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The Legacy of Hurricane Andrew:
What Has Been Learned Over the Past 20 Years?

Florida International University

Miami, FL

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Download at www.iii.org/presentations

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Hurricane Andrew: The Legacy Lives On

- **At $15.5 Bill, Hurricane Andrew Was the Costliest Insurance Event in Global History When it Occurred in 1992 ($25 Bill in 2011 $)**
  - **Andrew held that title until the Sept. 11, 2001 terrorist attacks ($24 bill in 2011 $)**
  - **Most expensive natural disaster until Hurricane Katrina ($47.6 bill in 2011 $)**
- **Hurricane Andrew Was the Most Disruptive Event in US Insurance History**
  - **11 small insurers failed (FL, LA); resources of many large insurers were strained**
- **Hurricane Andrew Fundamentally and Irrevocably Changed How Insurers and Reinsurers Manage Catastrophic Risk in the US and Globally**
- **Insurance Markets Changes Occurring in the 20 Years Since Andrew:**
  - **More Carefully Managed Coastal Exposure (and for cat exposure in general)**
  - **Capital Base (Capacity) of Global (Re)Insurance Industry Greatly Expanded**
  - **More Use of Reinsurance**
  - **Birth and Rapid Evolution of Sophisticated Catastrophe Modeling**
  - **Growth of Markets Like Bermuda**
  - **Use of Capital Market Instruments (e.g., CAT Bonds)**
  - **Larger Role of Government in Insuring Coastal Risks**
  - **Strong Support for Strengthened Building Codes and Mitigation**

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Lesson Learned: Strong Building Codes, Mitigation Are Essential in Creating Disaster Resistant Communities

Hurricane Andrew Had Major Impact on Building Code Strengthening and Enforcement

Residential Building Code Ratings in Hurricane Prone States

State	Total	Adoption of code, universality, and weakening provisions	Enforcement Officials	Contractor Licensing
Florida	95	48	22	25
Virginia	95	48	24	23
New Jersey	93	49	23	21
Massachusetts	87	46	21	20
South Carolina	84	45	18	21
Connecticut	81	40	24	17
North Carolina	81	40	22	19
Rhode Island	78	44	19	15
Louisiana	73	48	15	10
Maryland	73	43	15	15
Georgia	66	31	15	20
Maine	64	33	22	9
New York	60	37	23	0
New Hampshire	49	39	0	10
Alabama	18	0	0	18
Texas	18	18	0	0
Delaware	17	4	0	13
Mississippi	4	0	0	4

IBHS rankings were weighted based on the following variables:

- *50 percent for variables that relate to adoption and enforcement of building codes;*
- *25 percent for variables that measure code official certification and training; and*
- *25 percent for variables that relate to on-site implementation, as measured by contractor and subcontractor licensing.*

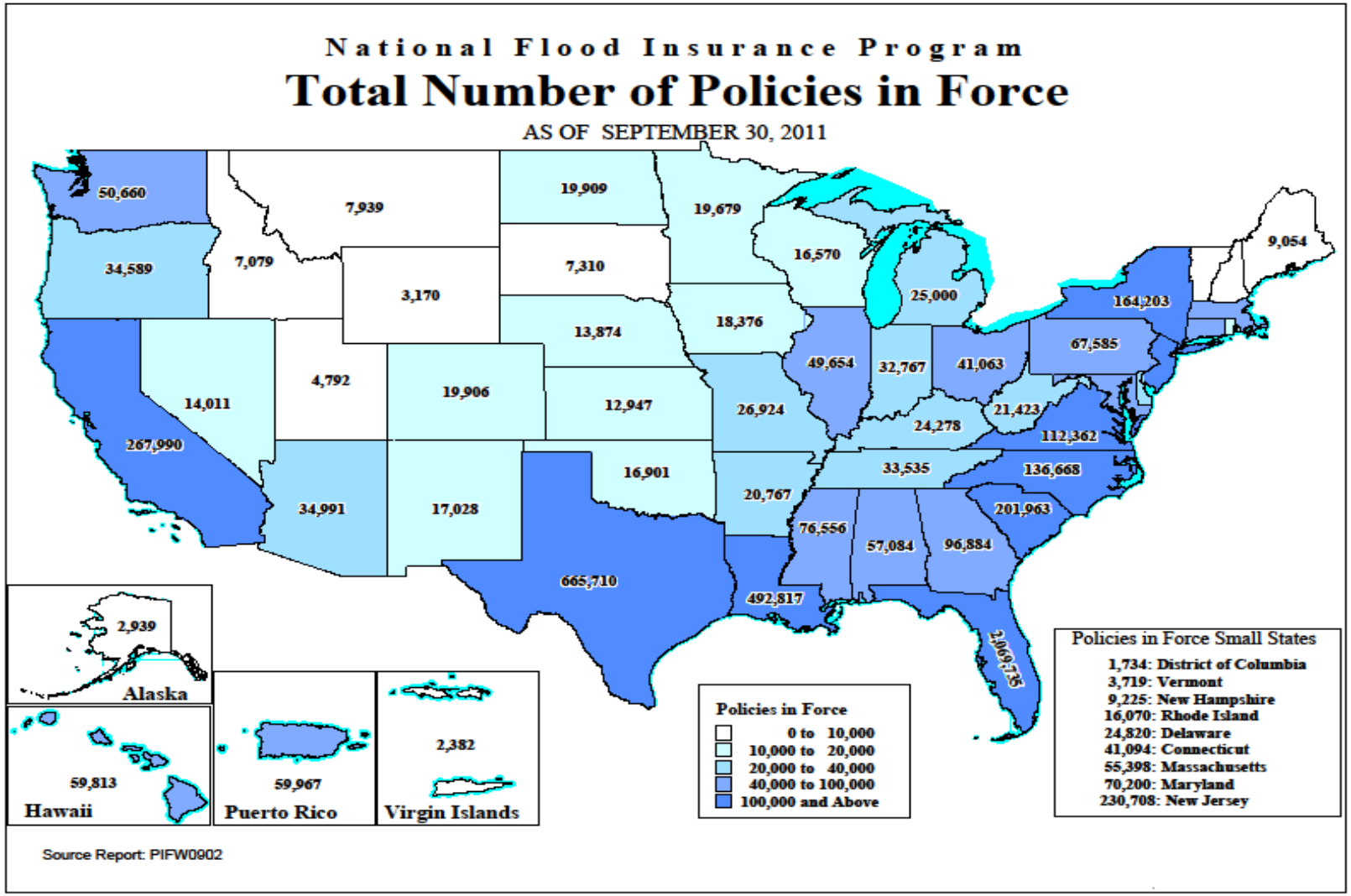
Florida and Virginia were the top ranked states in terms preparedness of residential structures against hurricane damage

Despite catastrophic losses from Hurricane Katrina in 2005, MS still has no statewide building code, putting it dead last in the US;

AL and TX rank poorly as well despite major post-Andrew storms

Source: *Rating the States,* Dec. 31, 2011, Insurance Institute for Business and Home Safety; Insurance Information Institute.

Florida Leads the US with 2.1 Million NFIP Policies in Force*



*As of Sept. 30, 2011

Source: National Flood Insurance Program; Insurance Information Institute.

Insurance Industry Invests Millions in Property Loss Reduction Research

In 2010, the Insurance Institute for Business and Home Safety Research Center Opened in Chester County, SC. The $40 Million Facility Is Entirely Funded by the Insurance Industry and Its Mission Is to Conduct Research to Reduce Property Loss from a Variety of Perils, Including Hurricanes

Source: Insurance Information Institute from IBHS web site: http://ofb.ibhs.org/research

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Lesson NOT Learned: The US Is More Vulnerable than Ever to Catastrophic Hurricane Loss

Hurricane Andrew Had Zero Effect in Terms of Diminishing Demand for At-Risk Property

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U.S. Insured Catastrophe Loss Update

2011 Was One of the Most Expensive Years on Record

Top 14 Most Costly Disasters in U.S. History

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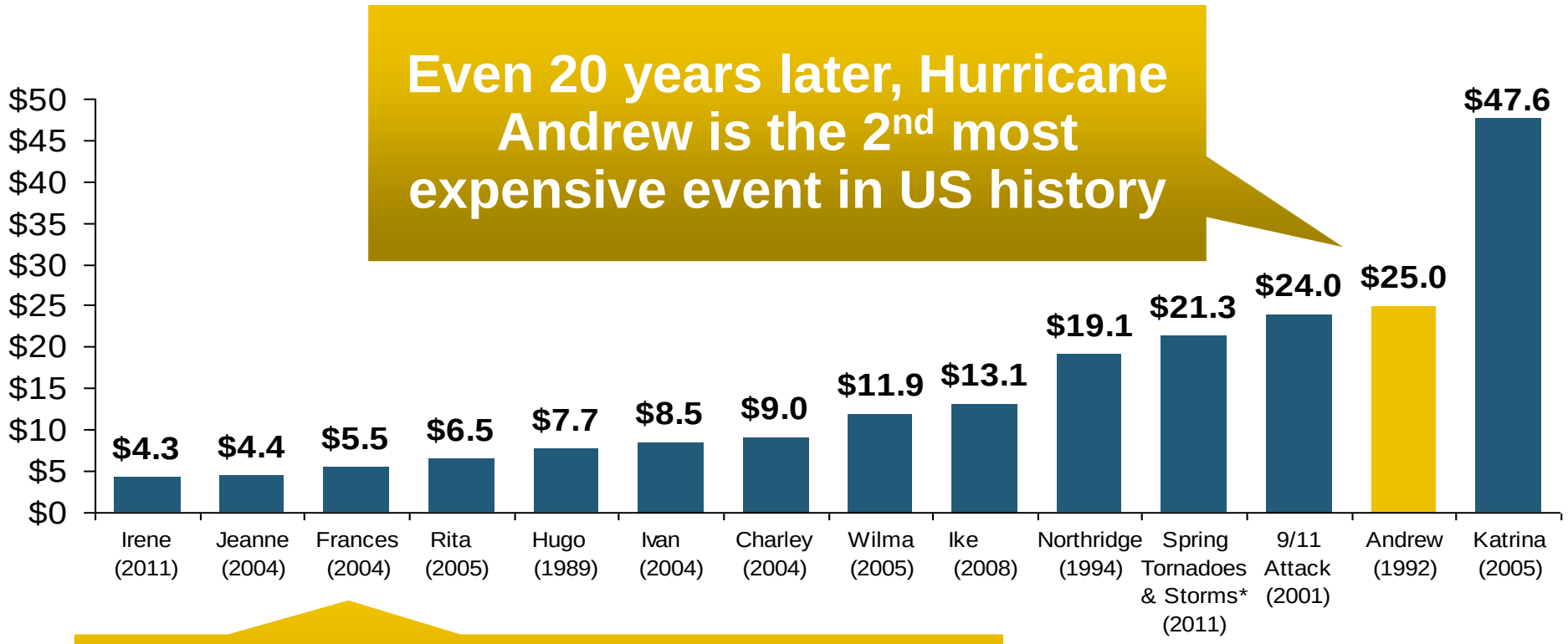
(Insured Losses, 2011 Dollars, $ Billions)

