

Mortgage Underwriting and Credit Risk in Developing Markets

Refinancing the Mortgage Loan Portfolio

Warsaw, Poland

2 June 2006

Introduction to The PMI Group

- **PMI is a leading global residential credit enhancement provider with 34 years of experience**
- **Based in California and operates through subsidiaries in the US, Europe, Australia, New Zealand and Hong Kong**
- **PMI holds AA ratings from Fitch and Standard & Poor's and Aa2 from Moody's (PMI Europe is Aa3)**
- **PMI is publicly traded (NYSE: PMI) with assets of over US\$5.2 billion**
- **Sister company FGIC (AAA) may additionally provide credit enhancement on senior tranches**

Introduction to The PMI Group (Continued)

The PMI Group, Inc. Year 2005 Global Results (in US\$):

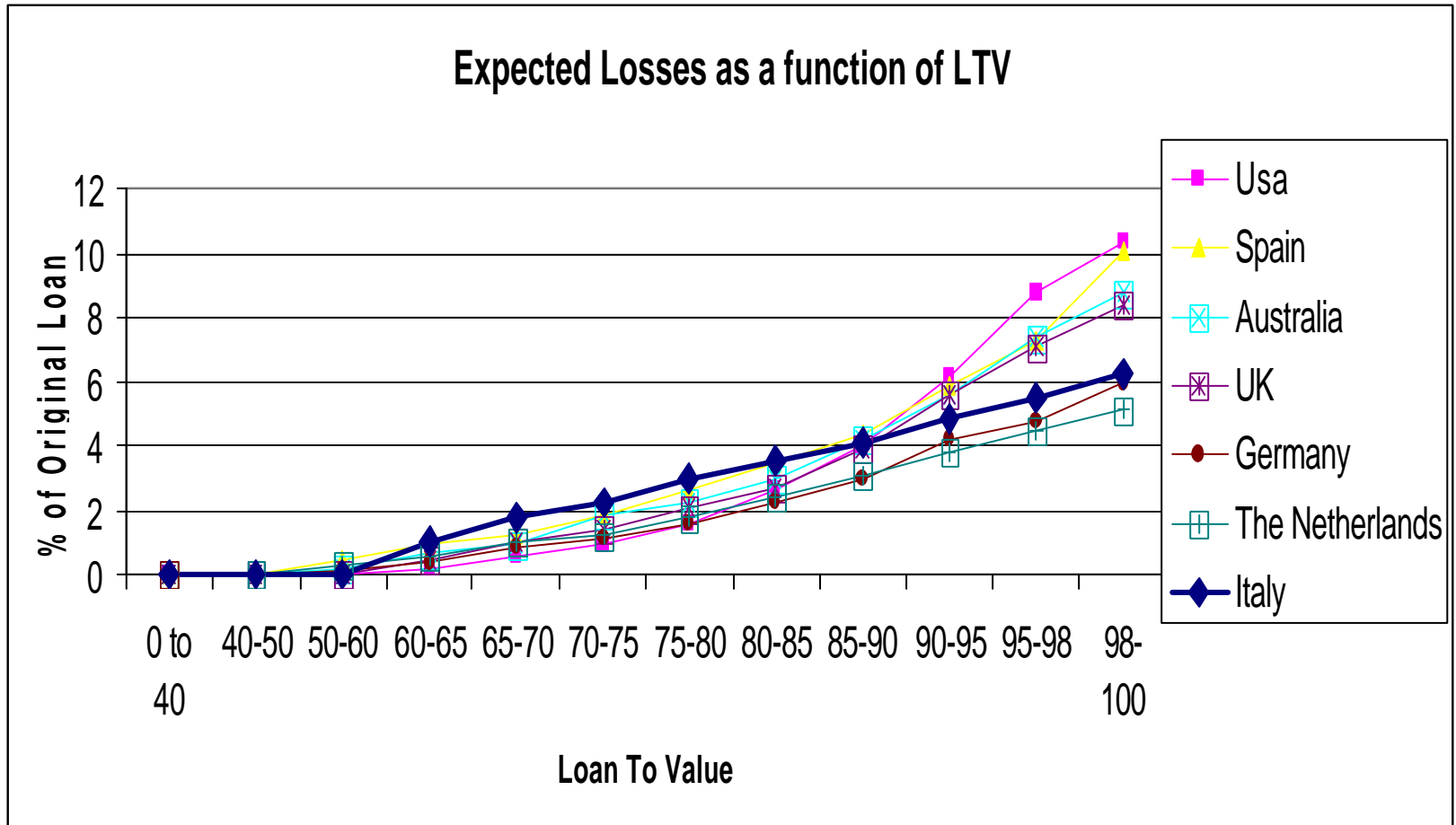
Insurance In Force:	\$289,000 million
Assets:	\$5254 million
Equity:	\$3200 million
Revenue:	\$1118 million
Market Cap (12 May 2006):	\$4090 million

