



2013 Insurance Linked-Securities

*As Alternative Risk Transfer Goes
Mainstream, the Reinsurer Business
Model Is Changing*

Conning
June 2013

Agenda

- ◆ **Overview of Insurance-Linked Securities**
- ◆ **History and Development of the ILS Market**
- ◆ **ILS Returns and Performance**
- ◆ **ILS Investors**
- ◆ **Considerations as an Asset Class**
- ◆ **Growth Opportunities and Implications**



Overview of ILS

Nontraditional Reinsurance Capacity, April 2013

(\$ in billions)

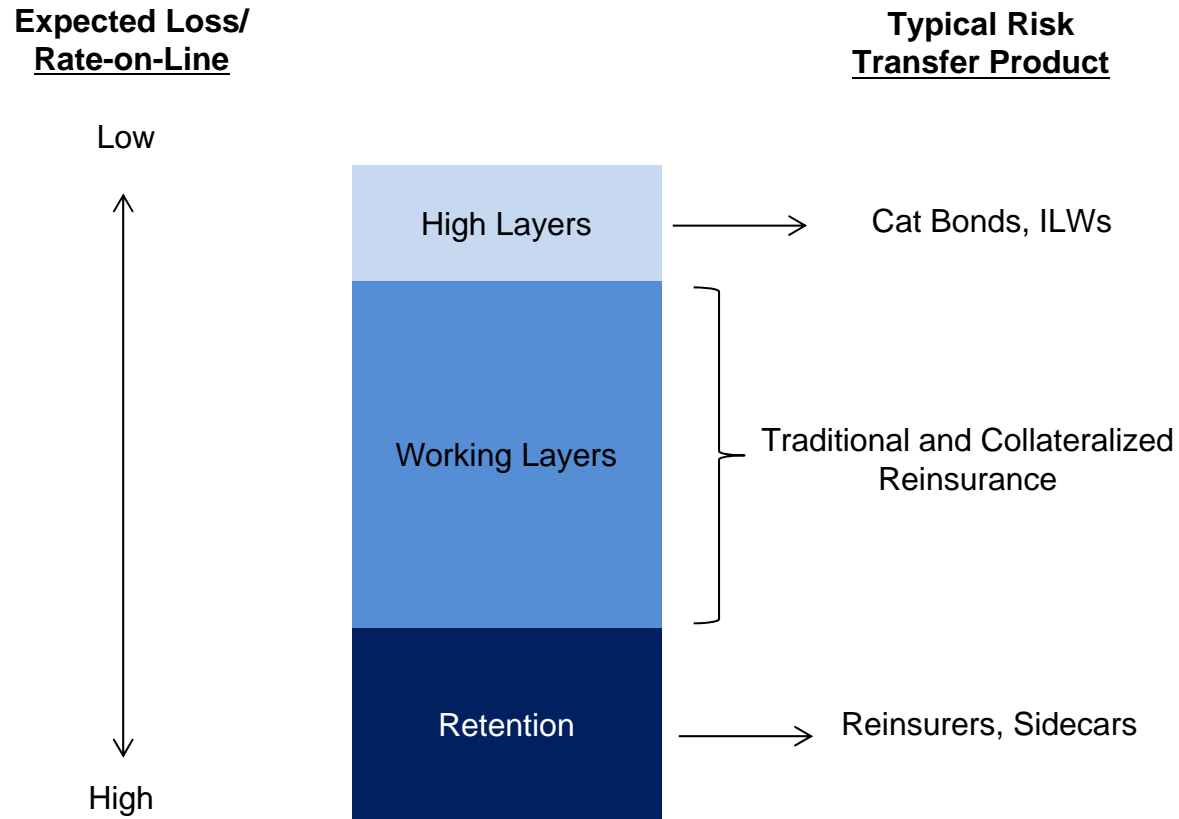


Source: Guy Carpenter, Conning analysis



Overview of ILS

Illustration of Reinsurance and ILS Products

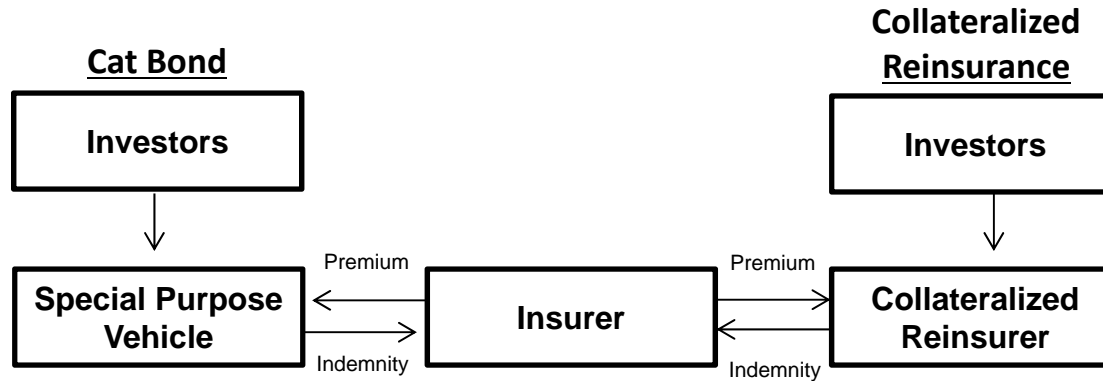


Source: Conning analysis



Overview of ILS

Example



Catastrophe Bond		Collateralized Reinsurance
\$100 (3-Year Bond)	Limit	\$100 (Reinsurance Contract – 1 Year)
\$8 (8%)	Premium (ROL)	\$20 (20%)
\$100	Investment	\$80
8% ROL + 0.5% Collateral (per year)	Loss-Free Return	\$20
\$100	Return of Principal / Release of Collateral	\$80
8.5% (Premium + Interest on Collateral)	Return	25% (\$20 / \$80)

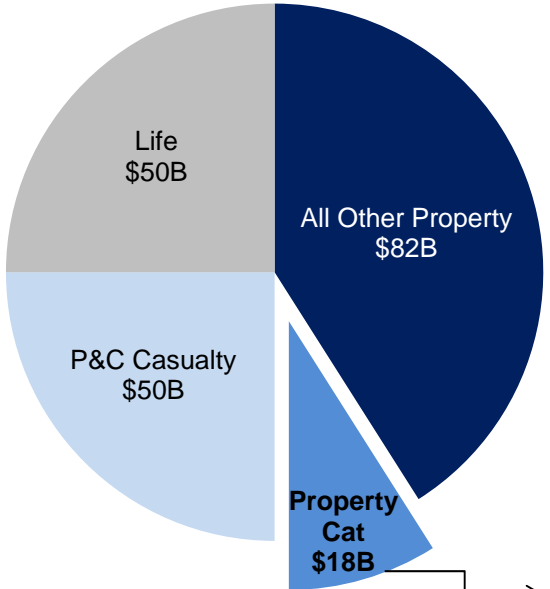
Source: Conning analysis



Overview of ILS

Estimated Global Reinsurance Premiums and Occurrence Limits

Premiums: \$200 Billion



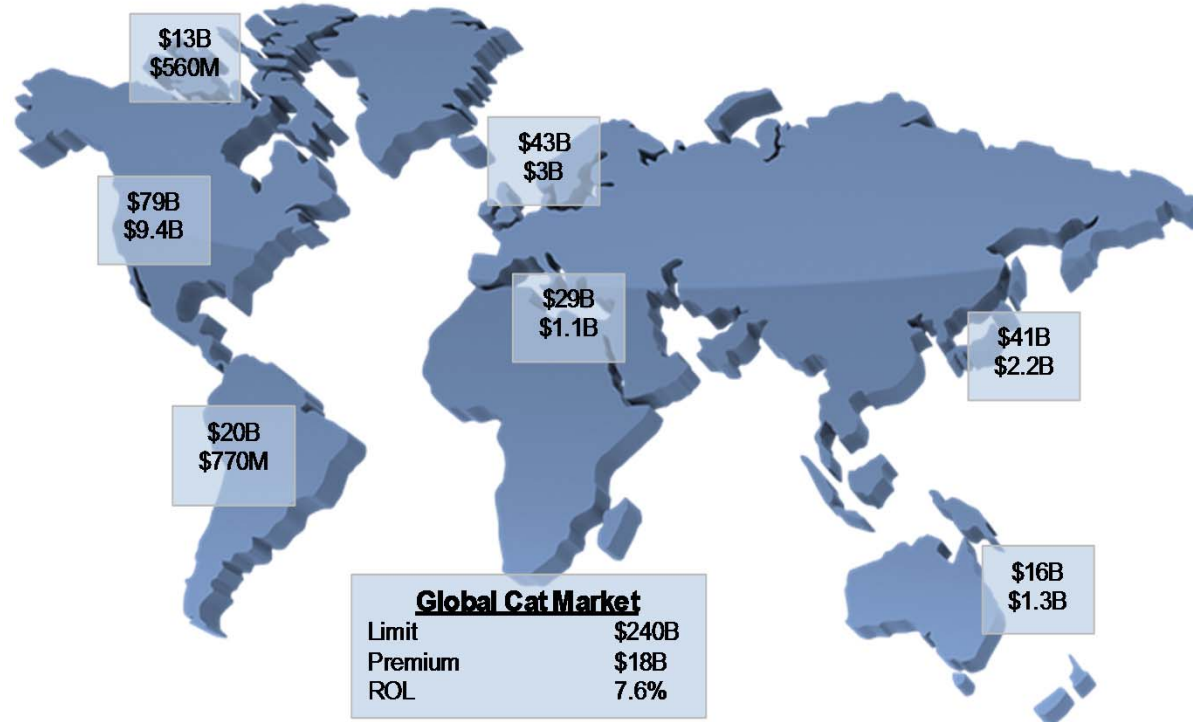
- Property Cat Limits: \$240B
- ILS Capacity: \$44B
- ILS / Property Cat: 18%

