

# Risk Management of Mortgage Loan Portfolios

An international Perspective after  
the Crisis

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## A recipe leading to the collapse of property markets (I)

The menu for the creation of a large hedge fund that imposes systemic risk – ingredients:

- Take out loan of \$39 for every dollar of your equity
- Buy mortgage loan portfolios (15% at least of which are low quality) and offer insurance to other lenders' portfolios against their mortgages defaulting
- Benefit from lower capital requirements (for every \$100 in mortgages hold \$2.50 of equity and per \$100,000 of mortgage insured \$0.45)
- Pay only a small mark-up on yields of government bonds as you benefit from an implicit government guarantee

## A recipe leading to the collapse of property markets (II)

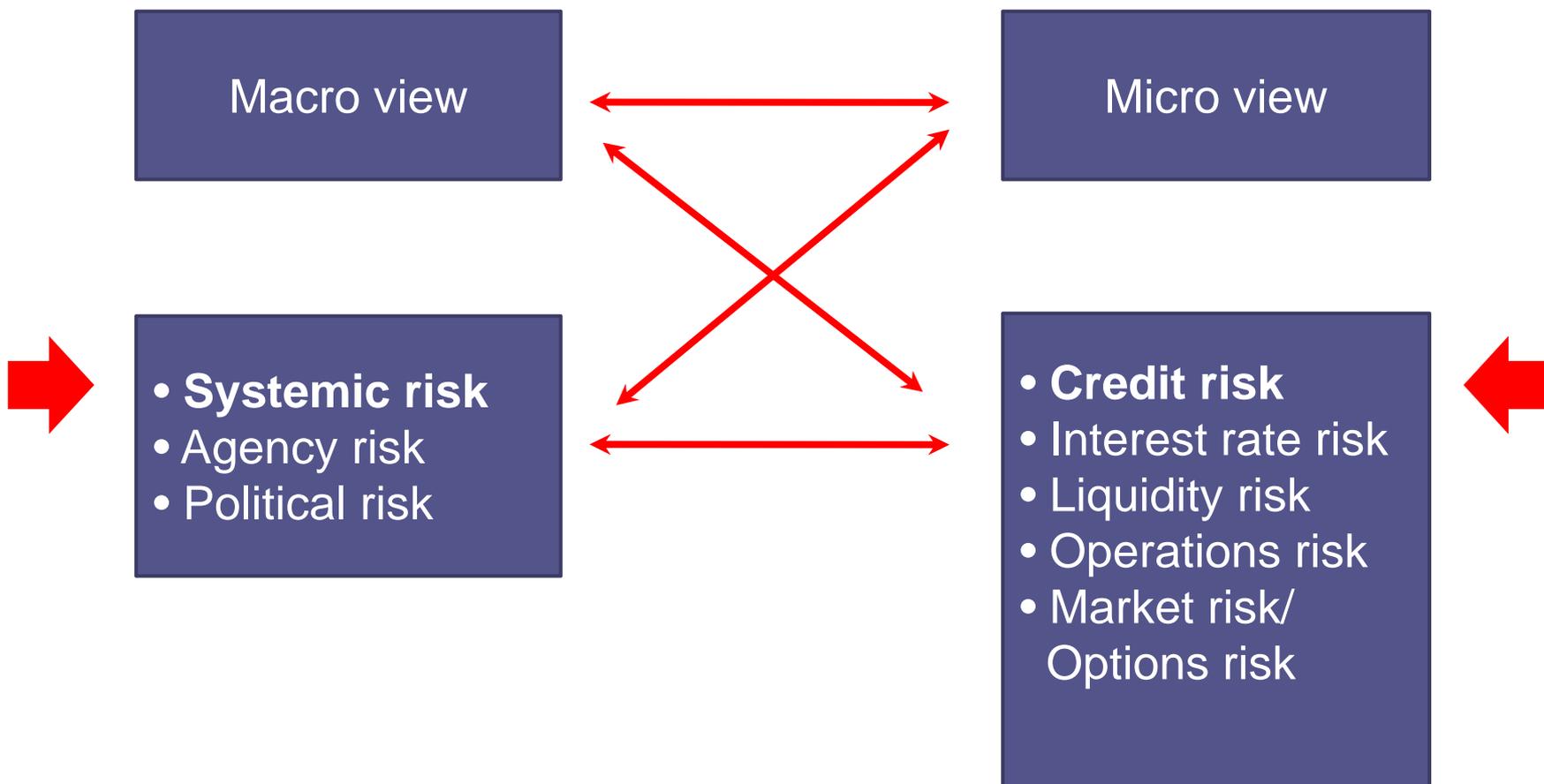
### The Result:

