium.

<http://www.answers.com/topic/market-failure>

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But the banks are back to black

Barclays profits jump 44pc to £3.95bn

HSBC sees profits double to \$11bn

The UK's biggest bank HSBC has reported pre-tax profits of \$11.1bn (£7bn) for the first six months of 2010 - more than double its profits for the same time last year.

Lloyds Banking Group storms back into the black with £1.6bn profit
Lloyds's reversal of £4bn loss immediately prompts calls that high street bank should be broken up

RBS half-year profits hit £1.1bn

Royal Bank of Scotland's pre-tax profit has risen to £1.14bn in the first half of the year from £15m a year earlier.

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Is there a need for a more competitive market?

- Are spreads fair?
 - Open question - how much of the current mortgage product spread is proper compensation for credit and liquidity risk and how much is generating extraordinary profits to quickly repair impaired bank balance sheets?
- Why does a long-term financial contract not provide certainty over cash outflows?
 - How far might interest rates rise? How attractive is discounted / variable attractive in a rising interest rate environment? Does the public fully comprehend the present risks relating to sharply rising variable interest rates?
- Is demand being properly catered for by today's product range?
 - Why is it difficult to find products in the market that allow the interest rate to be fixed over 10-30 years?

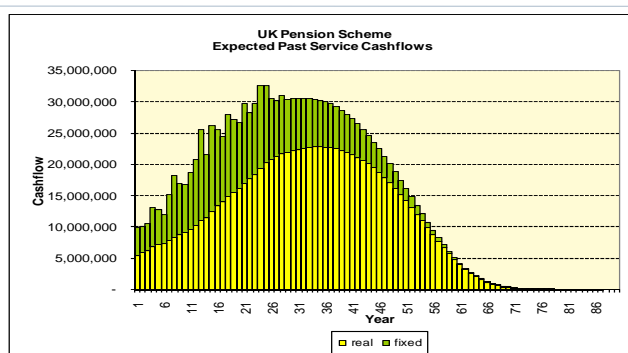
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Long-term liabilities, long-term assets?

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Long tailed liabilities can be met by long dated / illiquid backing assets



- Typical liability profile, closed scheme, horizon 85 years, includes expected tax-free cash outflows
- First 5 yrs → 15% of total PV, First 15 yrs → 46%
Last 70 yrs → 54%, Last 60 yrs → 27%
- 20%-40% of the liabilities could be backed by assets not easily realisable

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Pension funding and accounting rules have led to a growth in the LDI approach to managing pension risk

The State of Liability Driven Investing – Global Themes

- **Adoption of LDI strategies has increased steadily and significantly during the past three years**
In 2007, 20 percent of polled organisations said they were employing an LDI strategy within pension investments. In 2008, more than one-third (37 percent) employed LDI strategies and in 2009 more than half (54 percent) utilised LDI strategies.
- **Many LDI strategies recently implemented**
More than one-third (37 percent) of organisations polled currently using an LDI strategy said they implemented this tactic within the past twelve months.
- **Recent market volatility increases value of LDI**
Nearly three quarters of those polled (70 percent) agreed that the market volatility over the past year has increased the benefits of an LDI approach when it comes to pension management.
- **Not many moving away from LDI**
Of the poll participants that are not currently employing an LDI approach, 90 percent have never done so in the past.

