

The Changing Paradigm of Risk Financing

Hurricane Risk Mitigation – Leadership Forum

Orlando, Florida – February 22, 2008

Aditya Dutt, Morgan Stanley & Co

Agenda

- Increasing awareness of natural perils
- Capital flows in the (re)insurance industry
- The changing nature of capital providers
- Evolution of risk financing: Opportunities and challenges

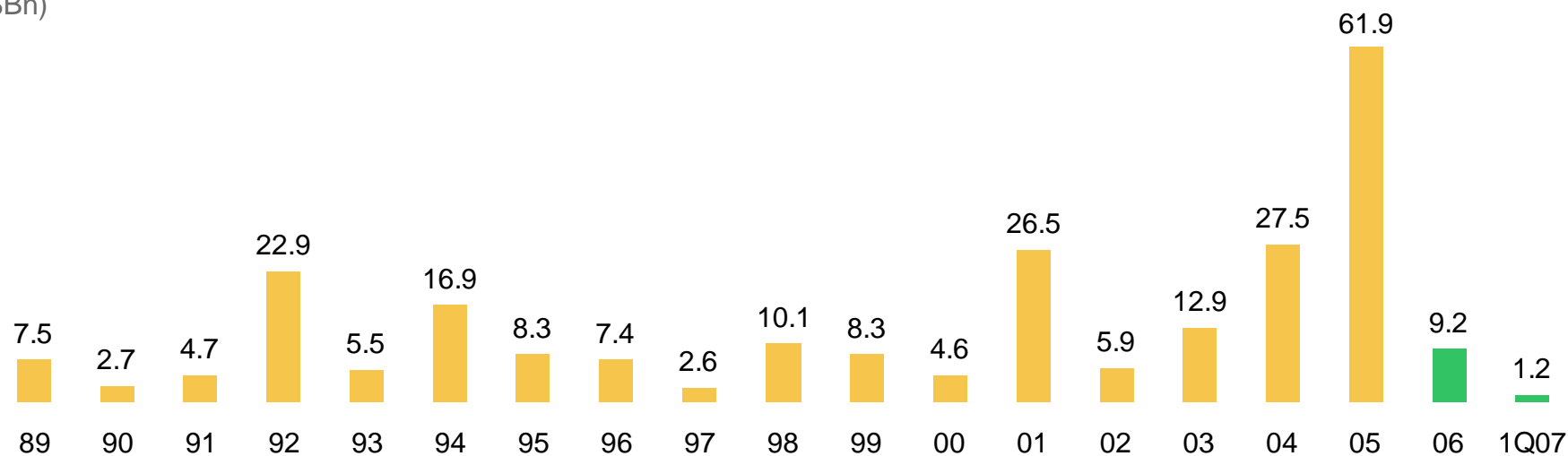
Working Thesis:

Private market participants are continuously forming a closer partnership to provide a larger pool of capacity to finance large risks

Increasing Awareness of Perils

U.S. Insured Catastrophe Losses ⁽¹⁾

(\$Bn)



- Risk of natural / man-made perils is more public
- Multi-billion loss events “appear” to increase in frequency
- Larger, broader capital raising has attracted investor attention
- “Risk as an asset class”