Source: Guy Carpenter, Conning analysis



Overview of ILS

Estimated Size of Property Catastrophe Market



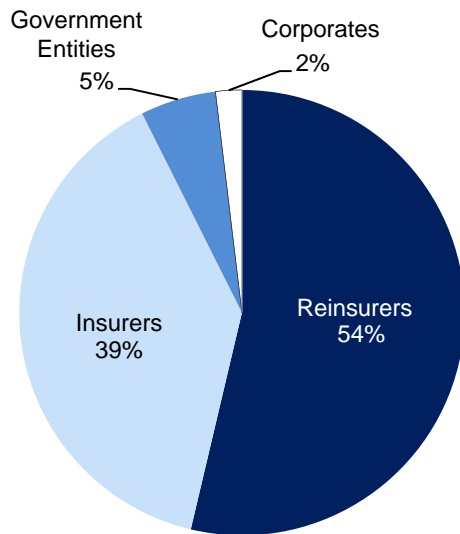
Source: Guy Carpenter, Conning analysis



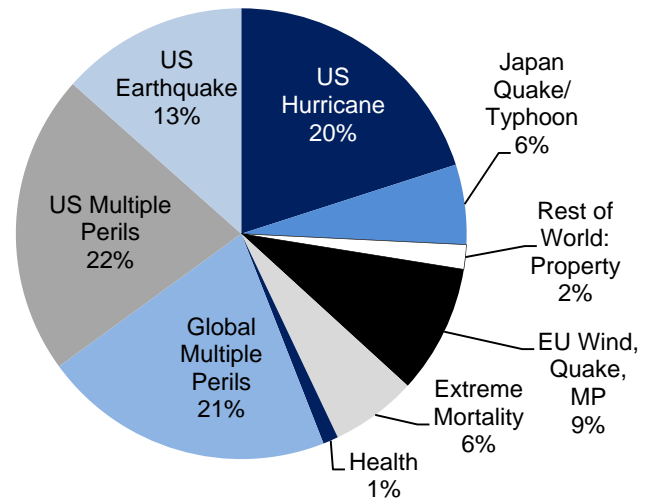
Overview of ILS

Cumulative Cat Bond Issuances 1996-2012

Catastrophe Bond Issuer by Type



Catastrophe Bond Issuances by Peril



Source: Aon Benfield Securities, Conning analysis



History and Development

Catastrophe Bond Issuances

(\$ in millions)

Market in Development

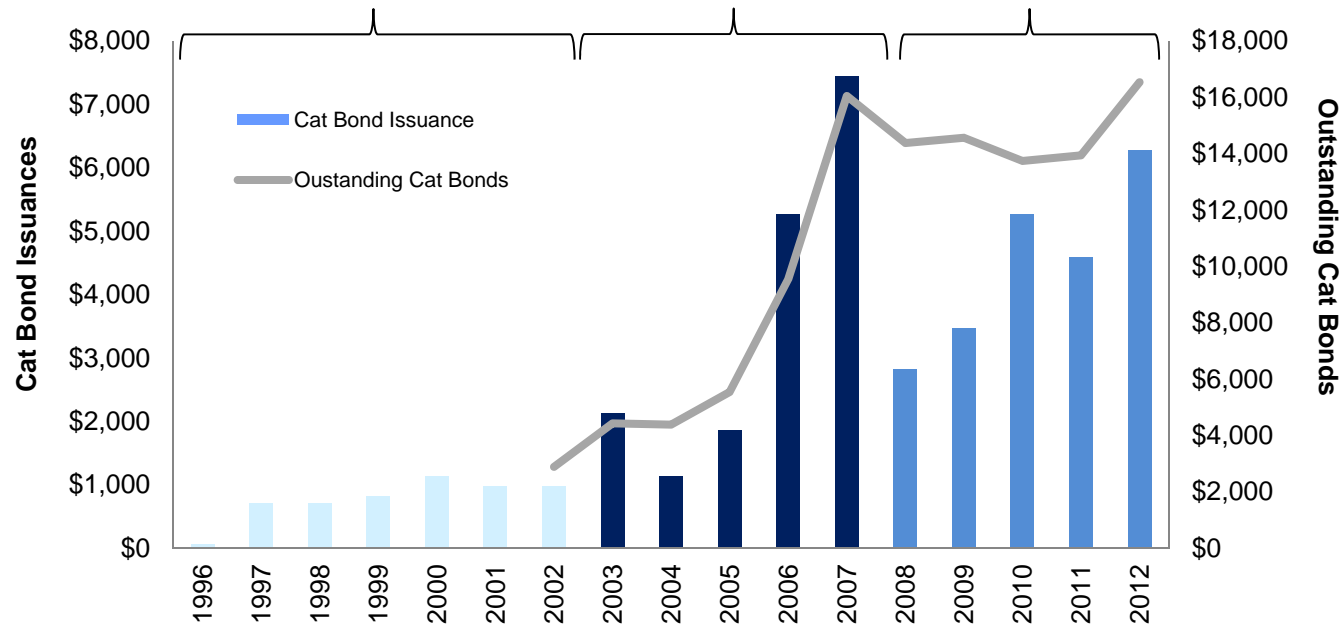
- Infrequent one-off issuances
- Many parametric bonds

Validation

- Growth in issuance following Katrina
- Expansion of issuer base

Recovery and Growth

- Resilience during financial crisis
- Investor demand driven by efficiency and transparency



