

Enterprise Risk Management Seminar



Capturing the Upside

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**Actuaries
Institute**

Stress Testing Lenders Mortgage Insurance

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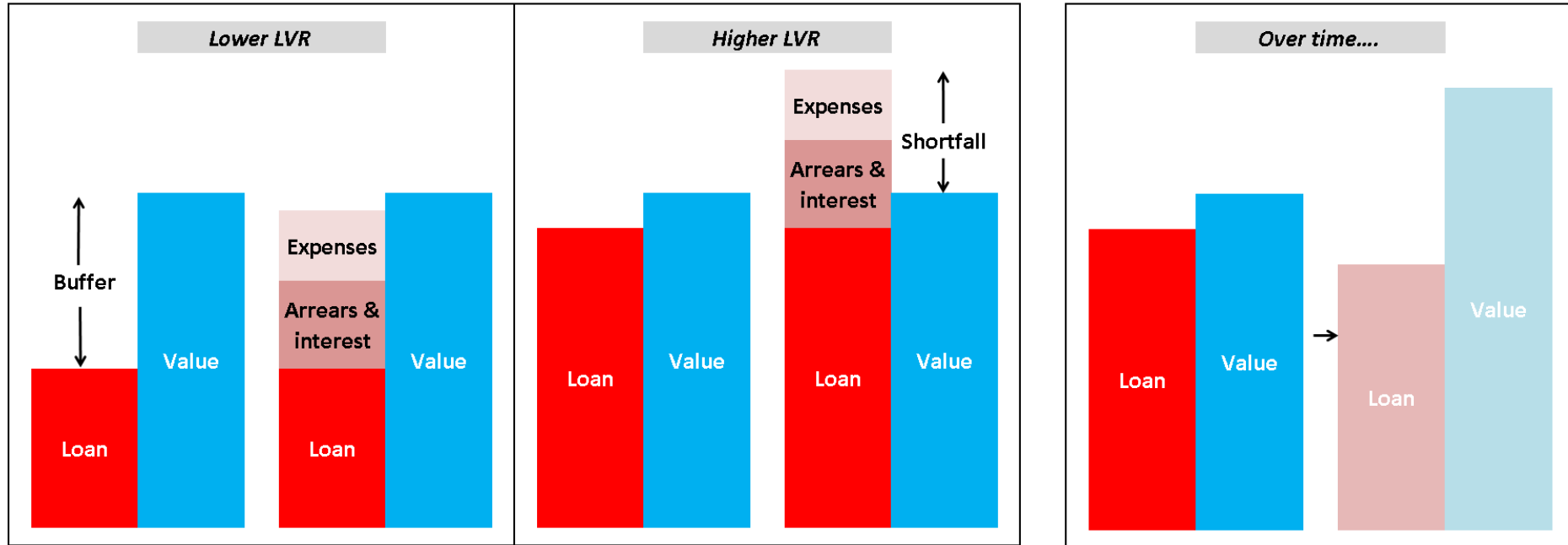
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What is Lenders Mortgage Insurance (LMI)?

- **Key features**

- ❑ Lender is insured, not borrower; LMI generally required for low deposit (= high LVR) loans
- ❑ Single upfront premium – cover for life of loan (LMI premium often capitalised onto loan amount)
- ❑ Major risk: borrower defaults on mortgage repayments and lender forecloses on a property with negative equity
- ❑ If sale proceeds are less than outstanding loan balance plus arrears and interest plus expenses, LMI company pays lender the shortfall
- ❑ Capital intensive...regulatory capital reqs. mostly APRA prescribed

Loan to Value Ratio ('LVR') in LMI



What stresses an LMI co. the most?

