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The 2008 Reinsurance Market: Catastrophes, Capital and Capacity

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HOLBORN

The 2008 Reinsurance Market: Catastrophes, Capital and Capacity

Overview

Reinsurance prices are now falling for all classes of business. Property catastrophe prices peaked at the mid-year 2006 renewals, while working cover business peaked at January, 2007. Specialty casualty prices had peaked earlier. Per program catastrophe capacity is now at record high levels. This paper reviews two key economic results behind these market movements: catastrophe experience and capital levels.

The United States had a benign catastrophe year. There were no significant insured hurricane or earthquake losses. Although the Greensburg, Kansas tornado and California wildfires were both meaningful events, neither produced a major reinsured loss. In other parts of the world, reinsurers were not quite as lucky. Holborn tracked 15 events in 2007 that caused $20Bn to $25Bn in direct loss in at least 22 countries. The reinsured portion was $3Bn to $5Bn. Worldwide reinsured catastrophe losses are only half of the average level during 1999 – 2006. Catastrophe experience is a key driver of pricing for all classes of reinsurance.

The 2007 Atlantic hurricane season was moderately active overall, somewhat above the long-term average number of storms. The total number of 15 was well above the long-term average of 11. However, the increase may partly be due to better monitoring or earlier warnings. Nevertheless, with two category 5 landfalls, 2007 was not a weak year.

In the reinsurance market, continued favorable catastrophe experience and price levels supported another year of strong earnings. In the context of much larger asset bases and strengthening foreign currencies, the worldwide market capital has been growing rapidly. **Leverage ratios are falling sharply and may now be at record lows.** This produces increasingly strong reinsurers who are finding it more difficult to meet their growth and profitability targets. They are competing aggressively for business, through both price reductions and increased interest in new classes.

In 2007, some reinsurers aggressively bought back their shares. Many sidecars have been reduced, non-renewed or bought out. Recent acquisitions have been funded with buyers' cash, rather than stock, which also releases capital from the industry. Nonetheless, Holborn expects that reinsurers' capital will continue to rise through 2008, barring a record-size catastrophe or some other surprising jump in loss experience. Alternatively, a cash merger between two large reinsurers could reduce total industry capital.

Even with a major loss in 2008, reinsurers' capital would remain above industry premiums and be much higher than historical norms. **Holborn estimates that it would take three losses the size of Katrina for average leverage ratios to again affect reinsurance pricing.**

Many insurers, and some reinsurers, will experience losses due to both insured claims on professional liability lines, and to a lesser extent, asset write-downs. **The collapse of sub-prime mortgage pools will probably not be a significant factor in industry experience**. But credit market turmoil will make industry mergers more difficult to finance externally.

Holborn expects the worldwide reinsurance market to show only moderate growth in 2008, largely driven by continued appreciation of European currencies when measured against the dollar. We expect the market's capital to continue to grow through 2008, and leverage ratios to continue their fall, leading reinsurers to continue to repurchase their shares and seek new business opportunities.

A. Worldwide Catastrophes

Although the United States had a low loss year, the worldwide market experienced several notable catastrophe events. A few affected reinsurers, particularly winter storm Kyrill (notably in Germany) and flooding in Australia and the U.K. Reinsured losses in 2007 were at about half the level of recent years. The following table lists the events Holborn tracked in 2007.

Event	Date	Description	Reported Fatalities	Direct Insured Loss	Reinsured Loss
Winter storm Kyrill	1/15 – 1/19	Maximum sustained winds of 140mph 10 countries had losses, most affected: UK and Germany	47	$6Bn (Market reports)	$1+ Bn
Greensburg, KS Tornado	5/4	F5 Tornado 1.7 miles wide destroyed 95% of town	11	$250Mn	$50Mn
U.K. Floods	6/25 – 6/30 7/20 – 7/26	Tens of thousands of claims One million people affected	11	$4.5Bn – $6.5Bn (RMS) $7Bn (Market reports)	$1+ Bn
Hunter Valley, Australia Floods	6/7 – 7/12	Thousands evacuated, bridges destroyed in wine country 100 miles north of Sydney	10	$1Bn (Sigma)	$250Mn
Greek Wildfires	6/28 – 9/21	Over 3,000 separate fires Over 1,000 square miles of forest burned. Worst fires in last 50 years. Arson suspected in some cases	68	Total economic loss: $7.5Bn+ Total Insured Loss: <$1Bn	$ 0?
Typhoon ManYi Guam and Japan	7/9 – 7/13	"Super typhoon" category, equivalent to Cat 4	10+ 50+ injured	$500Mn	Some
Japanese Earthquakes	7/7	M6.8 in Niigata prefecture, damaged reactor	7	$130Mn (AIR)	Some
Peru Earthquake	8/15	Magnitude 8.0, 90 miles southeast of Lima. Over 40,000 buildings damaged or destroyed	900+ deaths and 1,600 injured	Low insurance take-up rates: Less than $500Mn	$ 0?
Hurricane Dean	8/13 – 8/23	Landfalls in Mexico as categories 5 and 3	44	$1.5Bn – $3Bn (EQECat) Up to $1.5Bn (RMS)	Some
Hurricane Felix	8/31 – 9/5	Category 5 landfall in Nicaragua	140	Minimal insurance take-up rates: Less than $200Mn (RMS)	$ 0?
Indonesia Earthquake	9/12	Magnitude 8.4 off Sumatra's southwest coast Three aftershocks were over magnitude 7.0	23 deaths and 88 injuries	Minimal insurance take-up rates	$ 0?
Typhoon Wipha (China)	9/14 – 9/19	Maximum sustained winds of 100mph Over two million people evacuated Landfall south of Shanghai	9	Less than $250Mn (AIR)	$ 0?

Event	Date	Description	Fatalities	Direct Insured Loss	Reinsured Loss
Southern California Wildfires	10/20 – 11/9	2,245 homes and 37 commercial buildings destroyed Over 200 buildings damaged 800+ square miles burned	9 deaths and 85 burn victims	$1.5Bn (RMS) $3Bn+ (Holborn)	<$500Mn
Cyclone Sidr (Bangladesh)	11/11 – 11/16	Maximum sustained winds of 130mph, gusts to 150mph Storm surge of 15+ feet	4,000+	Minimal insurance take-up	$ 0?
Chile Earthquake	11/14	Magnitude 7.7 on Richter Scale Epicenter near Tocopilla 4,000 homes destroyed	2	Low insurance take-up rates: Less than $1Bn	Some
15 Events		**Losses in at least 22 countries**	**5,500+**	**$20Bn – $25Bn**	**$3Bn – $5Bn**

Loss amounts in $U.S. Descriptions are from news reports. Gross and reinsured loss estimates are from Holborn except as noted.

B. 2007 Hurricane Season

The U.S. essentially escaped hurricane losses again this year, in sharp contrast to the devastation of 2004 and 2005. Looking more widely, the season was again above long-term averages, but below expectations from both a frequency and intensity standpoint. Notably, however, this season did see two strong Saffir-Simpson Category 5 storms in Dean and Felix. Dean now stands as the ninth most intense Atlantic hurricane (measured by central pressure), and caused the highest insured loss of any windstorm this year worldwide.

The total number of storms (including May's Tropical Storm Andrea and December's Tropical Storm Olga) was well above the long-term average. However, the increase may partly be due to better monitoring technology, notably satellites, and the National Hurricane Center naming storms earlier. There were a relatively low number of days with storms, as many 2007 named storms faded quickly. Several market observers claim there is now an institutional tendency to "over warn," resulting in upgrades applied to more marginal events.

2007 Season summary

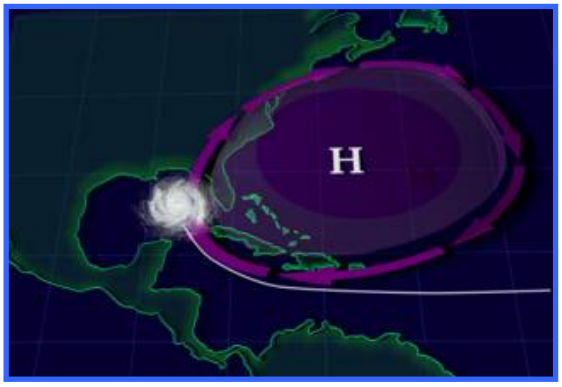
Totals	Actual	Colorado State May 31 Projection	Colorado State August 3 Revision	1950 - 2006 Average
Named Storms	15	17	15	11
Hurricanes	6	9	8	6
Major Hurricanes: 3+	2	3	4	2
Named Storm Days	68	85	75	49

Source: Professors Gray and Klotzbach, CSU

The fairly benign U.S. season was driven by several factors, including:

- Cooler Atlantic water temperatures than anticipated.
- La Niña, a pattern of cool water in the eastern Pacific associated with higher storm frequency, was weaker than originally forecast.
- Several Saharan dust clouds over the Atlantic Ocean, which stabilized the air masses entering from Africa's western coast.
- The easterly location of the Bermuda High steered many of the storms away from the U.S. mainland. Seasons in which the Bermuda high expands to the south and west tend to have more U.S. landfalling storms, as shown in the conceptual maps below.

Bermuda High in 2004 and 2005



Bermuda High in 2006 and 2007

Source: NASA, Goddard Space Flight Center

This is illustrated in the 2007 tracks shown on the next page, with Noel, Gabrielle, Chantal and Jerry passing east of the U.S.-seaboard, and Felix, Dean and Olga well to the south. The southerly tracks of Dean and Felix kept them over quite warm waters and perhaps contributed to their category 5 strength.