- \$1.7 trillion mortgage loan portfolio on balance sheet
- \$3.5 trillion in mortgage guarantees and
- A \$2.2 trillion position in derivatives
- Extensive government intervention did not prevent collapse of house prices in US during 2006 – 2010
- Cost of bail-out of Fannie Mae/Freddie Mac (GSEs) so far: \$150 billion and probably more in future

## A recipe leading to the collapse of property markets (III)

- Contrary to US, many countries with less government involvement in housing finance have comparable home ownership rates and comparably affordable housing
- Which recipes are more appropriate to have an ideal balance between intervention and letting the market take its course?
- Which options are available to Government and lenders to mitigate the negative impacts of real estate booms?

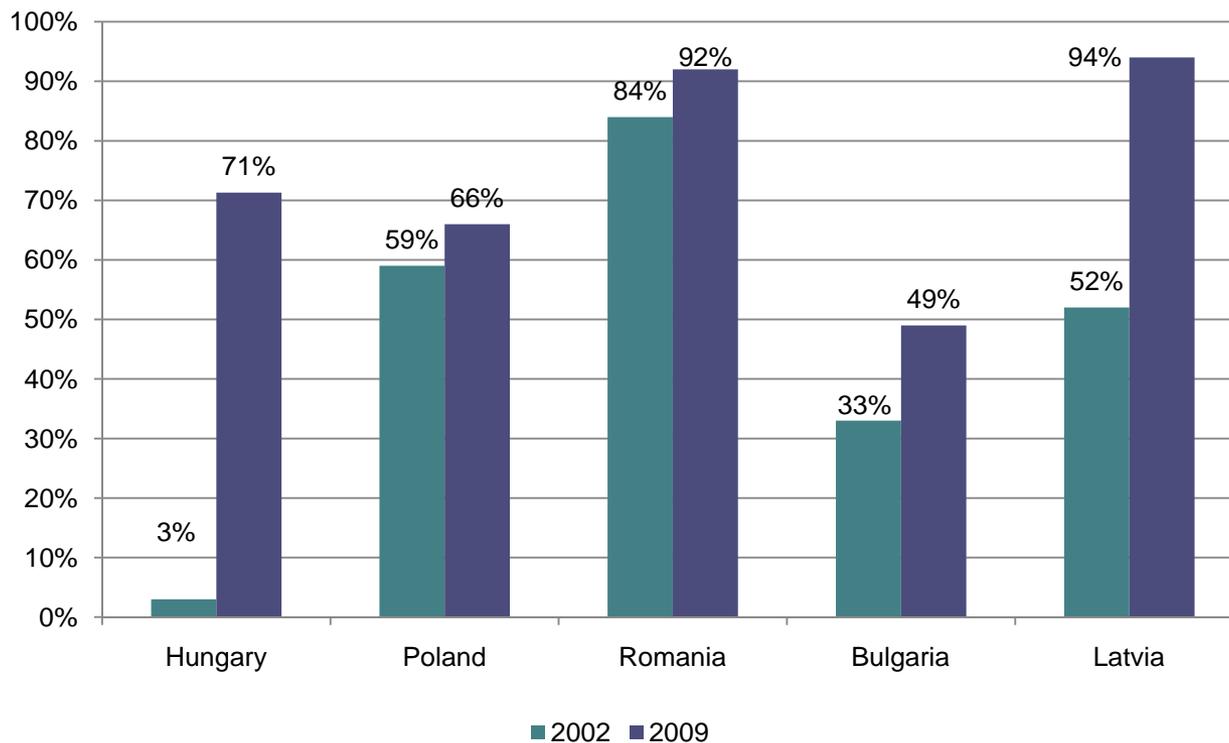
## Risks in Housing Finance – importance of credit and systemic risk



## Sources of credit risk

- Definition: money will not be returned when due
- Underwriting standards
  - Creditworthiness assessment – capability to repay mortgage (especially if size of repayment burden increases)
  - Applied Loan-to Value ratio – is a cap recommended?
- Regulation, supervision and enforcement regime for mortgage-related activities
  - Prescriptive approach
  - Approach based on regulatory incentives
  - Guidelines and market practice
- Adequate public disclosure and consumer protection
  - Does customer understand risk of taking out mortgage loan?