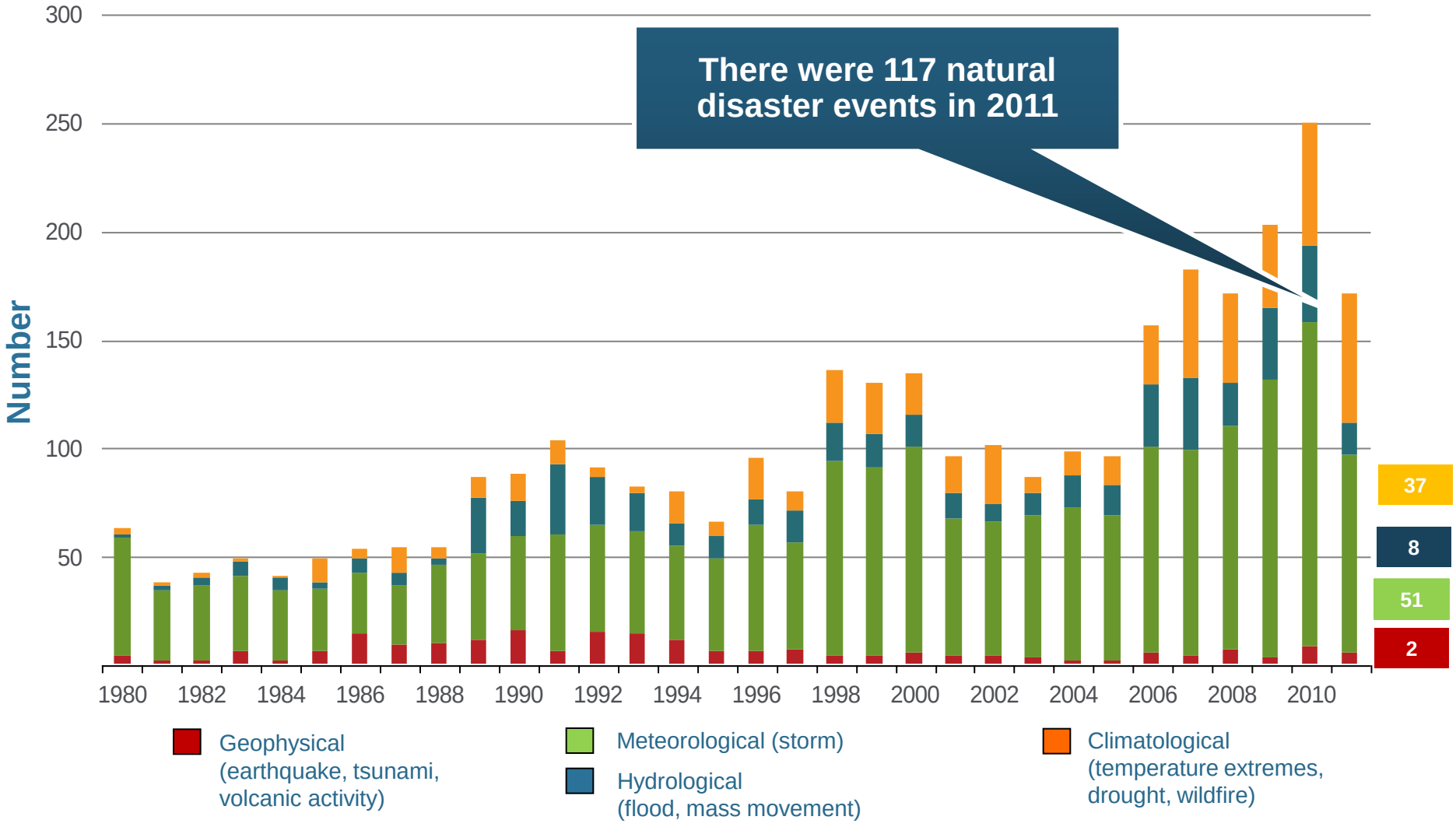


Most of the costliest disaster in US history were hurricanes, most impacting FL

*Losses will actually be broken down into several "events" as determined by PCS. Includes losses for the period April 1 – June 30.
Sources: PCS; Insurance Information Institute inflation adjustments.

Natural Disasters in the United States, 1980 – 2011

Number of Events (Annual Totals 1980 – 2011)



Source: MR NatCat*SERVICE*

Losses Due to Natural Disasters in the US, 1980–2011 (Overall & Insured Losses)

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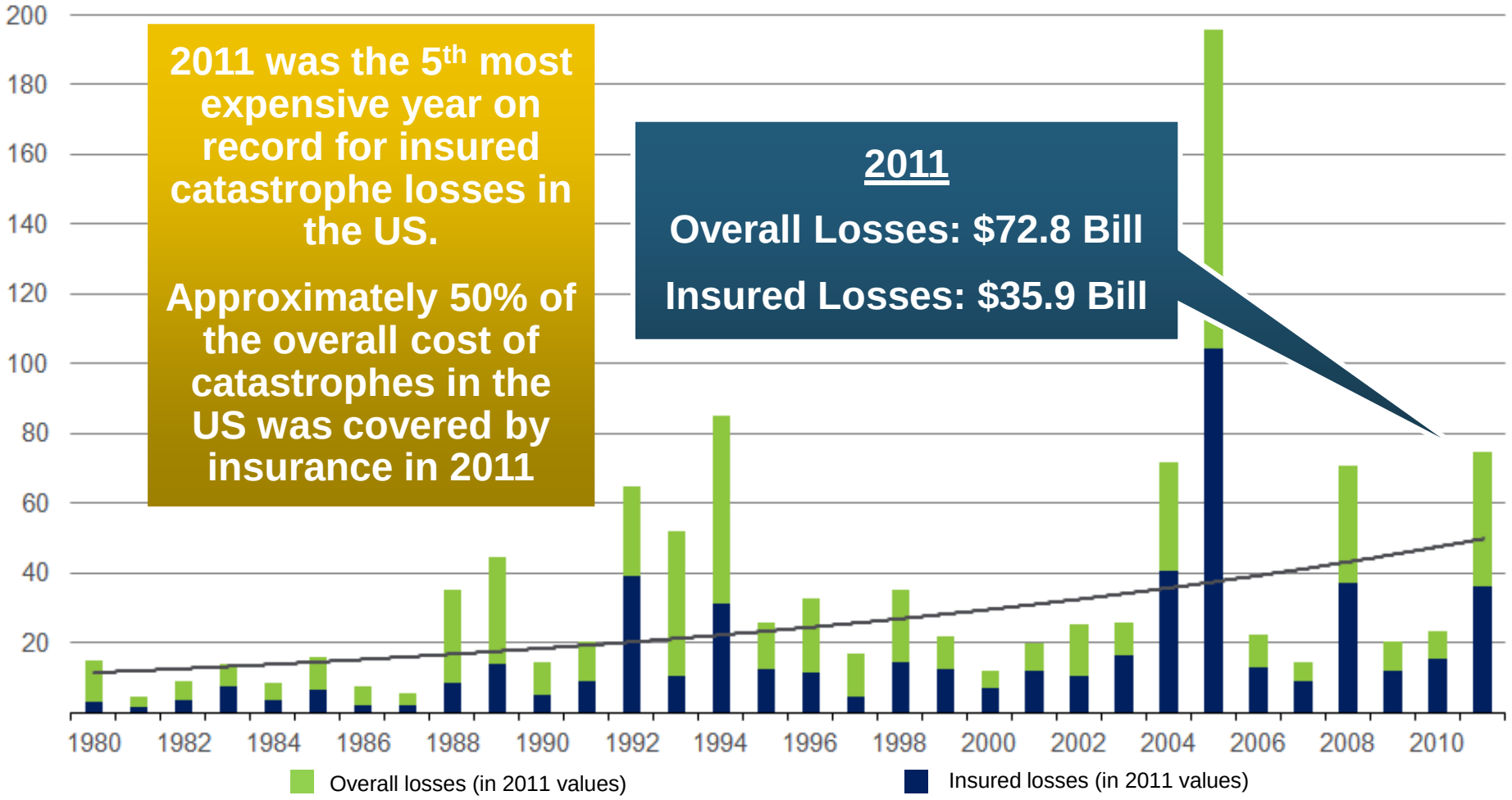
(Overall and Insured Losses)

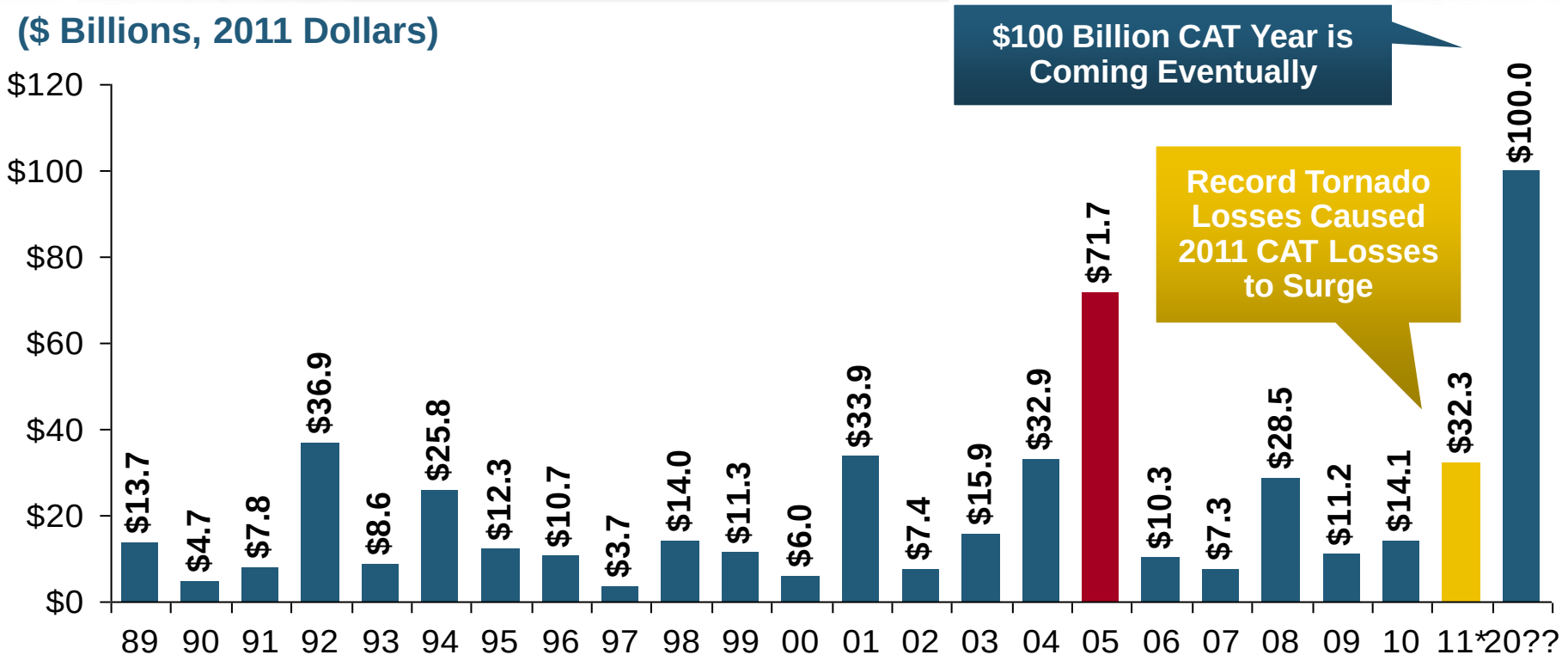
(2011 Dollars, $ Billions)



Source: MR NatCat*SERVICE*

US Insured Catastrophe Losses

($ Billions, 2011 Dollars)



