

National Hurricane Conference – “Who’s Gonna Pay?...”



**FLORIDA CATASTROPHIC STORM
RISK MANAGEMENT CENTER**

The COLLEGE of BUSINESS • FLORIDA STATE UNIVERSITY

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www.stormrisk.org

About the FSU Storm Center

Section 1004.647 F.S.

- **Created the Center** at FSU College of Business, Department of Risk Management/ Insurance.
- **Why is the Center needed?**
 - Research – Cat Financing
 - Continuity
 - Coordination

Discussion Questions

- Is there enough money to pay for catastrophes?
- Where does/should it come from?
- Role of insurance/reinsurance*
- Role of risk management
 - Property owners
 - Insurers/reinsurers
 - Local/state/federal gov't
- Where do we go from here?

Terminology

- Internal vs. External Capital
- Potential vs. Willing Capital
- ROE – Return on Equity, Cost of Capital, Opportunity Costs
- Risk-Based Pricing
- Cat Bonds, ILWs, Side Cars, Hedge Funds, Zero Beta Assets, Collateral, Lehman Bros.

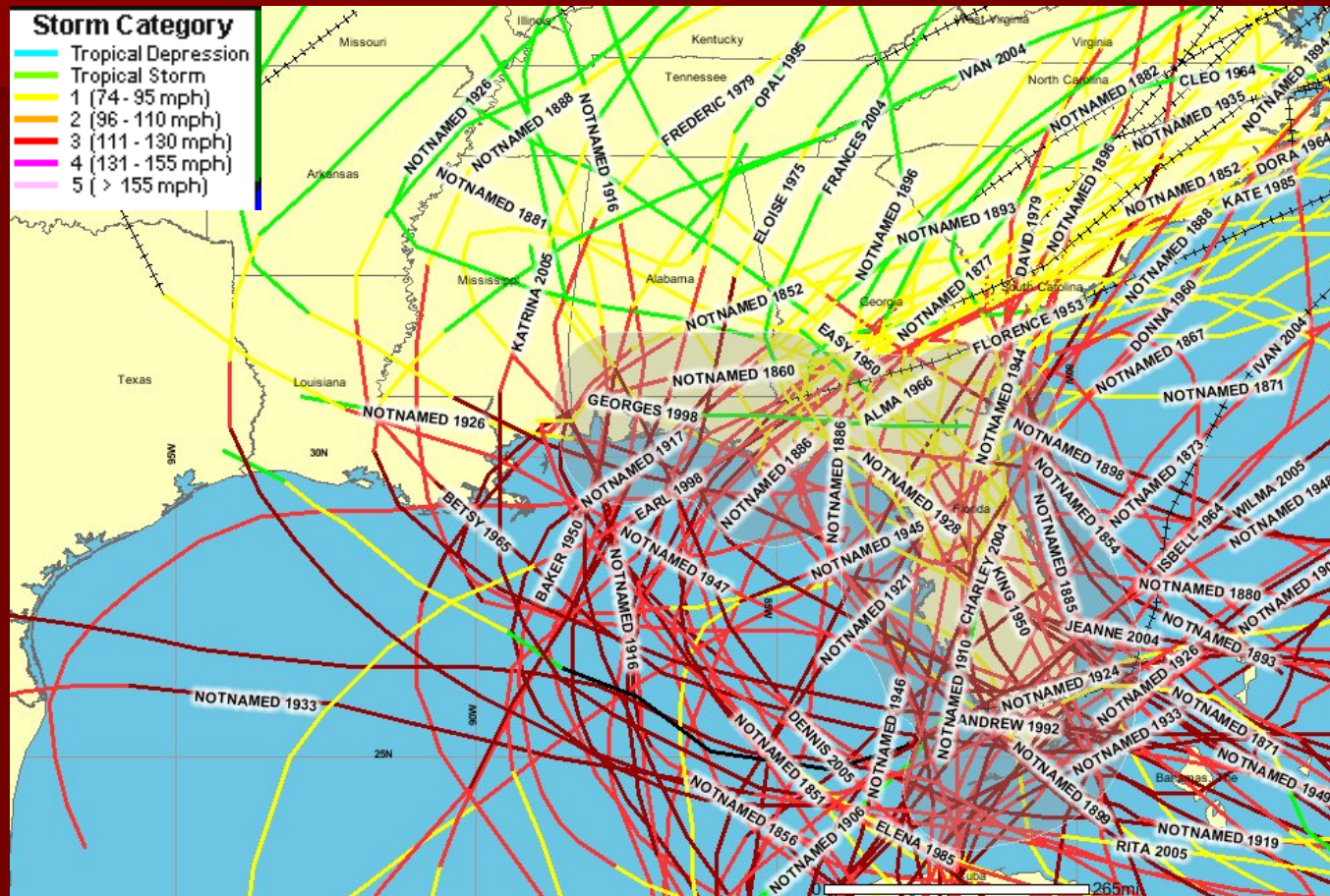
How much money?