Introduction to PMI Europe

- **Began operations in 2001**
- **Based in Ireland with branches in UK, Germany, Italy**
- **Offers Primary Mortgage Insurance, Portfolio Insurance, Reinsurance and Guaranty**
- **Currently have an Insurance In Force Book of business totaling approximately €30B across Europe**
- **Writing new flow Primary business in Italy and the UK with other countries expected to follow**

What Are The Obvious Risks?

- Risk grows with higher LTV lending



What Are The Obvious Risks? (Continued)

- **Loan product variations such as interest only, “teaser” rates or bullet payments increase risk particularly in a rising interest rate environment**
- **“Non-conforming” lending such as Sub-Prime, Self Certification and Buy-to-Let compounds the probability of default**
- **Rising house prices can mask delinquencies and losses particularly on risky product types. If property prices aren’t increasing – what then?**
- **Economic cycles are a certainty and can have a dramatic on loan performance**

Q: What tools are available to assess this risk?

A: Rating Agencies are a great source of quantitative information

What About “Risk Layering”?

Base Default Probability Multipliers (Typical) (As of Q305)

Base Default Probability Multiples (Typical)	
Lender Adjustment	
Conforming	1.00 to 1.20
Non-Conforming Product/Prime Borrowers	1.20 to 1.50
Non-Conforming Product/Subprime Borrowers	1.20 to 2.00
Bankruptcy Order/IVA - Years Discharged	
<1	3.00
>=1 and <2	2.75
>=2 and <3	2.25
>=3 and <4	2.00
>=4	1.50
CCJ Amounts	
>100 and <=1,000	1.10
>1,000 and <=5,000	1.15
>5,000 and <=10,000	1.20
>10,000	1.40
CCJ Years	
<=1	1.40
>1 and <=2	1.20
>2 and <=4	1.15
>4	1.10
Arrears on Current Mortgage	
1-30 days	1.25
31-60 days	1.50
61-90 days	1.75
> 90 days	100% DP
Cases of Prior Mortgage/Rental Arrears in Last 6 Months	
>2 months	1.75
2 months	1.40
1 month	1.25
Cases of Prior Mortgage/Rental Arrears in 7-12 Months	
>3 months	1.75
3 months	1.40
2 months	1.25
1 month	1.10
Interest Only Balloon	
Balloon 0-10 years	1.33
Balloon 11-15 years	1.25
Balloon 15 years +	1.10
Income Self-Certified or Not Verified	1.20 to 1.50
Loan Purpose	
Buy to Let	1.25 to 1.35
Debt Consolidation or Home Improvements	1.15
Right to Buy	1.20