## Central and eastern Europe: loosening underwriting standards and lending in foreign currency have been ingredients for market meltdown



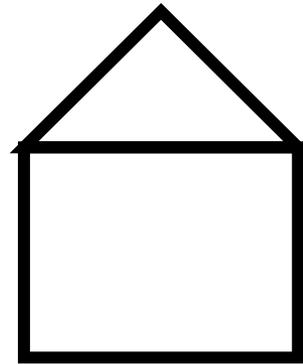
Share of mortgage loans in foreign currency to overall mortgage loan portfolios

## Definition of systemic risk

- Exists
  - Many lenders do same business (e.g. 60% of lending activities is mortgage lending in economy)
  - Concentration risk
- Can arise if
  - Sudden and sharp decline in property prices
  - Important lenders go bust

## Sources of systemic risk – leverage effects in housing finance transaction (I)

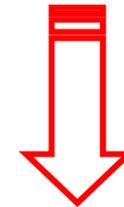
High loan amount



4 leverage effects

- Relation equity/loan
- Interest rate
- Time
- Property as collateral

Long investment horizon

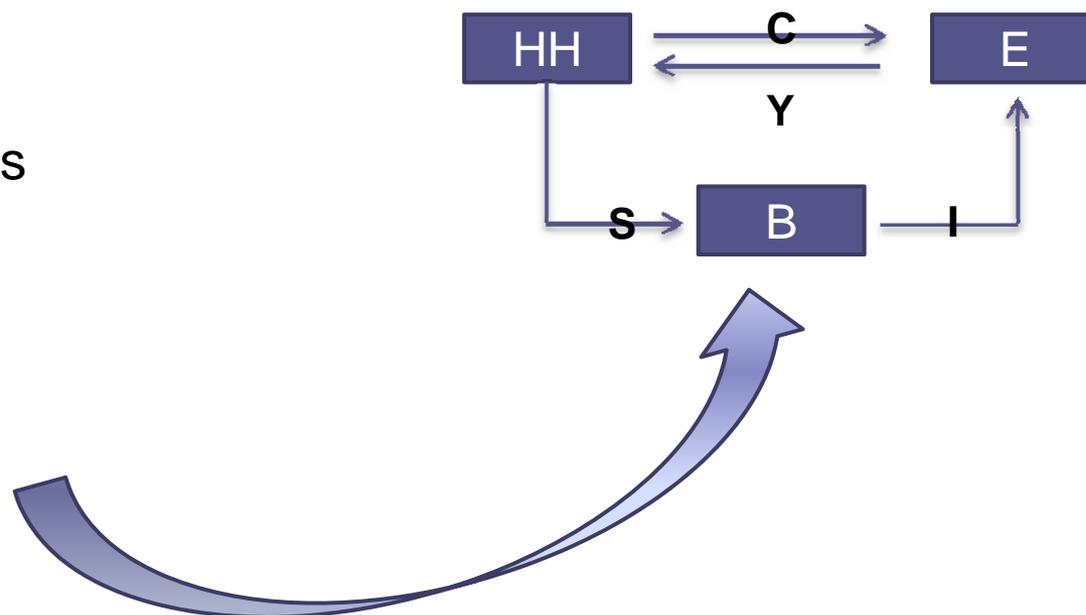


Risks

## Sources of systemic risk – leverage effects in housing finance transaction (II)

Leverage at individual household level is reflected in banks' balance sheets and in the economy

A	L
Loans	Liabilities
	Equity



## Factors which are poised to link credit risk to systemic risk

- Housing policy
- Regulation and capital charges
- “Disaster Myopia (shortsightedness)” = tendency to underestimate the problem of low frequency shocks which often occur at the beginning of an upcoming housing bubble
- Interaction of myopia and competition – lending standards drop

## Response to manage risks after crisis - prospects in developed markets

After collapse, markets remain volatile	Stable development	Upward development or bubble?
USA, Spain, Ireland,	Germany, Austria, France, Switzerland, Poland	Australia, Singapore

1. Some stabilization, but still volatile
2. Markets did not experience major rise in foreclosures, but some countries' banking sectors imported crisis
3. In which direction are markets heading?

## Prospects in emerging markets: increasing risks or heading towards stable development?

Negative development	Stable development	Upward development or bubble?
Hungary, Romania, Mexico	Thailand, Colombia, Malaysia, Sub-Saharan Africa	Brazil, China

1. Struggling markets in the aftermath of the global financial crisis
2. Markets were not affected as they were not integrated into international financial markets or better management of crisis due to prior crisis experience
3. Is the next bubble looming?