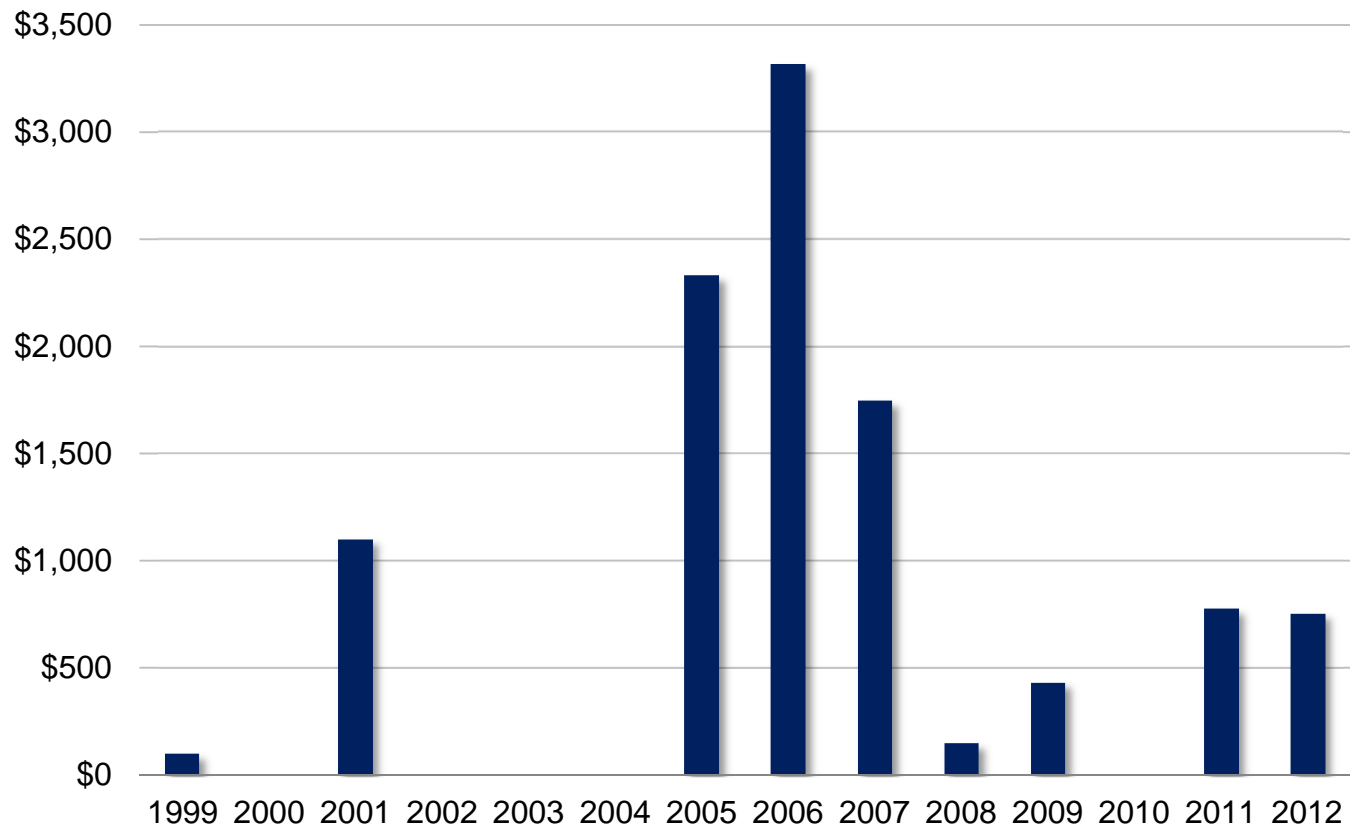
Source: Aon Benfield Securities, Artemis, Conning analysis



History and Development

Sidecar Issuances by Year

(\$ in millions)

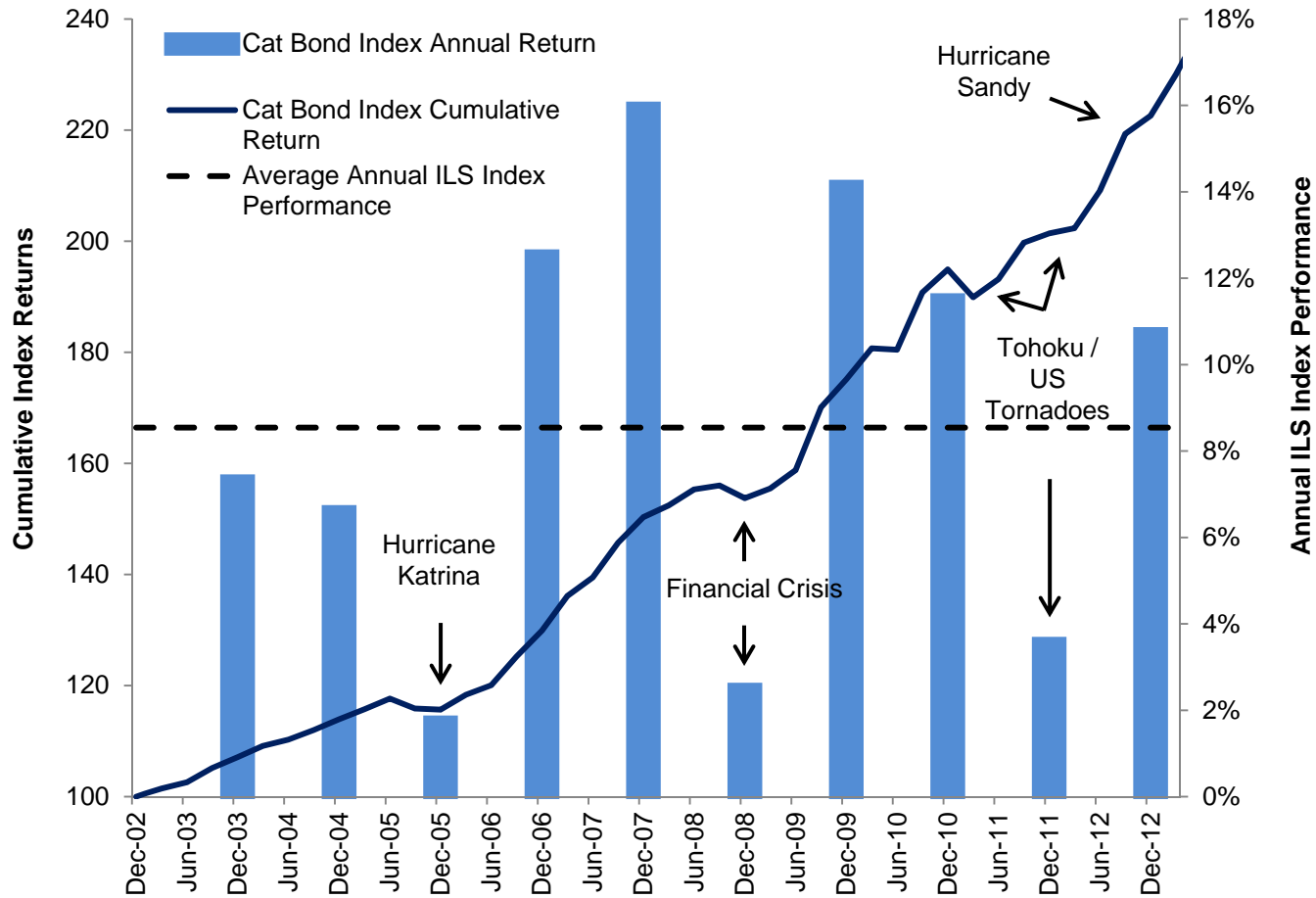


Source: Aon Benfield Securities, Conning analysis



ILS Returns and Performance

ILS Index Performance



Note: Past performance is not a guarantee of future results

Source: Swiss Re, Conning analysis



ILS Returns and Performance

ILS Index Return Components—All Cat Bonds

Year	Insurance-Related Return			Yield on Collateral (Floating)	Total Return
	Insurance Premium	Price Change	Total Insurance		
2002	5.63%	1.23%	6.86%	1.93%	8.91%
2003	5.26%	0.83%	6.09%	1.25%	7.41%
2004	4.85%	-0.59%	4.26%	1.50%	5.82%
2005	4.78%	-6.22%	-1.44%	3.31%	1.84%
2006	6.81%	-0.68%	6.13%	5.27%	11.69%
2007	7.11%	1.80%	8.91%	5.50%	14.86%
2008	8.06%	-6.78%	1.28%	1.35%	2.65%
2009	7.20%	4.45%	11.65%	1.43%	13.22%
2010	7.25%	3.26%	10.51%	1.18%	11.81%
2011	7.71%	-4.67%	3.04%	0.57%	3.63%
2012	9.04%	0.59%	9.63%	0.60%	10.28%

Post-loss event pricing (arrows pointing to 2011 and 2012 Insurance Premium values)
 Price impact from defaults and crisis (arrows pointing to 2005, 2008, and 2011 Price Change values)
 Total Return Swaps – no longer utilized (arrow pointing to 2008 Yield on Collateral value)

Source: Lane Financial, Conning analysis



ILS Returns and Performance

Catastrophe Bond Defaults

Catastrophe Bond Defaults—Significant or Total Loss of Principal			
Catastrophe Bond:	Muteki Ltd.	Mariah Re Ltd. (Series 2010-1 / 2010-2)	KAMP Re 2005
Issuer:	Zenkyoren	American Family Mutual Insurance Co.	Zurich American
Covered Peril(s):	Japan earthquake	U.S. severe thunderstorm	U.S. hurricane and U.S. earthquake
Size (MM):	\$300	\$200	\$190
Initial Rating:	Ba2 (Moody's)	B (S&P) / NR	BB+ (S&P)
Date of Loss:	Mar-11	Nov - 11 / Nov - 11	Aug-05
Cause of Loss:	Tohoku Earthquake	U.S. tornados (Joplin)	Hurricane Katrina
Percentage of Investment Lost:	100%	100%	75%