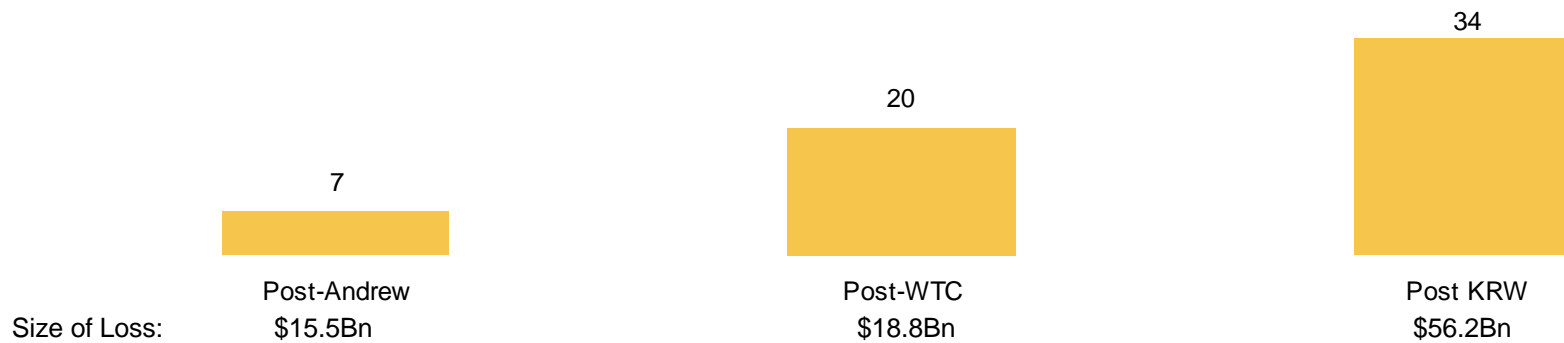
Morgan Stanley

Source:
PCS / ISO
(1) Excludes offshore energy losses (\$4 – \$6Bn). For 2001, excludes non-property / BI losses (~\$12Bn).

Capital Flows in the (Re)Insurance Industry

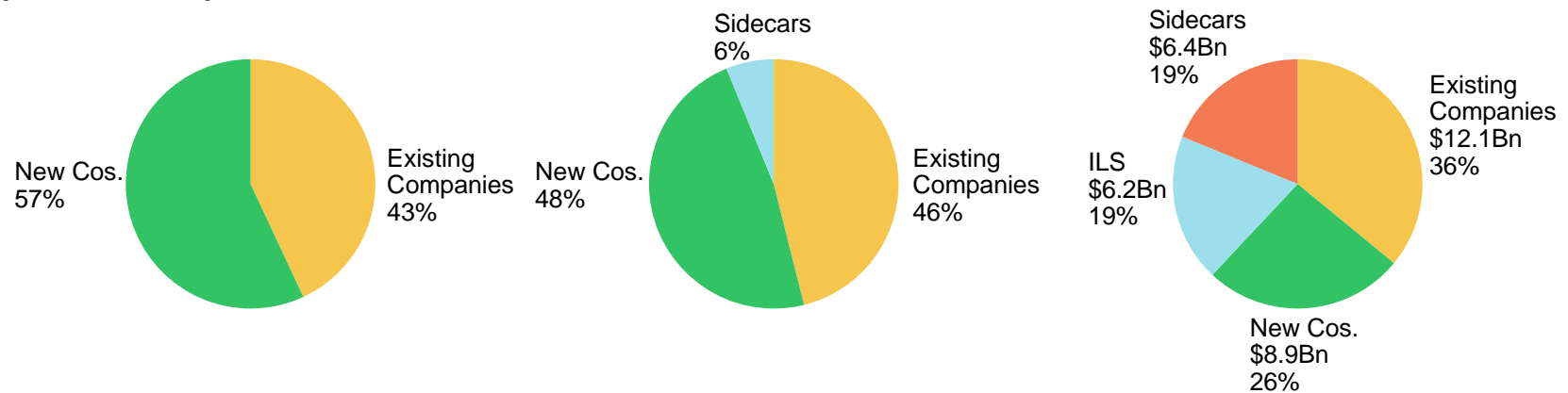
Post-Event Capital Raising

(\$Bn)



