Institute and Faculty of Actuaries

LLOYDS BANK

HYMANS ROBERTSON

Non-Traditional Asset Investing Within Annuity Portfolios

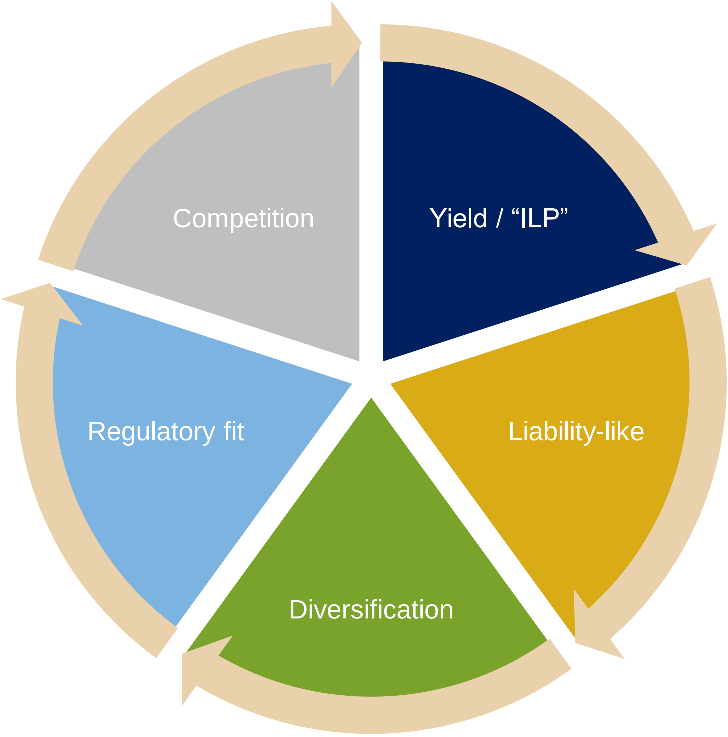
Doing It In Practice

Alec Innes, Managing Director, Lloyds Bank
Stephen Birch, Partner, Hymans Robertson LLP

03 June 2014

Agenda

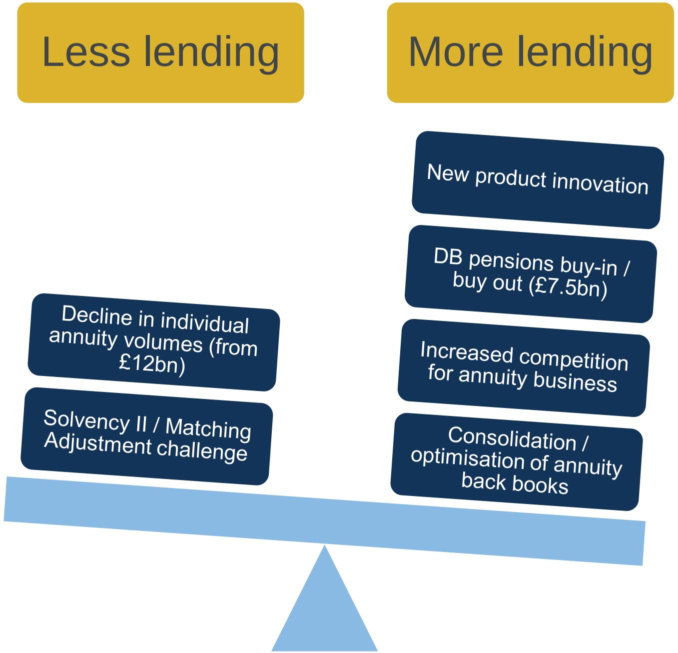
Insurers And Pension Funds Pull Factors

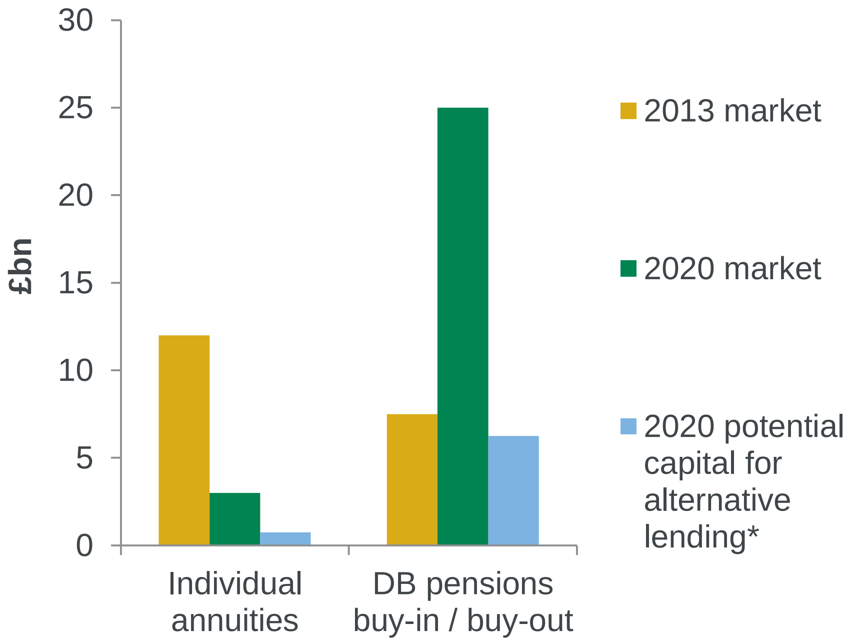


Pull factors

- Yield pick up
- Liability related cash flows
- Diversification versus existing asset mix
- Regulatory fit (insurers)
- Increased price competition (insurers)