2007 Atlantic and Caribbean storms

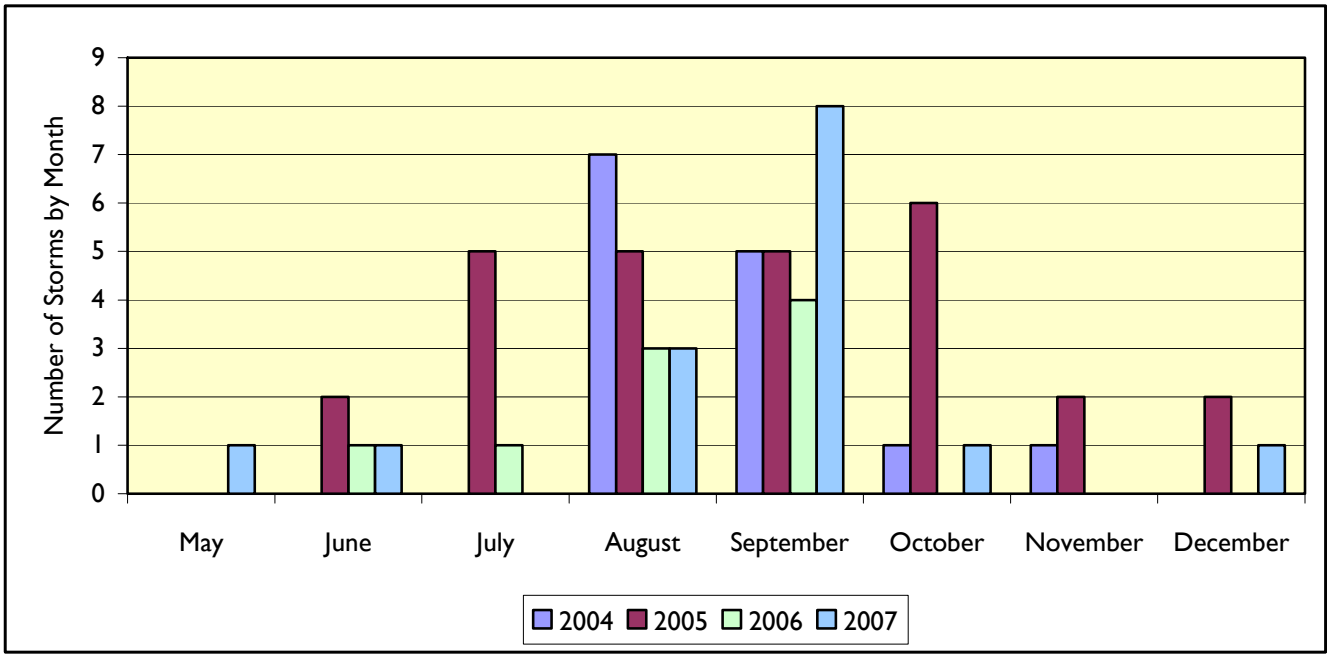
2007 Storm details

Storm	Highest Category	Dates	Maximum Winds (mph)	Minimum Pressure (mb)	Location(s) of Landfall
Subtropical Storm Andrea	TS	5/9 – 5/11	60	1001	None
Tropical Storm Barry	TS	6/1 – 6/2	60	997	Tampa Bay, FL
Tropical Storm Chantal	TS	7/31 – 8/1	50	994	St. John's, Newfoundland
Hurricane Dean	5	8/13 – 8/23	165	906	Costa Maya, Mexico Tuxpan, Mexico
Tropical Storm Erin	TS	8/14 – 8/19	40	1003	Lamar, TX
Hurricane Felix	5	8/31 – 9/5	165	929	Puerto Cabezas, Nicaragua
Tropical Storm Gabrielle	TS	9/8 – 9/11	60	1004	Cape Lookout, NC
Hurricane Humberto	1	9/12 – 9/14	90	985	High Island, TX
Tropical Storm Ingrid	TS	9/12 – 9/17	45	1002	None
Tropical Depression 10	TD	9/21 – 9/22	35	1005	Eustis, FL
Tropical Storm Jerry	TS	9/23 – 9/24	45	1003	None
Hurricane Karen	1	9/25 – 9/29	70	990	None
Hurricane Lorenzo	1	9/25 – 9/28	80	990	Tecolutla, Mexico
Tropical Storm Melissa	TS	9/28 – 9/30	40	1005	None
Tropical Depression 15	TD	10/11 – 10/12	35	1011	None
Hurricane Noel	1	10/27 – 11/2	80	980	Haiti, Cuba, Bahamas
Tropical Storm Olga	TS	12/10 – 12/12	45	1002	Puerto Rico

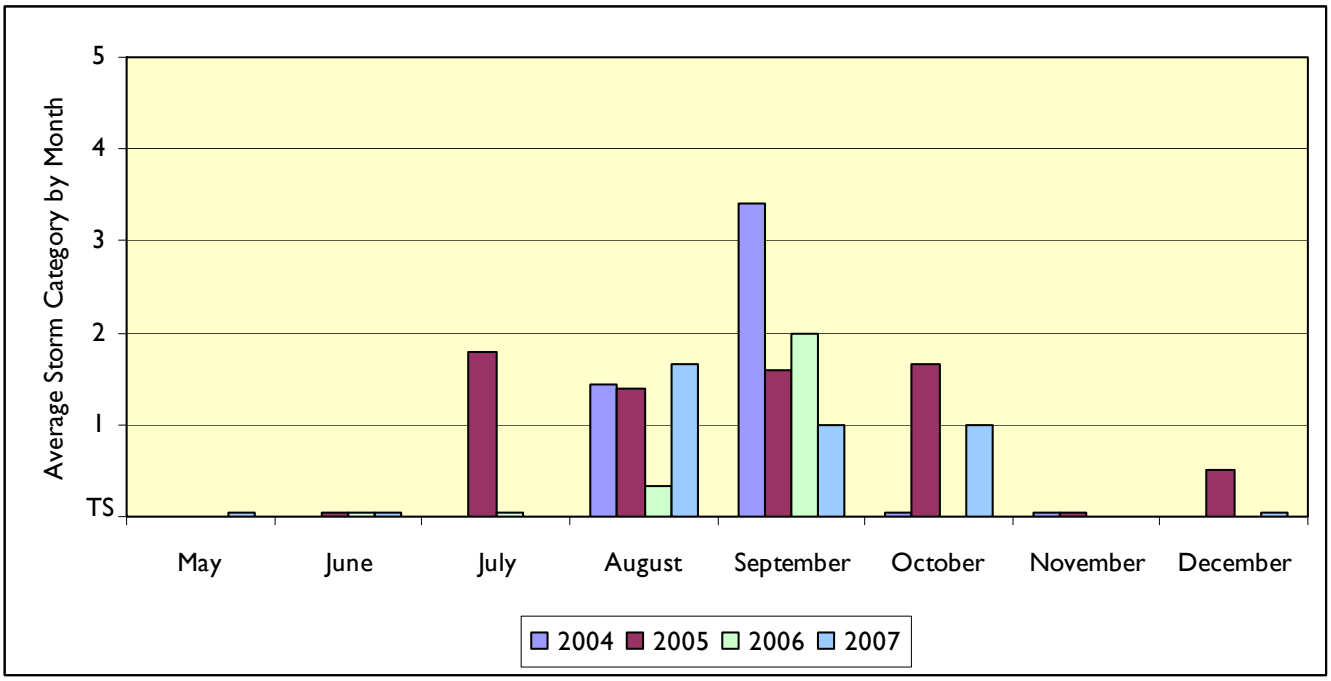
Seasons compared

	Named Storms	Hurricanes	Major Hurricanes	U.S. Landfalls	U.S. Gross Insured Loss
2004	13	9	5	8	$35Bn
2005	27	15	7	9	$85Bn
2006	9	5	2	0	< $250Mn
2007	15	6	2	4	< $250Mn

This was a moderately active, but long, season



Storm strength was comparable to recent years



Outlook for the 2008 season

Air and sea surface temperatures have stabilized in recent years. However, Holborn still believes that Atlantic storm frequency is in a relatively more active phase of its long-term cycles. The current phase of the shorter-term El Niño cycle is a weak "La Niña" (cool in the eastern pacific). La Niñas are related to both more total storms and more U.S. landfalls. The nature of the Bermuda high and Saharan dust clouds are not predictable very far in advance, so any 2008 estimates are rather speculative. Overall, we expect the next several years will be more active than the 1990's.

Dr. Gray's team at Colorado State forecast (on December 7) that 2008 activity levels would be similar to 2007, and above the long-term averages. They do not expect the U.S.'s recent good luck to continue indefinitely however, and estimate a 60% chance of a category 3 or higher landfall in the U.S. in 2008.

The number and value of U.S. coastally-exposed properties have continued to rise rapidly, and so when landfalls do occur, the total economic losses can be much higher than from comparable events in the past.

Insurers are still digesting the losses of 2004 and 2005, and the 2006 hard property insurance market. Wind deductibles are now much more common in Florida, the Gulf States, Long Island and New England. The involuntary markets are growing in most coastal states. Reinsurance treaty retentions are also much higher than during previous storms. Direct insured (and also reinsured) losses may be less than in prior storms, partly offset by increased assessments from state plans where they are charged to insurers and not directly to policyholders.