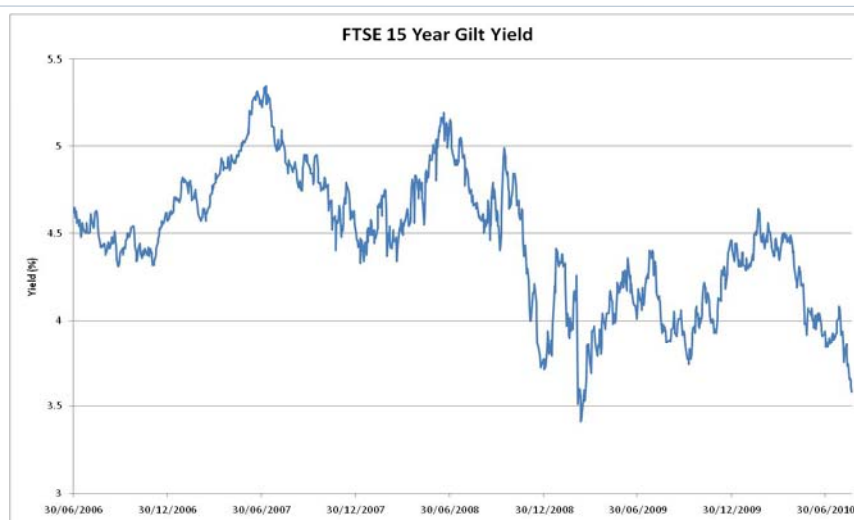


<http://seic.com/docs/Institutions/SEI-UK-Global-Quick-Poll-LDI-Globally-LDI-Entered-Mainstream-Nov-17-2009.pdf>

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Long dated government bonds seem to be quite expensive



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How are pension assets allocated?

Table 7.1 | Average asset allocation for all schemes in Purple 2006, Purple 2007, Purple 2008 and Purple 2009*

	Extended Purple 2006	Extended Purple 2007	Extended Purple 2008	Purple 2009
Equities	61.1%	59.5%	53.6%	46.4%
Gilts and fixed interest	28.3%	29.6%	32.9%	37.1%
Insurance policies	0.9%	0.8%	1.1%	1.4%
Cash and deposits	2.3%	2.3%	3.0%	3.9%
Property	4.3%	5.2%	5.6%	5.2%
Other Investments				
- 'Other'	3.1%	2.5%	3.8%	4.5%
- Hedge funds	N/A	N/A	N/A	1.5%

Source: PPF/The Pensions Regulator

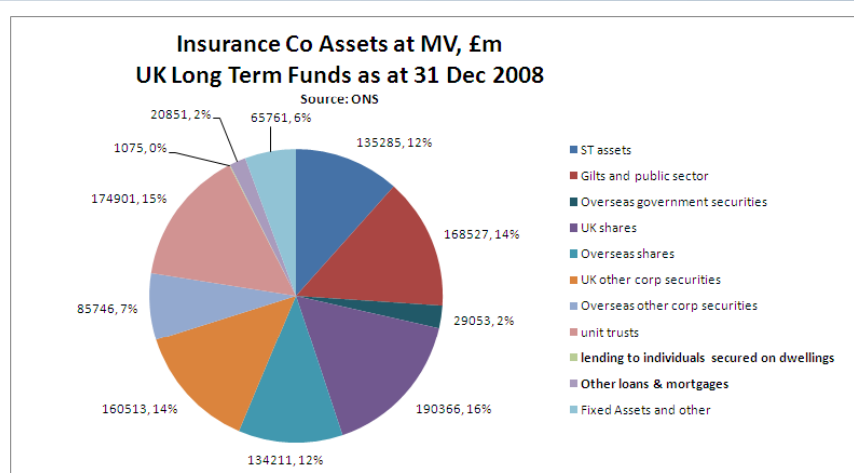
*Some columns do not sum to 100 per cent due to rounding.

	Gilts and fixed interest						Equities			
	Government		Corporate		Index linked		UK		Overseas	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Weighted average share	33.2%	29.0%	32.6%	38.3%	33.9%	32.6%	48.0%	44.2%	51.6%	53.8%
Average share	47.2%	45.6%	33.0%	37.3%	19.8%	17.1%	60.4%	57.6%	39.6%	41.7%

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How are life assurance assets allocated?



Raw data → http://www.statistics.gov.uk/downloads/theme_commerce/mq5-2010q2.pdf

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Which best describes a long-term investor?