2014 Budget Will Not Hamper Long-Term Demand





*Hymans Robertson estimates, assuming broadly that 25% of liabilities are matched through non-corporate bond / gilt / swap type investments

Insurance Regulatory Drivers

Solvency II Matching Adjustment

- Matching adjustment **rewards illiquidity** for assets backing annuity books. This is in contrast to banks who are deleveraging and require higher liquidity
- However, fixed cash flows or make whole clauses on prepayment required – may be possible to structure around this
- Limited ability to trade within portfolios e.g. switch from corporate bonds to loans in future

EMIR

- **Need liquidity** for collateral posting requirements on derivatives
  - **Initial margin** in the form of cash or gilts to cover expected volatility over the lifetime of the trade
  - **Variation margin** in the form of cash only. The currency used must be the currency in which the derivative is principally denominated

Solvency II Matching Adjustment: Why Illiquidity Counts

Annuity book with duration 10 years, backed by (1) 100% single A corporate bonds or (2) 75% single A corporate bonds and 25% less liquid single A CRE.

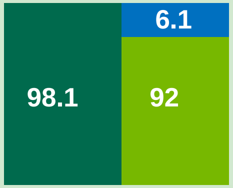
- **Matching Adjustment (MA)** gives double benefit of :
  i. lower required capital, and
  ii. increased risk adjusted spread

	Corp	CRE
Spread over risk free	135	175
Risk adjusted spread	87.8	140

Illustrative Example:

100% Single A With MA

75% Single A and 25% CRE With MA



	100% Single A With MA	75% Single A and 25% CRE With MA
Spread over risk free	*135*	*145*
Risk adjusted spread	*87.8*	*100.8*
Return on Capital over risk free*	***5.6%***	***10.4%***

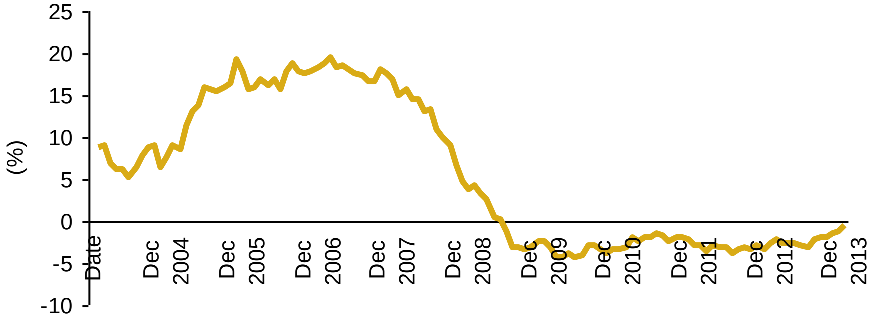
*Capital measured against premium of 94 i.e. require risk adjusted yield of L+60 to meet liabilities

Banks' Push Factors Creating Opportunities For Insurers

- Post 2007/08, banks have undergone significant deleveraging driven by regulatory and political pressures
    - Bank lending volumes have fallen
    - Banks lending tenors have been decreasing since the crisis
    - 2013 represents start of normalisation in bank lending
    - Regulatory pressures mean tenors unlikely to increase
- Bank lending to businesses in America is still 6% below its 2008 high. In the euro zone, where it peaked in 2009, it has declined by 11%. In Britain it has plummeted by almost 30% since 2008
- This has lead to a rise in shadow banking were non bank lenders are stepping into the gap left by banks

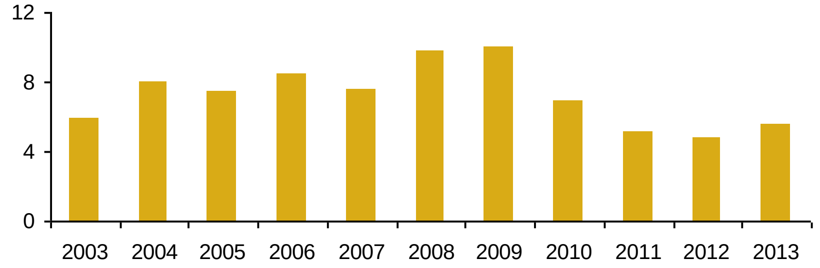
Source: The Economist 10-16th May 2014

Growth In Lending to Private Non-Financial Corps



Source: Bank of England Publications

Average Tenor Of New UK Bank Lending*



*Source: Dealogic (Deals Carried Out In The UK) * Syndicated Loans Market*

Bank Regulatory Drivers

- Banks are **deleveraging** due to **Basel III / CRD IV**:
  - Tighter capital regime ⟹
    - **Banks have to hold more capital**
    - **Individual loans require more capital**
  - Leverage Ratio ⟹
    - **Smaller balance sheets**