Previous U.S. losses

Katrina represented 35 to 50 loss ratio points on the admitted industry's countrywide Property premiums. Taken together, the 2004 and 2005 seasons cost insurers over $100Bn in gross catastrophe losses. Some other major market events have been the 9/11 attacks at $41Bn, Andrew at $15.5Bn, Northridge at $12.5Bn, and Hugo at $4Bn (all in nominal dollars). Two more significant events for the market in their day were Hurricanes Betsy (1965) and Camille (1969). The impact of Katrina and previous major U.S. losses are shown below. Major worldwide reinsured losses since 1999 are shown in Appendix 6.

The majority of recent hurricane losses were not modeled under existing models ($19Bn – $27Bn vs. $45Bn – $65Bn for Katrina). Reinsurers are learning that simulation models are only one tool to assess risk. They now also rely on deterministic scenarios to establish their capacity and on traditional underwriting benchmarks to evaluate risk and pricing.

Historic U.S. market events
($Bns of gross insured loss)

Event	Year	Actual Loss (Excluding LAE)	Loss in 2007 Dollars (Including LAE)	Actual Loss as % of U.S. P&C Surplus	Actual Loss as % U.S. GNP
San Francisco EQ and Fire	1906	$0.235	$13	Over 25%	Over 1%
Hurricane Betsy	1965	1.4	9	8.3%	0.19%
Hurricane Camille	1969	1.4	9	8.5%	0.14%
Hurricane Hugo	1989	4.2	7	4.2%	0.12%
Hurricane Andrew	1992	15.5	23	7.7%	0.24%
Northridge EQ	1994	12.5	18	5.3%	0.18%
September 11th Attacks	2001	39.5	50	11.2%	0.41%
2004 Hurricane Season	2004	42.1	39	10.4%	0.40%
2005 Hurricane Season	2005	80.0	90	18.3%	0.69%

Source: I.I.I. for events through 1994, HC estimates for 2001 – 2005, including foreign and non-admitted insurers. Figures in 2007 dollars reflect inflation, but not exposure growth.

C. Recent Capital Movements

Following the losses and market disruption caused by Katrina, Rita and Wilma in 2005, the industry saw an unprecedented increase in capital. As seen after the Andrew and 9/11 losses, money flowed rapidly to both new and existing reinsurers. This significantly increased the reinsurance industry's capital at a critical time.

Investors also funded "sidecars," which are special-purpose reinsurers sponsored by existing reinsurance companies. These investments were founded in 2006, but were generally not extended or fully renewed in 2007. Holborn expects most sidecars to wither away, as reinsurers look to deploy their own capital, and investors find returns less attractive in a stabilizing reinsurance market.

The key trend in 2007 was stock buybacks. Several large domestic multi-line insurance companies have been buying their own shares, as have most of the Bermuda-based professional reinsurers and some of the Europeans.

Another recent trend is acquisitions by reinsurers. While the purchase price premium paid in an acquisition shows up as goodwill on many companies' balance sheets, it is certainly a "softer" form of equity, and helps to reduce overall market capacity. Holborn expects merger and acquisition activity to continue, particularly by the U.K. and European insurer groups, who will find dollar-denominated businesses in the U.S. and Bermuda to be attractive purchases with lower "price tags." Despite these trends, reinsurers' capital will be up in fourth quarter reports.

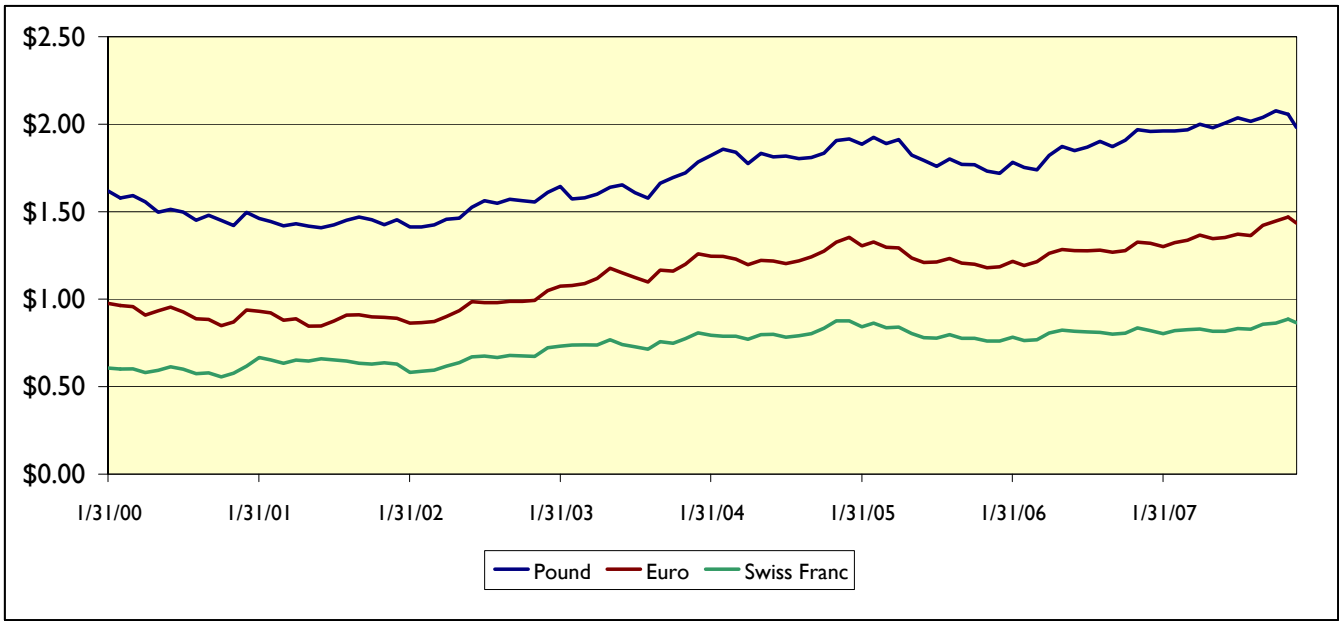
Catastrophe bond issues increased moderately from the record high ($4.4Bn) in 2006, including State Farm's $1.2Bn partial placement of a $4Bn Cat bond layer ("Merna Re"). USAA and Chubb also increased amounts ceded to the capital markets. Catastrophe bonds now represent roughly 10% of the market capacity for catastrophe coverage.

Reinsurer capital changes since Katrina

	Publicly Announced	Estimated Totals
New reinsurer investments (e.g., Harbor Point, Validus, Flagstone)	$9,545	$10,000
Existing reinsurer investments (e.g., XL, ACE, IPC)	$8,900	$15,000
Subtotal: Professional reinsurers	$18,445	$25,000
Sidecars (e.g., XL's Cyrus)	$4,680	$6,000
Total new capital	$23,125	$31,000
Stock repurchases (e.g., Munich, Swiss, Arch)	$12,890	$18,000
Net new capital	**$10,235**	**$13,000**
(Excluding sidecars)	**$5,555**	**$7,000**

Notes: Industry totals, $Mns. Not all capital changes are announced. Announcements by reinsurer are shown in Appendix 3. Excludes follow-on investments, IPOs and renewals of sidecars.

Foreign currencies have appreciated against the U.S. dollar



Exchange rate change since Katrina have significantly increased the capital bases of U.K. and European reinsurers. Holborn estimates that exchange rates have increased worldwide capital by 10%.

D. Reinsurance Industry Results

There is no central source of experience for the worldwide P&C reinsurance industry. While there are national summaries like the RAA's, these are difficult to combine because of accounting differences, foreign subsidiaries and parents, and exchange rates. Studies by the International Association of Insurance Superintendents include Life companies and are dated. Holborn's analysis of 90+% of the worldwide industry, adjusting for these factors is shown in this section. The companies included in the analysis are listed in Appendix 5. Estimates for 2007 and 2008 forecasts are based on data through September and Holborn's review of price changes, catastrophes, capital, mergers and exchange rates.

The Holborn study shows a worldwide industry:

- That is marginally profitable, overall
- With volatile results
- Improving its financial strength
- Growing faster in Bermuda than elsewhere, and
- That is moving out of the U.S.

Worldwide reinsurance industry results

	Gross Premiums Written	Net Premiums Earned	Net Underwriting Gain	Reported Combined Ratio	Net Income/ Loss	Year-end Capital Funds	Annualized % Return
2001	$126,956	$98,103	($17,584)	117.9%	($7,108)	$74,614	-15.8%
2002	159,181	127,619	6,930	94.6%	5,850	96,059	7.1%
2003	205,729	176,430	14,035	92.0%	13,457	148,759	10.8%
2004	207,745	185,394	12,684	93.2%	16,323	171,813	10.1%
2005	190,575	168,782	(1,435)	100.9%	6,515	179,461	2.6%
2006	204,303	178,457	23,549	86.8%	37,219	216,912	19.5%
Average	**$182,414**	**$155,798**	**$6,363**	**95.9%**	**$12,043**	**$147,936**	**5.1%**
2007 Est.	**$210,000**	**$185,000**	**$26,000**	**86.0%**	**$37,000**	**$239,000**	**16.1%**

Consolidated Millions, $US and $Converted. Results include U.S., Bermuda and European reinsurers, plus Lloyd's, with inter-ownerships consolidated. National Indemnity, reinsurance departments and Bermuda "side cars" excluded. Combined ratios are trade basis statutory figures for RAA data and GAAP for others.