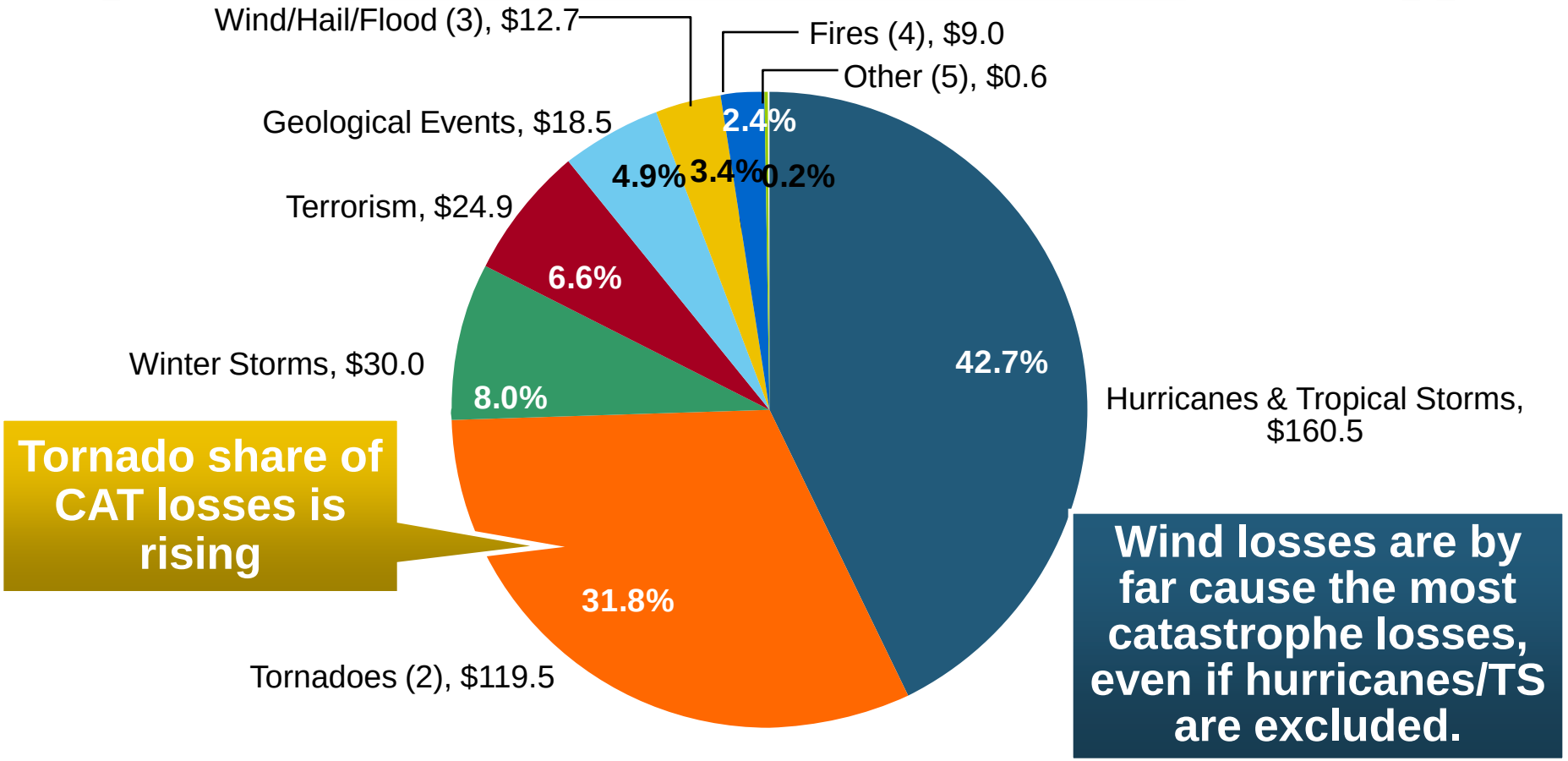
US CAT Losses in 2011 Were the 5th Highest in US History on An Inflation Adjusted Basis

*PCS figure as of April 6, 2012.

Note: 2001 figure includes $20.3B for 9/11 losses reported through 12/31/01 ($25.9B 2011 dollars). Includes only business and personal property claims, business interruption and auto claims. Non-prop/BI losses = $12.2B ($15.6B in 2011 dollars.)

Sources: Property Claims Service/ISO; Insurance Information Institute.

Inflation Adjusted U.S. Catastrophe Losses by Cause of Loss, 1990–2011:H1[1]

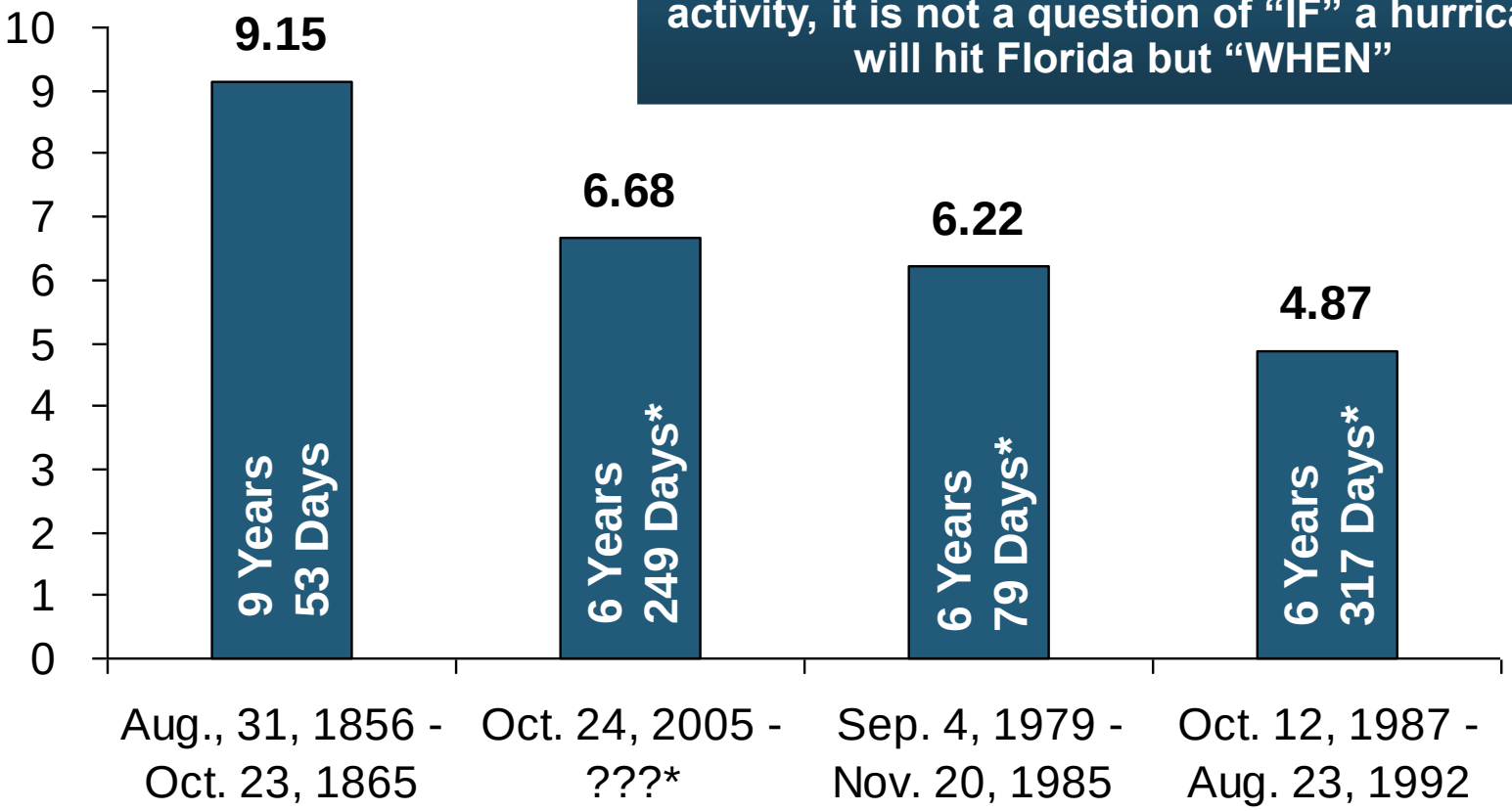


1. Catastrophes are defined as events causing direct insured losses to property of $25 million or more in 2009 dollars.
2. Excludes snow.
3. Does not include NFIP flood losses
4. Includes wildland fires
5. Includes civil disorders, water damage, utility disruptions and non-property losses such as those covered by workers compensation.

Source: ISO's Property Claim Services Unit.

Florida's Longest Span Between Hurricanes

The current hurricane dry spell is the second longest in recorded history. Despite recent low activity, it is not a question of "IF" a hurricane will hit Florida but "WHEN"



*As of June 30, 2012

Source: USA Today, 6/26/12. from flhurricane.com; Insurance Information Institute.

RNW Homeowners: FL vs. U.S., 1990-2010

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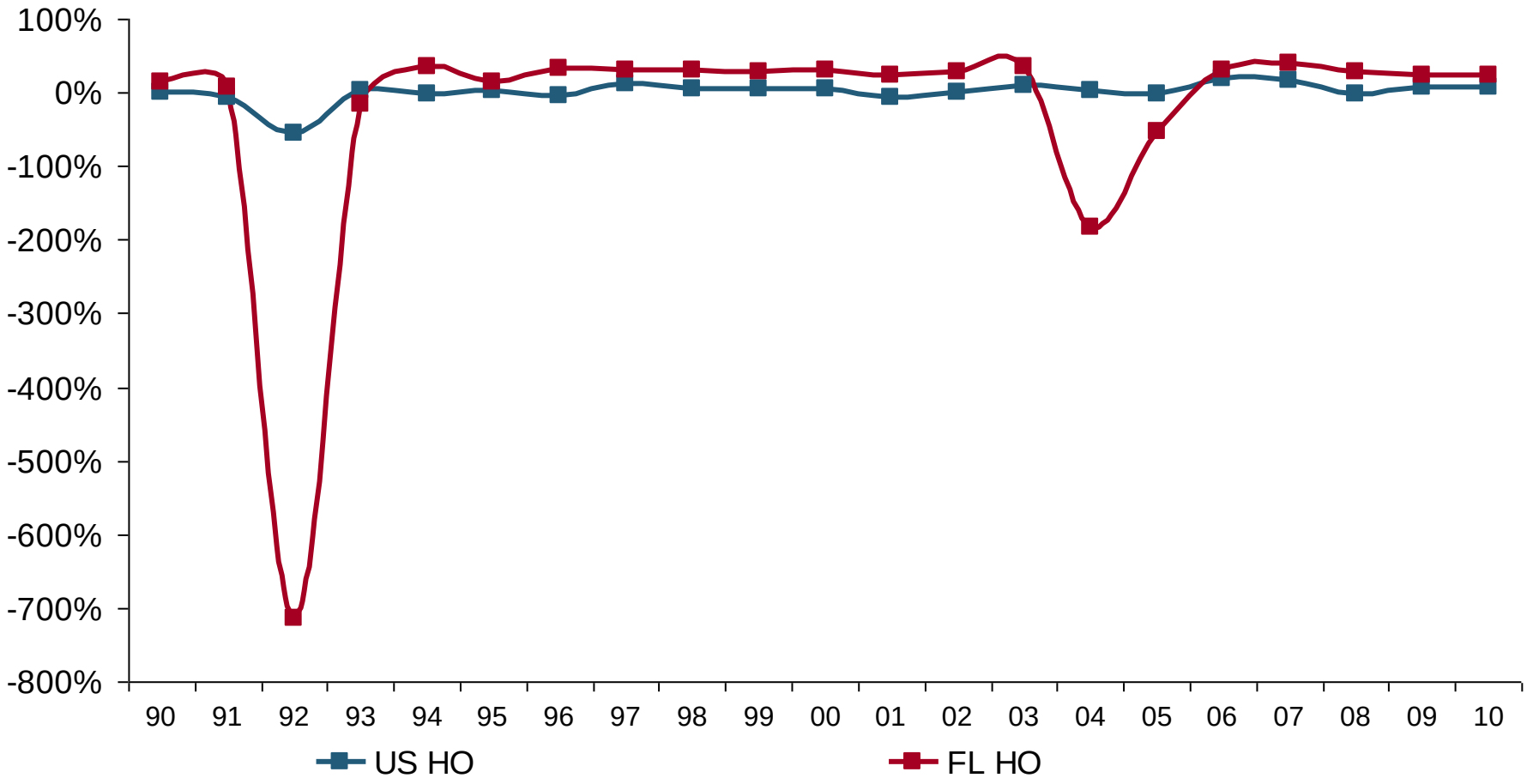
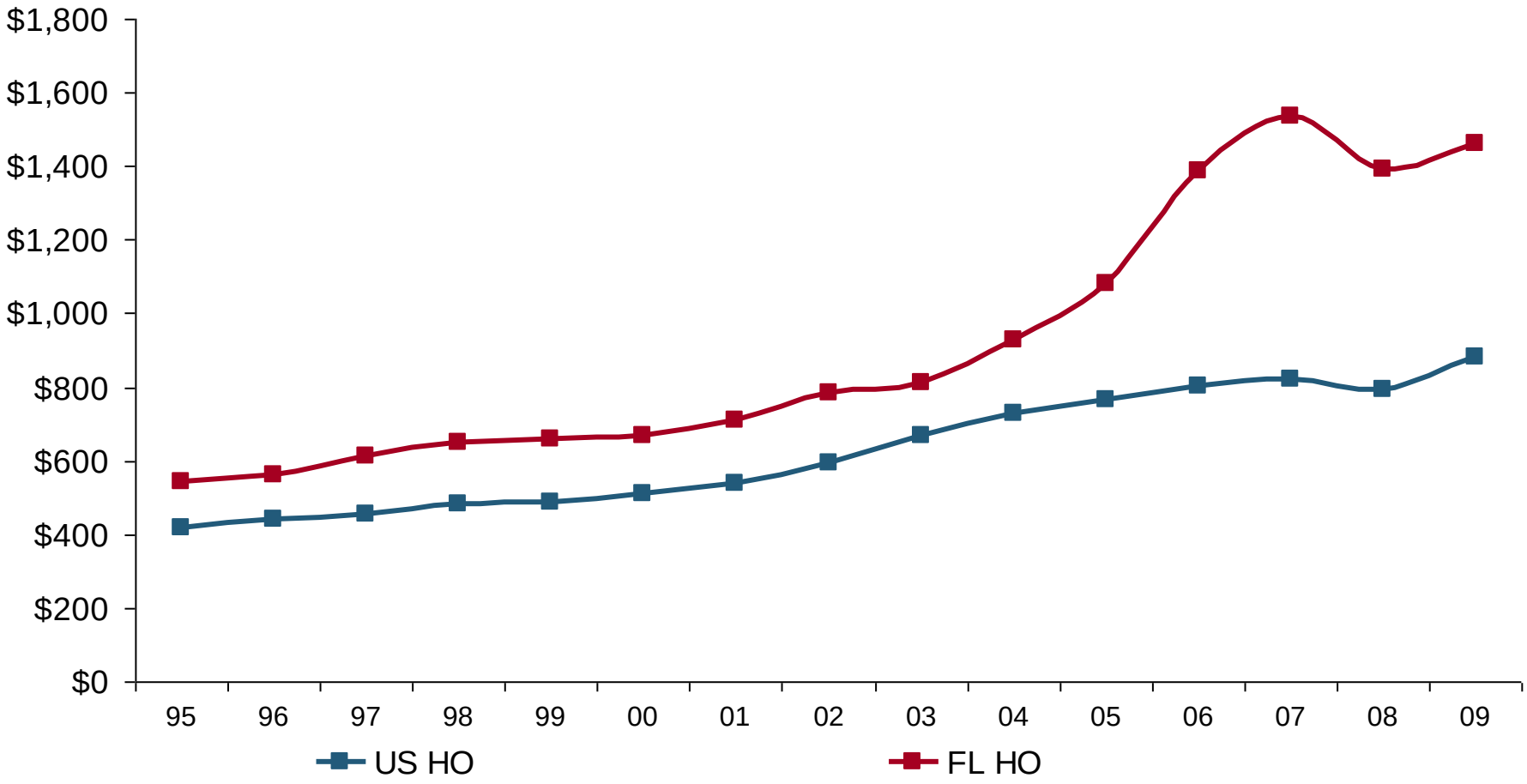
(Percent)