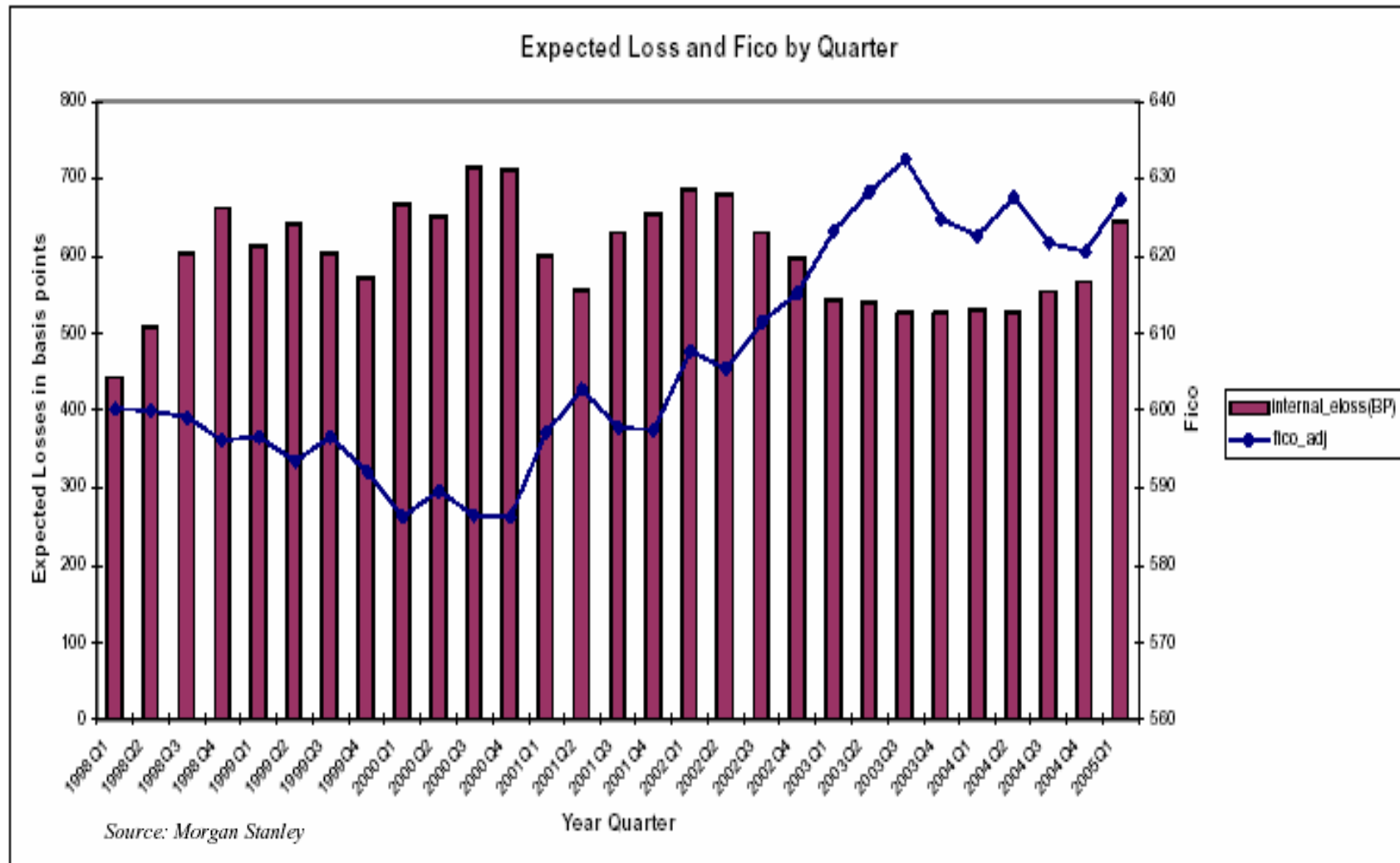
Source: Fitch

What About “Risk Layering”? (Continued)