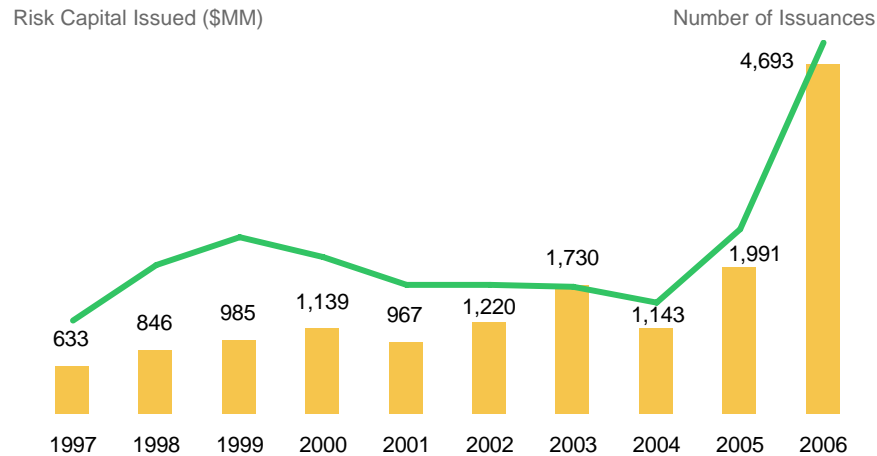
Composition of Capital

(%)



Capital Flows in the (Re)Insurance Industry (cont'd)

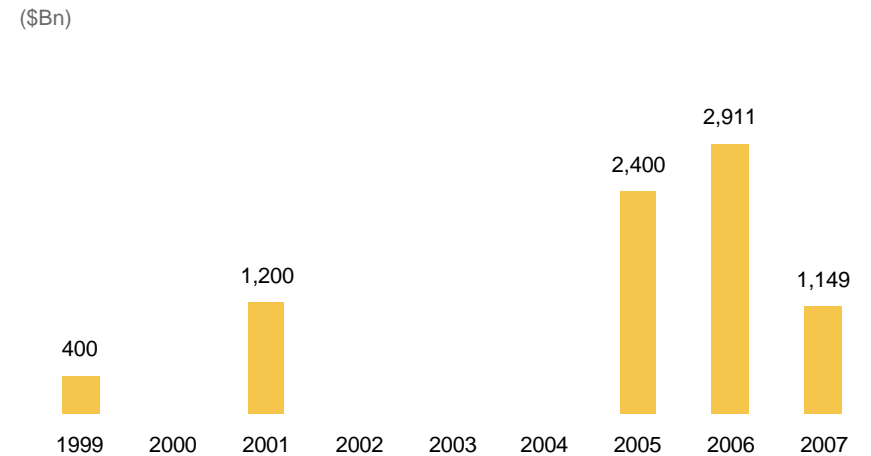
Catastrophe Bond Issuance ⁽¹⁾ ⁽²⁾



Source: Guy Carpenter

- Cat bond issuance reached a record high in 2006
- New issuers, new risks
- Record number of first-time issuers
- Developing liquidity in secondary market

Limited Life Vehicles / JVs – “Sidecars”



Source: Morgan Stanley, Benfield, MMC

- Issuance for LLVs peaked in 2006
- Total of 20 + LLVs, since KRW compared to 5 prior to KRW in six years
- Variety of risks / uses – e.g., energy, direct, RPP etc.

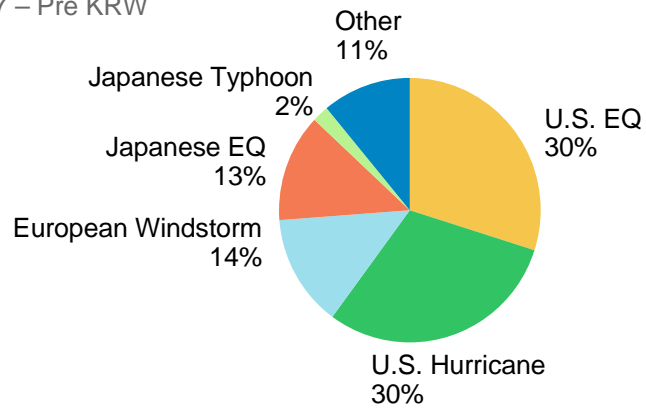
(1) Within any single year, takedowns from shelf offerings are consolidated and considered as one transaction.

(2) Takedowns from individual shelf offerings occurring in different years, are considered to be separate transactions in the year in which the takedowns are completed.