- Haiti - \$14B total – very little insured
- Chile - \$10-30B total – \$2-8B insured?
- Katrina - \$125B total - \$45B insured*
- US Insured Cat Losses in the 1990's – \$89B
- US Insured Cat Losses in the 2000's - \$193B
- In FL – AAL's hurricane models - \$5-7B / yr
- In FL – 1 in 100 year storm - \$52B (DFS 2009)
- In FL – approx. \$2.5T in Coastal Property Exposure

It's all relative...

- I won't play PowerBall unless it is over \$100M
- \$20B is a lot to FL HO insurers
- \$200B...a drop in a puddle to the capital markets
- \$14B is the capacity of Cat Bonds at this time

Why do we talk about FL?



Historical Hurricane Tracks Tool, NOAA Coastal Services Center

Why the focus on money (capital) and FL?

- Florida has a Hurricane Problem
 - Frequency
 - Severity
 - Correlation
- Florida has an Insurance Problem
 - Availability
 - Solvency
 - Affordability
- Florida alone holds significant amount the world's **insured** catastrophic risk

Where does money come from?

- Property owners (Internal)
- Insurers/Reinsurers/Capital Markets (Internal/External)
- Governments – Local/State/Federal (Internal/External)
- Relief Organizations/Charity/??? (External)

Attracting External Capital is
key!

Basics of Insurance

- Over the long run – insurance is a bad buy
- Premium = Expected losses + other stuff
- Insurance has value
 - Frees up money
 - Protects other parties (mortgage lenders)
 - Peace of mind
 - Prices risk – premium is an accurate reflection of risk and can induce mitigating behavior

Basics of Insurance, con't...

- Insurers bring money to the table (surplus) & provide a service (risk assessment, risk transfer)
- Think from an insurer's point of view
 - Why sell insurance?
 - The losses of a few are offset by the non-losses of the many – not true with cats
 - Why we need external capital – DIVERSIFICATION

The ugliest chart I've ever made: Three Sources of Capital

Insurance Industry

Government

Citizens of FL

National Insurers –
State Farm, Allstate

Citizens Property
Insurance
Corporation**

Premiums,
Deductibles, Policy
Limits, Exclusions

Florida
Domestics**

International
Reinsurers

The Cat Fund**

Assessments**:

Citizens

Cat Fund

Guaranty Fund

Capital Markets –
Cat Bonds, ILWs,
Side Cars

NFIP
National Cat Fund
Multi-state Pools

Focus on Insurance Industry: Primary Insurers

Do insurers have enough money to pay?

- Most measures indicate increasing capacity (1997-2009)
 - Broad measures of insurer capacity
 - Aggregate surplus (\$370B -> \$437B)
 - Solvency tests – RBC, BCAR
- Market specific variation is not reflected
 - Cat risk is LOB & geographically specific

Are they willing to pay?

- Broad measures of Insurance Industry Activity and Performance in FL HO market
- Evidence suggests:
 - HO Insurance Industry has made major changes in business strategy in FL
 - Significant Growth in “Residual Market”
 - Not clear what the “net” result of those changes are regarding profitability, solvency or on long-run stability of market

FL HO Market Changes

■ Negatives

- # of Cos. decreased
- PHS decreased
- Market Share of FL domestic insurers has increased significantly
- Concentration increased significantly
- Citizens' exposure increased significantly