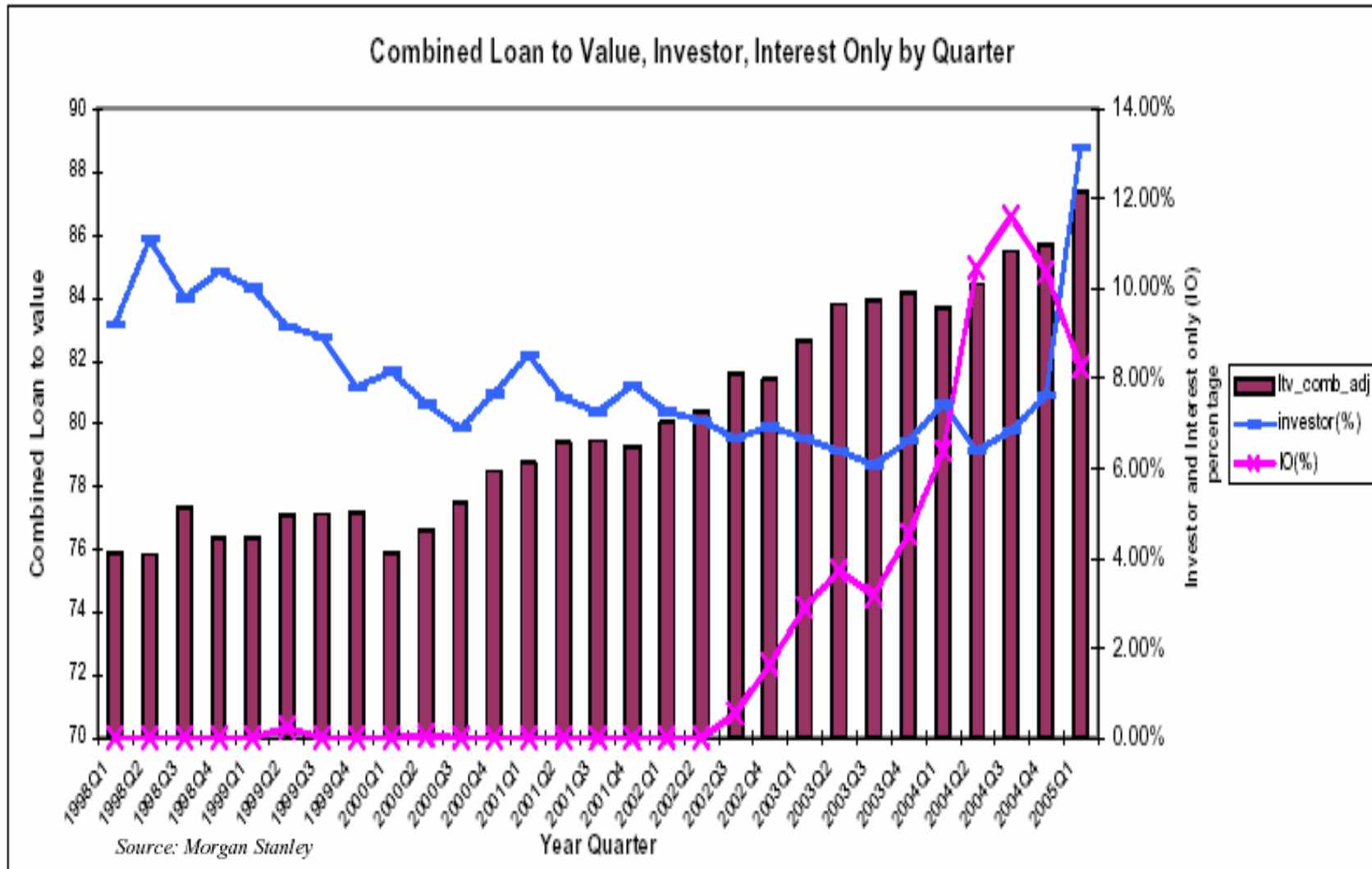
Fitch US Sub Prime Expected Default Rates by FICO Score (AAA Scenario)

Fico Score	520	540	560	580	600	620	640	660
LTV								
50%	18.02%	13.86%	10.85%	8.67%	7.11%	5.98%	5.15%	4.55%
55%	24.02%	18.29%	14.06%	10.99%	8.77%	7.18%	6.03%	5.19%
60%	32.09%	24.39%	18.56%	14.26%	11.13%	8.88%	7.26%	6.08%
65%	42.55%	32.58%	24.76%	18.84%	14.47%	11.28%	8.99%	7.33%
70%	55.54%	43.17%	33.07%	25.14%	19.13%	14.67%	11.43%	9.09%
75%	70.88%	56.29%	43.80%	33.57%	25.53%	19.42%	14.89%	11.59%
80%	88.09%	71.74%	57.04%	44.43%	34.08%	25.92%	19.71%	15.10%
85%	100.00%	89.03%	72.61%	57.81%	45.07%	34.59%	26.32%	20.01%
90%	100.00%	100.00%	89.96%	73.48%	58.57%	45.71%	35.11%	26.72%
95%	100.00%	100.00%	100.00%	90.91%	74.36%	59.35%	46.37%	35.64%
100%	100.00%	100.00%	100.00%	100.00%	91.85%	75.24%	60.13%	47.03%
105%	100.00%	100.00%	100.00%	100.00%	100.00%	92.81%	76.12%	60.92%

What About Risk Layering? (Continued)