# Prospects of property markets: when will the crisis be over?

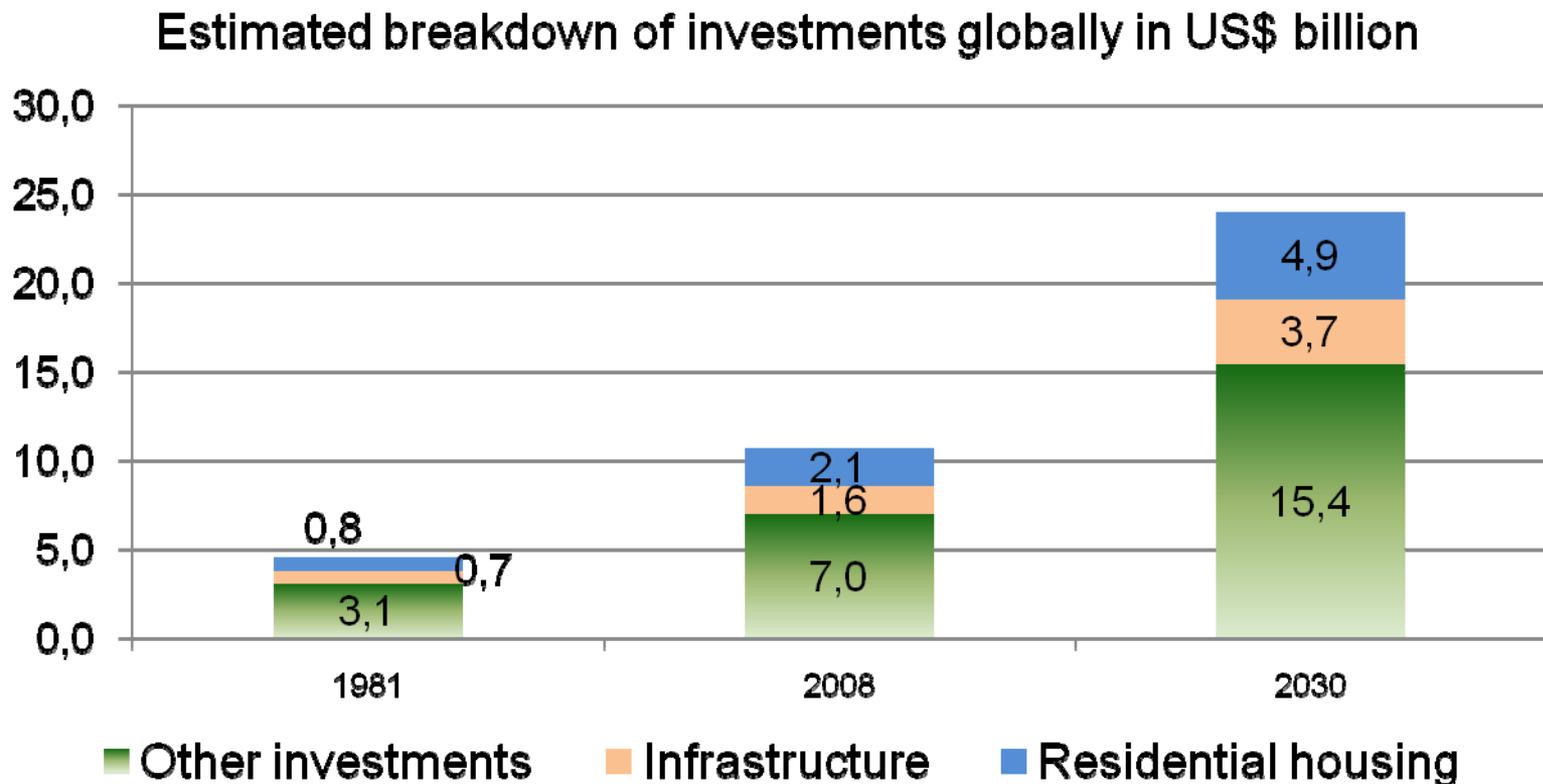
Duration of downturn of real housing prices (from peak to bottoming out)



Source: Reinhart, Rogoff  
\* Year of crisis

- On average, house price downturn bottoms out after 6 years
- Decline in real house prices from peak to trough averages 35.5%

## Prospects of property markets: rising importance



## Resumé (I)

- Why risks have been underestimated?
  - Belief in ever rising house prices
  - Availability of cheap capital
  - Light regulation
- As result of crisis, belt tightening has occurred
  - Stricter regulation and supervision
  - Tighter underwriting standards
- To be tackled:
  - Improved disclosure standards of underwriting practices
  - Improved consumer protection and awareness

## Resumé (II)

- May it happen again?
  - Investment in properties tends to reinforce cyclical effects
  - No difference between emerging markets and developed countries in rise and bust of house price bubble
  - Often credit risk is underestimated when markets develop towards a bubble
- Outlook: importance of international capital markets likely to grow and many opportunities for construction and lending industry will occur
- Which policy response is suitable to mitigate effects of bursting bubble and counterbalance similar developments in the future?

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