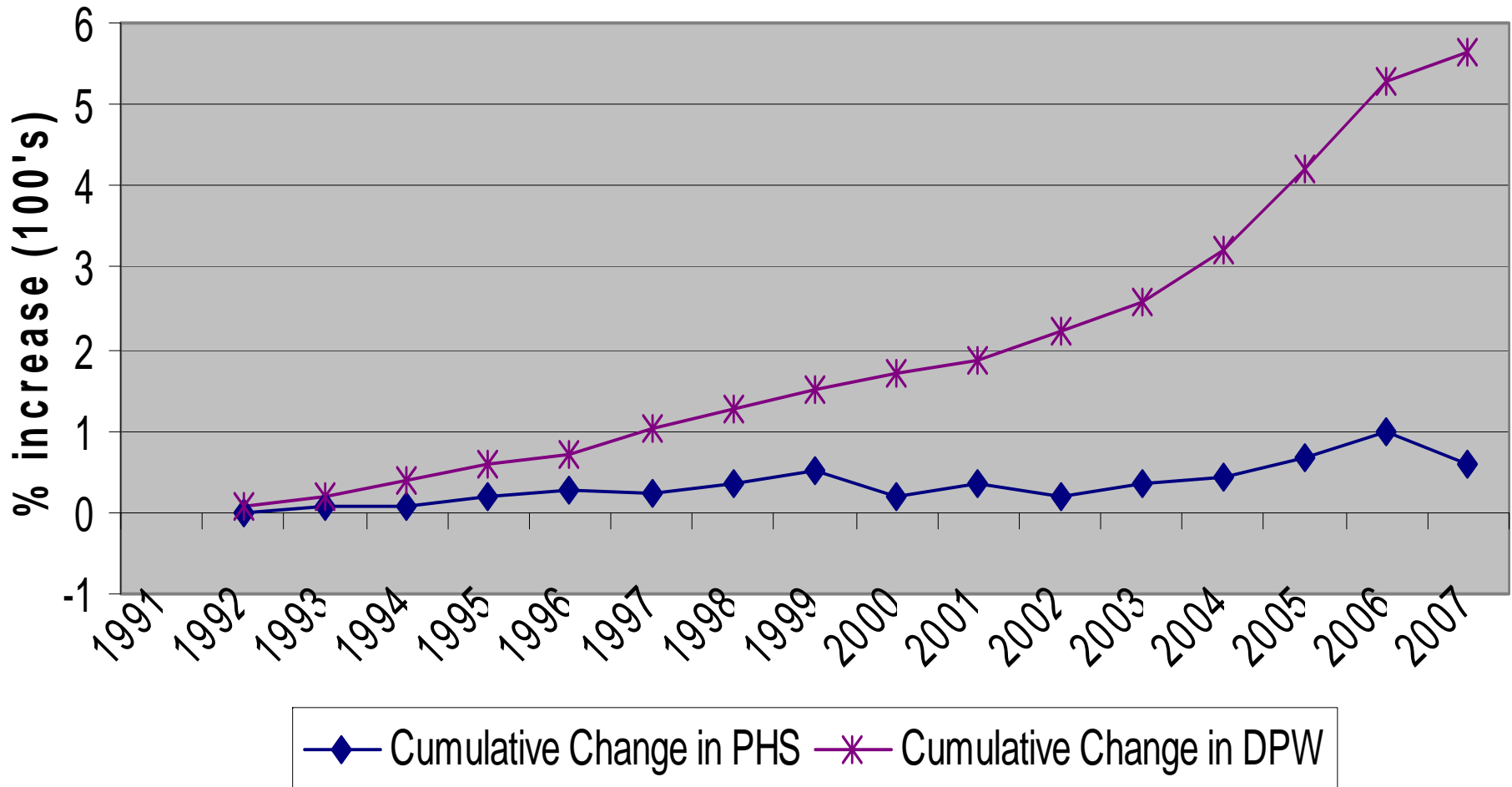
■ Positives

- Reinsurance usage increased
- Use of non-affiliated reinsurance has increased within groups