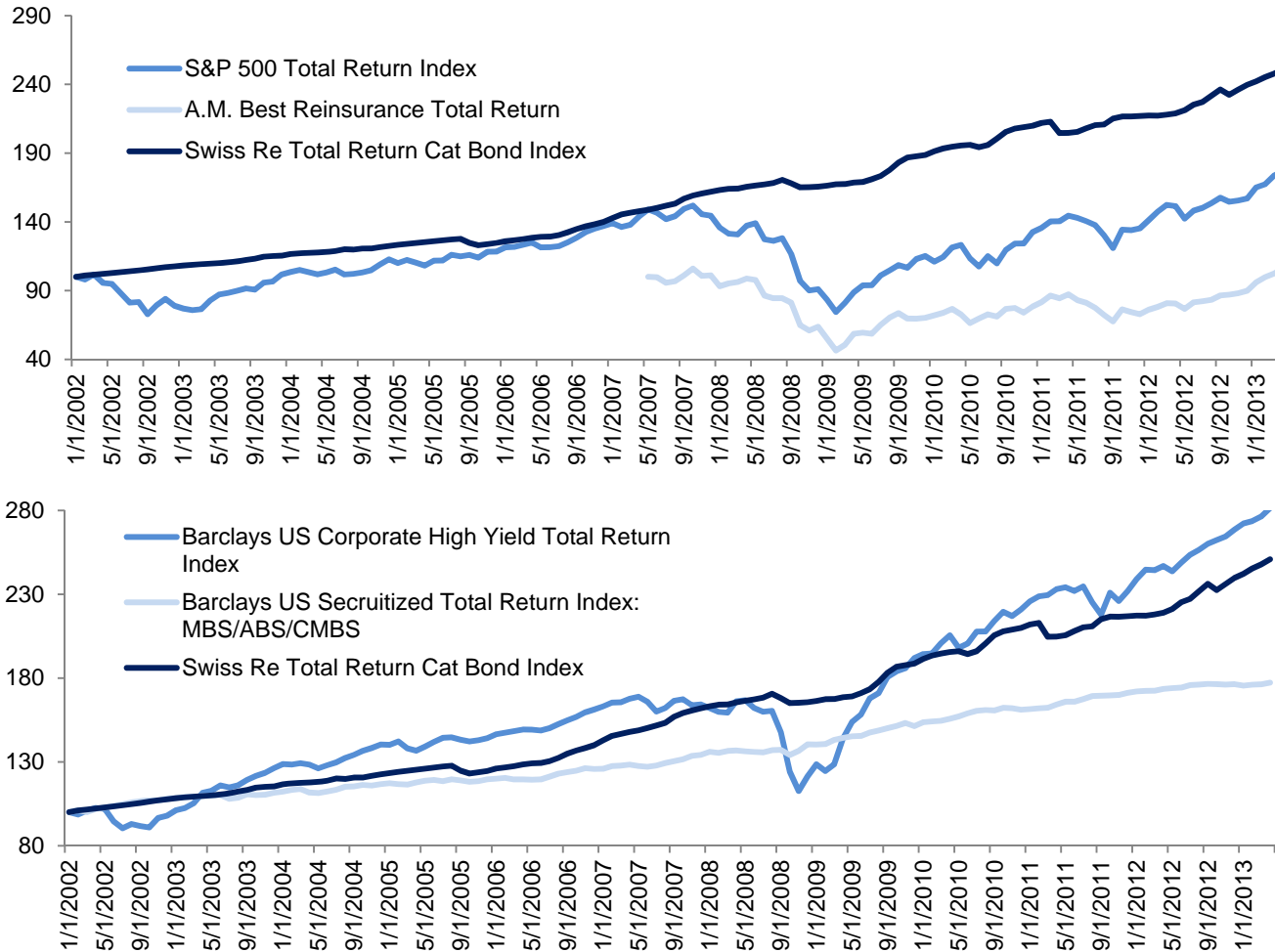
Catastrophe Bond Defaults—Partial Loss of Principal					
<u>Transaction</u>	<u>Year Issued</u>	<u>Sponsor</u>	<u>\$ Size (millions)</u>	<u>Loss Percentage</u>	<u>Reason for Default</u>
Kelvin Ltd.	1999	Koch Energy Trading	\$50	NA	Temperatures
Avalon Re	2005	Oil Casualty Ins. Ltd.	\$405	9% in Class C	Explosions
Carillon Ltd.	2006	Munich Re	\$84.5	NA	Lehman failure
Ajax Re Ltd.	2007	Aspen Insurance	\$100	NA	Lehman failure
Newton Re	2008	Catlin	\$150	Received collateral	Lehman failure
Willow Re	2008	Allstate	\$250	NA	Lehman failure

Source: Artemis, National Association of Insurance Commissioners, Conning analysis



ILS Returns and Performance

Historical Catastrophe Bond Performance



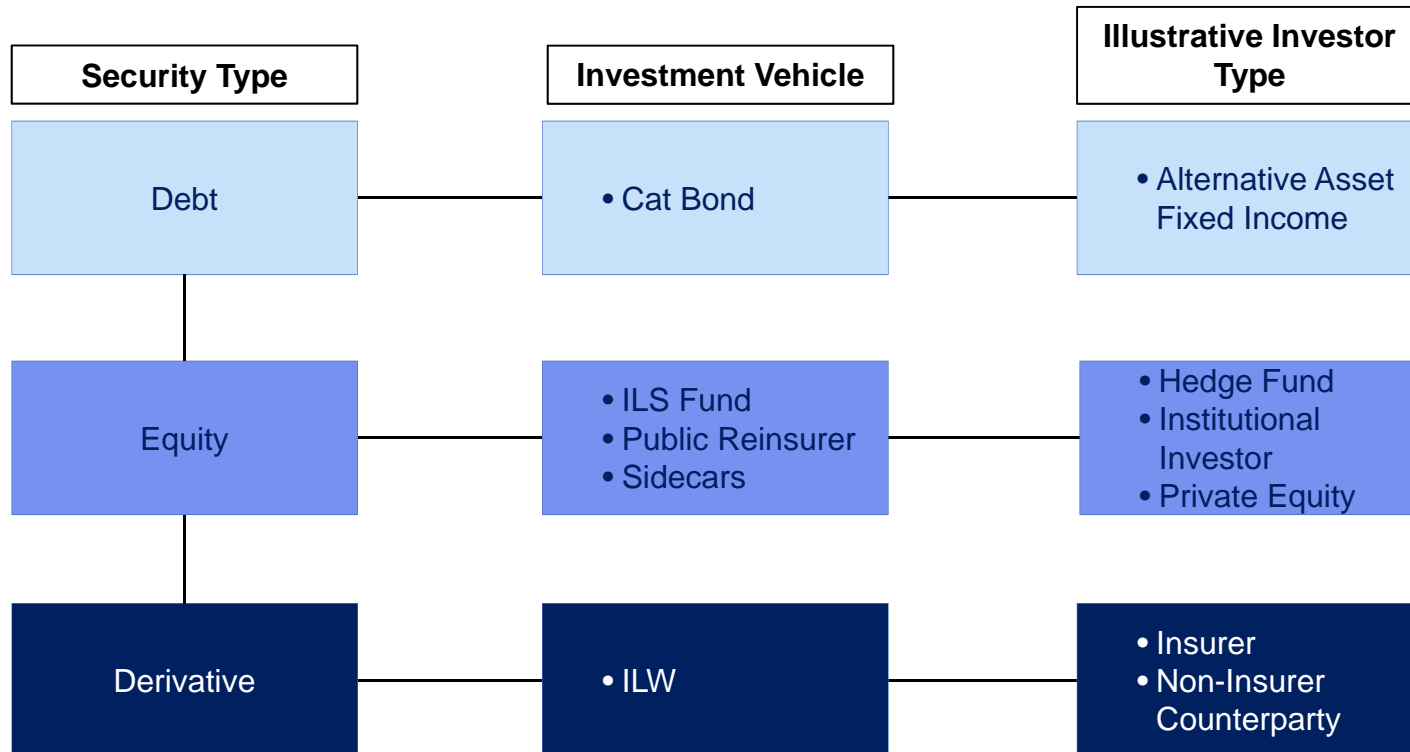
Note: Past performance is not a guarantee of future results