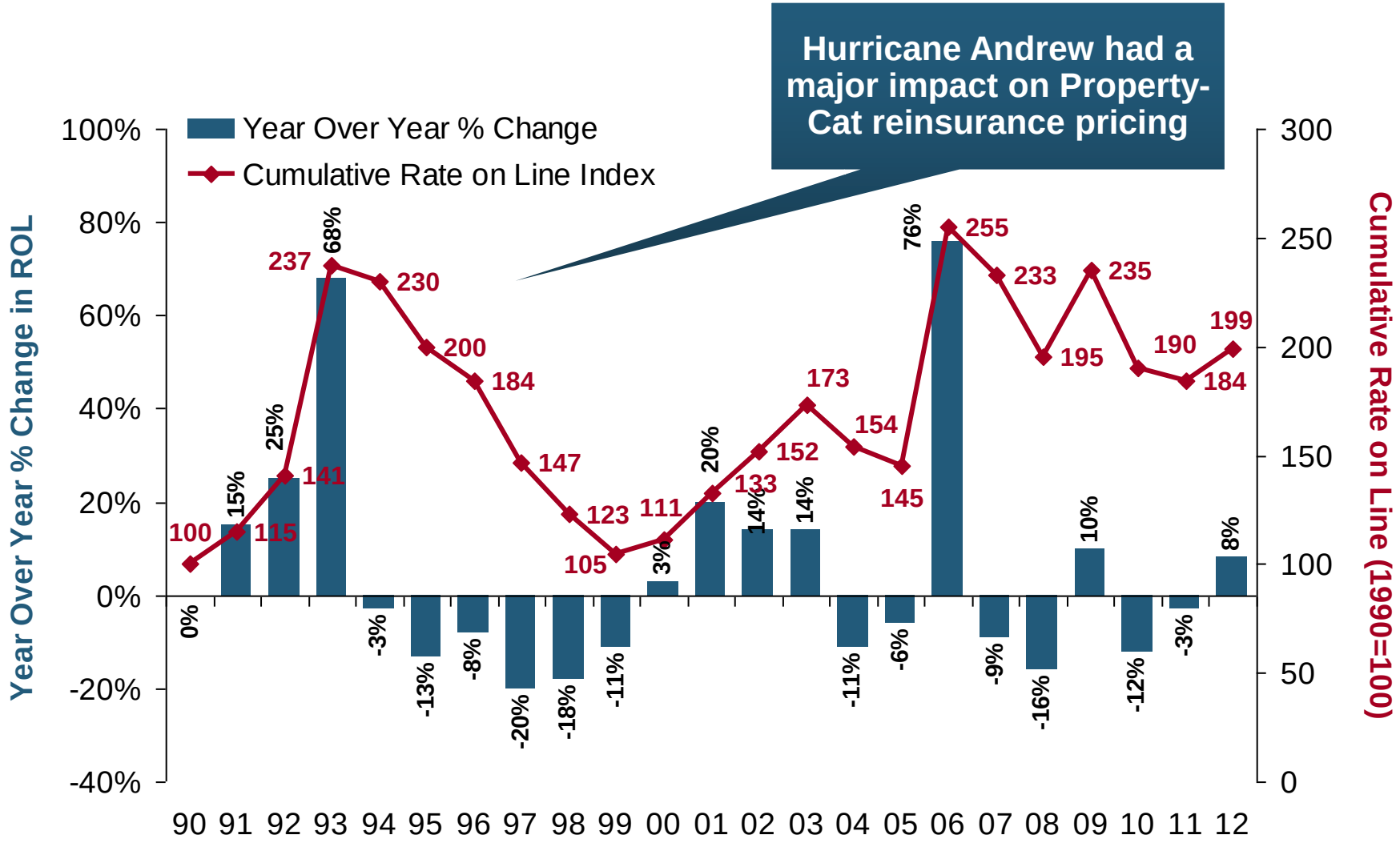
Sources: NAIC.

Homeowners Average Expenditure: FL vs. U.S., 1995-2009



Sources: NAIC.

Global Property Catastrophe Rate on Line Index, 1990—2012 (as of Jan. 1)



Sources: Guy Carpenter; Insurance Information Institute.

2011 Property and Casualty Insurance Regulatory Report Card

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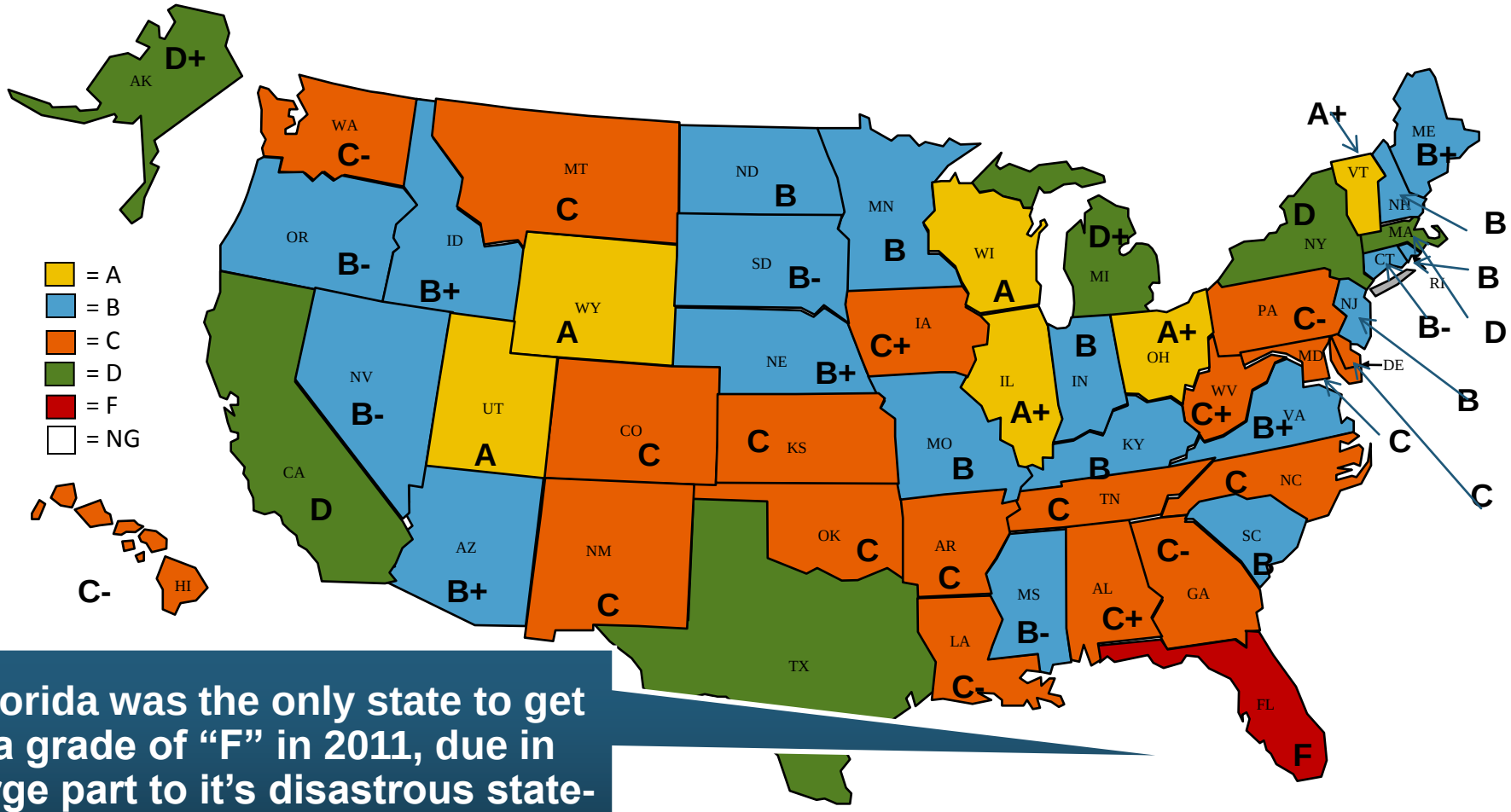

Florida was the only state to get a grade of "F" in 2011, due in large part to it's disastrous state-run (re)insurance programs

Not Graded: District of Columbia

Source: R Street Institute, June 2012.