HO Performance '85-07

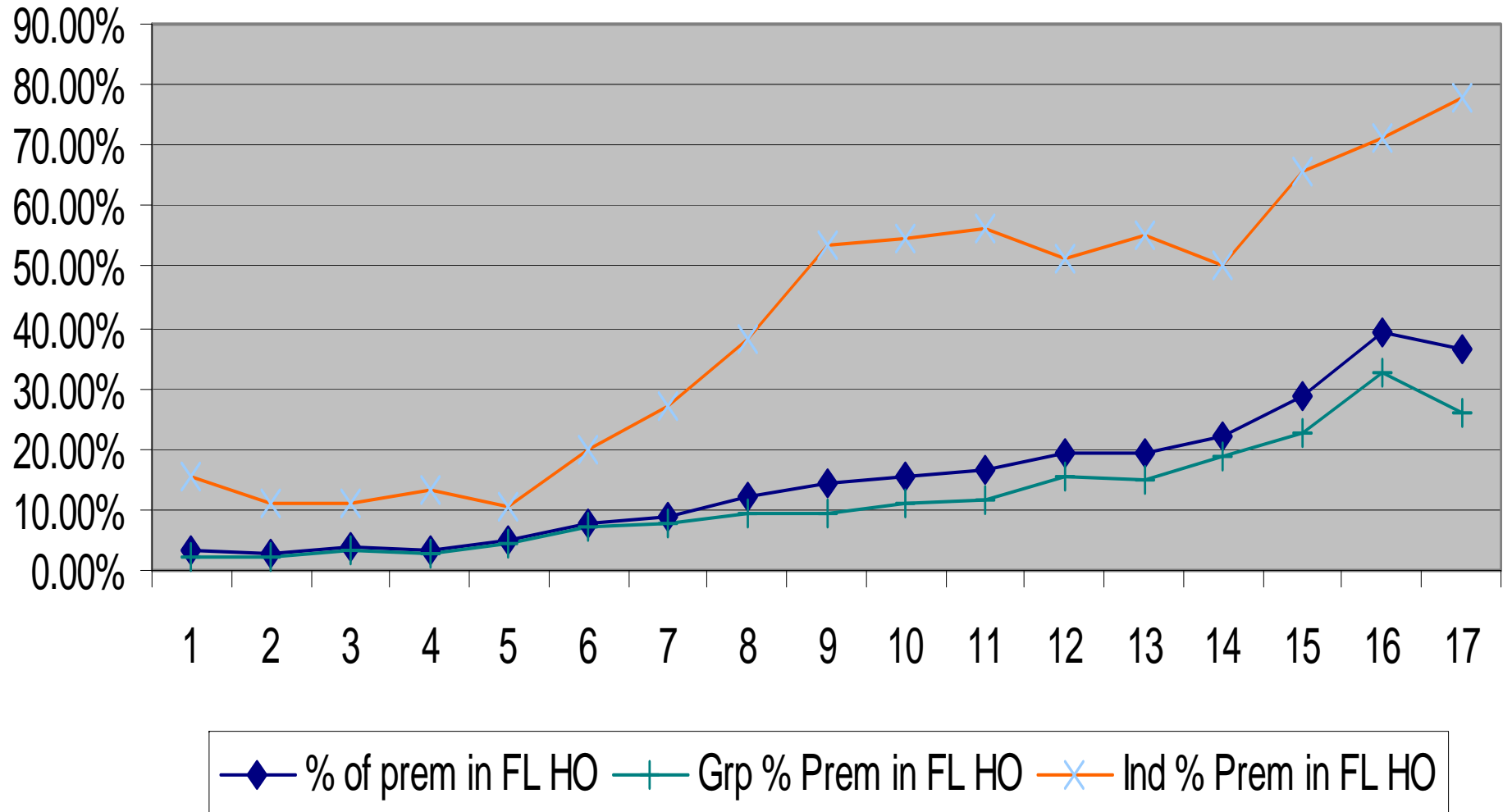
State	Loss Ratio	Coef. of Variation
FL	1.04	1.96 – (2)
LA	.963	1.69 – (3)
MS	.960	1.35 – (4)
ND	.952	.712
MN	.816	.681

Changes in HO Premiums (DPW) and PHS



Not Consistent with National HO market
(300% increase in DPW & PHS)