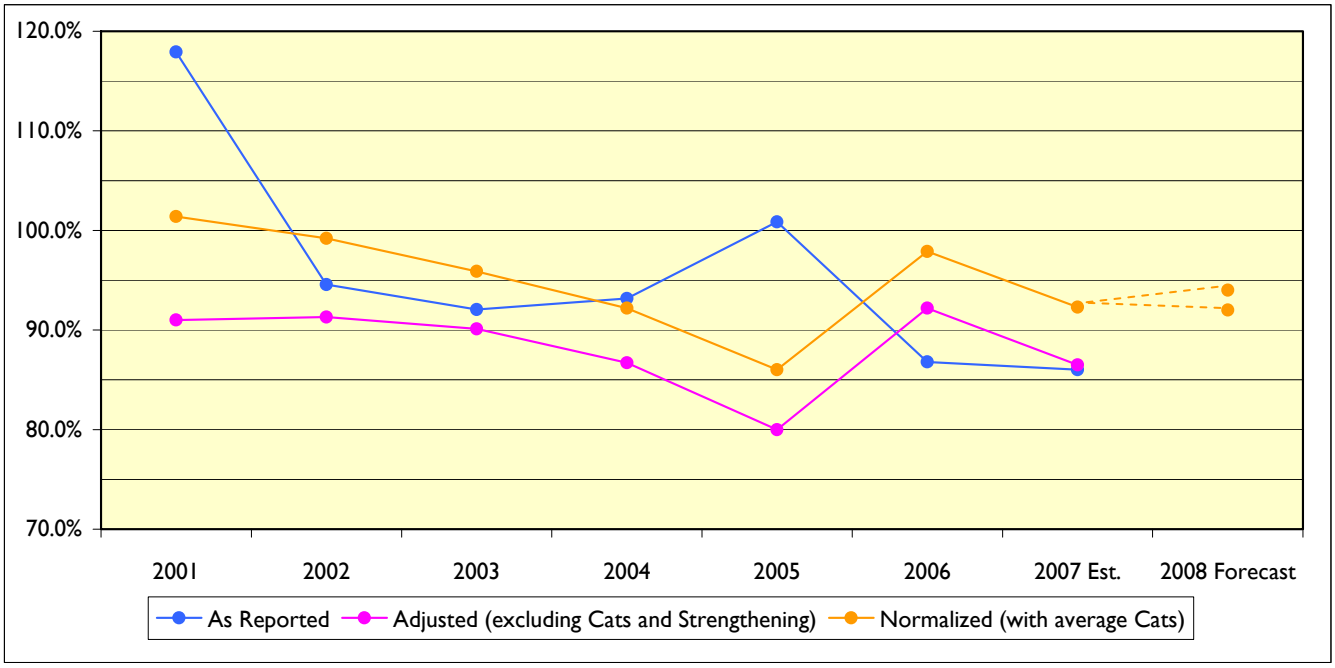
New funds, retained earnings and a weaker dollar have bolstered capital

	Net Income/ Loss	Increases from Exchange Rates	Reductions from Restructuring and Mergers	Net Capital Increases	Changes in Capital Funds	Gross Leverage Ratio
2001	($7,108)	($1,810)	$0	$5,327	($3,591)	170.2%
2002	5,850	6,889	(6,800)	15,506	21,445	165.7%
2003	13,457	6,267	7,100	25,876	52,700	138.3%
2004	16,323	4,743	0	1,988	23,054	120.9%
2005	6,515	(8,702)	0	9,835	7,648	106.2%
2006	37,219	8,050	(5,000)	(2,818)	37,451	94.2%
2001 – 2006	**$72,256**	**$15,437**	**($4,700)**	**$55,714**	**$138,707**	**123.3%**
2007 Est.	**$37,000**	**$10,000**	**($1,000)**	**($24,000)**	**$22,000**	**87.9%**

Noted restructurings involve: Munich-Allianz, Hannover-DHI, Converium-SCOR and Swiss-ERC. Negative amounts shown as capital increases are largely stock repurchases. Net capital increase calculated to balance to change, and including miscellaneous items.

The earlier poor results can be entirely explained by U.S. casualty losses from the prior few years and catastrophes. But even with average catastrophe losses, returns would still be below long-term ROE targets, and are already declining (Details in Appendix 3). Worldwide reinsured catastrophe losses in 2007 are only half of the average level during 1999 – 2006, and this contributed a roughly one-point improvement to reinsurers' ROEs.

Reinsurance industry combined ratios
(Trade basis, Calendar year)

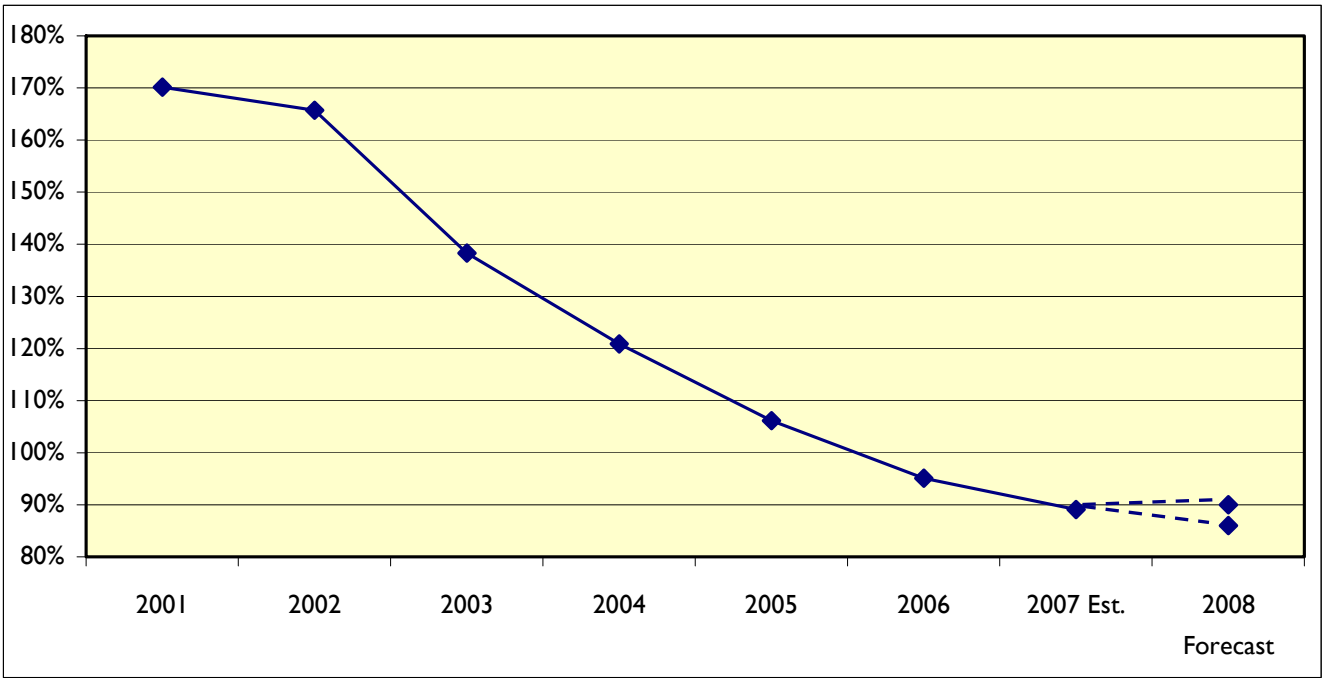


Worldwide premiums have grown slower than capital, and leverage ratios have moderated to sound levels. For this and other reasons, the industry is stronger than it has been in years, maybe ever. Much of the apparent growth in global premiums has been caused by the weakening U.S. dollar. Business written recently in pounds, yen or euro shows extra growth when measured in dollars.

Growth in premiums and capital

	Gross Premiums Written	Premium Growth Rate	Adjusted For Exchange Rates	Capital Funds
2001	$126,956			$74,614
2002	159,181	25.4%	18.6%	96,059
2003	205,729	29.2%	18.2%	148,759
2004	207,745	1.0%	-3.0%	171,813
2005	190,575	-8.3%	-1.3%	179,461
2006	204,303	7.2%	2.1%	216,912
2007 Est.	**$210,000**	**2.5%**	**-3.5%**	**$239,000**

