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Pillars for building better quality investor portfolios...

MACQUARIE

Credit Linked Assets

How to harness credit risk and deliver stable returns for investors

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PortfolioConstruction Conference – 23-24 August 2006

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Important notice

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Contents

What is Credit Risk?

What is Credit Risk?

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The risk that a borrower fails to make repayments of principal and interest.

- Interest rates
- Collateral requirements
- Covenants

How is Credit Risk Assessed?

How is Credit Risk Assessed?

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A comparison of Rating Agency risk measures			
	Moody's Investor Services	**Standard & Poor's**	**Fitch Ratings**
Highest credit quality	Aaa	AAA	AAA
Very high credit quality	Aa	AA	AA
High credit quality	A	A	A
Investment grade	Baa	BBB	BBB
High yield / Speculative	Ba	BB	BB
Highly speculative	B, Caa	B, CCC, CC, C	B, CCC, CC, C
Default	Ca, C	D	DDD, DD, D

Sources: Moody's Investor Services, Standard & Poor's and Fitch Ratings

How is Credit Risk Assessed?

What factors determine a rating?

- Qualitative factors
- Quantitative factors
  - Interest Coverage Ratio
  - Debt to Debt plus Equity Ratio

***Interest coverage ratio** is equal to earnings before interest, taxes, depreciation and amortisation for a time period, often one year, divided by interest expenses for the same time period. The lower the interest coverage ratio, the larger the debt burden is on the company.*

*A measure of a company's financial leverage. **Debt/debt plus equity ratio** is equal to debt divided by common shareholders' equity plus debt. Investing in a company with a higher ratio may be riskier, especially in times of rising interest rates, due to the additional interest that has to be paid out for the debt.*

How is Credit Risk Assessed?

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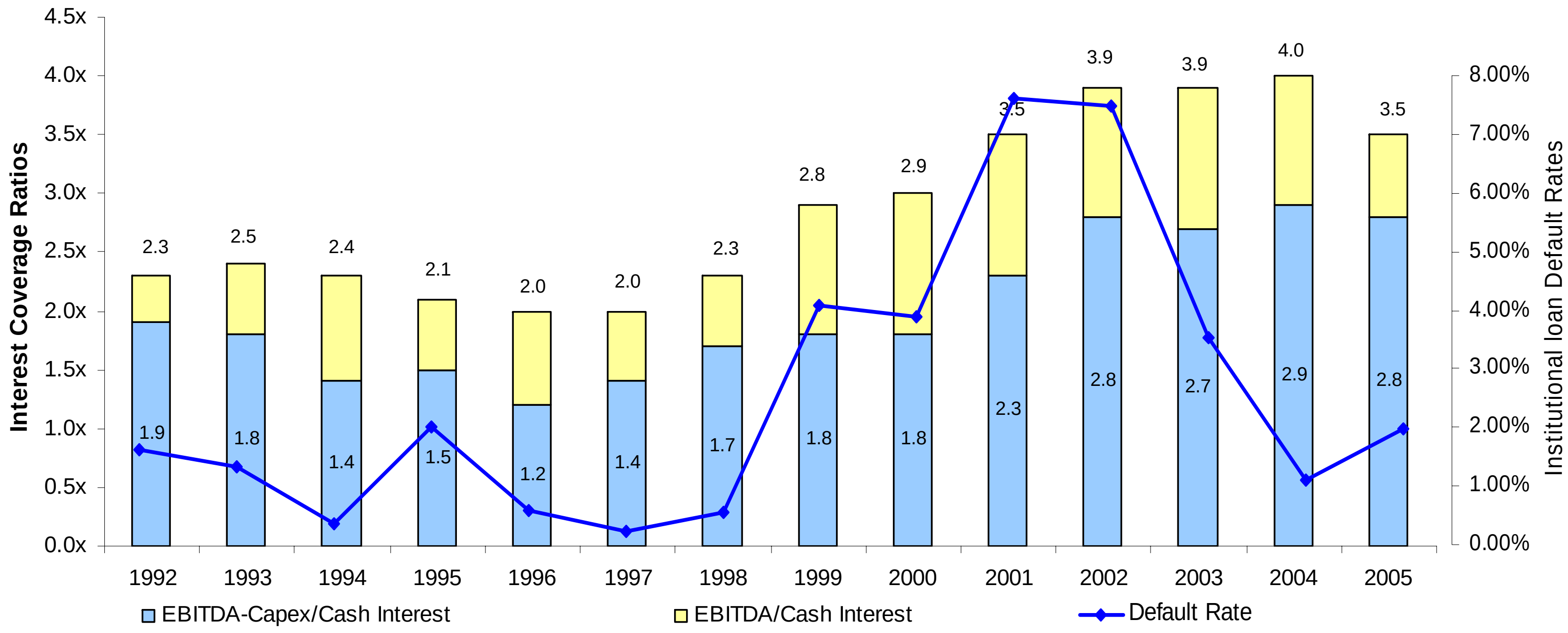
Quantitative credit factors in real life…