Source: Bloomberg, Conning analysis



ILS Investors

Investment Options



Source: Conning analysis



ILS Investors

Selected ILS Managers

ILS Fund / Company	Sponsor(s) / Investor(s)	Year Founded
Aeolus Capital Management	Warburg Pincus, Merrill Lynch Private Equity, Arch Capital, Allied World	2006
CatCo Investment Management	Qatar Insurance Co., J.P. Morgan Asset Mgmt., Henderson Global Investors, Baillie Gifford, Co-operative Insurance Society	2010
Coriolis Capital Limited	Spun out from Societe Generale	2003
Credit Suisse Insurance Limited Strategies	Credit Suisse	NA
D.E. Shaw & Co.	NA	2006
Elementum Advisors, LLC	NA	2009
Eskatos Capital Management	NA	2008
Fermat Capital Management	NA	2001
ILS Capital Management	NA	2012
Iris Reinsurance Ltd.	Joint Venture - Cartesian Capital and Aspen Insurance	2009
Leadenhall Capital Partners	Amlin Group	2008
Leine Investment General Partner	Hannover Re	2008
LGT Capital Management ⁽¹⁾	NA	2012
Nephila Capital	Originally Willis Group, now partnered with Man Investments, KKR	1997
Pentelia Capital Management	White Mountains, Nataxis	2007
Pillar Capital Management	Aquiline Capital Partners, Marsh & McLennan, management, Transatlantic Re	2008
Plenum Investments Ltd.	NA	2001
Securis Investment Partners	Northill Capital (2012), replaced Swiss Re and Stone Point Capital	2006
Traymar Capital	Strategic relationship with The Coventry Group	2010
Twelve Capital	Management owned	2010

Source: Company websites, Conning analysis



ILS Investors

Reinsurers—Participation in ILS

Reinsurer	Sponsor / Issuer	ILS Investor
Allied World	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alterra Capital	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Amlin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Arch Capital	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Argo Group	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aspen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AXIS	<input type="checkbox"/>	<input type="checkbox"/>
Beazley	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Catlin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Endurance	<input type="checkbox"/>	<input type="checkbox"/>
Everest Re	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Greenlight Re	<input type="checkbox"/>	<input type="checkbox"/>
Hannover Re	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hiscox	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lancashire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

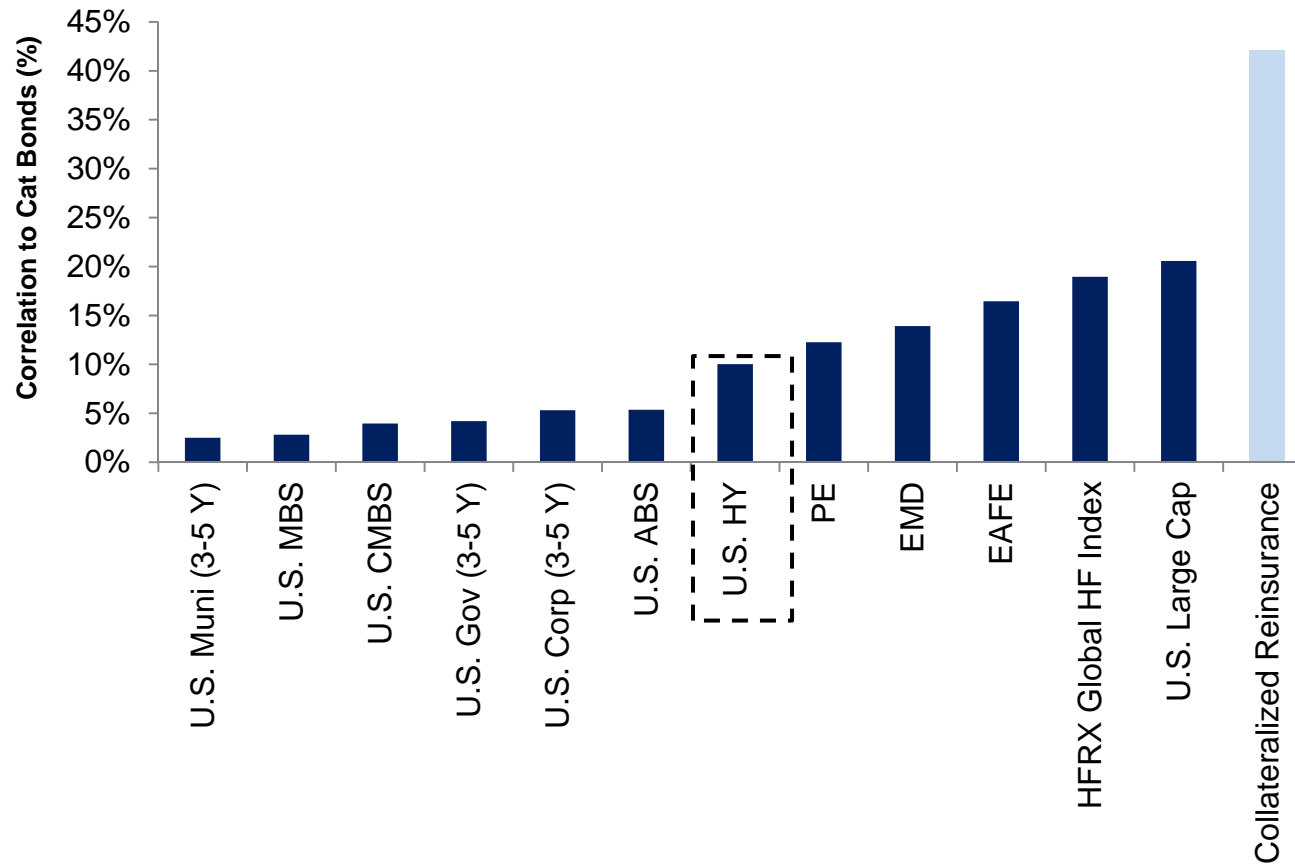
Reinsurer	Sponsor / Issuer	ILS Investor
Montpelier Re	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Munich Re	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PaCRe	<input type="checkbox"/>	<input type="checkbox"/>
Partner Re	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Platinum	<input type="checkbox"/>	<input type="checkbox"/>
Renaissance Re	<input checked="" type="checkbox"/>	<input type="checkbox"/>
S.A.C Re	<input type="checkbox"/>	<input type="checkbox"/>
SCOR	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Swiss Re	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Third Point	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tokio Marine	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Transatlantic	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Validus Re	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
White Mountains	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
XL Group	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Source: Company websites, Conning analysis