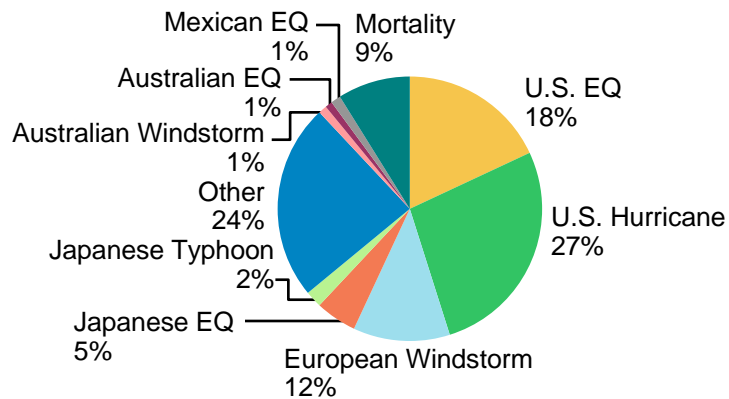
Capital Flows in the (Re)Insurance Industry (cont'd)

Cat Bonds – Mix of Peril

1997 – Pre KRW

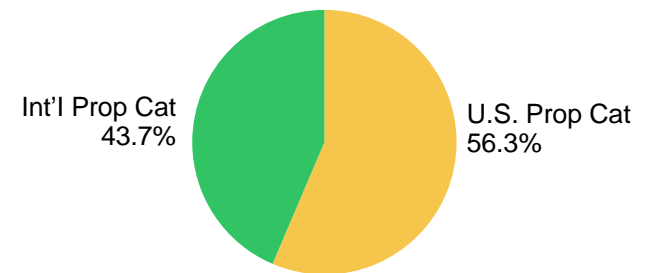


2007 – Post KRW

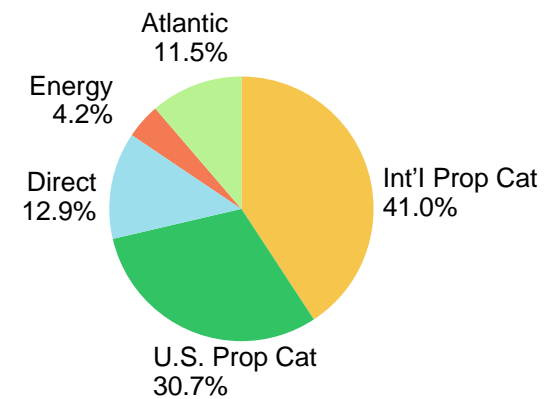


LLVs – Mix of Peril