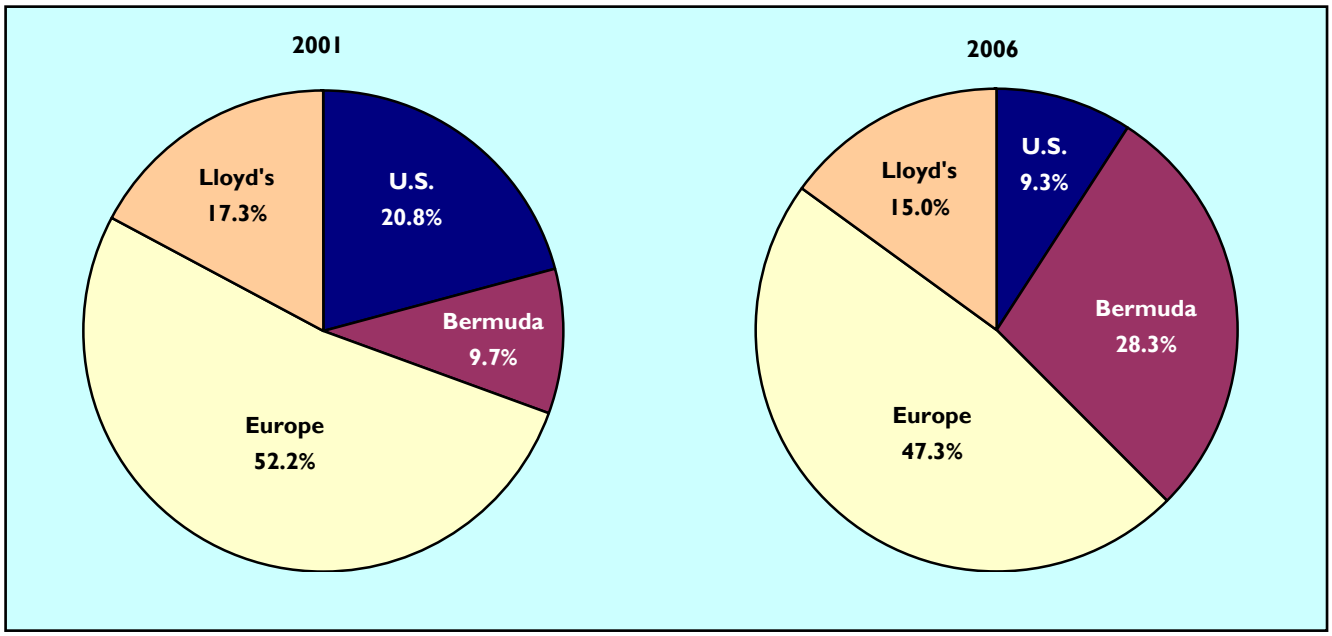
Industry gross leverage ratios have fallen consistently



Note: Gross premiums written divided by year-end capital funds

Bermuda has been growing market share rapidly, as new capital has overwhelmingly been invested there. Europe has grown through acquisitions to stay roughly level, while the domestically-owned reinsurance industry has lost much of its share, most recently in Swiss Re's purchase of GE's insurance businesses.

Reinsurance industry market shares
(Based on group parent's domicile)



2008 Industry outlook

Based on treaty pricing through January, and current trends in currency markets and investments, including some continuing mergers and stock buy-backs, Holborn anticipates 2008 results for the global reinsurance markets to show:

- Continuing profits
- Increasing capital
- Moderating rates of growth.

2008 Forecasts ($Mns)

	Gross Premiums Written	Combined Ratio	Net Income	Net New Capital	Change in Capital	Year-end Capital	Gross Leverage Ratio
2008 Low Estimates	$215,000	92%	$20,000	($15,000)	$5,000	$245,000	85%
to	to	to	to	to	to	to	to
2008 High Estimates	$225,000	94%	$30,000	($25,000)	$15,000	$255,000	90%
2001–2006 Averages	$182,748	95.9%	$12,043	$9,286	$23,118	$147,936	123.5%
2007 Estimates	$213,000	86.0%	$37,000	($24,000)	$22,000	$239,000	89.1%

Source: Holborn

These estimates assume no individual catastrophes over $10Bn in direct insured losses and no mergers among the top reinsurers. We expect claims from subprime defaults on professional liability reinsurance contracts to be $2Bn to $4Bn, with little if any effect on clash contracts.

To return to even a moderate 1.25:1 average leverage ratio would require a reduction in capital of at least $50Bn. Reinsurers had Katrina losses of $18Bn to $24Bn, or $15Bn to $20Bn after tax. It would take three Katrina-sized events to reach these leverage ratios again.

E. Current Market Conditions

Prices for all classes of reinsurance are falling, but from historic highs. Mid-year 2006 was the hardest property market in many years in terms of prices. Although, total available capacity per program did not contract as much as in previous hard markets. Most 2008 renewals will see prices decreases, but remain above 2005 levels. This trend is the result of increased supply in the reinsurance system. In market psychology, greed is now starting to overcome fear, which was not the case in 2007. Underwriters genuinely want to write business again.

Rate decreases in January were generally 5% – 10% for larger property catastrophe programs requiring broad market support, and in the 10% – 15% range for smaller, more regional players, a moderate acceleration of decreases from mid-year 2007.

Prices on casualty and non-peak zone property contracts were neutral to slightly down. In many cases, two years of continued good weather supported price decreases for lower property layers.

Reinsurance cost increases (in dollar amounts or ROL)

	January, 2006	April – July, 2006	January, 2007	April – July, 2007	January, 2008
Property Catastrophe					
With 2005 loss	+25% to 100%	+60% to 300%	+15% to 40%	0% to -10%	-10% to -20%
Coastal, no loss	+10% to 25%	+30% to 100%	0% to +20%	-10% to -20%	-10% to -20%
Non-coastal	+5% to 15%	Few placements	-10% to 10%	Few Placements	+5% to -15%
Policy Exposed *(WC, Umbrella, Risk)*					
Working	0% to +10%	0% to +30%	0% to +40%	-5% to -10%	-2.5% to -10%
High Excess	+10% to +20%	0% to +50%	-10% to +25%	-10% to +10%	0 to -10%
Clash, WC and Life Catastrophe	-5% to +5%	0% to -10%	0% to -10%	-10% to -15%	-10% to -15%

Comparable programs at renewal. Top layers and individual layers with loss had relatively larger increases in 2006, and relatively larger decreases in 2007 and 2008.

Coastal property business

Demand remained high, but did not grow as quickly as it had in 2006, and by mid-year 2007 supply began to catch up. Insurers with peak zone exposure increased their retentions in 2007, and in some cases this January. The trend to purchase more limit moderated, except in peak zones where unmet demand still remained from 2006.

East-coast hurricane risks that were coming off double and even triple-digit increases in 2006 showed:

- Placements with reductions near 15% struggled, but tended to get done just prior to inception.
- Placements with 0% – 10% decreases were largely oversubscribed.
- Reinsurers were generally signed down below what they had budgeted.

2007 Florida legislation indirectly "freed up" some market capacity for other peak zones. Florida-oriented companies generally used savings from the expanded FHCF layer to purchase more coverage in the private market. Investment capital is still flowing into the Florida insurance business (although at a diminished rate). Florida still exposes an estimated two-thirds of the total reinsurance market capital committed to the United States ($40Bn part of $60Bn in cumulative limits).

There was additional demand for reinsurance from residual market plans (Massachusetts, New York, Rhode Island and Texas), as these facilities continue to grow.

The retrocession market is still hard, with some softening for ILW products and regional covers.

Working casualty

The casualty market also softened for working layer and umbrella exposure, but less than for property catastrophe covers. The softening property market encourages reinsurers' diversification towards casualty business. Offsetting this downward pricing pressure are concerns regarding competition in the primary market (with companies loosening underwriting guidelines and reducing rates), medical inflation, and some signs of increasing reserve development. Renewal negotiations on these contracts tended to run late as buyers' expectations for rate decreases ran ahead of reinsurers' technical pricing results.

Clash, Life and WC catastrophe contracts

These contracts are largely unaffected by catastrophe models. There was actually a reduction in RMS's 2007 modeled earthquake exposure for the New Madrid, Northeast and Southeast regions. Capacity for California exposure is slightly more limited and pricing remains firm, since it uses the same regional aggregate limits as property accounts.

Overall clash ROLs are slightly lower or consistent with market minimums. Growth in underlying subject premium has resulted in rate reductions. There was also some improvement in terms and conditions, including increased MAOLs.

Coverage for terrorism

Interest and demand for terrorism coverage increased through 2007 due to recognition of WC exposure, uncertainty about TRIA's extension (now resolved) and concern about NBCR. Reinsurers retain their terror risk net (often competing for capacity with their direct operations), and so their limited capacity will require meaningful ROLs.

Reinsurers and rating agencies see probabilistic models as much less credible. Buyers usually rely on deterministic scenarios, or their TRIA retention as guides to limit needs. Larger ceding companies tend to maintain similar occurrence retentions on terrorism and natural catastrophes. Retention levels are trending up. Some market trends are:

- Regional carriers tend to have broader coverage in underlying programs (with the exception, in most cases, of NBCR) and purchase more vertical limit.
- The market is relatively more competitive for regional carriers than for nationwide accounts and more exposed "Tier 1" (New York, Washington DC) portfolios.
- Available capacity is significant (in excess of $1Bn per program). NBCR coverage is more constrained at $500Mn (less for key cities): it remains expensive.
- Aggregate cover (often on an all-lines basis, including WC, property, etc. to match TRIA) is also available, though expensive. Reinsurers still prefer occurrence cover, which can provide more capacity, at a lower cost, and still address peak exposures.

- The extension of TRIA through 2015 encourages reinsurers to provide coverage. However, the level retention amounts (actually declining retentions if premiums fall with a softening market) may discourage reinsurers from increasing their terrorism capacity commitments.

