The Decision to Use Credit Enhancement

California Debt and Investment Advisory Commission

Fundamentals of Debt Financing

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Outline of Presentation

- **Before** the world as we know it ended
- **How** the world ended
- **After** the world as we know it ended

Before the world as we know it ended

- A brief history of bond insurance
  - In the 1980's, several insurance companies organized themselves into "monoline" businesses, that is they insured one thing: municipal bonds
    - Working with the rating agencies, they achieved AAA ratings
    - Wrote insurance policies that guaranteed the payment of principal and interest to bond holders when due
    - Insured Bonds were assigned the AAA ratings of the insurer
  - Companies charged a premium that effectively split the savings with the borrower
    - Issuers saved money from interest cost, investors gained stability in credit quality, bond insurers and their stockholders made money
    - Bond insurers sponsored all the big parties at public finance conferences and gave away the best swag

Before the world as we know it ended

- Why insurance worked for investors
  - Retail safety and portfolio effect
  - Institutional liquidity ("Liquidity is King")
- Why insurance worked for issuers
  - The cost-benefit analysis
    - Priced as basis points against total P & I
    - Value to maturity
    - Value to call
  - The tax analysis
    - Cost of insurance could be included in calculation of arbitrage yield, if insurance was cost effective
    - Allowed issuer to earn back premium through proceeds investment

Example of Insurance Analysis

City of Fresno - Sewer System Revenue Bonds
Insurance Analysis to Call (FSA)

Present Value Rate[1]		4.984%
Present Value Date		5/29/2008
Insurance Premium		0.55%
Total Insurance Cost	$	1,715,472.02

Maturity	PV of Uninsured Debt Service to Call	PV of Insured Debt Service to Call	PV of Insured Debt Service Benefit	Allocable Insurance Cost	Benefit/(Cost) of Insurance	Is Value of Insurance to Call Economic?
9/1/2019	4,601,424.49	4,567,562.89	33,861.60	39,522.18	(5,660.58)	No
9/1/2020	N/A	N/A	N/A	N/A	N/A	N/A
9/1/2021	5,569,649.81	5,532,528.81	37,121.00	50,527.66	(13,406.66)	No
9/1/2022	4,968,832.20	4,931,711.20	37,121.00	46,394.87	(9,273.86)	No
9/1/2023	6,153,533.58	6,113,319.16	40,214.42	59,189.67	(18,975.25)	No
9/1/2024	6,467,049.43	6,423,741.59	43,307.84	63,959.33	(20,651.49)	No
9/1/2025	6,797,499.11	6,754,191.27	43,307.84	69,104.40	(25,796.56)	No
9/1/2026	7,146,062.65	7,099,661.40	46,401.26	74,588.77	(28,187.51)	No
9/1/2027	7,514,653.45	7,465,158.78	49,494.67	80,478.80	(30,984.12)	No
9/1/2028	7,898,264.69	7,845,676.60	52,588.09	86,735.63	(34,147.54)	No
9/1/2029	8,303,816.57	8,251,228.48	52,588.09	93,485.09	(40,897.00)	No
9/1/2030	8,730,575.73	8,671,800.81	58,774.92	100,631.61	(41,856.68)	No
9/1/2031	9,179,275.54	9,117,407.20	61,868.34	108,306.50	(46,438.16)	No
9/1/2032	9,649,916.00	9,588,047.66	61,868.34	116,530.41	(54,662.07)	No
9/1/2033	10,143,677.13	10,078,715.37	64,961.76	125,261.72	(60,299.96)	No
9/1/2034	10,662,472.33	10,594,417.15	68,055.17	134,580.54	(66,525.36)	No
9/1/2035	11,209,395.01	11,135,153.00	74,242.01	144,507.49	(70,265.48)	No
9/1/2036	11,785,178.55	11,710,936.54	74,242.01	155,195.90	(80,953.89)	No
9/1/2037	12,390,269.59	12,306,747.33	83,522.26	166,471.46	(82,949.20)	No

1) Average Arbitrage Yield of the Uninsured and Insured Financings

Before the world as we know it ended

- The growing dominance of bond insurance
  - In California, bond insurance would often achieve 80% market penetration
  - Solid AA-rated credits would still find insurance to be cost effective
- New entrants
  - XL, CIFG, Assured Guaranty
- Price competition

$71,023,000
City of Los Angeles
General Obligation Bonds
Series 2006-A

Rated: Moody's Aaa
S&P AAA
Fitch AAA

Underlying Rating: Moody's Aa2
S&P AA
Fitch AA

MBIA Insurance: 14.4 basis points
$150,000

How the world ended

- To increase profits and diversify their exposure, bond insurers wrote various guarantees on structured products
  - Growing business insuring collateralized mortgage obligations
- The housing market implodes
  - The mortgage market implodes from sub-prime mortgages
  - Information on bond insurer exposure to mortgage-backed securities shakes investor confidence
- Rating agencies reconsider their rating models and put ratings on watch
- Self-fulfilling prophecies
  - New issue market dries up
  - Stock value plummets
  - Ability to raise new capital crippled
- Insurance market magnified in variable rate market
  - Issuer felt the impact from the collapse of the auction rate market and the putting of insured VRDO's to liquidity banks

How the world ended

- The dominos tumble
  - CIFG, Ambac, MBIA, XL, FGIC loose their AAA's
  - Radian and ACA off the radar
- FSA and Assured Guaranty survive as kings of the hill
- Berkshire Hathaway sticks its toes in the market
- But then, even the mighty fall, as Moody's puts FSA and AG on Negative Credit Watch

Insurance Ratings Update as of September 5, 2008

	Moody's		S&P		Fitch	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
ACA	Not Rated		Not Rated	Suspended	Not Rated	
Ambac	Aa3	Negative Outlook	AA	Negative Outlook	Rating withdrawn (previously AA)	Stable Outlook
Assured	Aaa	Negative Watch	AAA	Stable Outlook	AAA	Stable Outlook
BHAC	Aaa	Stable Outlook	AAA	Stable Outlook	Not Rated	
CIFG	Ba2	Developing Watch	B	Developing Watch	CCC	Evolving Watch
FGIC	B1	Negative Outlook	BB	Negative Watch	CCC	Evolving Watch
FSA	Aaa	Negative Watch	AAA	Negative Outlook	AAA	Stable Outlook
MBIA	A2	Negative Outlook	AA	Negative Outlook	Rating withdrawn (previously AA)	
Radian	A3	Negative Outlook	BBB+	Negative Outlook	Rating Withdrawn	
XLCA	B2	Positive Watch	BBB-	Negative Watch	CCC	Positive Watch

After the world as we know it ended

- Half of the municipal bond world has been downgraded: $1.3 trillion
- Insurance penetration for the month of August 2008 was 8%, relative to 53% for August 2007
- Insurers struggle to rise from the ashes
  - New company formed by Ambac out of dormant Connie Lee
  - Maintaining market relevance
- The World of Credit in Flux
  - Increasing concern for credit
  - The global credit scale and ratings inflation
  - Can we trust the structured rating?
- Is there a future for bond insurance?
  - Investors want credit protection and liquidity
  - Berkshire Hathaway can write its own ticket
- Are letter-of-credit banks the next shoe?