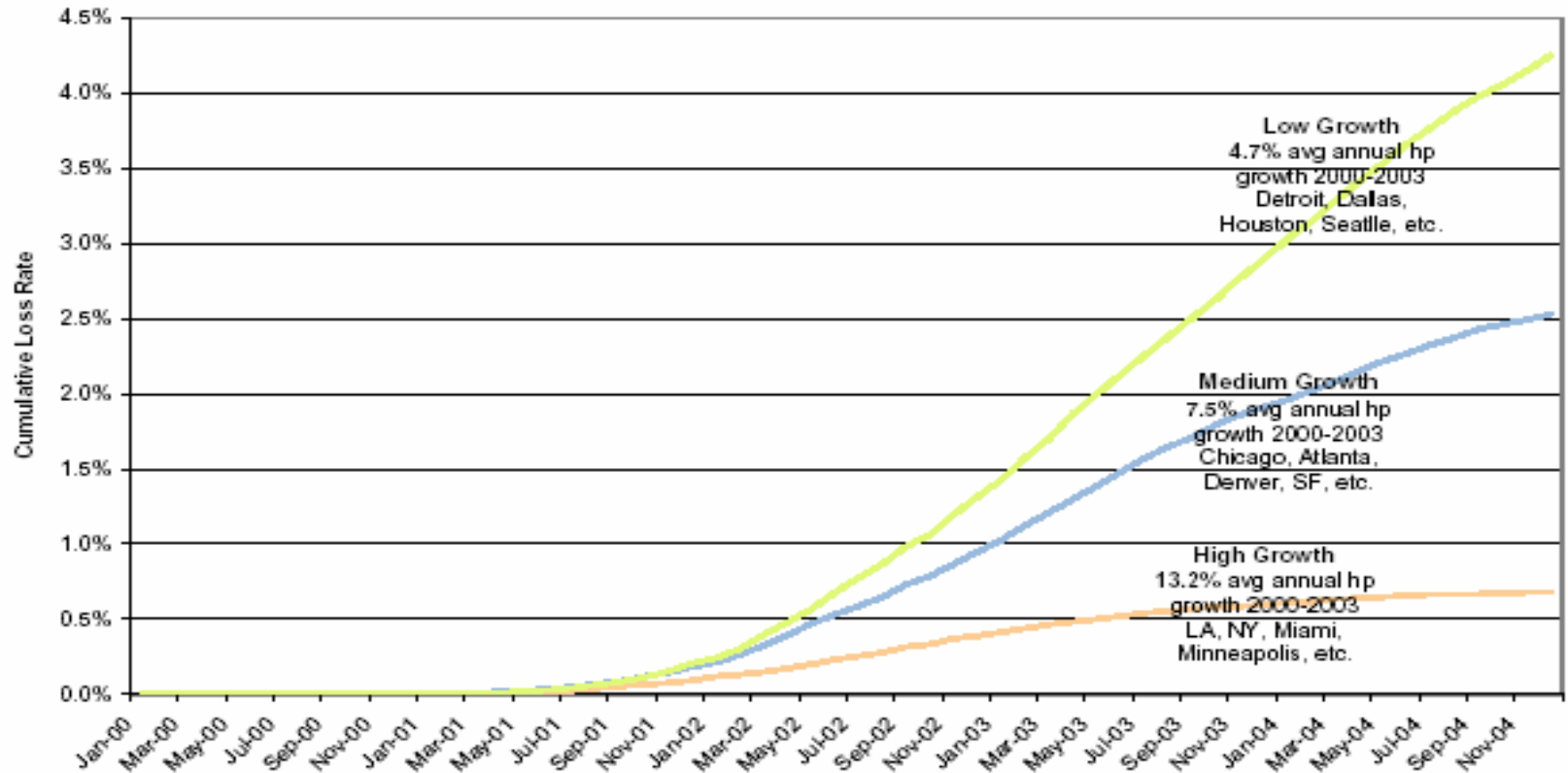


What About Risk Layering? (Continued)



What About House Price Risk?