Concentration in FL HO Insr



Insurance Industry: Reinsurance

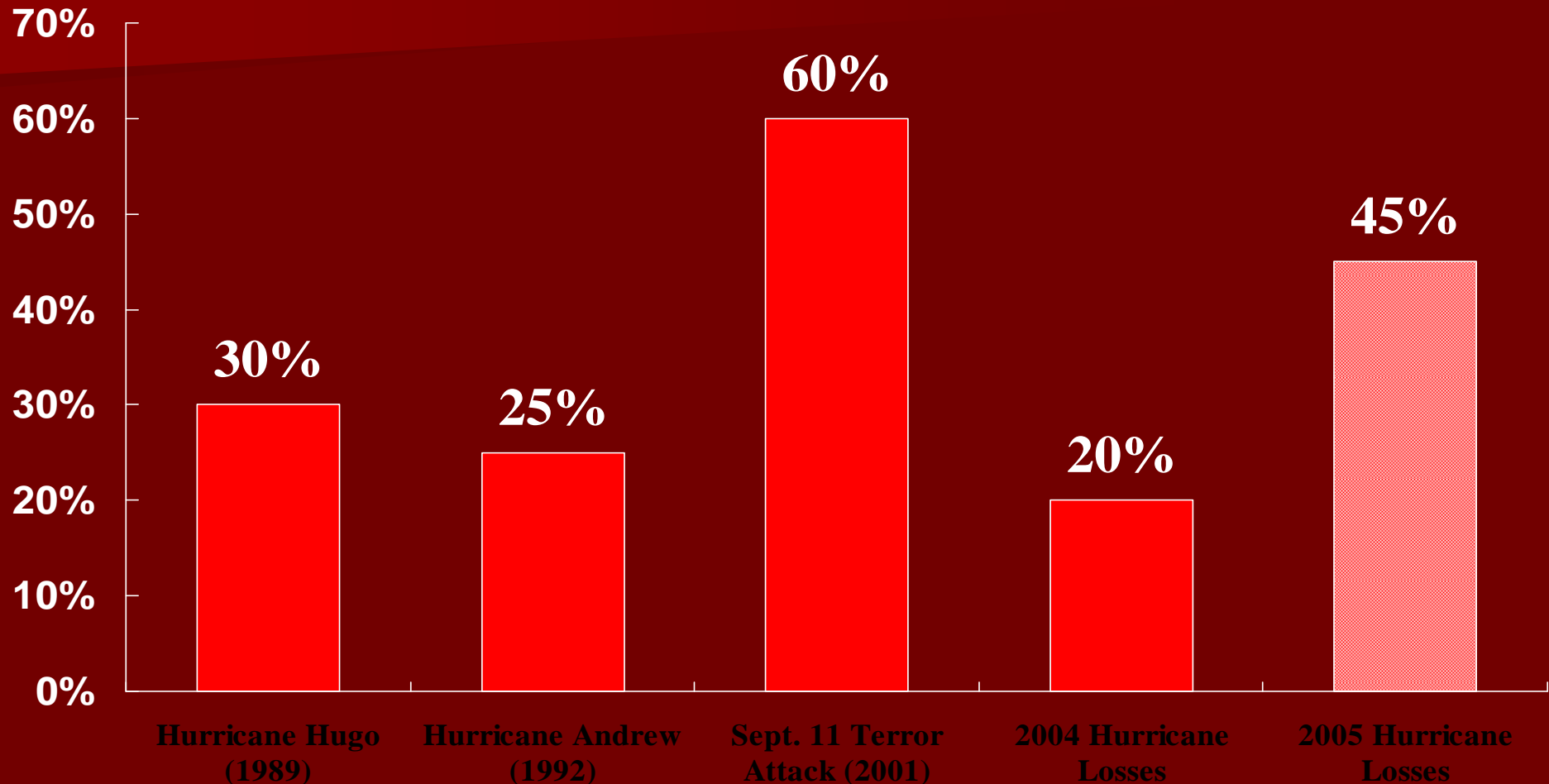
The Role of Reinsurance

- Reinsurance is the main financial vehicle for cat risk from primary insurers to the capital markets
- Reinsurance rates are not subject to the same level of regulation as primary insurance rates
- Reinsurance rates are market driven
 - Cost of capital / Return on Equity
 - Opportunity Costs

The Role of Reinsurance

- Lots of types of reinsurance contracts
- Hard to tell from one event to the next what the cost share will be between primary insurers and reinsurers

Share of Losses Paid by Reinsurers, by Disaster*



*Excludes losses paid by the Florida Hurricane Catastrophe Fund. FHCF payments to insurers are estimated at \$3.85 billion for 2004 and \$4.5 billion for 2005.

Sources: Wharton Risk Center, Disaster Insurance Project; Insurance Information Institute.