- **Severe economic downturns - can trigger a chain of events**

Borrower unemployment or under-employment

⇒ Default on mortgage repayments

⇒ Lender forecloses and property is in a forced sale process

⇒ Over-supply of property in urgent need of sale while demand is weak

⇒ Lender appetite may also be subdued

⇒ Regulator concerns around mortgage lending elevated

⇒ Drives down home prices (i.e. increases LMI claim numbers and claim size)

☺ May get “relief” from interest rate reductions cascading through from a RBA response (also good for a high grade fixed interest asset portfolio)

Stress scenarios *cf.* property insurer

- **Economic downturns**

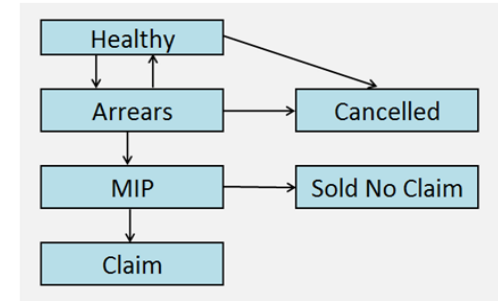
- ❑ Have no clear start and end dates
- ❑ Can last for many years (i.e. >> 72 hours ☺)
- ❑ Are not particularly localised (e.g. could impact an entire country/state)
- ❑ Come in many shapes and sizes
 - **Short duration, high intensity**
 - **Long duration, moderate intensity**
 - **Some may involve significant relief from monetary policy actions, others may not**
- ❑ Could have different effects in different jurisdictions depending on many (pre-existing) environmental factors and the responses of government, central bank etc. (e.g. Great Depression vs. GFC)

How to model impact

- **Multiple State Transition Model**

- **Discrete states recognised**

- Healthy** (payments all up to date)
- Arrears** (behind in payments but might still cure)
- Mortgagee In Possession ("**MIP**") or **Borrower Sale**
- Claim, Cancelled** or **Sold/Closed-No-Claim**

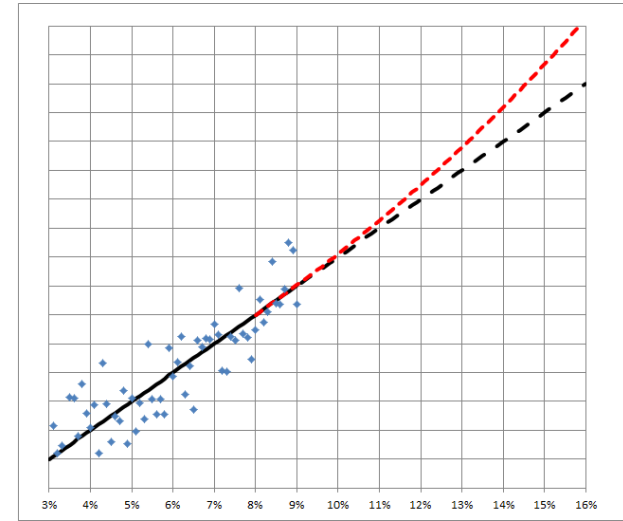


- **GLMs used to model transitions - many predictive factors:**

- Static policy factors (e.g. Original LVR, Security Type, Occupancy, etc.)
- Dynamic behavioural (based on arrears history)
- Economic (e.g. unemployment rates, HPA/HPD, interest rates)
- Other (e.g. seasonality, time in force)
- Positive credit reporting information an emerging area

Modelling issues

- Relatively benign Australian economy over last 20+ years
- Therefore need to
 - ❑ Extrapolate a long way outside of range of economic and experience data over which model responses were developed
 - ❑ Augment model response by reference to overseas LMI experience (e.g. US 2007 – 11) and information published by rating agencies, regulators, major lenders etc.
 - ❑ Develop an understanding of the relationship between different economic scenarios and the (augmented) model response (iterative)



What are stress test results used for?

- **Primary uses include**

- Estimation of Economic Capital (i.e. internal view of capital requirements)
- Multi-Year planning
- Reinsurance planning/purchasing
- Answering requests from customers (lenders), regulator, reinsurers/investors...
- Understanding business vulnerabilities and developing strategies to mitigate
- Resource planning
- Ongoing enhancement of the stress test modelling framework!

Q&A?