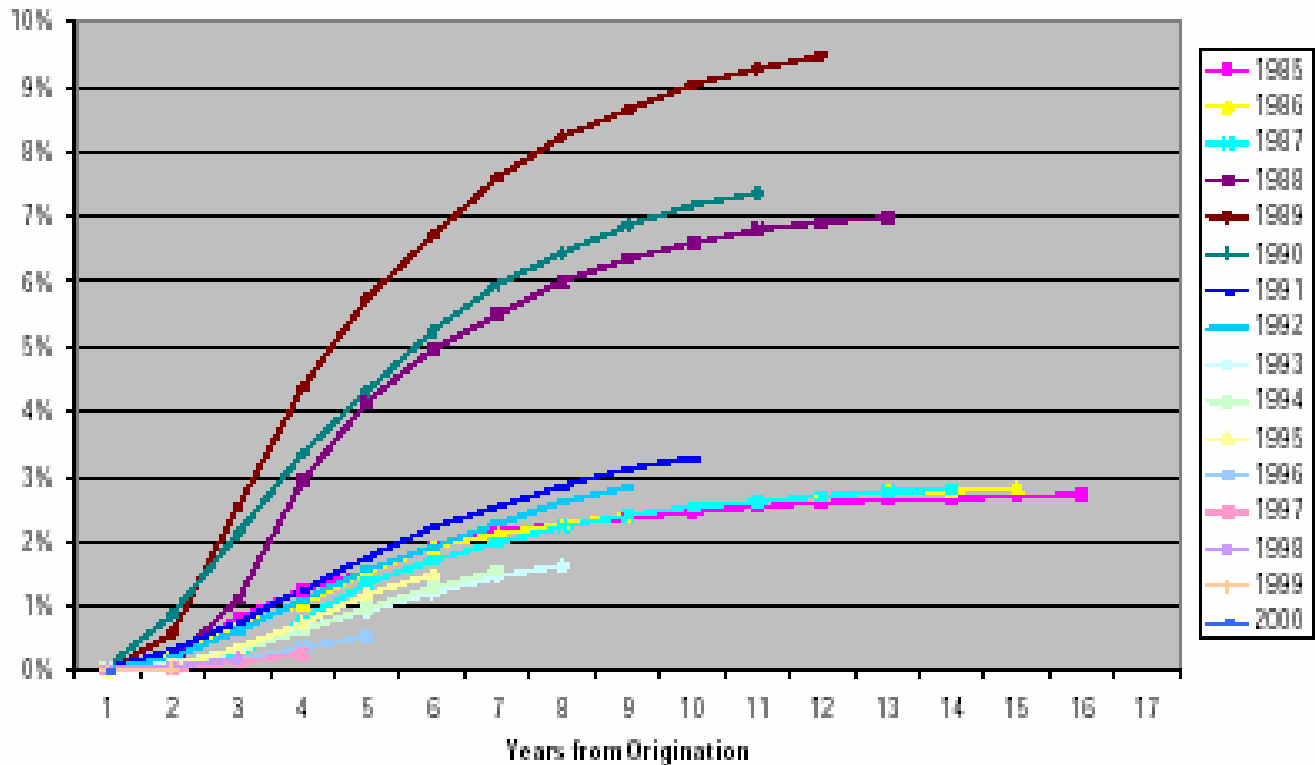
Actual Losses for Subprime Loans in Metro Areas with High, Medium, and Low House Price Growth Sample: Orig. Year 2000, Loan Performance Data



Source: Morgan Stanley, Loan Performance

What About Economic Risk?

Cumulative Number of Defaults (to 2000) as Percentage of Number of Loans Originated



How Do We Manage These Risks?

- **First and foremost - sound underwriting.**
- **This includes a robust and well documented assessment of;**
 - The Borrower(s') credit history
 - The Borrower(s') ability to repay the mortgage
 - Other Borrower characteristics
 - The value of the underlying asset

How Do We Manage These Risks?