	Singapore Airlines	Qantas Airways	Delta Air Lines	
S&P Credit Rating		Not rated	BBB+	CC
EBITDA / Total Interest	14.47x	3.96x	-1.07x	
Debt to Debt plus Equity	14.3%	48.9%	-ve equity	
Financial year end:	Mar 2006	Jun 2005	Dec 2005	

Source: Bloomberg

How is Credit Risk Assessed?

Interest Coverage Ratios and US Senior Loan Default Rates: 1992 - 2005



Source: Standard and Poor's Leveraged Commentary and Data, Standard and Poor's/LSTA Leveraged Loan Index, Credit Suisse: Credit Suisse 'Leveraged Finance Strategy Outlook 2006'.

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Credit Linked Assets

Credit Linked Assets

	Interest or Class	S&P Ratings	Security	Historic Default Rate	Historic Recovery Rate
Investment Grade Bonds	Fixed	BBB-↑	No	0.3%	45.0%
High Yield Bonds	Fixed	BB+↓	No	3.7%[1]	41.5%[1]
Senior Secured Loans	Floating	BB+↓	Yes	2.6%	82.0%
Asset Backed Securities	RMBS / HELS	BBB-↑	No	0.2%[2]	73.3%[2]
	RMBS / HELS	BB+↓	No	1.3%[3]	59.5%[3]
Emerging Markets Debt	Fixed	-	No	1.2%[4]	-

All are large, liquid markets, lending themselves to active management.

IG, HY, SnrSec source: Standard & Poor's LossStats™ and Credit Suisse 'Leveraged Finance Strategy Outlook 2006': 1982 – 2004 & (1) 1977-2005.

ABS source: Moody's Special Comment 'Default & Loss Rates of Structured Finance Securities': (2) 1993-2004 & (3) 1987-2004.

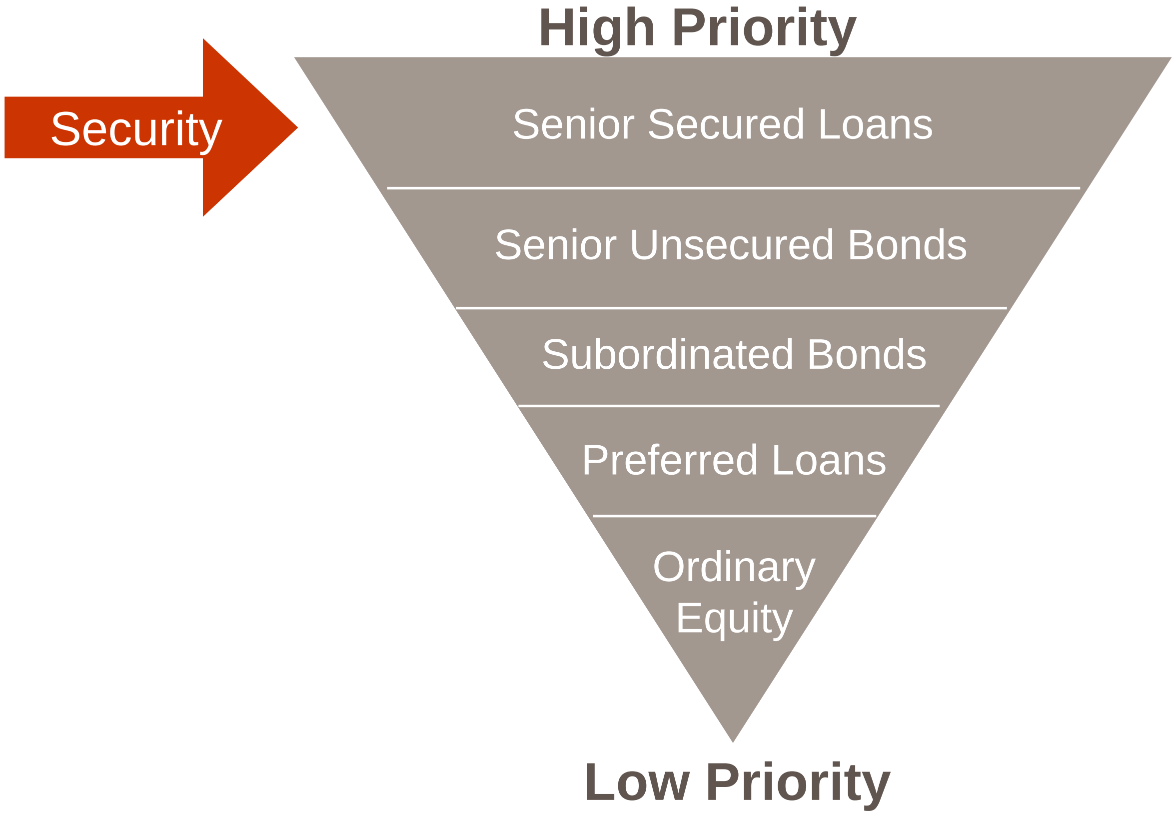
EM source: Standard & Poor's 'Sovereign Defaults: Heading Lower into 2004': (4) 1973-2003.