1997 – Pre KRW

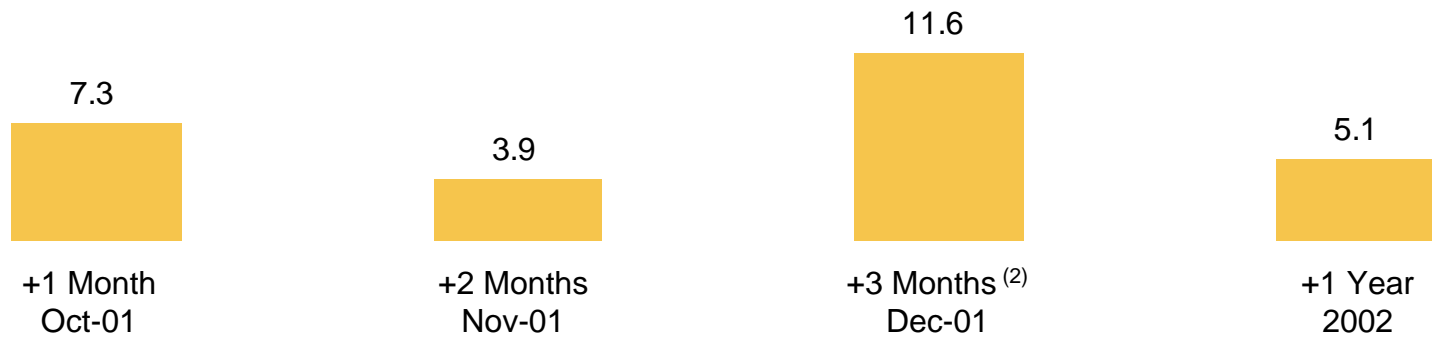


2007 – Post KRW

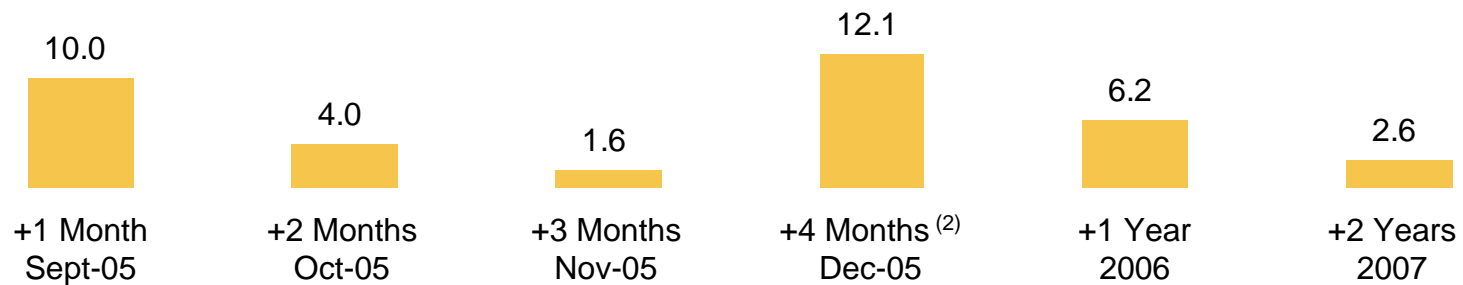


Capital Can Respond Quickly

Capital Raised Post WTC ⁽¹⁾ (\$Bn)

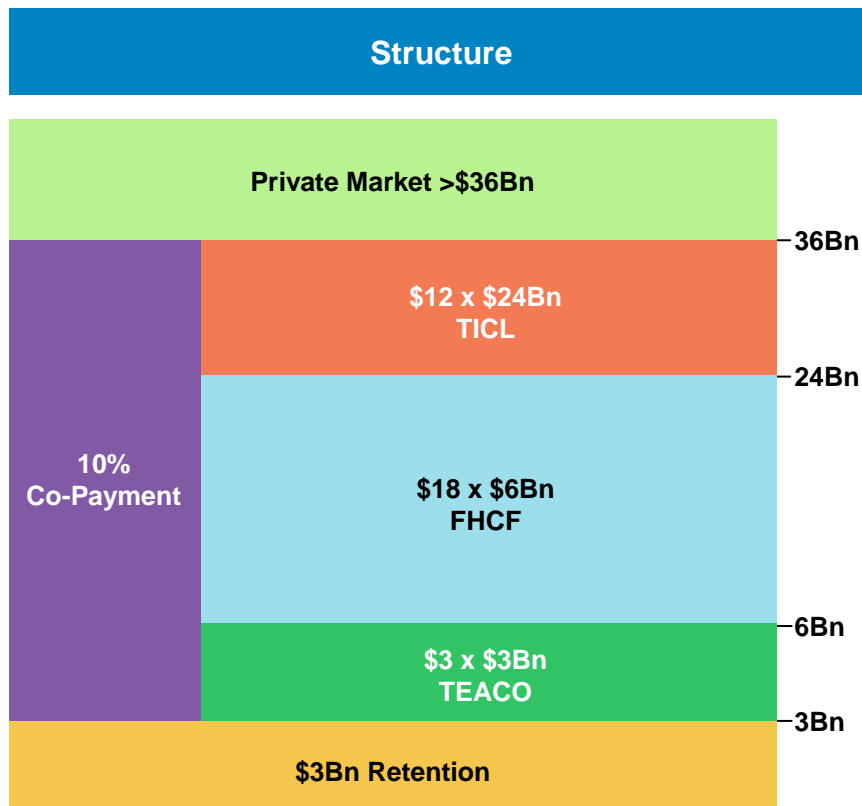


Capital Raised Post KRW ⁽¹⁾ (\$Bn)