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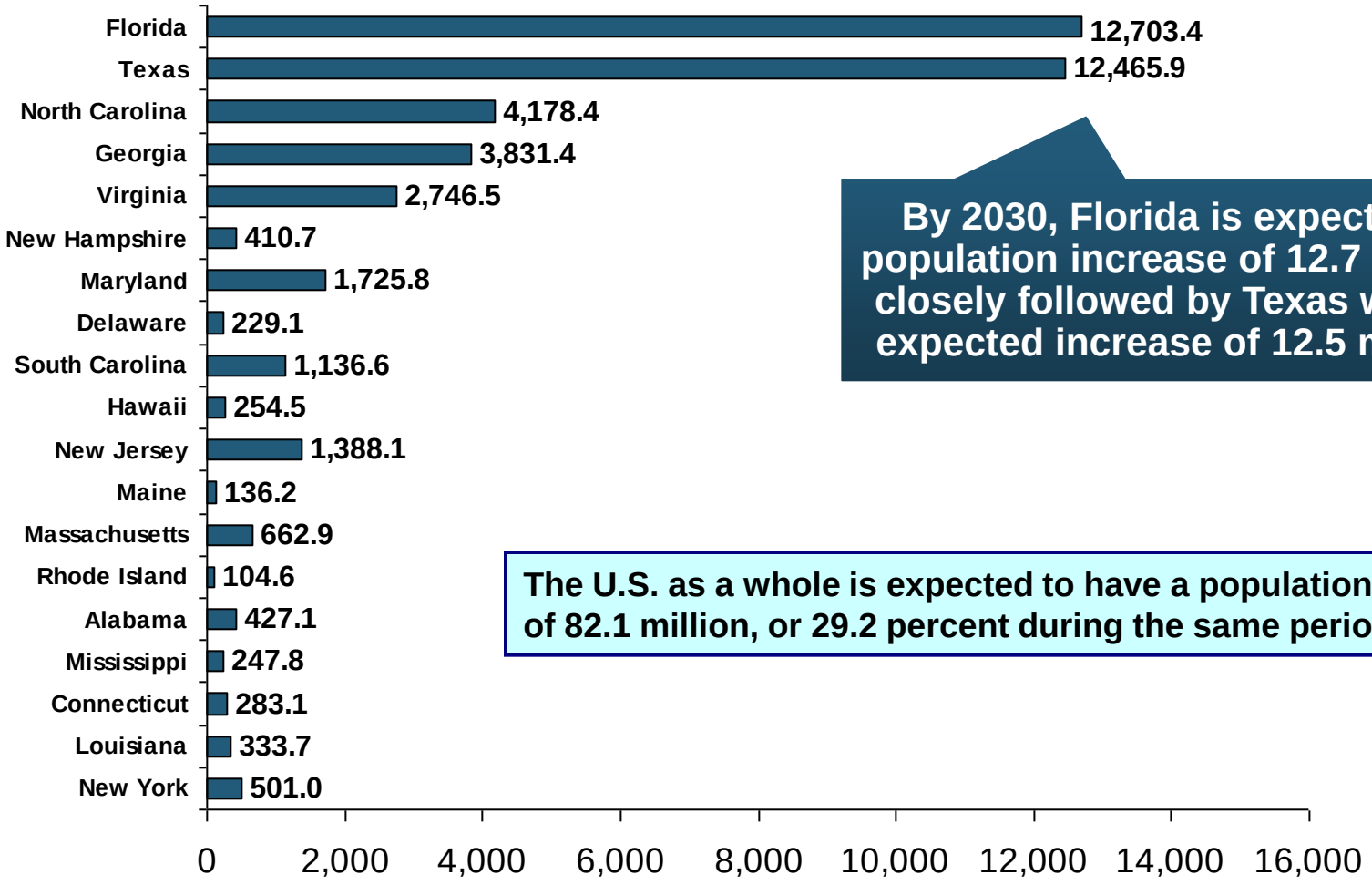
Coastal Residual Market Exposure

State-Run Coastal Plans Surged With Population Growth in Exposed States; Growth Continues

Population Growth Projections for Hurricane Exposed States (2000 to 2030) (000s)

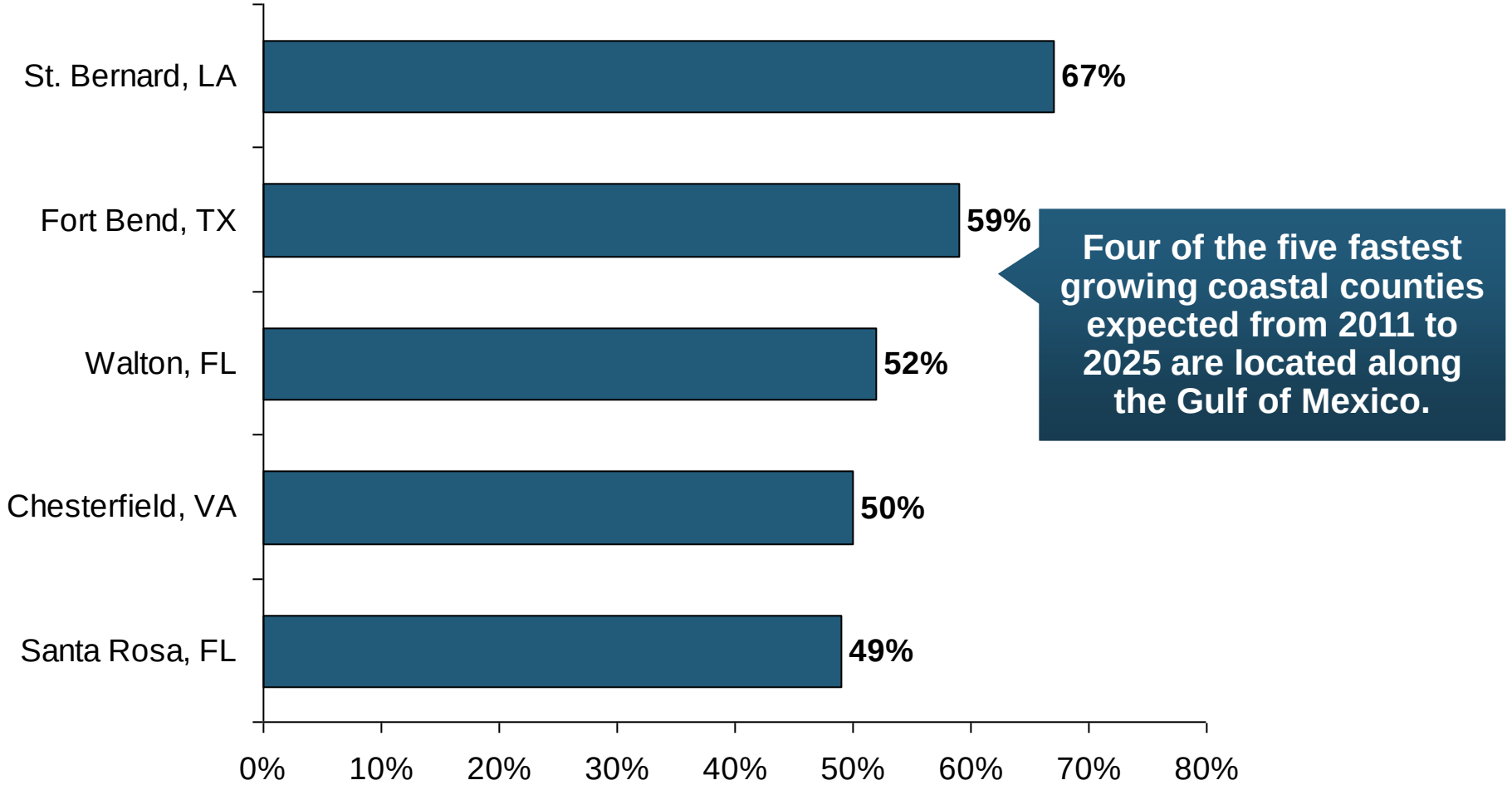


By 2030, Florida is expecting a population increase of 12.7 million, closely followed by Texas with an expected increase of 12.5 million.

The U.S. as a whole is expected to have a population increase of 82.1 million, or 29.2 percent during the same period.

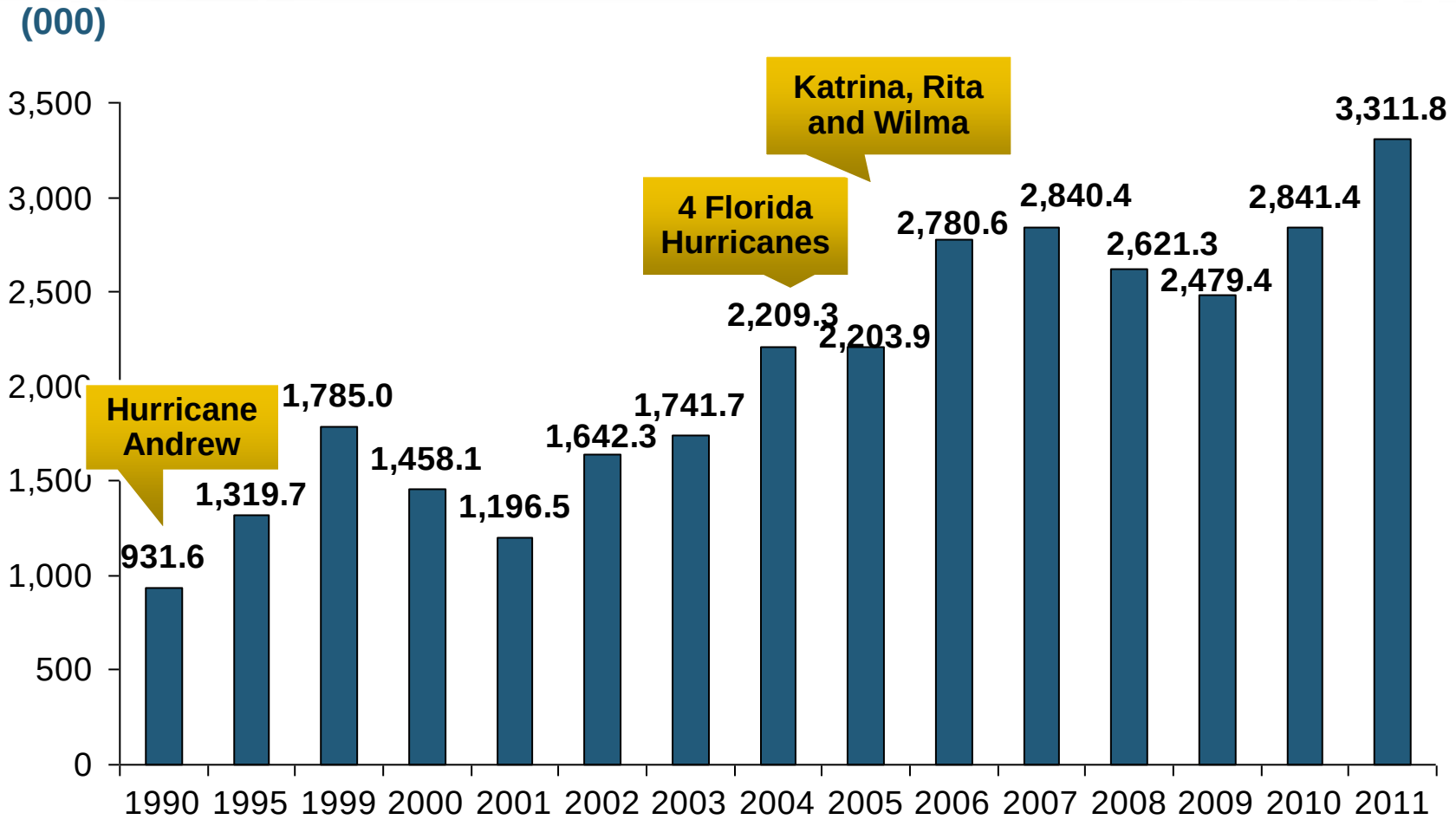
Source: U.S. Census Bureau, accessed at http://www.census.gov/population/projections/PressTab1.xls

Leading Coastal Counties In Projected Population Change, 2011-2025



Source: NOAA State of the Coast, Woods & Poole and NOAA, 2010.