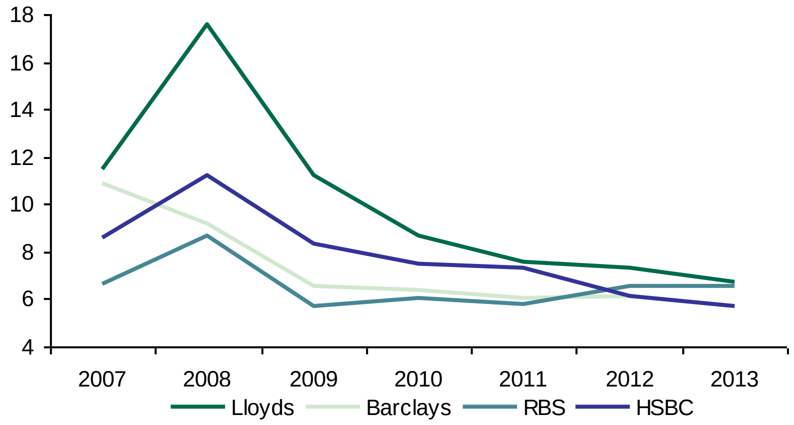
$$Leverage\ Ratio = \frac{Equity}{Total\ Assets}$$

  - Liquidity Regime ⟹
    - **Extend funding profile**

$$LCR = \frac{Eligible\ liquid\ assets}{30d\ cash\ outflows} \qquad NSFR = \frac{Available\ amount\ of\ stable\ funding}{Required\ amount\ of\ stable\ funding} \\ > 12\ months$$

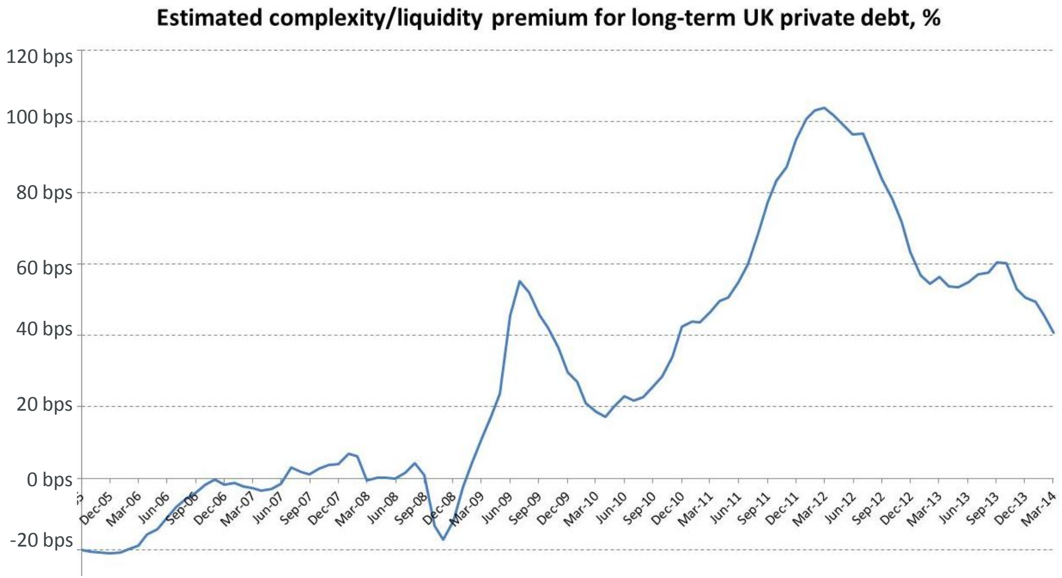
  - Bail-in regime
  - Ring fencing

Leverage Ratio of UK Major Banks



Source: Bloomberg

Spreads & Market Dynamics



- AgFe has estimated the premium that may be earned for taking the additional complexity and liquidity risks involved in investing in private debt compared with public securities. The estimate is based on indicators of general market liquidity, eg LIBOR-OIS spreads, which are then calibrated for specific asset markets. The example above has been calibrated using observations in the long-term UK sub-sovereign debt market

Market dynamics:

- Spreads suggest supply more than satisfying demand
- …but market not yet fully operational in many regards
- Illiquidity premium remains attractive for many
- …at what price does illiquid lending not make sense?

Agenda

Investment Appetite By Debt Characteristics

Investor	Tenor		Credit Quality		Pre-payment		Liquidity	
Fund / investor type	Short (i.e. <5-7yrs)	Long (i.e. >10yrs)	High (inv. grade)	Lower (Sub-inv. grade)	Allowable, with no penalty	No, or with spens / make-whole	“Liquid”	“Illiquid through-out term”
Annuity funds	✗	✓	✓	✗	✗	✓	✓	✓
With profits funds	✓	✓	✓	✓	✓	✓	✓	✓
Non-life Insurance assets	✓	✗	✓	✗	✓	✓	✓	✗
Share-holder assets	✓	✗	✓	✗	✓	✓	✓	✗
Pension funds: Immature	✓	✓	✓	✓	✓	✓	✓	✓
Pension funds: Mature & well funded	✗	✓	✓	✗	✗	✓	✓	✗