Case Study – Impact of the FHCF

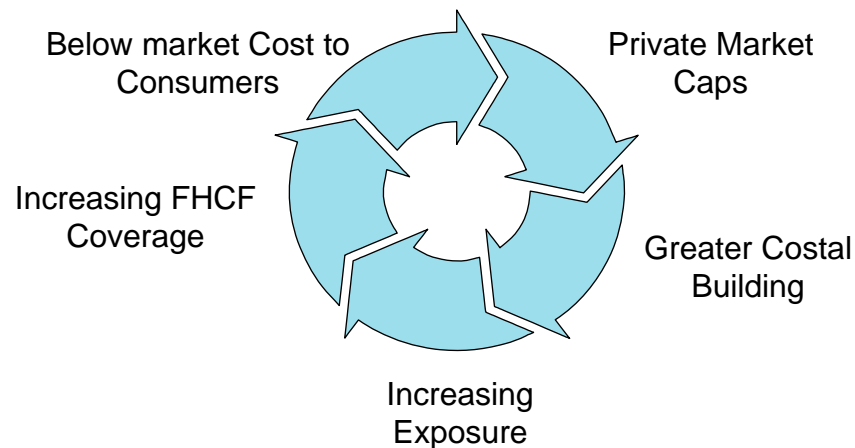
- Prior to the FHCF expansion the private market had enough capacity
- Following the legislation, excess capital formed faster among the (re)insurers



- Key Issues**
- “Working layer coverage” (over time)
 - Adequate bonding for losses?
 - Post-event funding
 - Private capital willing, but not able:
 - Dividend restrictions
 - Price caps
 - ROLs below ROE hurdles
 - Private reinsurers still needed; FHCF only partial coverage

Case Study – Impact of the FHCF (cont'd)

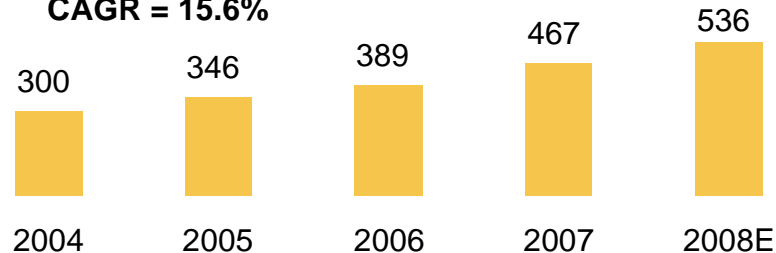
The FHCF Spirals...



Growth in Capital ⁽¹⁾ – Top 40 Global Reinsurers

(\$Bn)

CAGR = 15.6%



Share Buyback Programs Initiated

| Company | Shareholders' Equity at December 31, 2006 (\$MM) | Authorized Buyback (\$MM) | Buyback as % of Shareholders' Equity at December 31, 2006 |
|---------------------|--|---------------------------|---|
| Endurance Specialty | 2,098 | 676 | 32 |
| Munich Re | 34,230 | 10,554 | 31 |
| Arch Capital | 3,266 | 1,000 | 31 |
| Swiss Re | 25,335 | 4,922 | 19 |
| Platinum | 1,858 | 250 | 13 |
| IPC Holdings. | 1,755 | 200 | 11 |
| PartnerRe | 3,266 | 366 | 11 |
| XL Capital. | 10,131 | 1,000 | 10 |
| Odyssey Re | 2,084 | 200 | 10 |
| Montpelier Re | 1,493 | 100 | 7 |
| Max Capital | 1,390 | 100 | 7 |
| Renaissance Re | 3,256 | 500 | 15 |
| Axis | 4,413 | 305 | 7 |
| Lancashire | 1,138 | 340 | 30 |
| Aspen | 2,389 | 300 | 13 |
| Total | 98,102 | 20,813 | 21 |

(1) Source: S&P. Sum of shareholders funds for top 40 global insurance / reinsurance groups. Includes additional 15% from leverage.

(2) Source: S&P. Global Reinsurance Highlights 2007.