Credit Linked Assets

US Senior Secured Loans

Collateral

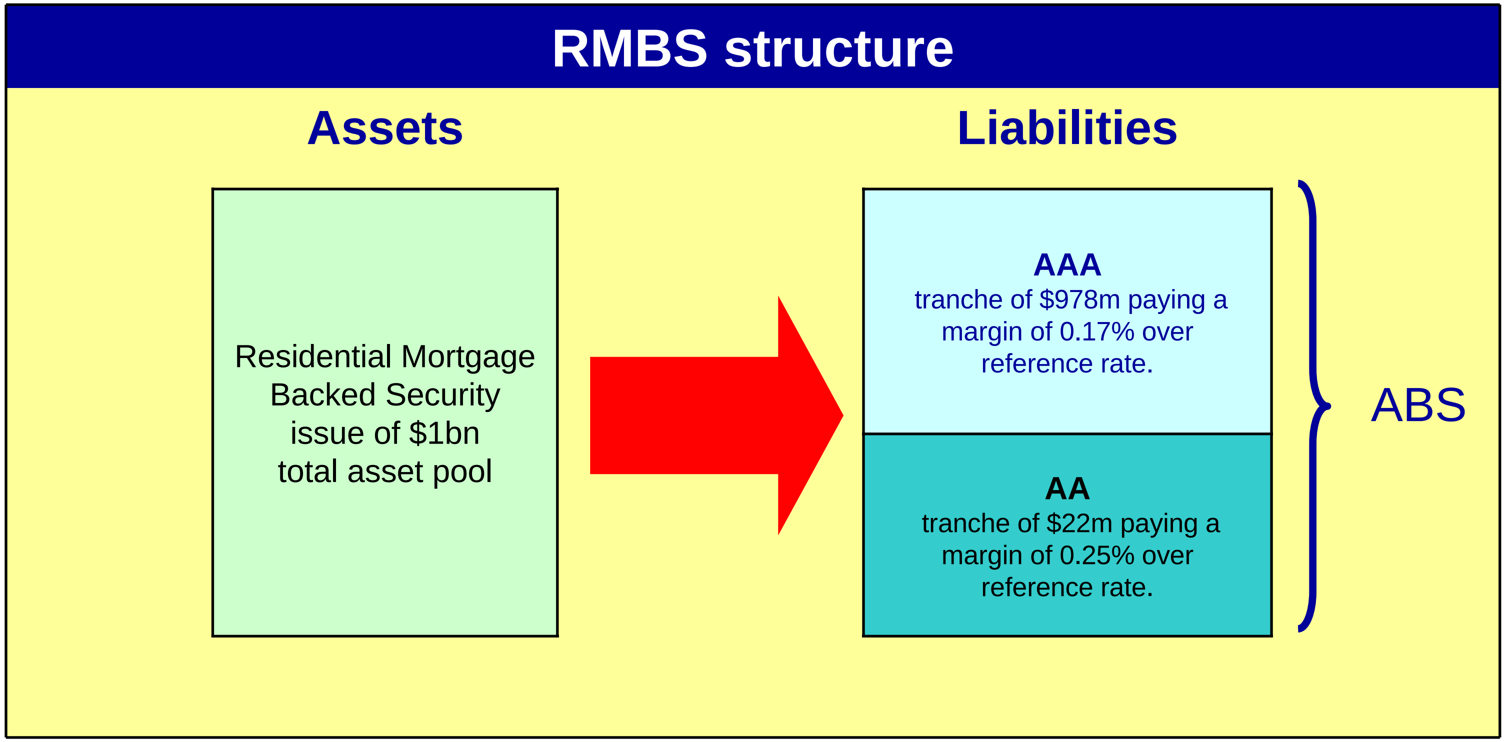
- Current assets
- Cash
- Accounts receivable
- Inventory
- Property, plant & equipment
- Intangibles
- Stock