Different Loan Asset Classes Available

Investor	Tenor		Credit Quality		Pre-payment		Liquidity	
Fund / investor type	Short (i.e. <5-7yrs)	Long (i.e. >10yrs)	High (inv. grade)	Lower (Sub-inv. grade)	Allowable, with no penalty	No, or with spens / make-whole	“Liquid”	“Illiquid through-out term”
Annuity Funds	✗	✓	✓	✗	✗	✓	✓	✓
CRE Development Loans	✓	✗	✗ ?	✓	✓	✗	✗	✓
Securitisation	✓	✓ ?	✓	✓	✓	✗	✓	✓
Asset Backed Financing	✓	✗	✓	✗	✓	✗	✗	✓
Corporate Loans	✓	✗	✓	✓	✓	✗	✗	✓
CRE Investment Loans	✓	✓	✓	✗	✓	✓ ?	✗	✓
Infra Loans	✗	✓	✓	✗	✓	✓ ?	✗	✓
Education Loans	✗	✓	✓	✗	✓	✗	✗	✓
Social Housing Loans	✗	✓	✓	✗	✓	✗ ?	✗	✓
Equity Release*	✗	✓ ?	✓	✗	✗	?	✗	✓

**Uncertainty around timing of drawing and maturity*

Suitable for annuity books

Loan Classes Suitable For Annuity Books

Product	Tenor	Estimated Market Size	Indicative Spreads over 3mL (bps)	Pillar 1 Regulatory Constraints	Comment
CRE Investment Loans	• 10+ yrs	• Overall sector requirement: £2bn pa rising to £5bn pa within 3-5 years	• 170-180 (ten years; higher for longer dated)	• Secured	• 10% longer dated fixed rate larger loans secured on prime assets, including modified spens. Has much lower volumes
Infra Loans	• 2-3yrs: Construction Phase • 20yrs+: Operational Phase	• Overall sector requirement: £6.5bn+ pa .	• 175-250	• Mixed	• Demand exceeds availability of assets. Currently low volumes.
Education Loans	• 20+ yrs	• Overall sector requirement: £1bn - £1.5bn • Bank sector: £200m - £300m pa	• 150-200	• Unsecured	• Could grow with availability of long term financing
Social Housing Loans	• 30+ yrs funding	• Overall sector requirement: c£3-5bn pa • Bank sector: £750m - £1,250m	• 80-170	• Secured	• Provide refinancing/ financing of existing stock
Equity Release	• 20+ yrs	• c.£1bn pa	• 300+	• Secured	• Attractive returns with potential for sector to grow

Borrower Demand vs. Investor Appetite

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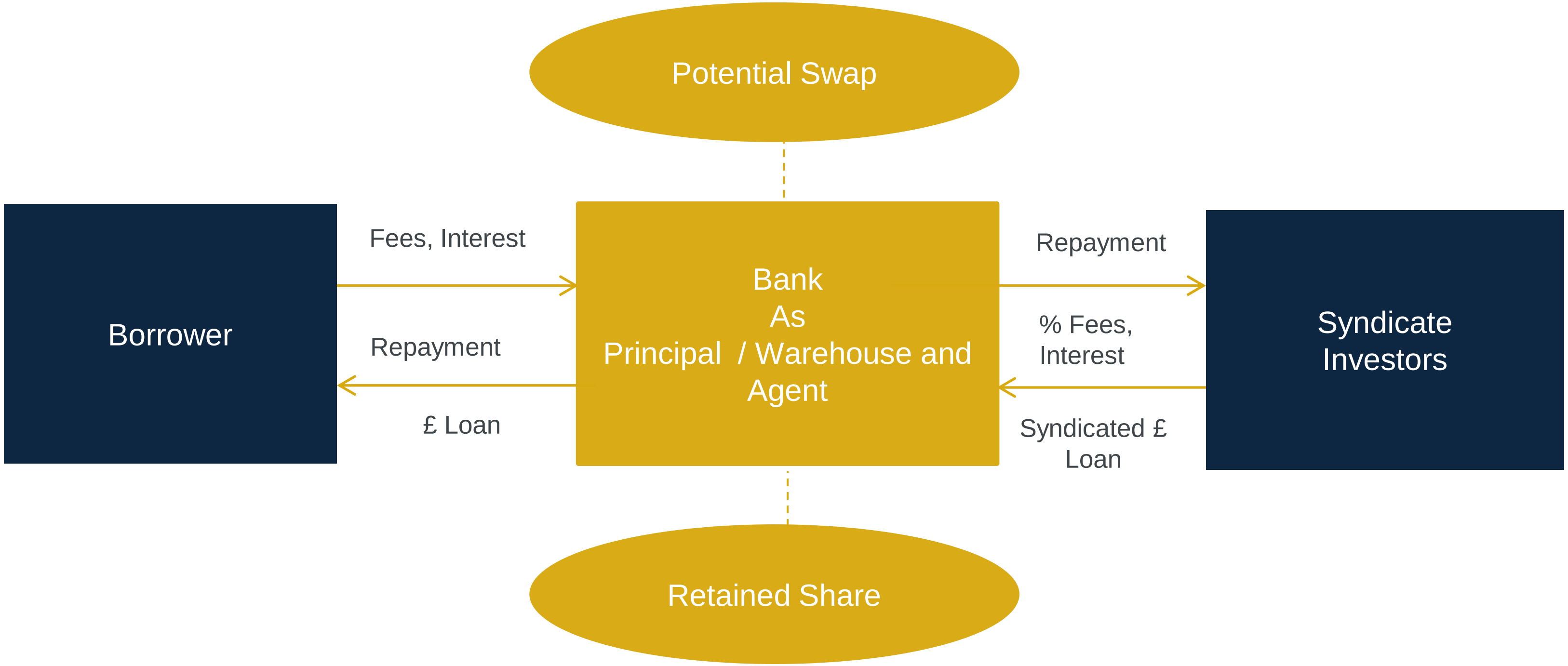
Borrower Demand		Insurance Appetite
Low Margin / Best Value	Bank Origination Expertise	High Quality Assets / Attractive Yield
RCF Flexibility / Staged Drawdown	Forward Sale Agreement / Warehousing	Predictable Cash flows
Business Partner / Sector Expertise	Loan Servicing	Limited Relationship Value
Prepayment Option	Spens Clause Solution	Predictable Cashflow / Spens Clause
Fixed / Floating Rate	Fixed Rate Loan / Rate Swaps	Fixed / Floating / Index Linked
Low Re-Finance Risk	Banks Offer Range Of Financing Options	Long-Dated Assets
Multi-Phase Investment	Banks Take Short Term Construction Risk	Operational Phase
Amortising / Bullet Repayment	Bank Brings Investors To Meet Borrower Demand	Amortising / Bullet Repayment
Functional Currency	Currency / Basis Swap	Investment Currency