The Changing Nature of Capital Providers

“Then” (Pre KRW)

| Capital Sources | Resources (\$Bn) | Investments |
|-------------------------------|------------------|---|
| Private Equity | 50 – 200 | <ul style="list-style-type: none"> • New Companies • Examples: Renaissance, La Salle, Mid Ocean etc. |
| Mutual Funds / Pension Funds | – | <ul style="list-style-type: none"> • New Companies • Public Companies • Examples: Ren Re, Tempest, XL, Ace, Others |
| Insurance Companies / Brokers | 50 – 200 | <ul style="list-style-type: none"> • Sponsors of new companies • Examples: Axis, Endurance, Montpelier, etc. |

“Now” (Post KRW)

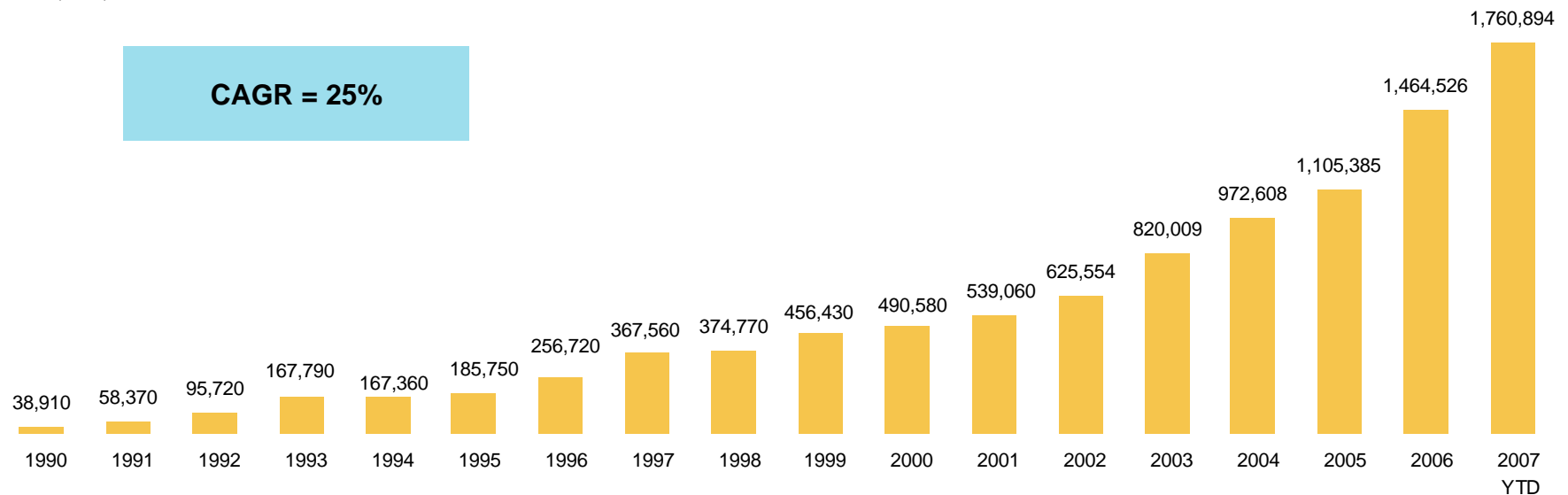
| Capital Sources | Resources | Investments |
|---------------------|------------|--|
| Private Equity | \$500Bn+ | <ul style="list-style-type: none"> • New Companies |
| Mutual Funds | – | <ul style="list-style-type: none"> • Public Companies |
| Pension Funds | – | <ul style="list-style-type: none"> • New companies • Sidecars |
| Hedge Funds | \$2 – 3Tn+ | <ul style="list-style-type: none"> • Sidecars • Cat bonds • Public Companies • New Companies |
| Insurance Companies | – | <ul style="list-style-type: none"> • Sponsor of new companies |

The Changing Nature of Capital Providers (cont'd)

The Rise of Hedge Funds – “Large, Nimble and Up for Anything”

Estimated Growth of Assets 1990 – YTD July 2007

Assets (\$MM)