Considerations as an Asset Class

Correlation to Catastrophe Bonds: 5-Year Average Projected Simulations

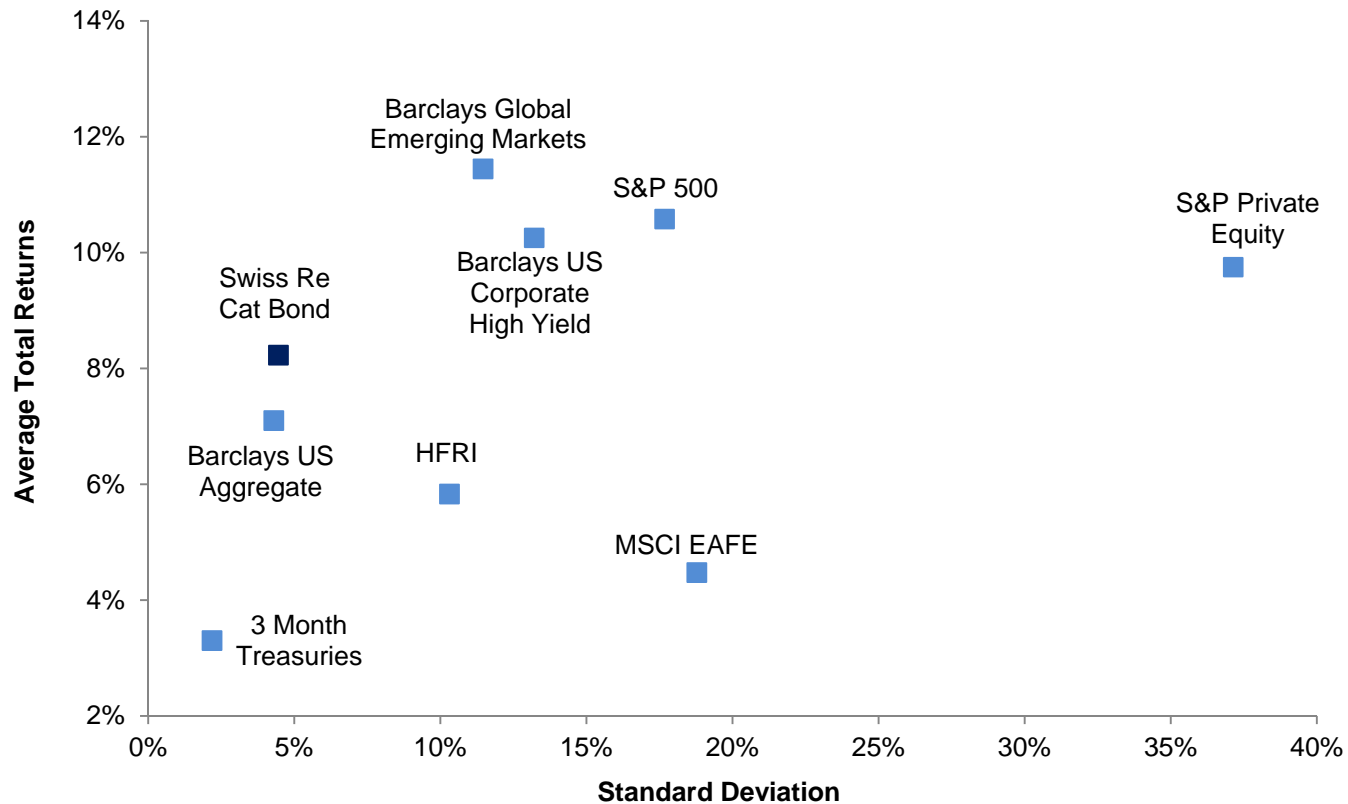


Source: Bloomberg, Pillar Capital Management Ltd., Conning analysis



Considerations as an Asset Class

Historical Average Total Return and Standard Deviation—Selected Asset Classes



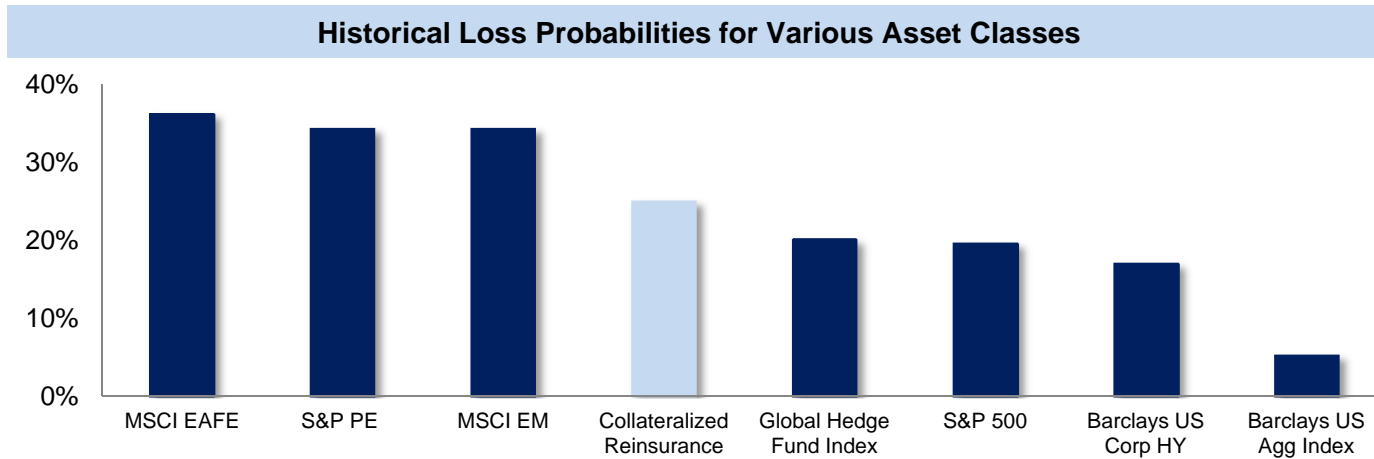
Note: Past performance is not a guarantee of future results

Source: Bloomberg, New York University, Conning analysis



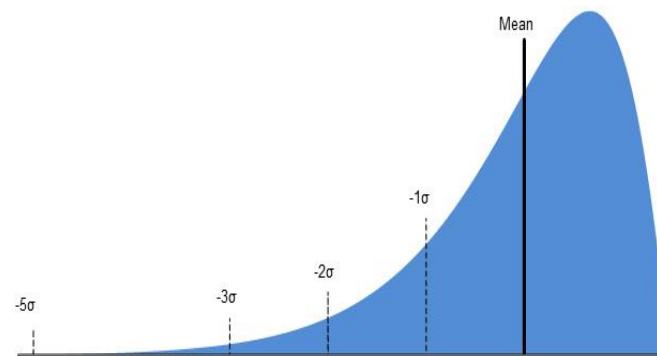
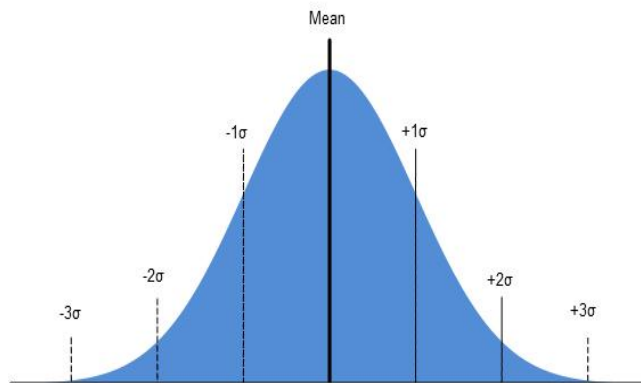
Considerations as an Asset Class

Loss Probabilities and Return Distributions



Symmetrical Distribution

Skewed Distribution (Tail Risk)

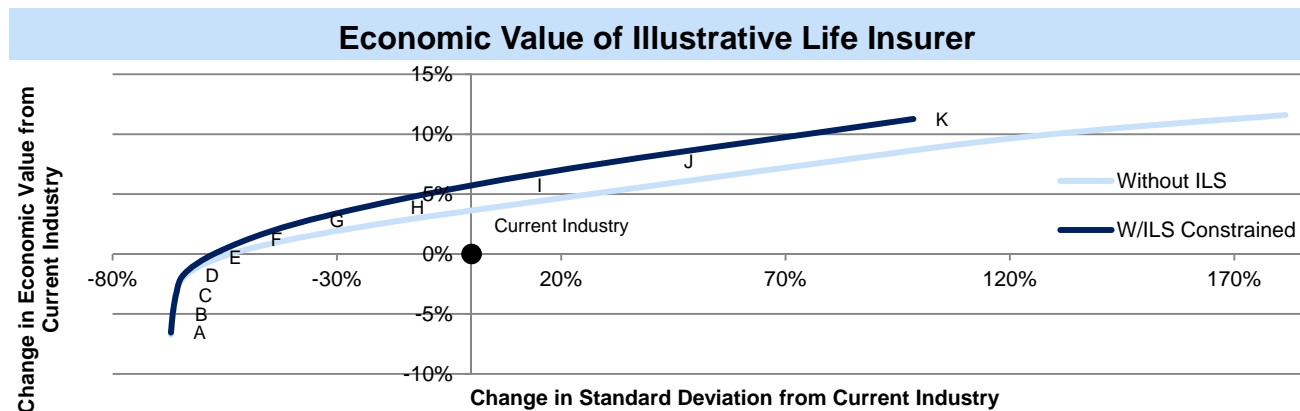
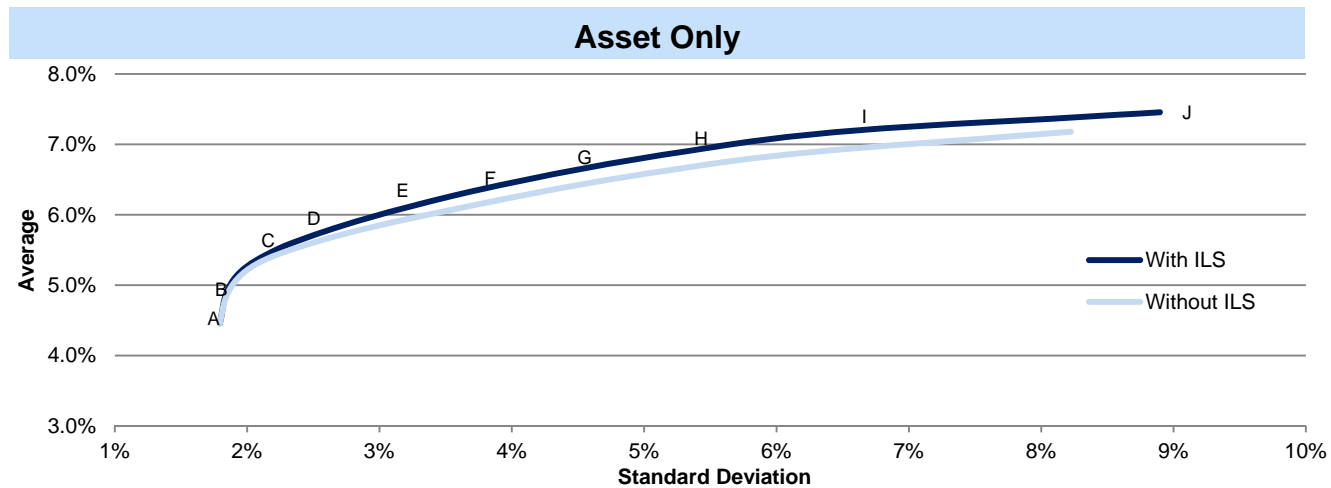


Note: Past performance is not a guarantee of future results
Source: Bloomberg, Pillar Capital Management Ltd., Conning analysis



Considerations as an Asset Class

Total Return Efficient Frontier



Constraints include CML and Private Placements capped at 15% each, High yield capped at 5%, US equities capped at 2%, Private Equity and EMD capped at 1% each, and ILS capped at 10%.