- Relatively Standard
- Negotiable
- Limited Delivery

Efficient / Mature Loan Syndication Model



Evolution Of Different Loan Markets

Immature market

- No standardised terms
- Banks must work very closely with 1 – 2 (max) off-takers to incorporate acceptable terms / returns
- Low (muted) certainty
- Limited volumes
- Expensive, as lots of work

Hybrid / Intermediate market in transition

- Parameters agreed upfront with a limited number of counterparties:
  - Preferred partnerships (1 - 2)
  - Small close clubs (up to 5)
- Gives arranging banks sufficient certainty to go out and originate from borrowers and place with counterparties

Mature syndication market

- Standard terms
- Multiple players (5-20)
- Established track record
- Banks / arrangers have reasonable certainty of success of credit approval / pricing
- ⇨ Banks can underwrite and syndicate

Typical Assets

Social Housing & Education Loans

CRE Development & CRE Investment Loans

Infrastructure Loans

Banks Position In Loan Markets vs. Other Players

Borrowers, have historic relationship with banks

However, recently borrowers have been unable to borrow long term

Some borrowers have looked to finance long term loans with insurers

Insurers do not have existing relationships that banks already have

- Banks provide ancillary services
- Insurers require prepayment penalties and prefer fixed coupons

Therefore banks are still needed, due to their central role with borrowers and their ability to provide more complex forms of financing / ancillary services across the range of Capital & Financial Markets