F. Appendices

1. Details on Major 2007 Storms
2. Prior Hurricane Seasons
3. Reinsurers' Capital Change Announcements
4. Global Market Results
5. Reinsurers Included in Study
6. Other Recent Market Catastrophes
7. For More Information

1. Details on Major 2007 Storms

Hurricane Dean

Maximum sustained winds: 165 mph

Dates: August 13th to August 23rd

Lowest recorded pressure: 906 millibars

Fatalities: 44

Insured loss estimates: $1.5Bn – $3Bn (EQECAT), Up to $1.5Bn (RMS)

Notes:

- Most intense (measured by minimum central pressure) Atlantic Basin hurricane in 2007.
- 9th most intense Atlantic Basin hurricane of all time.
- 3rd most intense Atlantic Basin hurricane at landfall.
- First Atlantic Basin hurricane to make landfall as a Saffir-Simpson Category 5 in fifteen years.
- Formed from a tropical wave that moved off the western coast of Africa on August 11th.
- Reached tropical depression status about 500 miles east of the Cape Verde islands; named Tropical Storm shortly thereafter on the 14th.
- Upgraded to Hurricane in the early morning hours (EDT) of the 16th.
- Moved across the Lesser Antilles on the 17th, then south of Jamaica on the 19th.
- Quickly strengthened to Category 5 status on the morning on the 21st as it tracked across extremely warm Caribbean waters.
- Made its first landfall, as a Category 5, in Mexico's Quintana Roo region (about 40 miles northeast of Belize).
- Weakened over land and emerged on the western side of the Yucatan as a Category 1.
- Re-strengthened to Category 2 while tracking across the warm waters of the Gulf of Mexico and made its second landfall in Mexico on the 22nd near Tecolutla, Veracruz.
- Quickly deteriorated over Mexico on the 22nd.

Hurricane Felix

Maximum sustained winds: 165 mph

Dates: August 31st to September 5th

Lowest recorded pressure: 929 millibars

Fatalities: 140

Insured loss estimates: Less than $200Mn (RMS)

Notes:

- Formed from a tropical wave that moved off the coast of Africa on August 24th.
- 1012 millibar low formed on the 27th west-southwest of the Cape Verde islands.
- Began showing signs of development on the 30th.
- Named Tropical Storm on September 1st, then reached hurricane status a day later when about 150 miles east of Bonaire.
- Quickly strengthened to Category 4 late on the 2nd when about 450 miles southeast of Jamaica. The National Hurricane Center described this strengthening as one of the most rapid ever observed.
- Forced into a due west path by a strong pressure ridge to the north, and so tracked well south of Jamaica.
- Reached Category 5 on the 4th, but fell back to a 4 (sustained winds of 160mph) prior to landfall in northeastern Nicaragua that same day.
- Deteriorated over Honduras to a tropical depression in the early hours of the 5th and was completely extra-tropical by mid-morning.

Hurricane Humberto

Location of U.S. landfall: High Island, Texas

Maximum sustained winds: 90 mph

Dates: September 12th to September 14th

Lowest recorded pressure: 986 millibars

Fatalities: 1

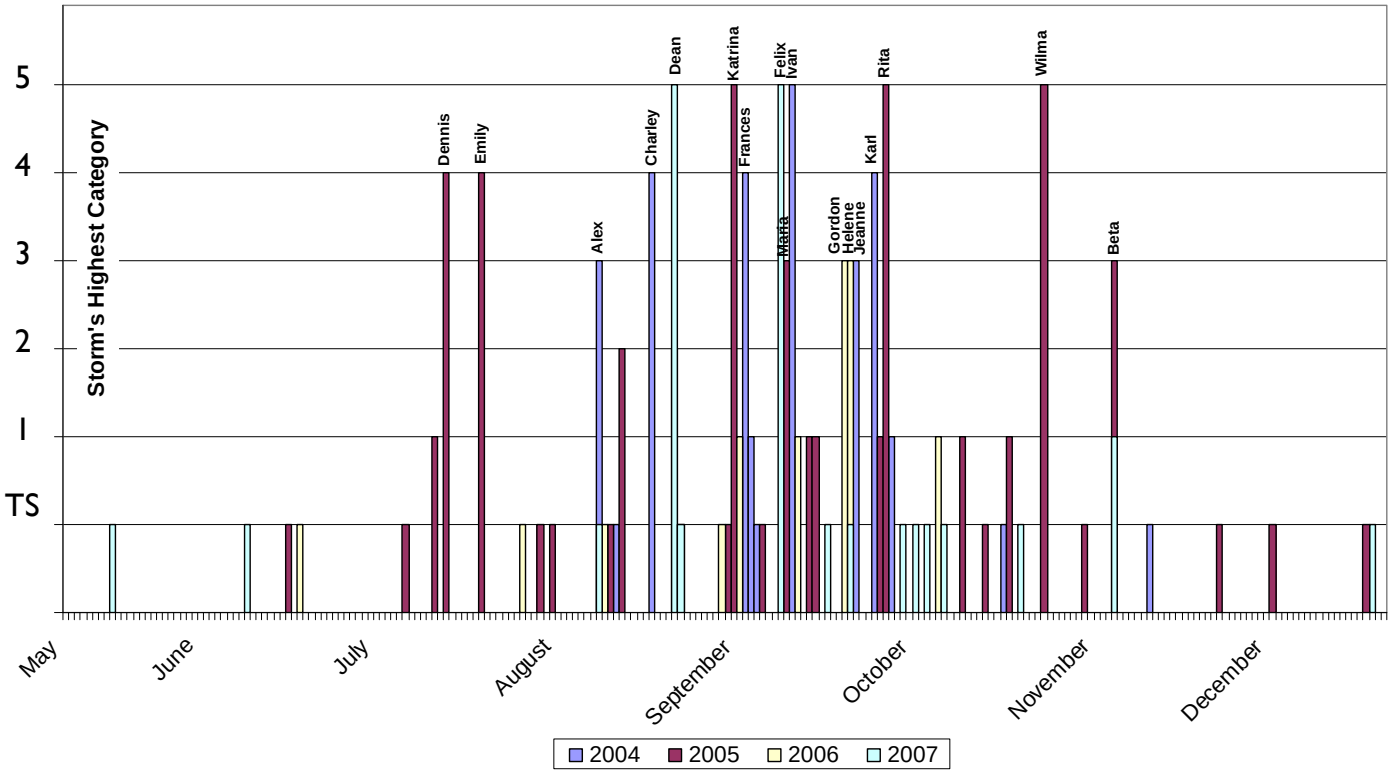
Insured loss estimates: Negligible

Notes:

- Organized and intensified to hurricane in 18 hours, faster than any other hurricane in recorded history.
- Formed from the remnants of a system that moved offshore of south Florida on September 5th.
- Initially faced wind shear conditions that were unfavorable for development. Conditions became more favorable on the 11th.
- Reached tropical depression status early on the 12th, then quickly strengthened to Tropical Storm Humberto three hours later.
- Reached Category 1 early on the 13th, about two hours prior to landfall in High Island, TX at 7:00 AM central time; sustained peaked at 90 mph at landfall.
- Quickly weakened over land and became extra-tropical by the end of the day on the 13th.

2. Atlantic Hurricane Seasons

Atlantic and Caribbean Storms by date: 2004 through 2007



Note: Date shown is the date that each storm was first named. Some dates have had storms in more than one year; e.g., August 13 had Alex in 2004 and Erin in 2007.

2004 Season details

Storm	Highest Category	U.S. Landfall Categories	Dates	Max winds (mph)	Min. Pressure (mb)	Location(s) of U.S. Landfall
Hurricane Alex	3		7/31 - 8/6	120	957	
Tropical Storm Bonnie	TS	TS	8/3 - 8/14	65	1001	Apalachicola, Florida
Hurricane Charley	4	4, 1	8/9 - 8/14	150	941	Port Charlotte, Florida North Myrtle Beach, South Carolina
Hurricane Danielle	2		8/13 - 8/21	110	964	
Tropical Storm Earl	TS	2	8/13 - 8/16	50	1009	
Hurricane Frances	4	2	8/25 - 9/10	145	935	Sewall's Point, Florida
Hurricane Gaston	1	1	8/27 - 9/1	75	986	Bulls Bay, South Carolina
Tropical Storm Hermine	TS	TS	8/27 - 8/31	60	1002	New Bedford, Massachusetts
Hurricane Ivan	5	3	9/2 - 9/24	165	910	Cameron, Louisiana
Hurricane Jeanne	3	3	9/13 - 9/28	120	951	Port St. Lucie, Florida
Hurricane Karl	4		9/16 - 9/28	145	938	
Hurricane Lisa	1		9/19 - 10/3	75	987	
Tropical Storm Matthew	TS	TS	10/8 - 10/10	45	997	Cocodrie, Louisiana
Tropical Storm Otto	TS		11/29 - 12/2	50	995	

2005 Season details

Storm	Highest Category	U.S. Landfall Categories	Dates	Max winds (mph)	Min Pressure (mb)	Location(s) of U.S. Landfall
Tropical Storm Arlene	TS	TS	6/08 - 6/12	70	989	Florida Panhandle, Florida
Tropical Storm Bret	TS		6/28 - 6/30	40	1004	
Hurricane Cindy	1	1	7/03 - 7/06	75	997	Grand Isle, Louisiana
Hurricane Dennis	4	3	7/05 - 7/11	150	930	Pensacola, Florida
Hurricane Emily	4		7/11 - 7/21	155	930	
Tropical Storm Franklin	TS		7/21 - 7/29	70	997	
Tropical Storm Gert	TS		7/23 - 7/25	45	1005	
Tropical Storm Harvey	TS		8/02 - 8/08	65	994	
Hurricane Irene	2		8/04 - 8/18	105	975	
Tropical Storm Jose	TS		8/22 - 8/23	50	1001	
Hurricane Katrina	5	1, 4	8/23 - 8/30	175	902	North Miami Beach, Florida Plaquemines Parish, Louisiana
Tropical Storm Lee	TS		8/28 - 9/02	40	1007	
Hurricane Maria	3		9/01 - 9/10	115	960	
Hurricane Nate	1		9/05 - 9/10	90	979	
Hurricane Ophelia	1	1	9/06 - 9/18	85	976	Cape Fear, North Carolina
Hurricane Philippe	1		9/17 - 9/24	80	985	
Hurricane Rita	5	3	9/18 - 9/25	175	897	Sabine Pass, Louisiana
Hurricane Stan	1		10/01 - 10/05	80	979	
Tropical Storm Tammy	TS	TS	10/05 - 10/06	50	1001	Atlantic Beach, Florida
Hurricane Vince	1		10/09 - 10/11	75	987	
Hurricane Wilma	5	3	10/15 - 10/25	175	882	Cape Romano, Florida
Tropical Storm Alpha	TS		10/22 - 10/24	50	998	
Hurricane Beta	3		10/27 - 10/31	115	960	
Tropical Storm Gama	TS		11/14 - 11/20	45	1004	
Tropical Storm Delta	TS		11/23 - 11/28	65	980	
Hurricane Epsilon	1		12/2 - 12/8	80	982	
Tropical Storm Zeta	TS		12/29 - 1/6	65	994	