Distinction between two stylised extreme bond investors

Literature review of Liquidity Premium, Hibbert et al, Sept 2009

Buy-and-hold investor

- *no need to sell before maturity*
- *faces pure credit risk in holdings*
- *can earn illiquidity premium*

Mark-to-market investor

- *Holding period less than maturity*
- *Needs flexibility to liquidate investment at any time*
- *faces possibility that terms on offer at liquidation are less than favourable*

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DIY – Social Lending

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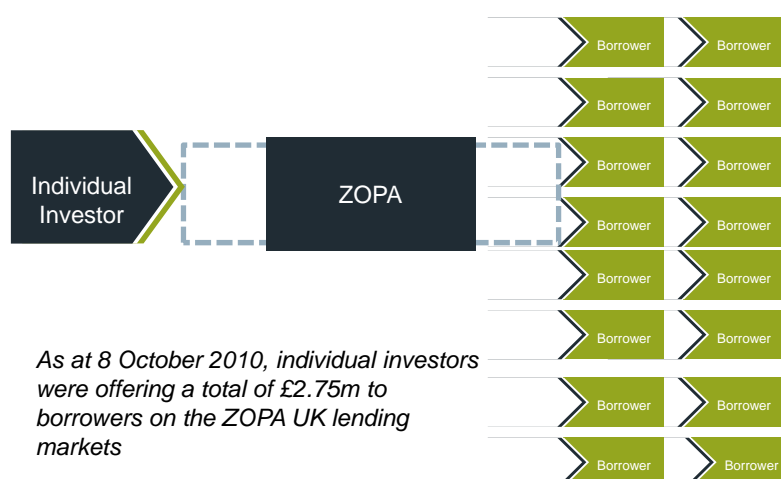
A social lending model

- Peer-to-peer
- Potential borrowers credit-rated and segregated into different markets
- Lender sets the rate offered to different borrowers (required return)
- Lender can analyse historical default trends to set required return
- The max lent to each borrower is £10 - therefore £1000 is divided to 100 people
- The rate each borrower is quoted is a blend of different offers. Asking for £5000 is borrowing from 500 people at different offered rates.
- If the borrower accepts the offer overall, the interest rate the lender receives is the rate that particular lender offered

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ZOPA – a social lending model



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DIY – my loan book

Charles Marandu - Saturday 25/09/2010

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Account

Lending offers

My Loan Book

Transfer Money In

Transfer Money Out

Borrowing

My Details

Tell a Friend

My Loan Book BETA

Check here to see summary and detailed views of all your loans at Zopa

Grouping

Group loans by

Market & Term

+ ADVANCED OPTIONS

+ SEARCH BORROWERS

CSV SPREADSHEET

MARKET & TERM	NO. OF LOANS	AVERAGE RATE	TOTAL LENT	TOTAL CAPITAL RETURNED	TOTAL INTEREST RETURNED
A* 36	49	7.51 %	£490.00	£112.29	£21.89
A 36	14	8.24 %	£140.00	£51.65	£7.99
B 36	7	9.36 %	£70.00	£13.38	£3.53

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Social lending – catching on.....?

Yahoo! Finance

"The benefits for borrowers are that interest rates available are typically 20% lower than the rate each borrower can get from a traditional lender and that there are no early repayment penalties. There is also the personal element and knowing that someone is getting a good deal by lending to you - not taking you for a fool. Of course with no big bank involved, borrowers who meet the strict credit criteria for Zopa will be **side-stepping the current hikes in rates as banks try to recoup money lost in the credit crunch**. This is the reason **Zopa is booming right now** - arranging twice the volume of loans month by month on this time last year - simply because **the creditworthy part of the borrower market Zopa serves is being rejected or overcharged by the banks.**"

The Independent

"With fewer overheads, Zopa lenders offer better rates: borrowers in the A* market are currently enjoying an average rate of 8.1 per cent on loans of £5,000 over three years."

moneysavingexpert.com

"For top credit scorers, loan marketplace Zopa is cheaper. For A* or A grade credit scorers wanting cash over a short period, it can beat most loan rates."