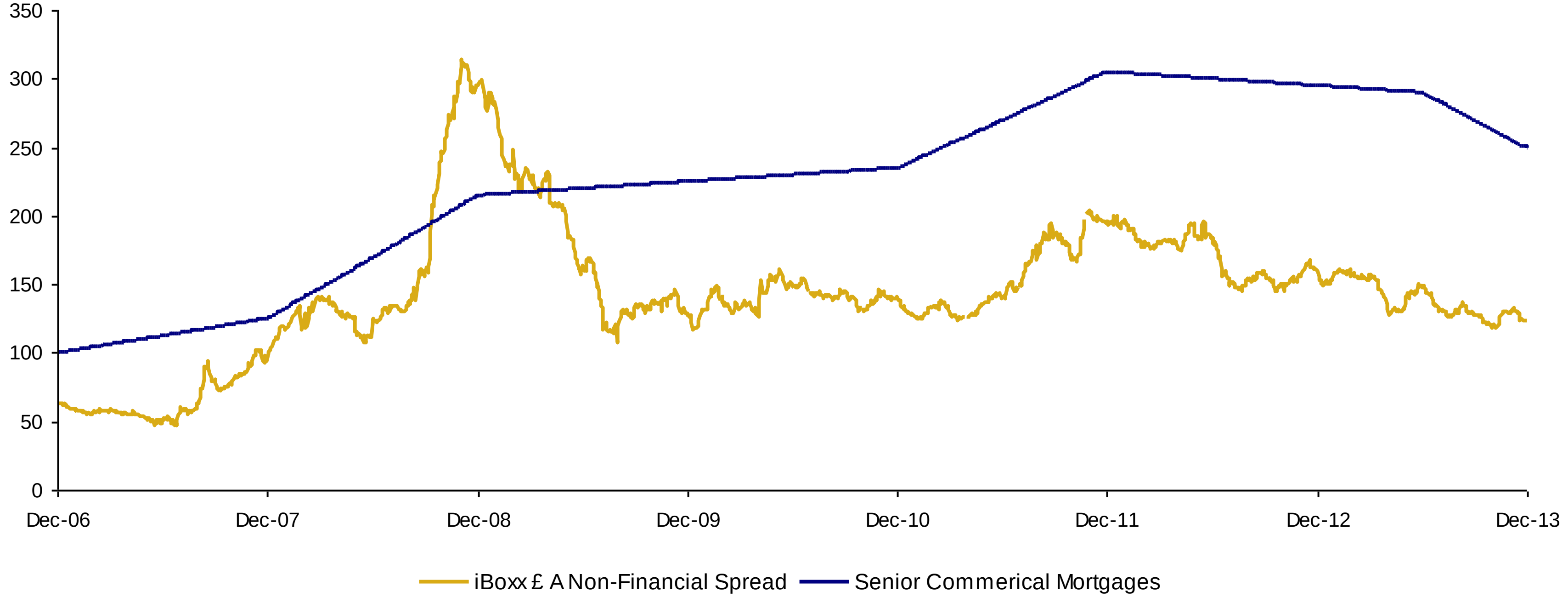
Agenda

Deciding on where & how much to invest

Steps	Detail
1.	Setting broad portfolio parameters: risk appetite (i.e. BBB and above?), need for liquidity etc.
2.	Profiling asset class: spreads, cash flow profile, LGD*, PD*, capital treatment, fit with Solvency II / matching adjustment etc.
3.	ALM work, understanding gaps in cash flow matching etc.
4.	Relative value versus current and alternative new asset class mix. Diversification benefit (quant and qualitative) assessment
5.	Testing downside scenarios (for example, mass downgrades, liquidity stressing etc.)

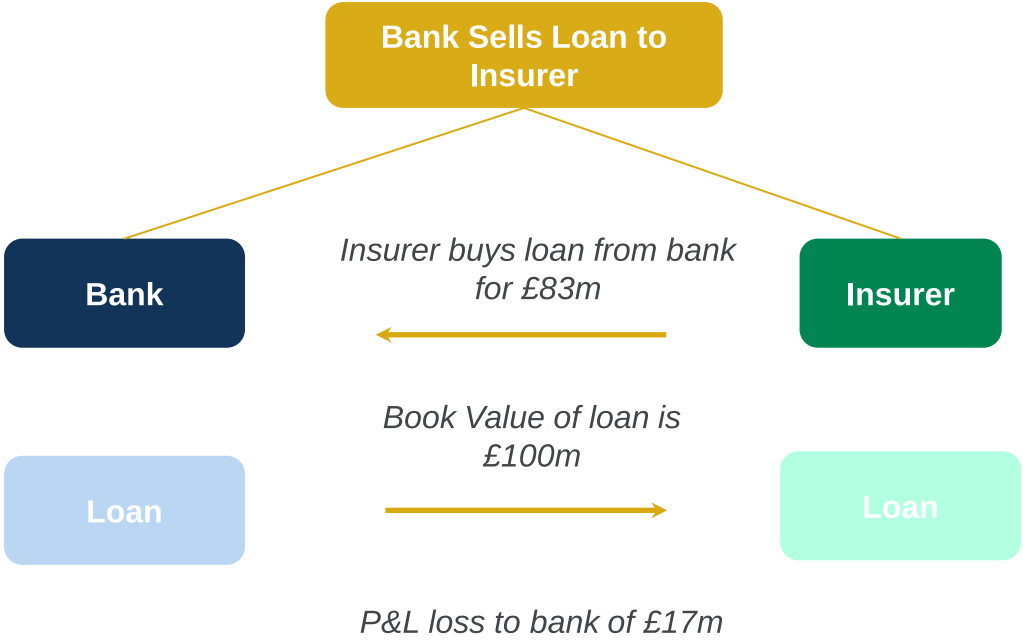
*LGD and PD = Loss Given and Probability of Default

Credit Spreads Pre / Post Financial Crisis



Source: Markit & M&G

The Difficulty In Accessing Bank Back Books



Bank

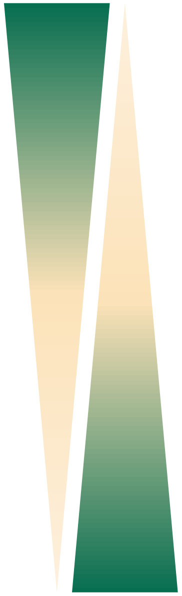
- Bank holding loan originated pre crisis at **Book Value** of £100m and **Fair Value** today of £83m
- This is due to **credit spreads widening** since 2007
- After the trade, there is a **P&L loss of** £17m, illustrating why banks are reluctant to sell back book loans

Insurance

- The loans **have a variety of different feature**s and typically don't have **prepayment penalties** even though likelihood of prepayments is small