2006 Season details

Storm	Highest Category	Dates	Max winds (mph)	Min Pressure (mb)	Location(s) of U.S. Landfall
Tropical Storm Alberto	TS	6/10 - 6/14	70	995	Tallahassee, Florida
Tropical Storm Beryl	TS	7/18 - 7/21	60	1000	Nantucket, Massachusetts
Tropical Storm Chris	TS	7/31 - 8/5	65	1001	
Tropical Storm Debby	TS	8/21 - 8/26	50	999	
Hurricane Ernesto	1	8/24 - 9/1	75	987	Florida Keys Long Beach, North Carolina
Hurricane Florence	1	9/3 - 9/12	90	972	
Hurricane Gordon	3	9/11 - 9/20	120	955	
Hurricane Helene	3	9/12 - 9/24	125	954	
Hurricane Isaac	1	9/27 - 10/2	85	985	

3. Reinsurer Capital Changes Announced since Katrina

New reinsurer investments

New Reinsurers	Initial Capital	Locations	Management	Lead Investors	Year Formed
Harbor Point Re Ltd.	$1,500,000,000	Bermuda	John Berger	Chubb and Stone Point (Trident III)	2005
Lancashire Insurance Co.	$1,065,000,000	Bermuda	Richard Brindle	Cypress Group and Capital Z	2005
Ariel Reinsurance Co. Ltd.	$1,000,000,000	Bermuda	Don Kramer, George Rivaz	Blackstone Group, Texas Pacific Group, Thomas H. Lee Partners, Oak Hill	2005
Validus Re Ltd	$1,000,000,000	Bermuda	George Reeth, Ed Noonan	Aquiline Capital Partners	2005
Amlin Bermuda Ltd.	$1,000,000,000	Bermuda	John Andrews	Amlin Syndicate	2005
Flagstone Reinsurance Ltd.	$920,000,000	Bermuda	David Brown	West End Capital	2005
New Castle Reinsurance Co. Ltd.	$500,000,000	Bermuda	Chris McKeown	Citadel Investment Group	2005
Greenlight Capital Ltd.	$220,000,000	Cayman Islands	Len Goldberg	Short-tailed lines	2005
Arrow Reinsurance Co. Ltd.	$102,000,000	Bermuda	Kymm Astwood	Goldman Sachs	2005
Omega Specialty Insurance Co. Ltd.	£90,000,000	Bermuda	Richard Tolliday	Omega Underwriting Holdings Plc.	2005
Aeolus	$500,000,000	Bermuda	Peter Appel, Dave Eklund	Warburg Pincus	2006
Hiscox Insurance Co. (Bermuda) Ltd	$500,000,000	Bermuda	Robert Childs	Hiscox Syndicate at Lloyd's	2006
Castle Point Re	$265,000,000	Bermuda	Michael Lee, Greg Doyle	Tower Group	2006
Advent Re	$37,500,000	Bermuda	Brian Caudle	Advent Capital PLC	2006
Peleus Re / PX Re	$1,300,000,000	Bermuda	Andrew Carrier	Argonaut/PX	2007
Ark Syndicate 4020	£114,000,000	London	Ian Beaton, David Foreman	Aquilne Capital Partners	2007
Barbican Syndicate 1955	£75,000,000	London	Mark Harrington	Steel Partners, Carlson Corp	2007

Existing reinsurer investments

Existing Reinsurers	Capital Raised	Locations	Reinsurance Management	Book of Business	Year Formed
XL Re	$2,390,000,000	Global	James Veghte	Diversified	1986
ACE Ltd	$1,466,000,000	Global	Jacques Bonneau	Diversified	1986
IPC Re	$612,000,000	Bermuda	Steve Fallon	Property Catastrophe	1993
Partner Re	$550,000,000	Bermuda, CT, Zurich	Pat Thiele	Diversified	1993
Max Re	$285,000,000	Bermuda	John Doucette	Diversified	2000
Everest Re	$756,000,000	Bermuda, NJ	Joe Toranto	Diversified	Re-domesticated 2002
Axis Capital	$688,000,000	Bermuda, NY	Bill Fischer, Mike Morrill	Diversified	2002
Montpelier Re	$600,000,000	Bermuda	Tony Taylor	Property Catastrophe	2002
Endurance	$448,000,000	Bermuda, NY	Tom Bell, Bill Jewett	Diversified	2002
Platinum Underwriters	$405,000,000	Bermuda, London, NY	Michael Price	Diversified	2002
Aspen	$400,000,000	Bermuda, London	Brian Boornazian	Diversified	2002
Allied World	$300,000,000	Bermuda, NY	Bill Davis	Diversified	2002
Glacier Re	$300,000,000	Zurich	Robbie Klaus	Short-tailed lines	2004

Sidecar investments (excluding renewal facilities)

Ceding Company	Capital Raised	Locations	Sidecar Name	Book of Business	Year Formed
XL Capital	$550,000,000	Bermuda	Cyrus Reinsurance Limited	Property Cat and Retrocessions	2005
Oil Casualty Insurance	$405,000,000	Bermuda	Avalon Re	Energy	2005
Montpelier Re	$355,000,000	Bermuda	Blue Ocean	Fully collateralized retrocessions	2005
Arch Re	$256,000,000	Bermuda	Flatiron	Property and Marine written by Arch	2005
Montpelier Re	$91,000,000	Bermuda	Rockridge Re	Retrocessions	2005
Montpelier Re	$90,000,000	Bermuda	Champlain Limited	Montpelier retrocession	2005
Hannover Re	$370,000,000	Bermuda	Kaith/K5	Various	2006
White Mountains Re	$330,000,000	Bermuda	Helicon	Property Catastrophe	2006
Harbor Point	$250,000,000	Bermuda	New Point Re	Collaterized Retro	2006
Validus	$200,000,000	Bermuda	Petrel Re Ltd.	Marine and Energy	2006
Harbor Point	$150,000,000	Bermuda	Bay Point	Short-tailed lines	2006
Endurance Re	$125,000,000	Bermuda	Shackleton Re	Property Catastrophe	2006
Renaissance Re	$125,000,000	Bermuda	Starbound	Florida treaties	2006
Brit Insurance Holding	$107,700,000	Bermuda	Norton Re	Fully collateralized Retrocessions	2006
Lancashire Re	$95,000,000	Bermuda	Sirocco	Offshore Energy	2006
AIG	$73,000,000	Bermuda	Concord	US commercial property	2006
Renaissance Re	$70,000,000	Bermuda	Timicuan / RPP	Reinstatement premium protections	2006
Flagstone Re	$60,000,000	Bermuda	Monte Fort Re	Peak zone and ILW coverage	2006
Swiss Re	$220,000,000	TBD	Sector Re	Property and Aviation Cat	2007
CIG Re	$500,000,000	Bermuda	Emerson Re	Group Retro	2007
Hannover	$200,000,000	Bermuda	Kepler Re	Aggregate Retro	2007
Various via AHJ. Ltd.	$182,500,000	London	Puma Re	Fully collateralized retrocessions	2007

Share repurchases

Company	Announcement Date	Purchase Price
Aspen Insurance Holdings	11/9/2007	$300Mn
Max Capital	12/19/2007	$34.7Mn
Munich Re	11/7/2006	€1Bn
Munich Re	5/14/2007	€2Bn
Axis	3/15/2005	$305Mn
Platinum	10/25/2007	$250Mn
XL Capital	2/23/2007	$1Bn
Endurance	5/23/2007	$49.4Mn
Swiss Re	2005	6Bn Swiss Francs
Allied World	12/17/2007	$563.4Mn
Reinsurance Group of America	12/12/2005	$75.9Mn
Arch	3/1/2007	$1Bn
IPC	4/24/2007	$200Mn
White Mountains	10/29/2007	$141.2Mn

Global Market Results ($Mns)

RAA members (excludes National Indemnity and eliminates foreign-owned companies)

	Gross Premiums Written	Net Premiums Earned	Net Underwriting Gain	Combined Ratio	Net Income/ Loss	Policyholders' Surplus	Annualized % Return on PHS	Percent of Market
2001	$26,442	$19,178	($8,281)	142.0%	($1,663)	$18,154	-8.4%	20.8%
2002	30,621	21,971	(3,887)	115.0%	2,334	34,758	6.7%	19.2%
2003	25,323	20,190	955	97.0%	3,198	43,728	7.3%	12.3%
2004	21,631	18,796	(390)	103.0%	3,076	48,438	6.3%	10.4%
2005	20,462	17,082	(4,839)	130.0%	3,311	53,998	6.1%	10.7%
2006	19,173	14,921	1,925	87.0%	8,770	55,234	15.9%	9.3%
2001-2006	**$143,652**	**$112,138**	**($14,517)**	**113.0%**	**$19,026**		**5.4%**	**13.1%**