The Role of Reinsurance

- Reinsurance rates have been highly cyclical/volatile/???
- Primary insurers feel the squeeze between regulated rates and market driven reinsurance rates
- FL responds with the Cat Fund

Insurance Industry: Capital Markets

The Holy Grail of Capital

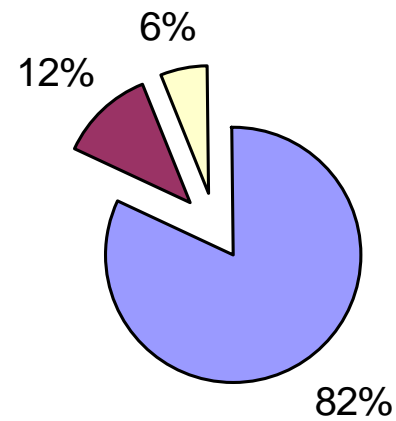
- It's all relative...the amount of capital needed to support catastrophe risk is relatively small compared to the aggregate capital market exposures
- Find the right financial instrument to link catastrophe exposure to capital market investors
- Surprise...the Holy Grail appears to be elusive.

Overview of Cat Instruments

	Cat Bond	Derivative / Swap / Other	ILWs	Contingent Capital	Sidecar*
Purpose	Transfer	Transfer	Transfer	Post-Event Capital	Post-Event Capital
Trigger	All (Index, Indem., Para.)	Index	Index	All	Indemnity
Counterparty Credit Risk	Minimal / Credit Swap	Collateral	Collateral	Pre-funding provisions	Collateral
Deal Size	Large	Smaller	Smaller	Large	Large
Liquidity Risk	Minimal	High	High	High	High

Money Still Comes from Reins

Catastrophe Capital



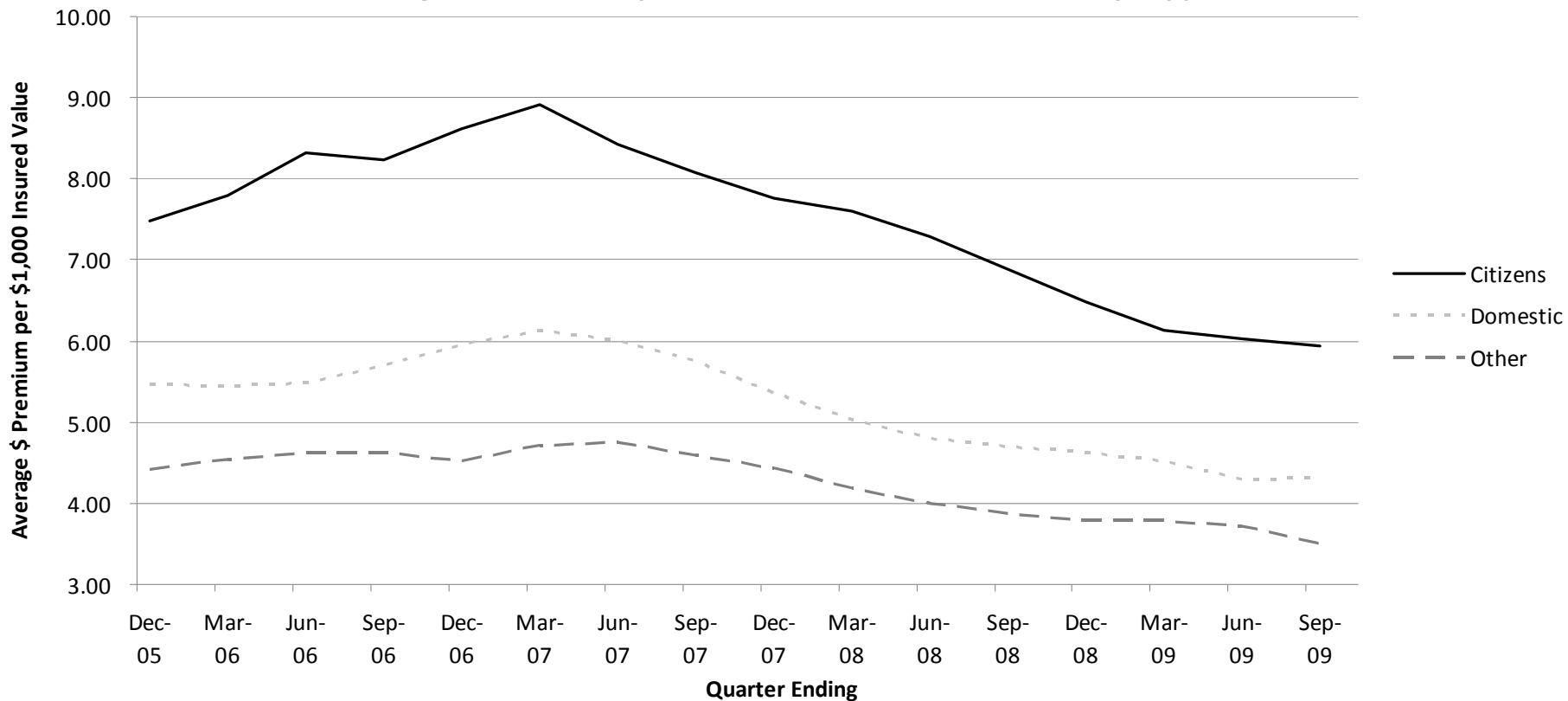
■ Traditional Reinsurance ■ ILW ■ Cat Bonds