Insurers Potential Access To Markets

Upfront investment and scale



Delegated control

Model	Description	Pros	Cons
Own origination	▪ Similar model to banks	▪ Direct access to market ▪ Potential to earn revenue from syndication ▪ Not reliant on banks	▪ Need large team and expertise to originate and service loans ▪ May not reach all parts of the market due to lack of scale
Open market	▪ Ad hoc buyer – speak to everyone in the market	▪ Less infrastructure required than for own origination	▪ No privileged access ▪ No / limited ability to influence structure of deals ▪ Requires mature syndication market
Part of syndicate club	▪ Close relationship with one or more banks who regularly show new deals	▪ See regular flows of deals ▪ Less internal infrastructure required than for own origination	▪ Limited ability to shape structure of deal ▪ Need at least hybrid / intermediate loan market
Preferred partnership with a bank	▪ Bank originates deals on behalf of preferred partner to meet defined investment criteria	▪ Mandate gives bank confidence to originate long dated deals ▪ Insurer can have input in structuring deals ▪ Less internal infrastructure required than for own origination	▪ Reliance on partner bank
External asset manager	▪ A number of insurers have granted mandates to 3rd party asset managers ▪ Fiduciary role of asset manager	▪ Least hassle for insurer	▪ Fees to asset manager

Lloyds Banking Group Experience

Toby Strauss CEO, Scottish Widows interview with the Daily Telegraph (August 2013)

“Banks in general don’t want to invest in long-term things, because of the mismatch between deposits and lending, and we do because we have annuity liabilities..”

“The bank’s got relationships and can continue to talk to customers about their needs, and we have the funding that we can bring to bear”

“”So we’ve started to buy assets off the bank which are very attractive to us, less attractive to them: social housing, loans to educational institutions, investments in infrastructure”

Pre Trade Concerns For Insurer And Bank

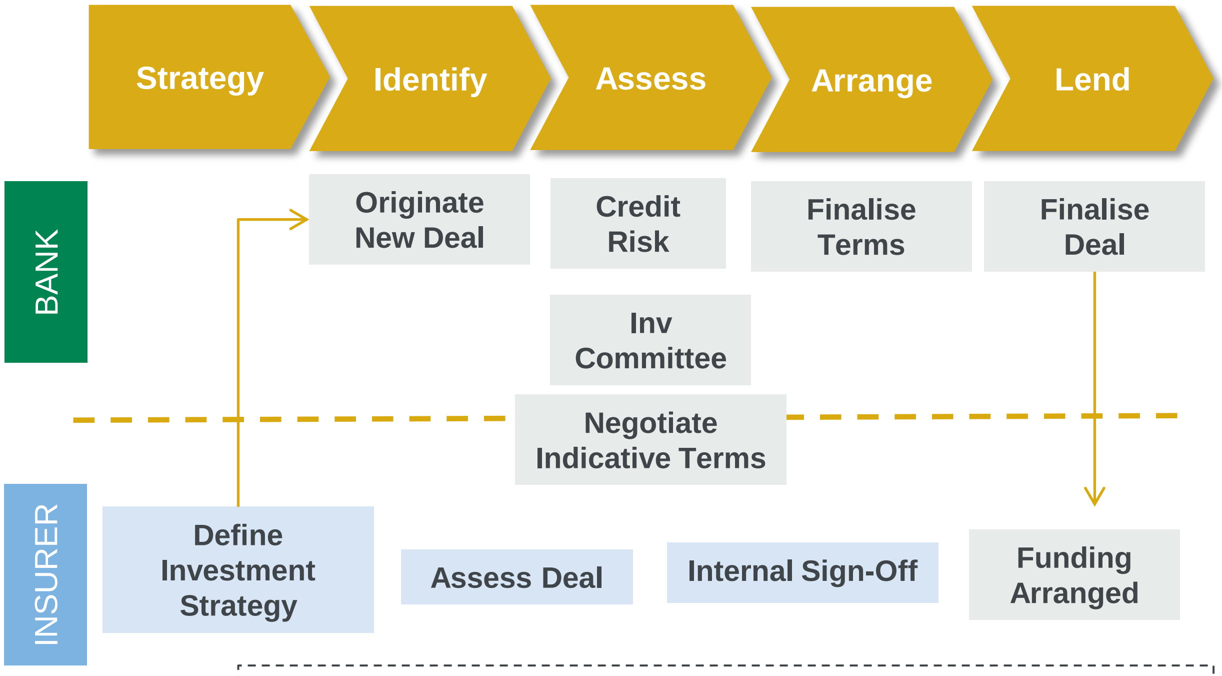
INSURER	BANK
Adverse Selection	Disintermediation
Commitment From Bank	Loss Of Borrower Relationship
Volume vs. Price	Cannibalise Other Business
Bank Keeping Which Client Happy?	Failure To Meet Client Requirements

Addressing These Concerns

	Preferred Partnership
Insurers	
Adverse Selection	Transparent process and pre-agreed deal parameters
Commitment From Bank	Financial incentives for long term agreements. Third party servicing options are available
Volume vs. Price	Insurer retains deal sign off and can benchmark pricing against third party data / use external advisor
Bank Keeping Which Client Happy?	Clear agreement over delegated servicer authority and where insurer consent is required
Banks	
Disintermediation	Insurer is using bank's origination capability and not looking to originate deals itself
Loss Borrower of Relationship	Bank provides range of ancillary services to borrower retaining close client relationship
Cannibalise Other Business	Bank retains ability to show borrowers full suite of financing options
Failure to Meet Client Requirements	Memorandum of understanding gives bank originators confidence that insurer can deliver long term financing