Disclosure: The efficient frontier does not reflect the deduction of investment management and transaction fees that the client may incur. All dividends and other earnings are assumed to be reinvested annually.

Source: Conning's ADVISE® model



Considerations as an Asset Class

Catastrophe Bonds Held by Insurers (2011)

(\$ in millions)

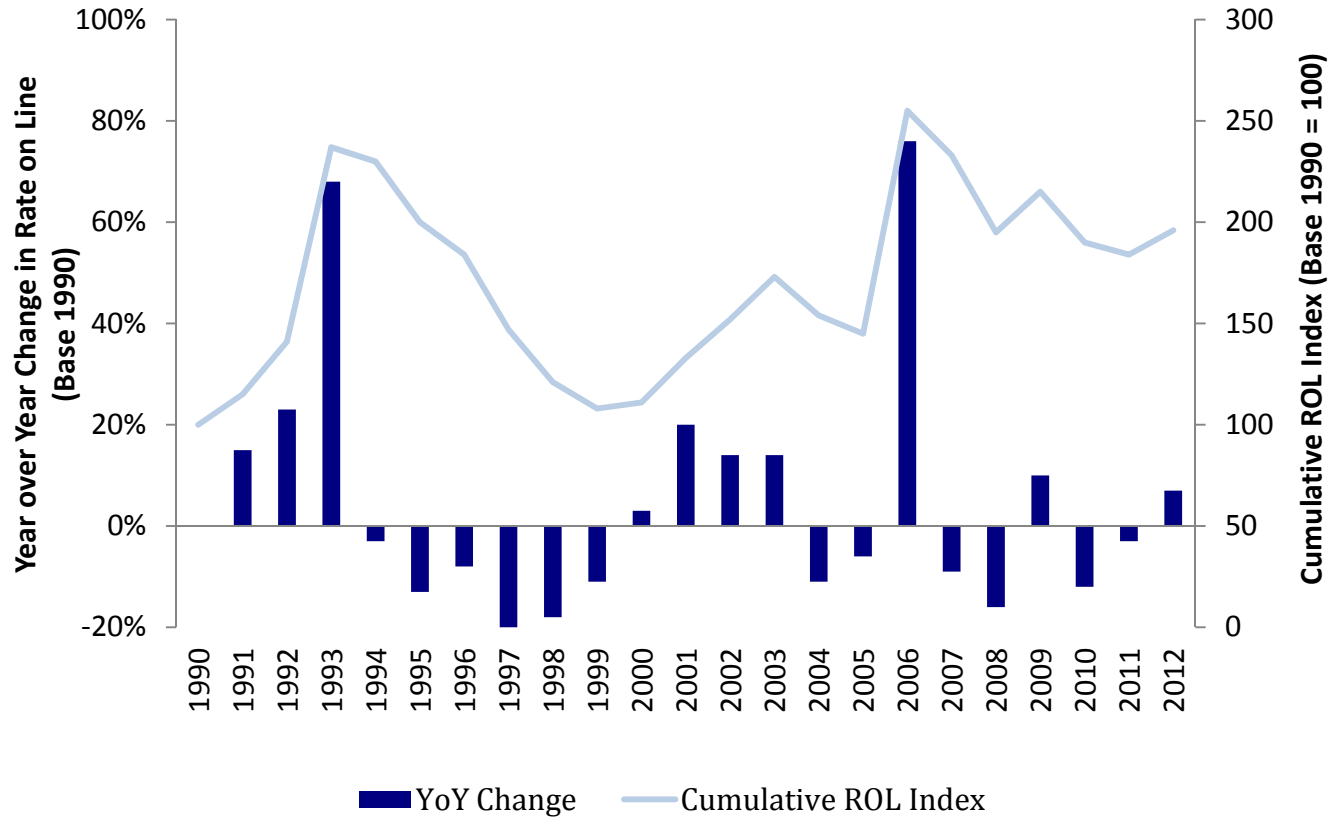
Company	Number of Bonds	Carrying Value
Genworth	19	\$76.9
Protective Life	10	13.3
Nuclear Electric	9	13.1
Reassure America Life	5	25.0
Pacific Life	4	34.0
United of Omaha Life	1	20.0
TIAA-CREF	1	5.0
Thrivent Financial	1	5.0
Texas Life	1	2.0
Wilton Re	1	1.9
New York Life	1	0.75
Total	53	\$197.0

Data source: © A.M. Best Company — used by permission, Conning analysis



Growth Opportunities and Implications

U.S. Property Catastrophe Rate on Line Index

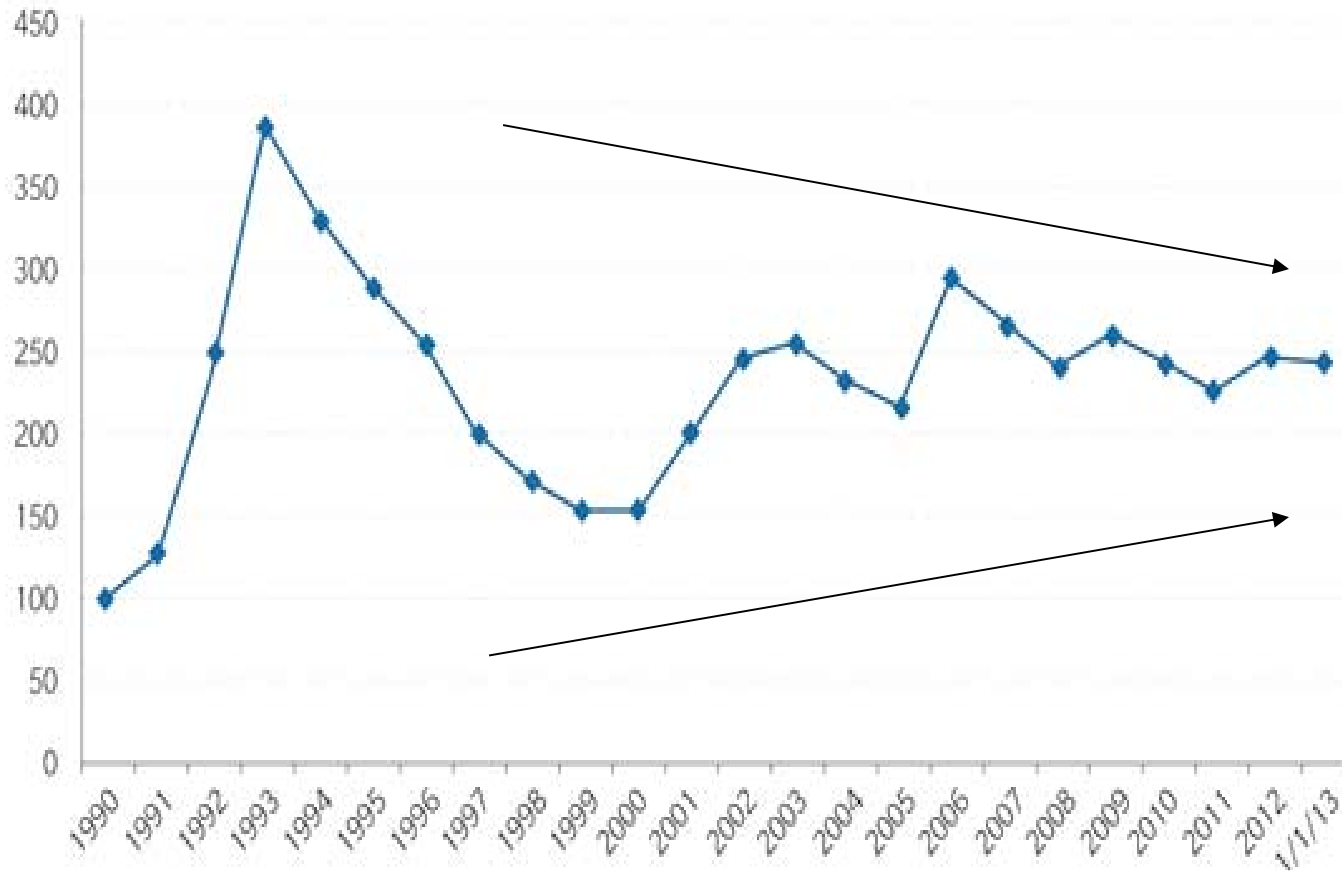


Source: Guy Carpenter, Conning analysis



Growth Opportunities and Implications

Global Property Catastrophe Rate on Line Index

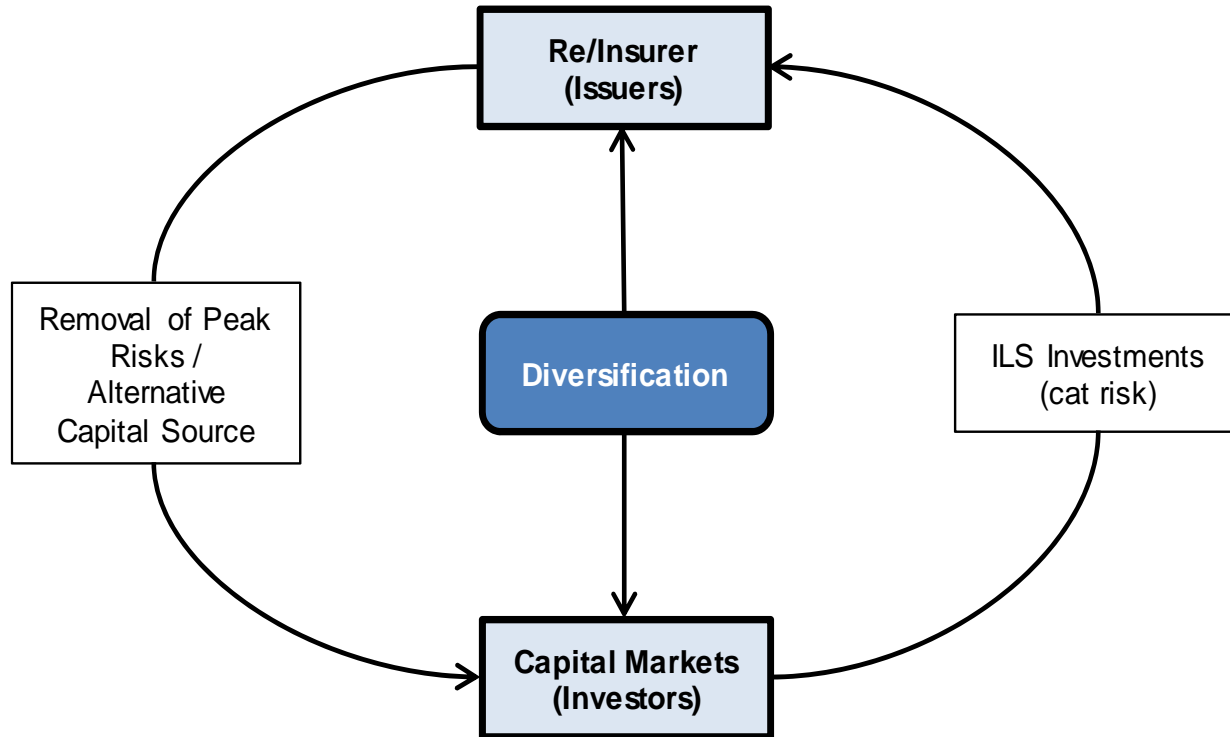


Source: Guy Carpenter, Conning analysis



Growth Opportunities and Implications

ILS—Diversification for Issuers and Investors



Source: Conning analysis



Growth Opportunities and Implications

Traditional Reinsurance vs. Capital Markets—the Cultural Differences Can Be Stark

Traditional Reinsurance



“All risks are covered, except those specifically excluded...”

ILS Market



“All risks are excluded, except those specifically included...”

Disclosure

Conning & Company is the parent of Conning, Inc., Goodwin Capital Advisers, Inc. and Conning Investment Products, Inc., a FINRA-registered broker dealer, and an affiliate of Conning Asset Management Limited, and Cathay Conning Asset Management Limited (CCAM) (together, "Conning"). Conning is a portfolio company of the funds managed by Aquiline Capital Partners LLC (a New York-based private equity firm,) with offices in Hartford, Purchase, London, Cologne, and Hong Kong.

Conning, Inc. and Goodwin Capital Advisers, Inc. are registered with the Securities and Exchange Commission ("SEC") under the Investment Advisers Act of 1940. Conning, Inc. is also registered with the Ontario Securities Commission. Conning Asset Management Limited is authorized and regulated by the United Kingdom's Financial Services Authority and Cathay Conning Asset Management Limited is regulated by Hong Kong's Securities and Futures Commission. Conning primarily provides asset management services for third-party assets. Conning predominantly invests client portfolios in fixed income strategies in accordance with guidelines supplied by its institutional clients.

Conning, Inc. is registered as an Investment Adviser with the SEC and has noticed other jurisdictions it is conducting securities advisory business when required by law. In any other jurisdictions where it has not provided notice and is not exempt or excluded from those laws, it cannot transact business as an investment adviser and may not be able to respond to individual inquiries if the response could potentially lead to a transaction in securities.

All investment performance information included within this material is historical. Past performance is not indicative of future results. Any tax related information contained within this presentation is for informational purposes only and should not be considered tax advice. You should consult a tax professional with any questions.

For complete details regarding Conning and its services, you should refer to our Form ADV Part 2, which may be obtained by calling us.

Legal Disclaimer

Copyright 2013 Conning, Inc. This document and the software described within are copyrighted with all rights reserved. No part of this document may be reproduced, transcribed, transmitted, stored in an electronic retrieval system, or translated into any language in any form by any means without the prior written permission of Conning. Conning does not make any warranties, express or implied, in this document. In no event shall Conning be liable for damages of any kind arising out of the use of this document or the information contained within it.

This document contains information that is confidential or proprietary to Conning (or their direct and indirect subsidiaries). By accepting this document you agree that: (1) if there is any pre-existing contract containing disclosure and use restrictions between your company and Conning, you and your company will use this information in reliance on and subject to the terms of any such pre-existing contract; or (2) if there is no contractual relationship between you and your company and Conning, you and your company agree to protect this information and not to reproduce, disclose or use the information in any way, except as may be required by law.

ADVISE[®], FIRM[®], and GEMS[®] are registered trademarks of Conning, Inc.

This material is for informational purposes only and should not be interpreted as an offer to sell, or a solicitation or recommendation of an offer to buy any security, product or service, or retain Conning for investment advisory services. This information is not intended to be nor should it be used as investment advice and should not be copied or distributed without the prior consent of Conning.

Compliance ID # 1473710

About Conning

Conning (www.conning.com) is a leading investment management company for the global insurance industry, with more than \$91 billion in assets under management as of December 31, 2012 through Conning, Inc., Conning Asset Management Limited, Cathay Conning Asset Management Limited, and Goodwin Capital Advisers. The company's unique combination of asset management, risk and capital management solutions, and insurance research helps clients achieve their financial goals through customized business and investment strategies. Founded in 1912, Conning is focused on the future, providing clients with innovative solutions, leveraging its global capabilities, investment experience, and proprietary research. The company is headquartered in Hartford, Connecticut, with additional offices in Purchase, London, Cologne, and Hong Kong.

Insurance Research

Conning publishes a number of insurance industry research services, including its **Insurance Segment Reports** semiannual line-of-business reviews; its **Forecast & Analysis** service, which offers a forward look at the industry; and its well-known **Strategic Study** series of executive reports on key products and trends and issues of critical industry importance. All are available in print and online through our web-based research portal Conning Library (www.conninglibrary.com).

For more information on our insurance research services, please call 888-707-1177 or visit www.conningresearch.com.

This presentation has been prepared for and distributed exclusively to specific clients of Conning. Further distribution, sale, or reproduction, in whole or in part, and by any means, is prohibited. Statements and information in this report were compiled from sources that we consider to be reliable or are expressions of our opinion. The presentation is not intended to be complete, and we do not guarantee its accuracy. It does not constitute and must not be considered investment advice. With offices in Hartford, New York, London, Dublin, Cologne, and Hong Kong, Conning is a portfolio company of the funds managed by Aquiline Capital Partners LLC ("Aquiline"), a New York-based private equity firm.