Government Involvement: Regulation, Citizens and the Cat Fund

Regulation

- Incentives for FL domestic insurers (capital start-up, MGA rules, take-out incentives)
- Series of legislative and regulatory rulings (HB1A, Citizens rate freeze, mitigation credits,...)
- Have all led to rate degradation in FL

Florida Personal Residential Property Insurance Trend in Average Premium per \$1,000 Insured Value by Type of Insurer

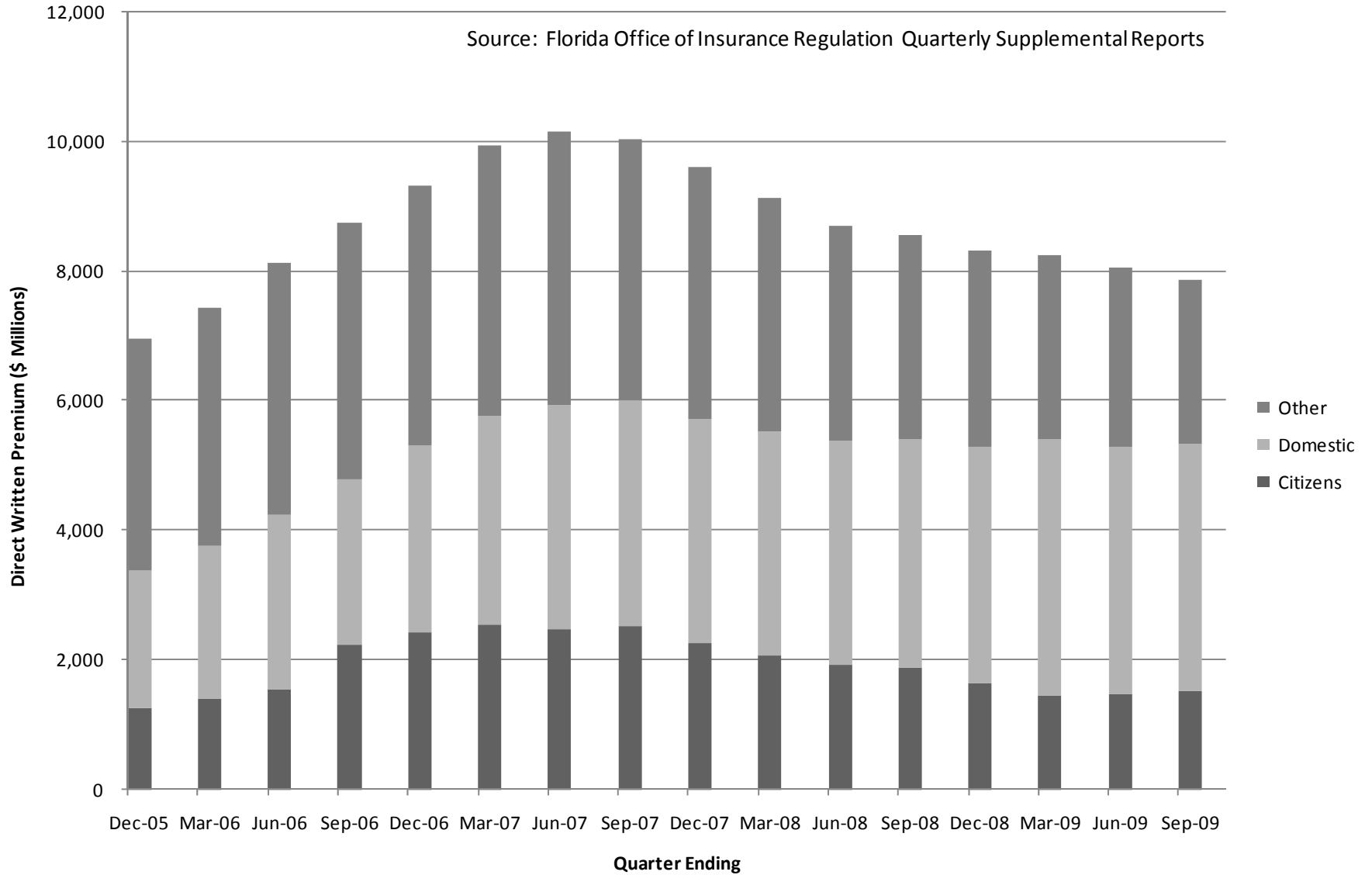


Citizens

- No longer the residual market “insurer of last resort” -- competitive with private market
- In some counties, the only market in town
- Rates are below actuarial indications in many territories
- On a “glidepath” to actuarially sound rates
- Now approx. 20% market share

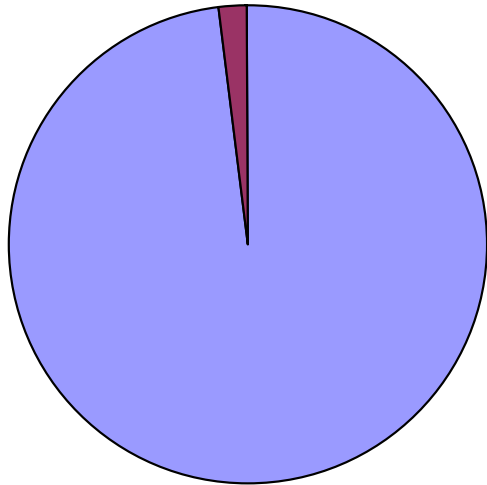
Florida Personal Residential Property Insurance Trend in Direct Written Premium by Type of Insurer

Source: Florida Office of Insurance Regulation Quarterly Supplemental Reports



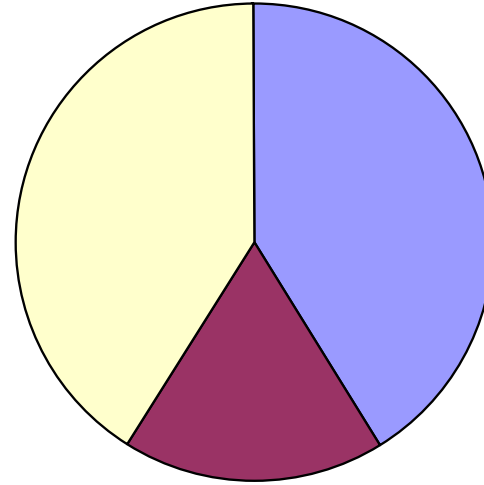
Then & Now

Market Share 1991



■ National Insurers ■ Residual Market

Market Share 2010



■ National Insurers ■ Citizens ■ Domestic Insurers

The Cat Fund

- Florida's reinsurance provider
- Mandatory layers of coverage for primary insurers selling property coverage in FL
- Optional layers as well
- Well below private market rates
- Idea is that insurer's can pass reinsurance savings on to insureds in the form of lower rates

Fundamental Shift in Funding Philosophy

Pre-loss vs. Post-loss Financing

Post-Loss Financing

- Citizens, The Cat Fund, The Guaranty Fund all have the ability to assess property/casualty policyholders in Florida in the event that they face a deficit.
- Citizens and the Cat Fund do not need to collect enough money in premiums to pay expected losses
- They can issue debt and pay off that debt through the assessment process

Post-Loss Financing

- Scenario #1 – Series of smaller storms (04-05)
 - Citizens - \$4 B deficit
 - Cat Fund - \$15 B deficit
- Scenario #2 – 1-in-100 year storm
 - Citizens - \$10 B deficit
 - Cat Fund - \$24 B deficit
- Deficits paid by assessing all P/C policyholders in the state of FL

Question we began with...

- "Who's Gonna Pay?"
- Internal Capital is replacing External Capital in the funding of Cat Risk in FL
- Current Answer: Citizens of Florida
 - Premiums
 - Assessments

Questions that eventually need to be answered

- What is the optimal public/private mix?
- Do Floridians understand the system as it currently is structured?
- What incentives does the current system provide property owners/developers?
- What is the economic value of coastal development in relation to catastrophic storm exposure?
- What are the implications for other states with Cat Exposure?

Questions?

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