Preferred Partnership with bank is an attractive model to address both Insurer and Bank concerns

Pre Trade: Loan Origination



If loan criteria are made too strict then it will take a long time to fill

Insurer Pre Trade Checklist	
Define Investment Strategy	Clear limits and guidelines set: • (i.e. volume, minimum spreads) • Regulatory / PRA sign-off • Conflicts addressed
Assess Deal	In-house resource, or external advisory sourced for assessing / validating individual deals / loans: • Pricing • Credit assessment
Internal processes / sign-off	Processes identified across teams within insurer: • ALM • Risk • Operations • Capital modelling

Post Trade: Loan Servicing

	Cash and Payment Services	Loan Management	Document Management	Loan Reporting
BANK	• Manage drawdown schedule with borrower and lender	• Responsible for managing loan waivers / variation requests that come from the borrower	• Manage loan documents to ensure any changes to terms etc. are captured	• Monthly / quarterly reporting of key loan information to lenders
INSURER	• Meet drawdown requirement	• Servicing		• Monitoring / Valuation

Insurer Post Trade Checklist

Servicing	Can be outsourced to banking partner or other 3rd party servicer Categorisation of requests: • 'De-minimis' (notification only) • 'Significant' (insurer sign-off required) Will have a cost attached
Monitoring	Banking partner may provide support, but insurer will need to have some ability to perform: • Annual credit assessment
Valuation	Insurer likely to own mark-to-model • Different methodologies available • Key inputs include basket of comparable bonds, ILP estimates, credit quality etc.

Summary: How Preferred Partnerships Can Work

Principles

- Increase transparency
- Facilitate closer working relationship
- Establish appropriate incentivisation mechanisms
- Both parties negotiate mutually acceptable conditions

Pre Trade

Framework of understanding between the two parties

- Eligibility criteria
- Timings for responses
- Deal origination
- Template fee arrangement
- Scope of servicing

Master NDA

- Allow Bank to provide insurer with relevant information

Insurer to build expertise to assess deals

Post Trade

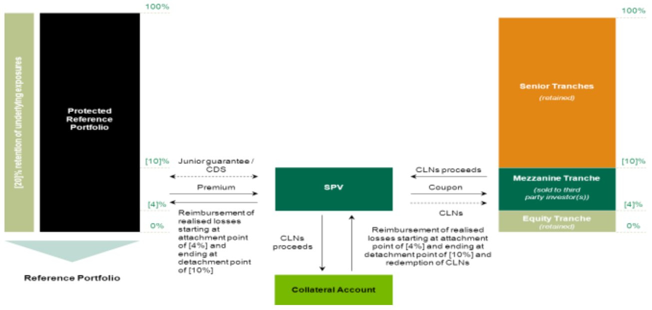
Servicing Agreements

- Outsource to bank or third party
- Categorisation of requests
- Ongoing monitoring
- Valuation

Other Areas In Which A Bank Can Help

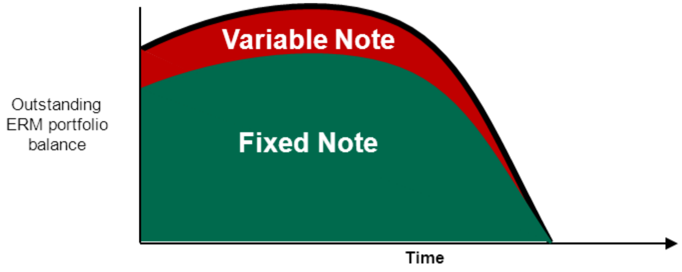
Credit Risk: Capital Relief

- Insurers tend to hold significant capital for credit risk arising from the assets backing annuity books
- They may look to employ a technique commonly used by banks to get capital relief through synthetic securitisation
- Through the purchase of out-of-the-money credit risk protection an insurer could improve its return on capital
- A bank can structure and place the notes with investors



Structuring for Matching Adjustment

- Bifurcate pay stream into fixed and variable piece via fixed/variable note to create predictable cashflow stream
- Fixed note is used to back annuity book and is eligible for a matching adjustment
- Variable note can be held in shareholder funds
- Volatility of the repayment profile of the equity release mortgages portfolio will determine the split between the fixed and variable notes and the pricing differential



Concluding Remarks

Loan Markets

- Loans are an attractive and relevant asset class for annuity funds
- Different Loan Markets have different characteristics and are in differing stages of evolution
- There are several ways to access these markets

Preferred Partner Model

- Most applicable for the larger insurers and not for everyone
- …involves a lot of work up front but scalable and repeatable for other asset classes
- …worthwhile investigating, not least as banks will remain deeply embedded in these markets for some time

Other Models

- Direct origination is a legitimate model for those willing to invest the time and effort in setting up teams & supporting infrastructure, but can be challenging initially
- Asset managers expensive, but worthwhile as a means to gain access for smaller firms

An evolving market

- All parties are looking to establish proof of concept for different models

Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenters.