NAIC Meeting

Discussion of Life Insurer Capital Treatment for Catastrophe Bonds

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Discussion Overview

Risk Diversification

- One of the fundamental tenets of insurance is the benefit of risk diversification
- Diversification benefits between two primary industry risks - catastrophe risk within P&C insurers and credit risk in Life insurers - is largely ignored in today's regulatory capital frameworks
- Accordingly, this potential benefit is generally not realized, which negatively impacts insurers, regulators, and ultimately consumers
- Catastrophe bonds offer life insurers a mechanism to diversify their portfolios to take advantage of the inherent diversification between catastrophe risk and credit risk; however given the lack of recognition of these benefits, Life insurers are not active investors in these instruments
- ***A modification to the risk based capital treatment of catastrophe bonds would provide a more appropriate measure of the underlying risk and would reduce the barriers for life insurers to participate in this space, thereby enhancing industry risk diversification benefits***

Benefits

Insurers

- P&C insurers would benefit from a larger and more stable source of capital, thereby reducing their cost of capital
- Life insurers would benefit from improved risk-adjusted asset returns as natural catastrophe risk and systemic investment risk are largely uncorrelated and, as a result, can provide a diversification benefit

Regulators

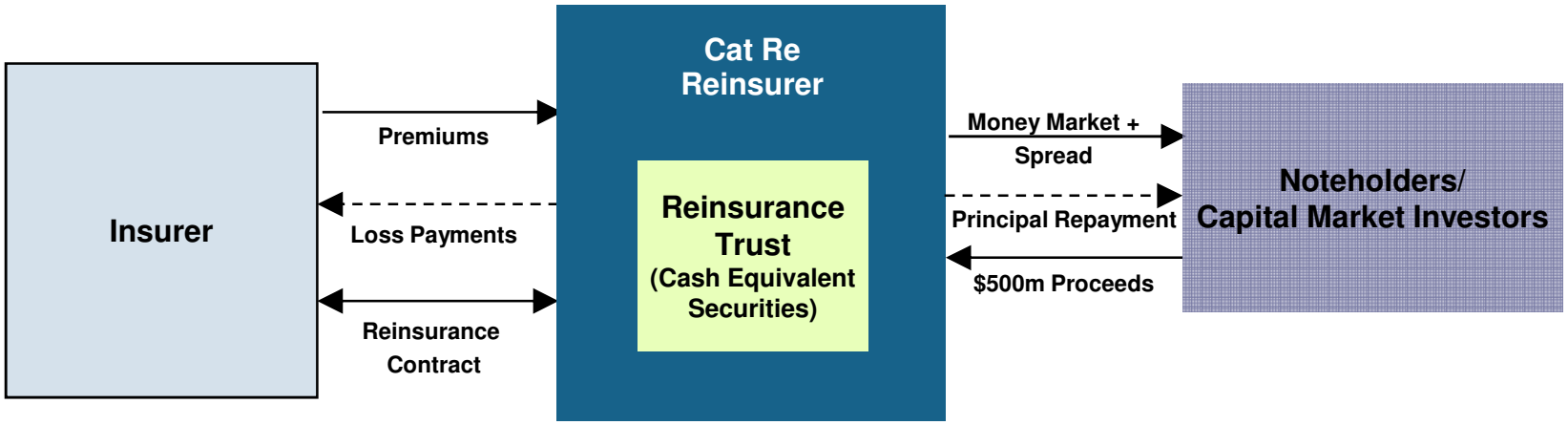
- Solvency concerns would be reduced as greater diversification is introduced into the system

Consumers

Ultimately the benefit inures to the end consumer

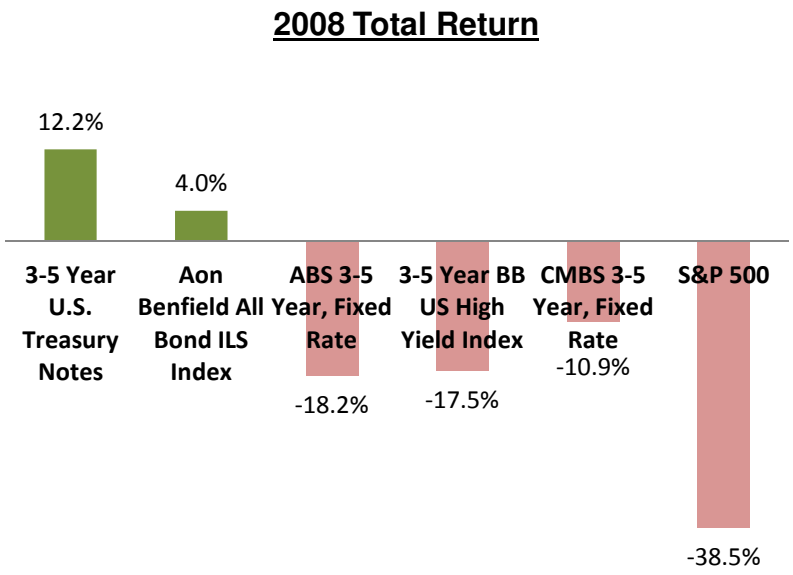
- Life insurance customers would benefit from improved risk-adjusted returns
- Property and casualty consumers would benefit from a more stable and less expensive source of capital for P&C insurers which would result in improved availability and affordability of insurance products

Overview of Cat Bonds



- Catastrophe (Cat) bonds are risk-linked securities issued by insurance companies that are designed to protect an insurance company from large losses incurred in the event of a major catastrophe
- The flow of funds in a typical transaction is shown in the illustration above
  - Cat Re issues bonds to institutional investors
    - Investor proceeds are placed into a trust and typically invested in highly liquid short term cash equivalent securities
  - Insurer enters into a reinsurance contract with Cat Re
    - Insurer pays reinsurance premiums to Cat Re
    - In the event of a triggering loss from a catastrophe above a specified threshold, the insurance company receives funds from the trust equivalent to the reinsurance coverage purchased
  - Investors receive a fixed interest payment equal to the yield on trust assets plus a spread that is equal to the premium the insurer pays to Cat Re
    - If there is a catastrophe loss above a specified threshold, investors will lose all or part of their principal
    - If there is no catastrophe loss during the term of the bond, the principal is returned to investors

Cat Bonds Provide Portfolio Diversification

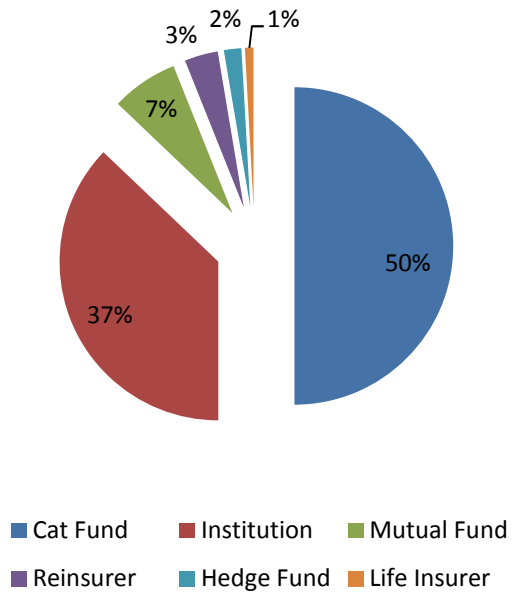


ILS – Insurance Linked Securities (primarily Cat Bonds)

- Cat bonds are largely uncorrelated with macroeconomic factors, as evidenced by the positive returns during the 2008 financial crisis
- Cat bonds are not highly exposed to traditional sources of credit risk
  - Most cat bond structures issued today have the principal secured by a third-party trust agreement and invested in highly liquid cash equivalent securities like Treasuries and money market accounts
  - In these types of structures, credit risk is limited to the issuer's ability to make premium payments which ultimately flow to the investors via the coupon payment
  - Principal default is triggered by a natural catastrophe exceeding a preset threshold, making it similar to an insurance contract
- Historical return data indicates a low correlation of Cat bond returns with equities and corporate bonds
- There is no causal relationship from economic risk to catastrophe risk (a down economy will not cause a natural disaster or catastrophic event)
- Although natural disasters can impact geographic regions and industry sectors, they are unlikely to result in a systemic impact to the overall financial market

Life Insurers Are Not Significant Investors

Cat Bond Participation by Investor Type (2014)