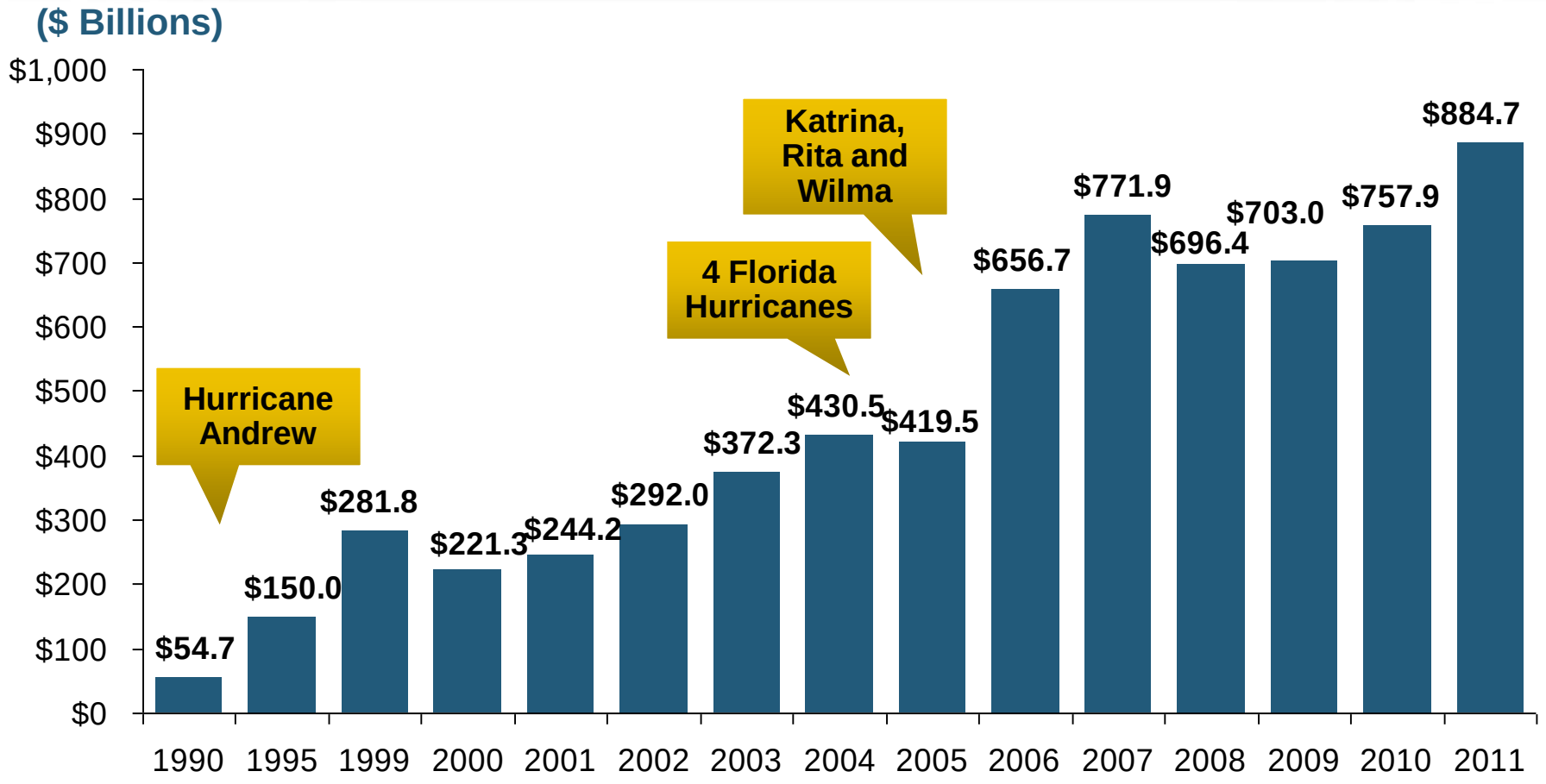
U.S. Residual Market: Total Policies In-Force (1990-2011) (000)



In the 22-year period between 1990 and 2011, the total number of policies in-force in the residual market (FAIR & Beach/Windstorm) Plans has more than tripled.

Source: PIPSO; Insurance Information Institute

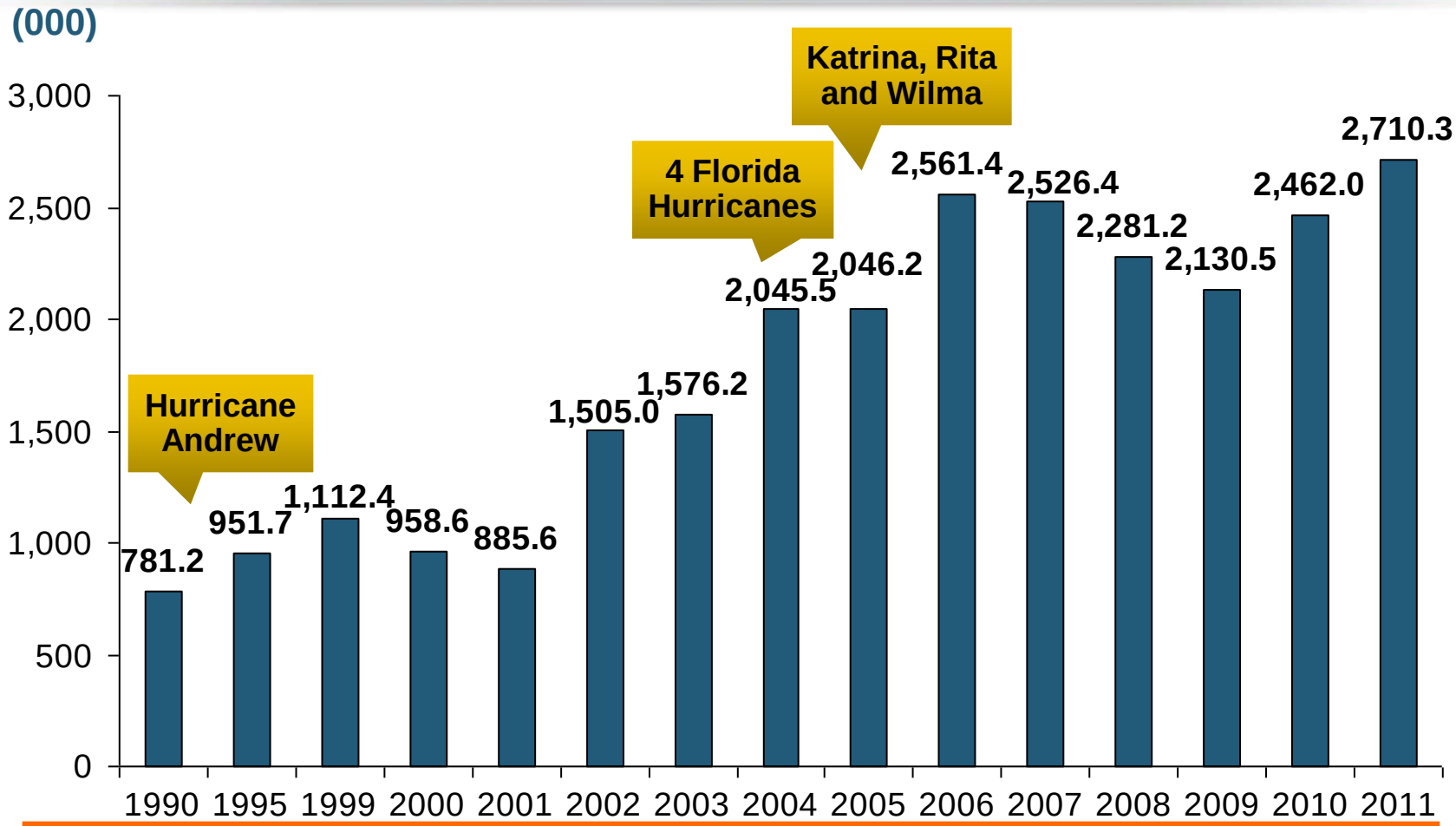
U.S. Residual Market Exposure to Loss ($ Billions)



In the 22-year period between 1990 and 2011, total exposure to loss in the residual market (FAIR & Beach/Windstorm) Plans has surged from $54.7 billion in 1990 to a record high of $884.7 billion in 2011.

Source: PIPSO; Insurance Information Institute (I.I.I.).

U.S. FAIR Plans: Total Policies In-Force (1990-2011) (000)



In the 22-year period between 1990 and 2011, the total number of policies in-force in the nation's FAIR Plans has more than tripled.

Source: PIPSO; Insurance Information Institute

U.S. FAIR Plans Exposure to Loss (Billions of Dollars)

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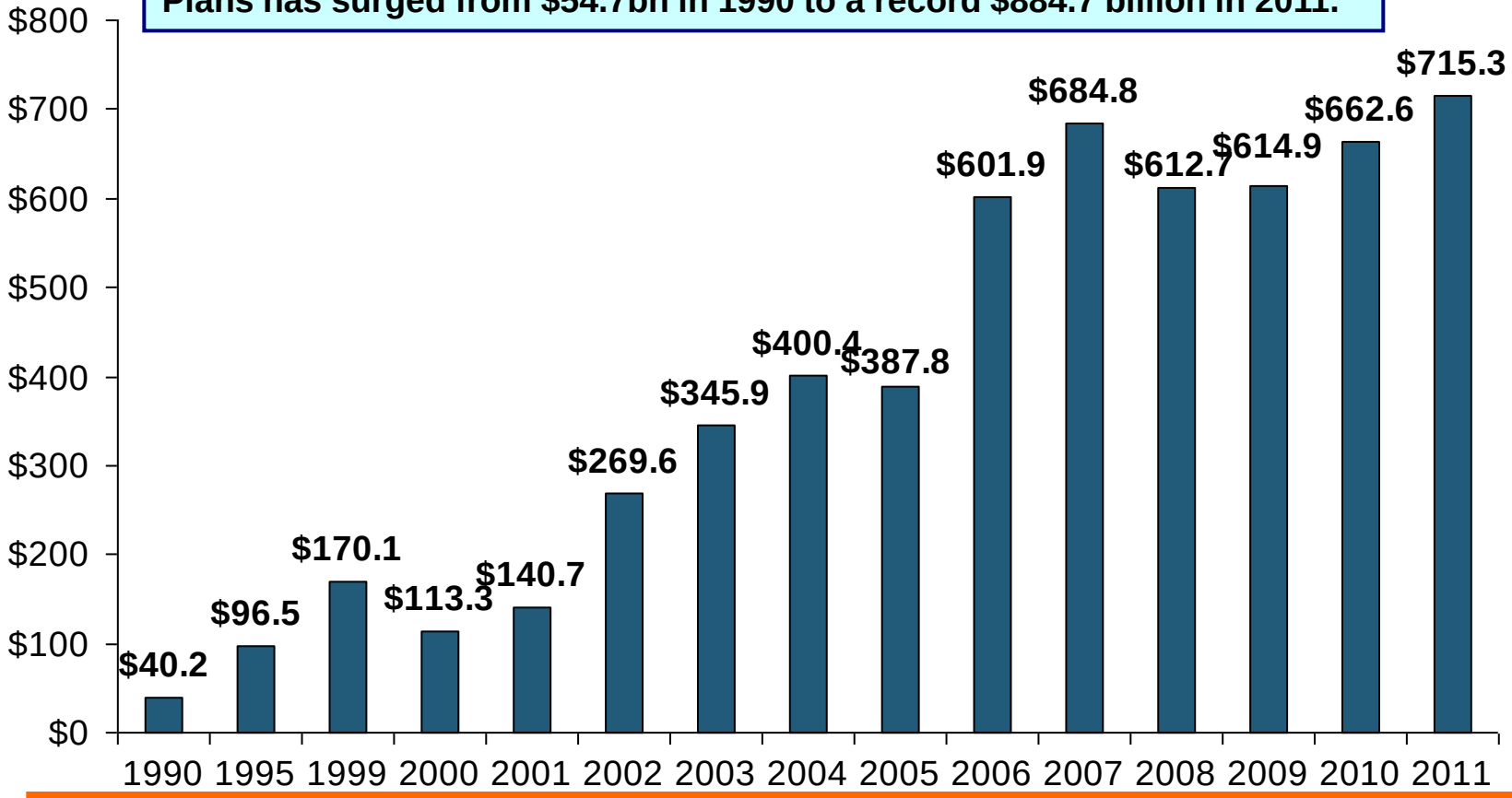
Total exposure to loss in the residual market (FAIR & Beach/Windstorm) Plans has surged from $54.7bn in 1990 to a record $884.7 billion in 2011.