- **Data,**
- **Data, and finally...**
- **More Data**

Risk Management (Continued)

- **Balanced growth and origination goals**
- **Well documented origination guidelines with structured and on-going staff training**
- **Oversight of origination totals to manage risk concentration and layering**
- **Monitoring of origination channels, valuation networks and other participants**
- **Management control and accountability for origination quality**

Risk Management (Continued)

- **Systematic and ongoing collection of complete and accurate loan performance data**
- **Meaningful reports that allow tracking portfolio distribution changes of material risk variables**
- **Procedures that provide the ability to modify origination criteria or processes in response to economic changes**
- **QC regime to verify processes and procedures are followed**

A Word on Credit Scoring

■ **How Important is scoring?**

- Minimizes underwriting and other operational overhead
- Helps take much of the guess work out of non-standard lending
- Can include a default probability/loss predictor to assist product pricing or help to indicate credit enhancement requirements
- May be used for early assessment of delinquencies and routing for the most effective workout strategies
- **But...**

A Word on Credit Scoring

- **Meaningful Credit Scoring requires many things;**
 - Robust origination data capture
 - Highly accurate data
 - A functioning credit repository with historical information, ideally both “good” and “bad” credit data
 - A large volume of loan performance data on which to model and validate the scoring system
 - Feedback mechanisms for ongoing model verification and modification

Housing Finance Issues in Developing Markets

- **Establishing appropriate infrastructure for lending**
- **Developing the necessary legal/regulatory system**
- **Satisfying the potential homebuying population with prudent mortgage product design**
- **Creating products, methods, & structures to tap the capital markets and develop secondary market funding sources**
- **Developing risk management expertise on these new products, methods and structures**

Benefits of Mortgage Insurance

- **Risk Transfer**
- **High LTV Market Expansion**
- **Product Development Support**
- **Secondary Market Access**
- **Regulatory Capital Relief**

Risk Transfer

- **New Basel rules will penalize risk, lower rated tranches and possibly higher LTVs**
 - Standardized Banks (2007 implementation): MI to be recognized in most jurisdictions,
 - IRB Banks (2008-2009 implementation): PMI to be recognized as 20% risk weighted counterparty.

- **PMI, as a third party insurer, removes substantial default risk from a lender's book**
 - Lowers loss provisioning,
 - Increases profitability,
 - Shifts risk out of the banking system and supports regulatory goals

High LTV Market Expansion

- **MI assumes excess LTV risk, permitting lenders to increase their LTV limits without adding more risk to their portfolio**
- **Availability of high LTV loans expands homeownership and opens up new market segments for lenders**

Result:

**More lending without increased risk,
access to 'lifetime borrowers'**

Product Development Support

- **MI provides essential data and facilitates analysis of new product ideas**
- **MI can support lending experiments in terms of property types, mortgage instruments and borrower characteristics**

Result:

Competitive advantage from increased lending opportunities without increased risk

Secondary Market Development

- **MBS and synthetic securitisations free up capital by transferring the mortgage default risk to a “third-party”**
- **MI may be used as credit enhancement on MBS, elevating lower-rated tranches and maximizing profitability**

Result:

Lower capital charges, lower issuance costs for securities, and a higher return on capital for the lender

Regulatory Capital Relief

- **Mortgages require regulatory capital and in some countries, higher LTVs are surcharged**
- **Basel capital adequacy rules will likely stiffen these capital charges further**

Result:

MI from a highly rated and specialized Mortgage Insurer can provide lenders with capital relief

Importance of an MI's rating

- PMI Europe is rated AA/AA/Aa3 by Fitch/S&P/Moody's
- Basel II applies the following weighting to insurers (corporates):

Insurer's rating	AAA to AA-	A+ to A-	BBB+ to BB-	Below BB-	Unrated
Risk weight	20%	50%	100%	150%	100%

- Rating agencies are beginning to explicitly apply credits for Mortgage Insurance Cover in their RMBS models. Fitch is the first agency to publish a table for Italy, applying the following haircuts to expected M.I. cash flows, depending on the rating of the tranche as well as that of the Insurer

Insurer's rating	RMBS tranche					
	AAA	AA	A	BBB	BB	Unrated
AAA	100%	100%	100%	100%	100%	100%
AA (PMI)	75%	100%	100%	100%	100%	100%
A	50%	75%	100%	100%	100%	100%
BBB	25%	50%	75%	100%	100%	100%
BB or lower	0%	0%	25%	38%	100%	100%
Unrated	<i>Not explicitly examined, could be 0%</i>					

Summary: The Benefits of MI in a Developing Market

- MI assists the development of a viable primary market
- MI fosters the development of a secondary market
- MI diversifies and reduces systemic credit risk
- MI acts as a privately-funded, quasi-regulator for the expansion of mortgage credit
- MI maximizes homeownership in a market

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