- Several barriers currently exist which limit Life insurer investment in Cat bonds
  - Capital Charge
    - Cat bond investments receive the same RBC treatment as similarly rated below investment grade corporate bonds
    - For unrated Cat bonds, a significant portion of issuance, investments receive equity RBC treatment with a hefty capital charge of 19.5%
    - Do not receive any diversification credit for this uncorrelated asset risk
  - Accounting Treatment - for unrated Cat bonds (categorized as NAIC 6), the bonds are marked to market under statutory accounting, driving capital volatility
  - Information Asymmetry - Life insurers typically lack expertise and/or transparency into the modeling of the risk
- We believe a revised capital treatment could reduce these barriers and increase the demand of Cat bonds by life insurers, leading to
  - A larger proportion of bonds being rated by issuers
  - More resources and talent dedicated to this area by life insurers

Current RBC Treatment for Cat Bonds

Acme Life Insurance Company
$ millions

Component	Description	Capital Values Prior to Cat Bond Acquisition	Capital Values Post Cat Bond Acquisition
C-0	Affiliated	59.0	59.0
C-1cs	Asset Risk - Common Stock	2.8	2.8
C-1o	Asset Risk - All Other	156.2	173.2
C-2	Insurance Risk	23.7	23.7
C-3a	Interest Rate Risk	65.3	65.3
C-3b	Health Credit Risk	0.0	0.0
C-3c	Market Risk	0.2	0.2
C-4a	Business Risk	30.8	30.8
C-4b	Business Risk	0.0	0.0
RBC	Total After Covariance	**312.7**	**329.6**

Acme acquires $500m of BB rated Cat bonds → Capital charge for BB rated bonds = 3.4% → Asset Risk C-1o increases by $17.0m ($500m x 3.4%)

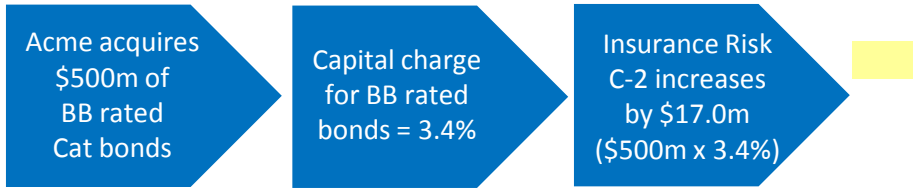
+$16.9m in RBC

- On a BB bond the capital charge is about 3.4% and categorized under C1 - Asset Risk component
- Results is an overall capital charge of $16.9m for a $500m bond
- Does not provide any differentiation between a corporate bond and a Cat bond and ignores the diversification benefits of a Cat bond.

Example of an Alternate RBC Treatment

Acme Life Insurance Company
$ millions

Component	Description	Capital Values Prior to Cat Bond Acquisition	Capital Values Post Cat Bond Acquisition
C-0	Affiliated	59.0	59.0
C-1cs	Asset Risk - Common Stock	2.8	2.8
C-1o	Asset Risk - All Other	156.2	156.2
C-2	Insurance Risk	23.7	40.7
C-3a	Interest Rate Risk	65.3	65.3
C-3b	Health Credit Risk	0.0	0.0
C-3c	Market Risk	0.2	0.2
C-4a	Business Risk	30.8	30.8
C-4b	Business Risk	0.0	0.0
RBC	Total After Covariance	**312.7**	**315.1**



+$2.4m in RBC

- Alternate method attempts to recognize the insurance features of a Cat bond, as well as the diversification benefit to life insurance companies
- Places the capital charge under the C2- Insurance Risk component - recognizes that the underlying contract behind a Cat bond is an insurance contract because its valuation is primarily determined by weather events unlike a typical corporate bond which is affected by financial credit risk and market risk
- This alternative treatment would result in the overall capital charge reducing from $16.9m to $2.4m for a $500m bond

Conclusion

- Risk diversification is a fundamental component of an efficient insurance system
- Today, there exists a largely untapped source of diversification between catastrophe risk, a large source of P&C risk, and credit, a large source of life insurer risk
- A modification to the risk based capital treatment of catastrophe bonds held by life insurance companies would provide a more appropriate measure of the underlying risk and would reduce the barriers for increased participation of life insurers in this space
- Increased life insurer demand for P&C catastrophe bonds would yield benefits across the continuum of insurance constituents including P&C and life insurers, regulators, and ultimately the consumers of insurance products