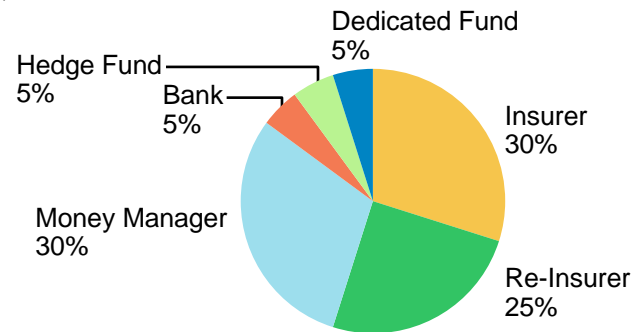


- Hedge funds are probably one of the most important drivers of developing insurance / capital markets convergence
- After 9/11 and especially after KRW, hedge funds invested in insurance in various ways
- Quick to grasp (and seek) (re)insurance risk from the industry (“Non-Correlation” with securities markets)
- Contributed approximately 50% of \$30Bn capital raised after KRW

The Changing Nature of Capital Providers

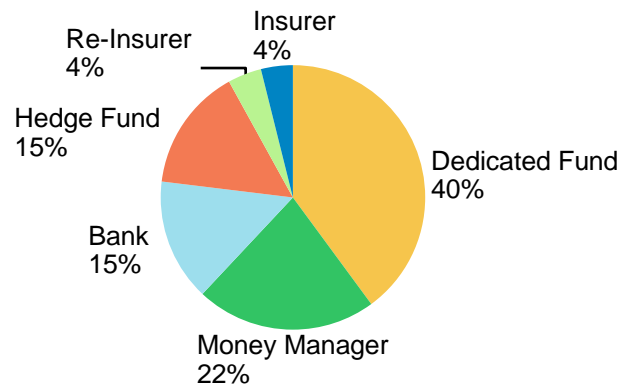
Natural Catastrophe ILS Investors

1999 ⁽¹⁾



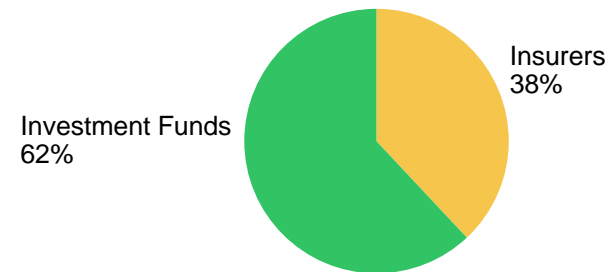
Market Size = US\$1.1Bn

2007 ⁽²⁾

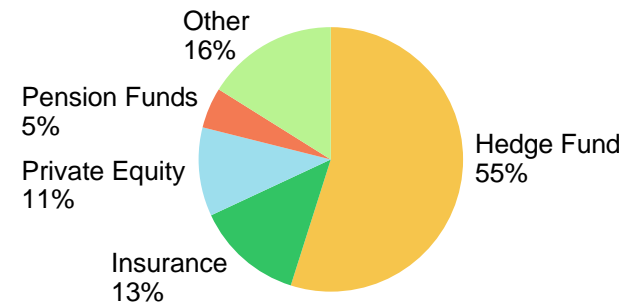


Sidecar / LLV Investors

2001 ⁽³⁾



2007 ⁽⁴⁾



Source: Swiss Re Capital Markets

(1) As of May 15, 2007.

(2) As of July 31, 2007.

(3) Includes DaVinci, Top Layer, Olympus.

(4) Morgan Stanley estimates.

Evolution of Risk Financing – Key Takeaways

- Clear convergence of reinsurance and capital markets
- Access to capital seems to be improving as long as:
 - Supply / demand imbalances exist
 - Adequate returns for shareholders
- Reinsurance market is strong, and improving
 - Bermuda as a center of reinsurance
 - Re-Emergence of Lloyds'
 - Well-capitalized primary companies
- More innovation, cooperation and development are store for the industry

Key Opportunity:

- Together, the insurance industry and the capital markets form an important force of risk capacity:
 - Insurers provide expertise and access; investors provide capital

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