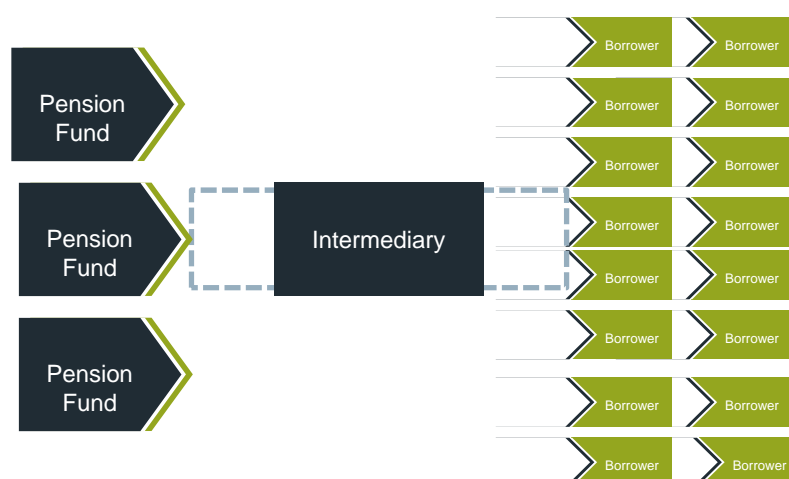
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Why should banks have all of the fun? DIY lending for long-term investors

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A direct mortgage lending model



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A direct mortgage lending model

- A number of institutional investors club together
- Lending to a wide & diversified pool of individuals
- Tough lending criteria – individuals credit checked for creditworthiness
- Each borrower borrows a small sum from each participating investor
- Participating investors drive the terms on offer
- Interest rate, term of loan, early repayment penalties
- Investor can price using the gilt or swap curve to receive fixed for long-term e.g. a fixed rate for 25/30 years

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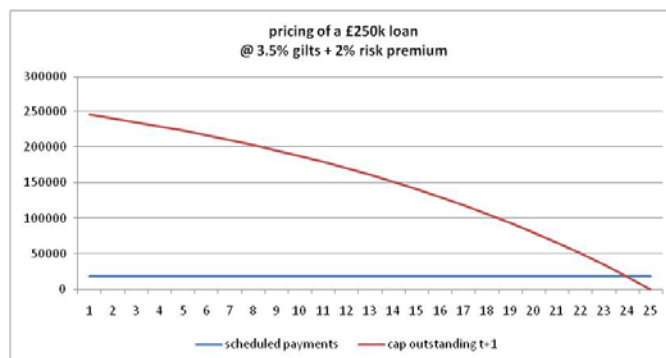
But, without securitisation

- Economic structure resembles a passthrough mortgage-backed-security
- Why trade out? No attempt to 'package' the mortgages into securities that are traded
- No CDO, CDO², CDO³
- No need to look to how current mortgages are being offered when deciding on product design
- *Thus, features which **appear** to be standard in today's mortgage market can be tampered with to the benefit of both the borrower and the lender*

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Example – a fixed-rate 25 year loan

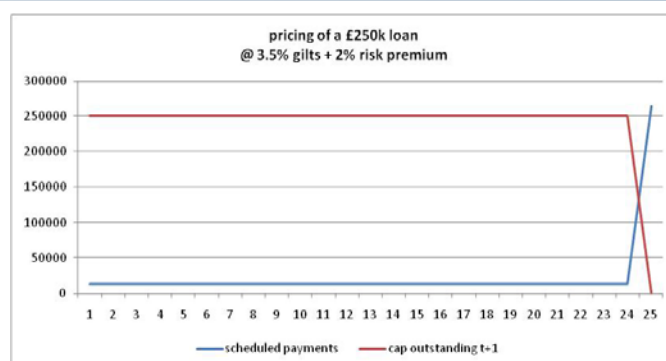


t=0	
PV at 5.5%	250,000
PV at 5.4%	252,458
delta	2,458
duration	9.8

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An interest-only 25 year loan