Bermuda reinsurance industry (excludes European-owned and "sidecars")

	Gross Premiums Written	Net Premiums Earned	Net Underwriting Gain	Combined Ratio	Net Income/ Loss	Capital Funds	Annualized % Return	Percent of Market
2001	$12,263	$10,369	($858)	108.3%	($816)	$15,622	-5.0%	9.7%
2002	16,793	15,052	2,180	85.5%	1,331	17,969	8.5%	10.5%
2003	51,070	45,775	1,505	96.7%	6,156	41,404	17.5%	24.8%
2004	57,750	51,763	879	98.3%	6,048	47,630	14.5%	27.8%
2005	60,041	53,816	(134)	100.2%	(2,149)	50,349	-4.5%	31.5%
2006	58,387	52,334	1,885	96.4%	11,587	63,817	22.2%	28.3%
2001-2006	**$256,304**	**$229,109**	**$5,457**	97.6%	**$22,157**		**8.4%**	**23.4%**

European-owned reinsurance industry
(Global business of Munich, Swiss, Hannover, Converium, SCOR and Paris Re)

	Gross Premiums Written	Net Premiums Earned	Net Underwriting Gain	Combined Ratio	Net Income/ Loss	Policyholders' Surplus	Annualized % Return on PHS	Percent of Market
2001	$66,225	$55,039	($3,229)	105.9%	($559)	$35,070	-1.6%	52.2%
2002	87,253	74,454	8,427	88.7%	977	31,370	3.1%	54.8%
2003	101,794	90,824	9,933	89.1%	1,065	45,651	2.3%	49.5%
2004	101,897	93,548	11,518	87.7%	4,723	52,561	9.0%	49.0%
2005	85,624	78,717	5,711	92.7%	5,383	56,259	9.6%	44.9%
2006	97,769	87,447	15,661	82.1%	9,916	71,741	13.8%	47.4%
2001-2006	**$540,562**	**$480,029**	**$48,021**	**90.0%**	**$21,506**		**5.9%**	**49.3%**

Lloyd's market (excludes Bermuda and European-owned syndicates)

	Gross Premiums Written	Net Premiums Earned	Net Underwriting Gain	Combined Ratio	Net Income/ Loss	Capital Funds	Annualized % Return	Percent of Market
2001	$22,026	$13,517	($5,216)	138.6%	($4,071)	$5,768	-41.4%	17.3%
2002	24,514	16,141	210	98.7%	1,208	11,961	10.1%	15.4%
2003	27,542	19,641	1,641	91.6%	3,038	17,976	16.9%	13.4%
2004	26,467	21,287	678	96.8%	2,476	23,184	10.7%	12.7%
2005	24,447	19,167	(2,174)	111.3%	(30)	18,855	-0.2%	12.8%
2006	30,973	23,755	4,078	82.8%	6,946	26,120	26.6%	15.0%
2001-2006	**$155,970**	**$113,508**	**($782)**	**100.7%**	**$9,567**		**0.9%**	**14.2%**

Global results
Excluding reserve strengthening on U.S. casualty and catastrophe events over $1Bn

	Net Income/ Loss	Reported Reserve Strengthening	Estimated Cat Losses	Adjusted Combined Ratio	Adjusted Annualized Return
2001	($7,108)	$3,853	$22,500	91.0%	11.3%
2002	5,850	2,750	1,500	91.3%	11.8%
2003	13,457	1,722	1,500	90.1%	16.5%
2004	16,323	3,970	8,000	86.7%	17.0%
2005	6,515	7,805	27,500	80.0%	19.6%
2006	37,219	(9,686)	0	92.2%	16.6%
2001-2006	**$72,256**	**$10,414**	**$61,000**	**88.3%**	**15.4%**
2007 Est.	**$37,000**	**($5,000)**	**$4,000**	**86.5%**	**16.4%**

Results excluding reserve strengthening and with Cats spread equally by year

	Adjusted Net Income			
	No Strengthening and No Cats	No Strengthening, But Average Annual Cats	Normalized Combined Ratio	Normalized Return
2001	$11,232	$4,156	101.4%	4.2%
2002	8,825	1,708	99.2%	2.3%
2003	15,868	8,261	95.9%	8.6%
2004	25,360	17,684	92.2%	11.9%
2005	33,644	25,831	86.0%	15.0%
2006	29,860	22,137	97.9%	12.3%
Average	**$20,798**	**$13,296**	**94.8%**	**9.0%**
2007 Est.	**$36,000**	**$28,500**	**92.3%**	**13.1%**

4. Reinsurers Included in Study

We combined the 2001 – 2006 published experience of the RAA members, Lloyd's, Bermuda public companies and the major European reinsurer groups. We exclude most reinsurance departments of insurer groups, such as Liberty Mutual and Generali, and Berkshire Hathaway's National Indemnity Co. However, for consistency, we include companies such as ACE and XL that are influential lead markets but may not still be predominately reinsurers. We also excluded Life and mortgage guarantee companies.

ACE (2001 – 2006)

American Agricultural Insurance Company (2001 – 2006)

Arch (2003 – 2006)

Aspen (2003 – 2006)

AWAC (2003 – 2006)

Axa Corporate Solutions Reinsurance Co. (2001 – 2003) / AXA Re (2004 – 2006) / Paris Re (2004 – 2006)

AXIS (2003 – 2006)

Berkley Insurance Company (2001 – 2006)

CNA Re (2001 – 2002)

Converium (2001 – 2006)

EMC Reinsurance Company (2001 – 2006)

Employers Reinsurance Corporation (2001 – 2003) / GE Insurance Services (2004 – 2005)

Endurance (2003 – 2006)

Everest Reinsurance Company (2001 – 2006)

Farmers Mutual Hail Insurance Company of Iowa (2001 – 2006)
Folksamerica Reinsurance Company (2001 – 2006)
General Re Group (2001 – 2006)
Gerling Global Group (2001 – 2002)
Hannover Re (2001 – 2006)
Hartford Re Company (2001 – 2002)
IPC (2001 – 2006)
Mapfre U.S. Re (2003 – 2005)
Munich Re (2001 – 2006)
Odyssey America Re Corp. / Odyssey Re Corp. (2001 – 2006)
Overseas Partners U.S. Reinsurance Company (2001 – 2002)
Partner Re (2001 – 2006)
PMA Capital Insurance Company (2001 – 2003)
PXRE Reinsurance Company (2001 – 2006)
QBE Reinsurance Corporation (2001 – 2006)
Renaissance Re (2001 – 2006)
SCOR (2001 – 2006)
St. Paul Re (2001) / Platinum Re (2002 – 2006)
Swiss Re (2001 – 2006)
Toa Reinsurance Company of America (2001 – 2006)
Transatlantic/Putnam Reinsurance Cos. (2001 – 2006)
Trenwick America Reinsurance Corporation (2001 – 2005)
White Mountains (2003 – 2006)
XL Ltd. (2001 – 2006)
Lloyds (2001 – 2006, Market GAAP results, eliminating syndicates consolidated into other reinsurers' results listed above.)

5. Other Recent Market Catastrophes

Catastrophes	Direct Insured P&C Losses	Reinsured Losses
1999 Hurricane Floyd	$5Bn	$1Bn – $2Bn
1999 Izmit, Turkey Earthquake	$3Bn – $5Bn	$0Bn – $1Bn
1999 Lothar and Martin	$15Bn	$2Bn – $3Bn
2001 September 11th Attacks	$41Bn	$20Bn – $25Bn
2001 Hurricane Allison	$3.5Bn	$1.5Bn
2002 Czech Floods	$4Bn	$1Bn – $2Bn
2003 California Wild Fires	$3Bn – $4Bn	$0 – $1Bn
2003 St. Louis Tornado	$3Bn – $4Bn	$0 – $1Bn
2003 Hurricane Isabelle	$1Bn – $2Bn	$0 – $1Bn
2004 Hurricanes	$30Bn – $40Bn	$5Bn – $8Bn
2004 Japanese Typhoon	$4Bn	$1Bn – $2Bn
2005 Tsunami	$5Bn	$1Bn – $2Bn
2005 Katrina	$45Bn – $65Bn	$18Bn – $24Bn
2005 Dennis, Rita and Wilma	$17Bn – $25Bn	$4Bn – $6Bn
1999 – 2006 Totals	**$175Bn – $220B**	**$55Bn – $80Bn**
Averages	**$22Bn – $27Bn**	**$7Bn – $10Bn**

Source: Holborn estimates, foreign currencies converted at historic rates.

6. For More Information

Holborn Contacts:

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About Holborn

Holborn is an independent reinsurance brokerage firm, offering advanced analytic tools, global market access and responsive account services to clients across the United States. The company was formed in 1920, making us one of the most experienced reinsurance brokers in the world. We are owned exclusively by employees. This contributes to Holborn's stable client base and noteworthy ability to attract and retain talent.

Sources:

- Reinsurance Association of America — www.reinsurance.org
- Reinsurer results are from company reports and Banc of America Securities — www.bankofamerica.com
- CSU — www.colostate.edu
- NOAA — www.noaa.gov
- NASA — www.nasa.gov
- International Association of Insurance Supervisors — www.iaisweb.org

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