Financial covenants provide early warning and opportunity for intervention

Credit Linked Assets

Asset Backed Securities



Source: Macquarie Bank Limited

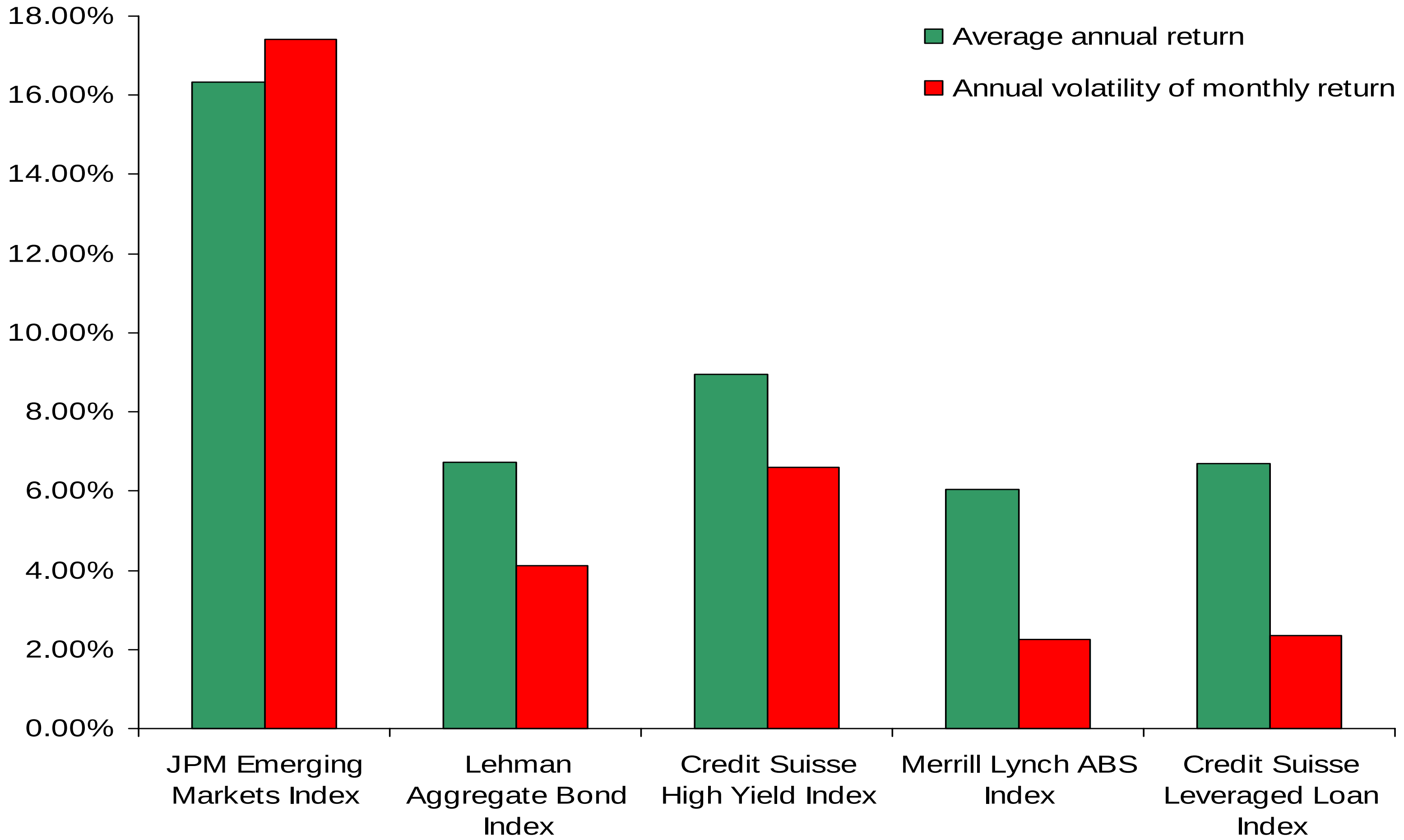
Credit Linked Assets

Emerging Markets Debt

- Examples include Brazil, Russia, South Africa, India, Mexico, China
- Sovereign debt but with higher default risk
- Fixed rate and long term, funds used to build infrastructure etc
- History of sovereign debt restructuring
- High returns but high volatility

Credit Linked Assets

Annual Asset Class return and volatility: 1992 - 2005



Sharpe Ratio	**0.79**	**0.72**	**0.80**	**0.98**	**1.22**

Source: Credit Suisse, Ibbotson Associates, Bloomberg: Credit Suisse 'Leveraged Finance Strategy Outlook 2006'

Leveraging Credit Risk

Leveraging Credit Risk

"Leveraging credit risk, are you crazy?"