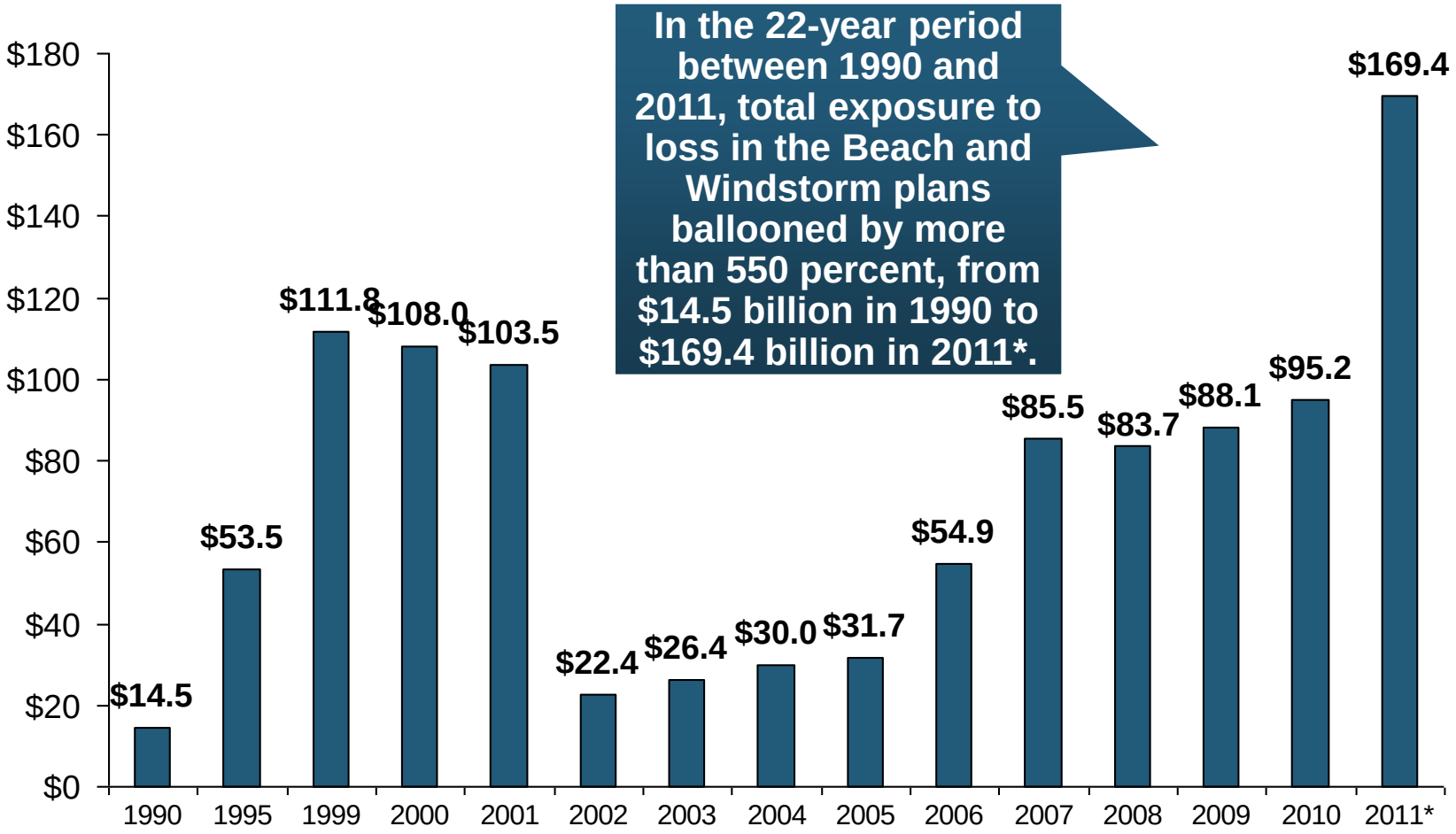


In the 22-year period between 1990 and 2011, total exposure to loss in the FAIR Plans has surged by a massive 1,679 percent from $40.2 billion in 1990 to $715.3 billion in 2011.

Source: PIPSO; Insurance Information Institute

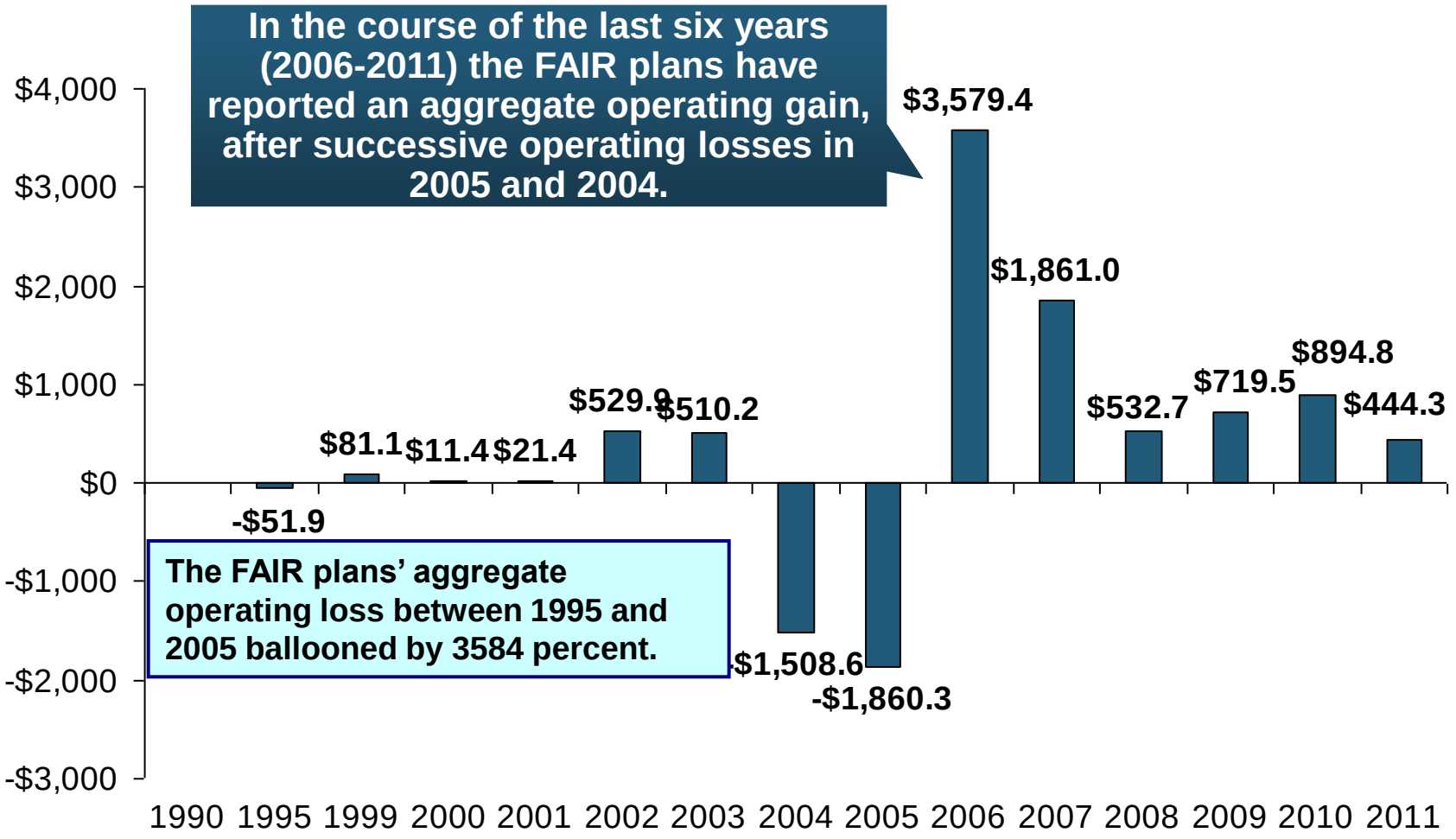
U.S. Beach and Windstorm Plans Exposure to Loss (Billions of Dollars)

In 2002 Florida combined its Windstorm and Joint Underwriting Association to create Florida Citizens, so Florida data shifted to the FAIR plans from this date.



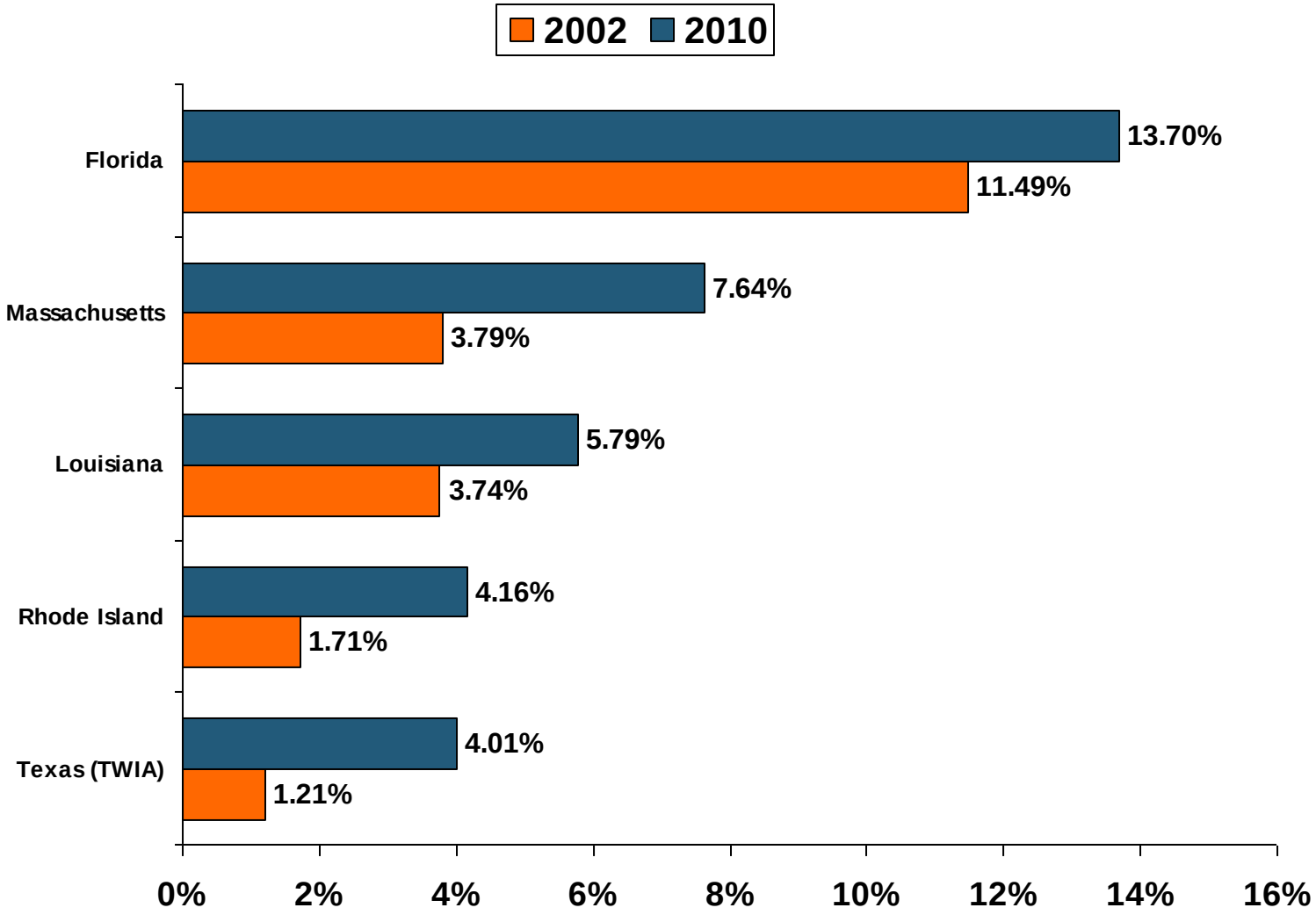
*PIPSO figures for 2011 include the North Carolina Beach Plan, now a member of PIPSO (as of June, 2012).
Source: PIPSO; Insurance Information Institute