t=0	
PV at 5.5%	250,000
PV at 5.4%	253,450
delta	3,450
duration	13.8

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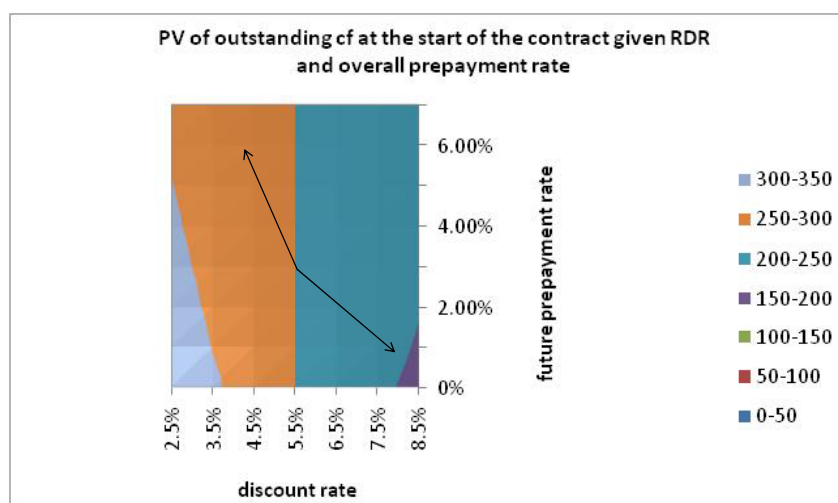
Valuation

- What is the value at $t > 0$?
- Changes in level of risk-free yields
- Changes in illiquidity premia?
- Changes in future prepayment behaviour
- Changes in credit conditions / anticipated defaults
- Mark-to-model / assessed value
 - under Solvency II
 - under UK pensions regulations
- Other illiquid asset classes e.g. property portfolio can be valued without requiring a transaction or screen price!

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The prepayment problem



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The prepayment problem

- Early repayment option in the loans means the amount and timing of each cashflow not known with certainty
- How long will the loan remain outstanding (i.e. when will the capital balance be repaid?)

t=0	no prepay	prepay at 2%pa	prepay at 4% pa
PV at 5.5%	250,000	250,000	250,000
PV at 5.4%	252,458	251,902	251,587
delta	2,458	1,902	1,587
duration	9.8	7.6	6.3

- Rate depends on
 - characteristics of loans (e.g. the extent of ER penalties)
 - interest rate environment (path dependent)
 - availability of other loans (for refinancing at lower rate)
 - housing turnover (jobs, mobility.. the economic environment)

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The prepayment problem

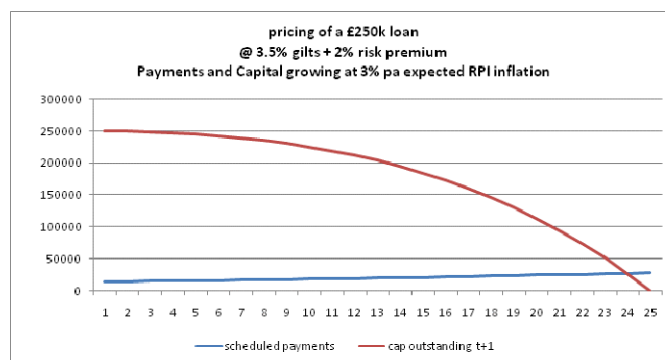
- Slowing those early repayments
 - Make it hard to early repay
 - Disallow unless special circumstances
e.g. death, moving home(?)
 - Standard penalties
e.g. percentage charge of capital outstanding inside a certain term
- Offer loan to that segment of market who are unlikely to significantly early repay
 - Encourage long-term thinking and behaviour by offering LT fixed rate over 25 years
 - Stress long-term commitment is required from both sides to the borrower (i.e. the lender won't change the interest rate ever during the term, nor redeem the loan early)

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Inflation linkage in the liabilities?

Grow your own.....