'The Big Four'	Capital Adequacy Ratio*
ANZ	10.5
CBA	9.75
NAB	10.5
WBC	9.4

How much leverage is appropriate?

- ➔ A case study using Four Corners Capital Management…
  - ➔ actual unleveraged returns from February 2002 to May 2006
  - ➔ returns are post MER and account for cost of leverage

Source: Annual Report 2005 – ANZ, CBA, NAB, WBC; * Less Deductions

Leveraging Credit Risk

Leveraging a portfolio of US Senior Secured Loans

Analysis of the impact of leverage on returns			
	1:1 leverage (50% debt)	**6:1 leverage (83% debt)**	**12:1 leverage (92% debt)**
Average monthly return (p.a.)	8.22%	20.13%	37.99%
Worst rolling 12 month return	5.21%	9.02%	14.74%
Volatility of returns (p.a.)	2.16%	6.66%	13.43%
Sharpe ratio	**2.76**	**2.68**	**2.66**

But what happens under stress testing?

Source: Macquarie Bank Limited / Four Corners Capital Management LLC (66% owned subsidiary of MBL)

Leveraging Credit Risk

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Stress test – Leverage 6:1

	Default Rate	0.00%	1.00%	1.50%	2.00%	5.00%	7.00%	9.00%
Average Credit Margin	**2.10%**	7.96%	6.64%	5.98%	5.32%	1.35%	-1.29%	-3.93%
	2.30%	9.15%	7.83%	7.17%	6.50%	2.54%	-0.10%	-2.74%
	2.50%	10.33%	9.01%	8.35%	7.69%	3.73%	1.09%	-1.56%
	2.70%	11.52%	10.20%	9.54%	8.88%	4.91%	2.27%	-0.37%
	2.90%	12.71%	11.39%	10.73%	10.07%	6.10%	3.46%	0.82%

Stress test – Leverage 12:1

	Default Rate	0.00%	1.00%	1.50%	2.00%	5.00%	7.00%	9.00%
Average Credit Margin	**2.10%**	10.57%	7.93%	6.61%	5.29%	-2.64%	-7.92%	-13.21%
	2.30%	12.95%	10.30%	8.98%	7.66%	-0.26%	-5.55%	-10.83%
	2.50%	15.32%	12.68%	11.36%	10.04%	2.11%	-3.18%	-8.46%
	2.70%	17.70%	15.05%	13.73%	12.41%	4.48%	-0.80%	-6.09%
	2.90%	20.07%	17.43%	16.11%	14.78%	6.86%	1.57%	-3.72%

Assumes: Recovery Rate of 77.5%, BBSW of 5.60%, MER of 0.90%, Leverage cost of 0.75%

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Correlations among various credit linked assets: 1992 – September 2005					
	US Long Term Govt Debt	**Merrill Lynch ABS Index**	**Lehman Aggregate Bond Index**	**JPM Emerging Markets Index**	**Credit Suisse High Yield Index**
Merrill Lynch ABS Index	0.81				
Lehman Aggregate Bond Index	0.94	0.91			
JPM Emerging Markets Index	0.32	0.31	0.4		
Credit Suisse High Yield Index	0.11	0.06	0.2	0.5	
Credit Suisse Leveraged Loan Index	-0.05	-0.14	-0.06	0.04	0.48

Source: Credit Suisse, Ibbotson Associates: Credit Suisse 'Leveraged Finance Strategy Outlook 2006'

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Credit Linked Assets…

- A wealth of choice
- Broad spectrum of risk / reward investments
- Historically modest returns with less risk than traditional assets

Period: 1992 – September 2005	*Return*	*Volatility*
US Senior Secured Loans	**6.71%**	**2.36%**
S&P500	**10.31%**	**15.49%**
Gold	**2.20%**	**13.12%**
ASX200*	**8.15%**	**12.34%**

- Selective application of leverage can deliver higher returns, with less risk than some traditional assets classes

Source: Credit Suisse ‘Leveraged Finance Strategy Outlook 2006’, Bloomberg. *ASX200 data commences July 1992.

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Questions

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