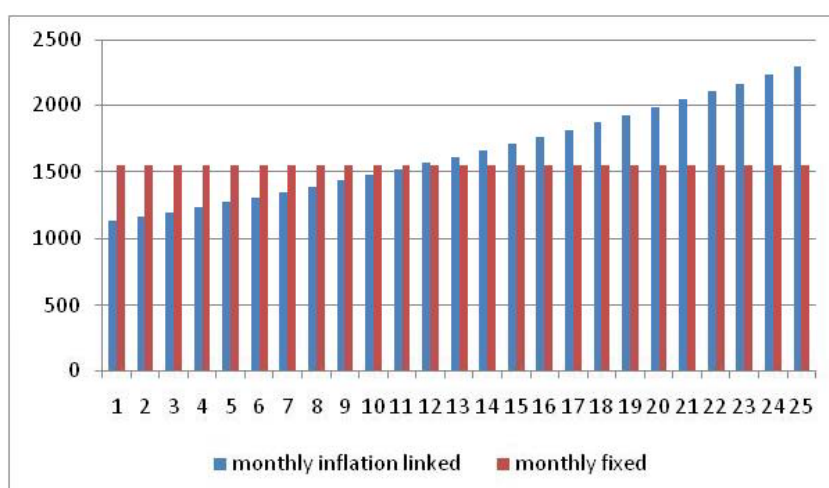
t=0		prepay at 2%pa	prepay at 4% pa
PV at 5.5%	250,000	250,000	250,000
PV at 5.4%	252,810	252,164	251,787
delta	2,810	2,164	1,787
duration	11.2	8.7	7.1
PV at inf = 3.1%	252,701	252,428	252,227
delta	2,701	2,428	2,227
inflation duration	10.8	9.7	8.9

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Make your own linker

inflation risk can be exchanged for lower payments upfront

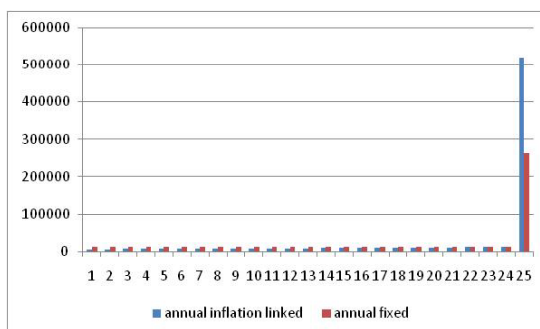


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Make your own linker

in the extreme, we have the inflation-linked 25 year interest-only mortgage



t=0	no prepay	prepay at 2%pa	prepay at 4% pa
PV at 5.5%	250,000	250,000	250,000
PV at 5.4%	254,559	253,703	253,057
delta	4,559	3,703	3,057
duration	18.2	14.8	12.2
PV at inf = 3.1%	254,689	253,780	253,102
delta	4,689	3,780	3,102
inflation duration	18.8	15.1	12.4

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- In theory, borrower's wealth should grow in real terms
- Investments to meet terminal payment not guaranteed
- Matching potential - high duration and inflation sensitivity to the lender
- Very low payments upfront
- Credit risky for lender - increased chance of negative equity as principal growth accrues

Home grown loan selection

Mortgage Type (£250k advanced over 25 years)	£ initial monthly repayments (indicative)	Type	£ Terminal Payment (at end of scheduled term on pricing assumptions)
5.5% fixed repayment	1,553	level	-
5.5% interest-only	1,146	level	250,000
5.5% inflation-linked (3% inflation)	1,155	payments and capital inflation linked for life	-
5.5% inflation-linked interest only loan (3% inflation)	521	payments and capital inflation linked for life	523,444

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Summary

Summary

- Structural over-reliance on bank lending for mortgages has hindered the proper functioning of the UK property market
- Peer-to-peer lending points to a potential way forward
- Instead of fishing solely in liquid bond markets, long-term investors such as pension funds and annuity providers can find yield in mortgage lending
- The nature of the loans can be altered to better suit individuals and the investors
- Long-term investors should look use their unique position to positively influence the macro-economy

To get this started.....



- Fund managers
- Actuaries
- Investment consultants
- Fiduciary managers
- Pension fund trustees
- Insurance boards
- Lawyers

We need YOU!

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