FAIR Plan Operating Gains/Losses 1990-2011 (Millions of Dollars)



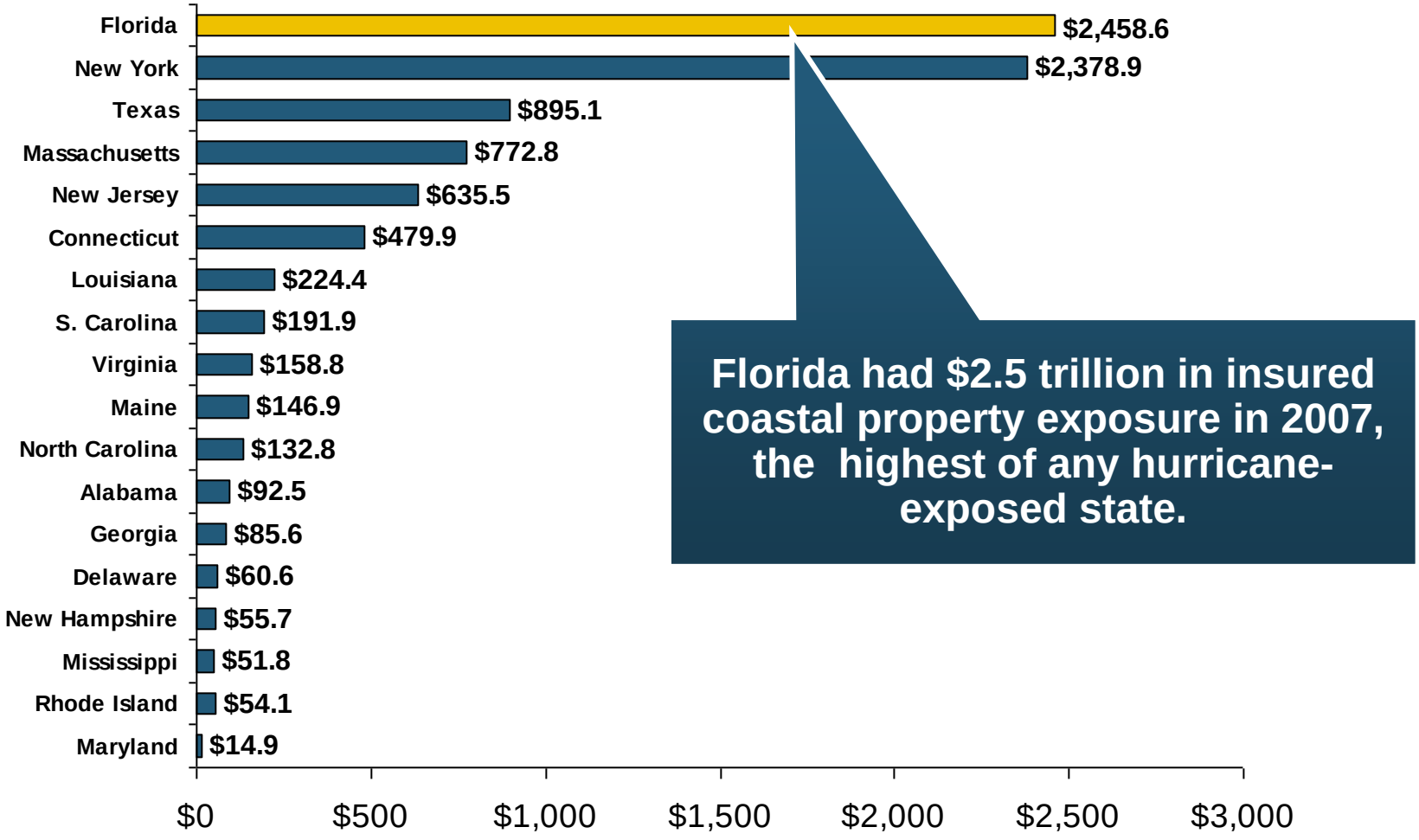
Source: PIPSO; Insurance Information Institute.

FAIR/Beach Plan Earned Premium as % of Overall Property Market (Top 5 states) 2002 vs. 2010



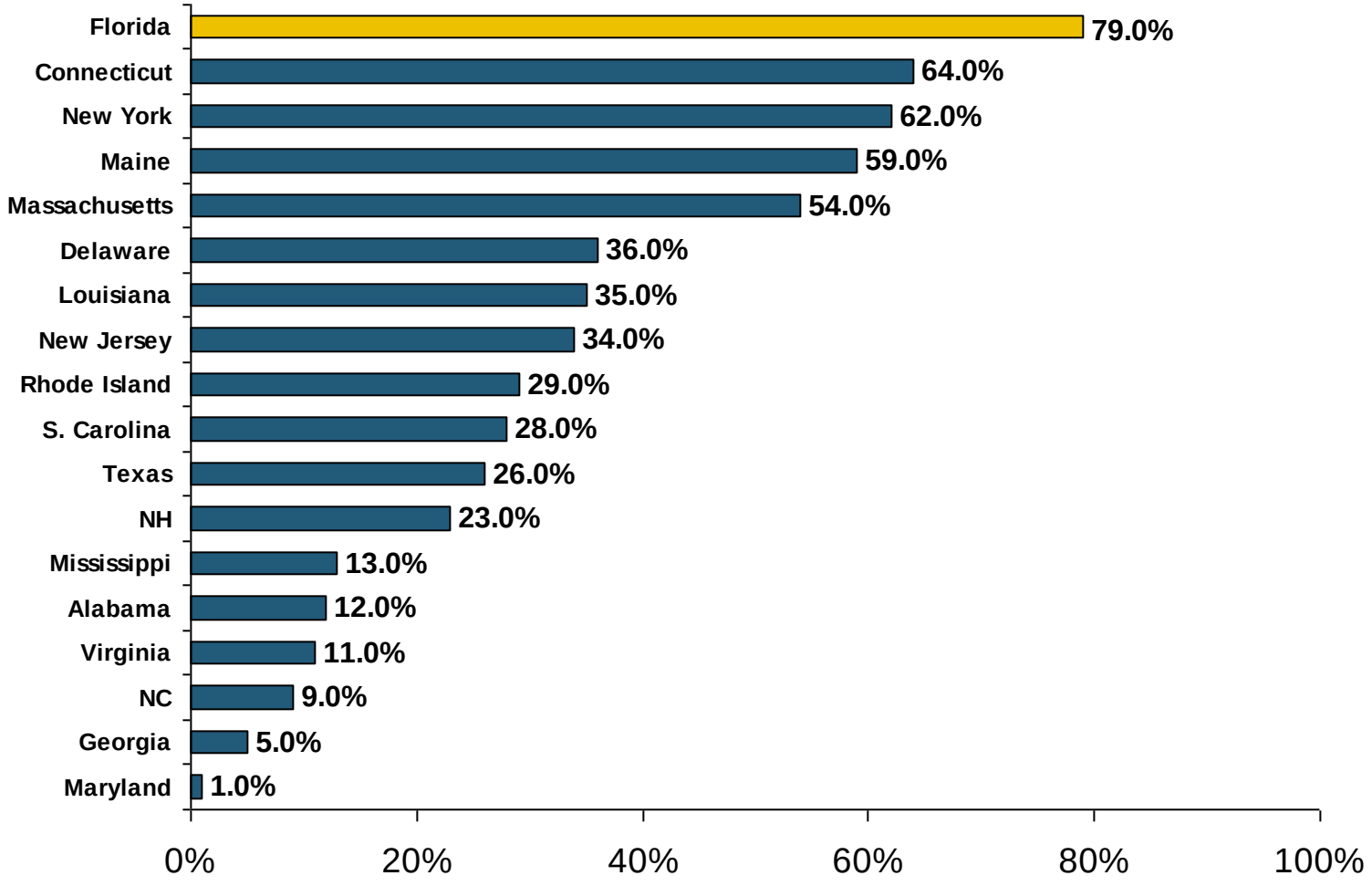
Source: PIPSO; Insurance Information Institute

Total Value of Insured Coastal Exposure In 2007 ($ Billions)



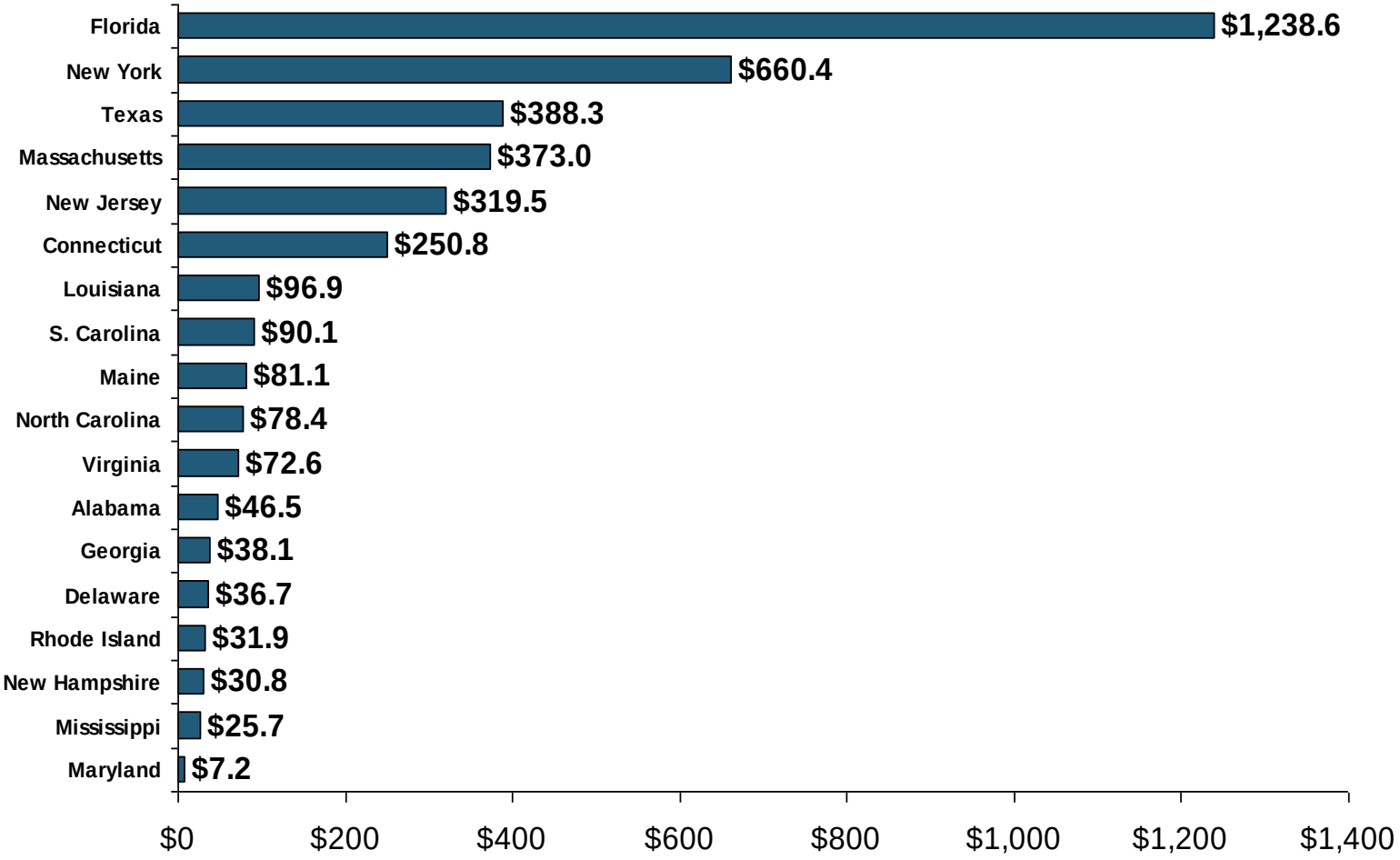
Source: AIR Worldwide

Insured Coastal Exposure As a % Of Statewide Insured Exposure In 2007



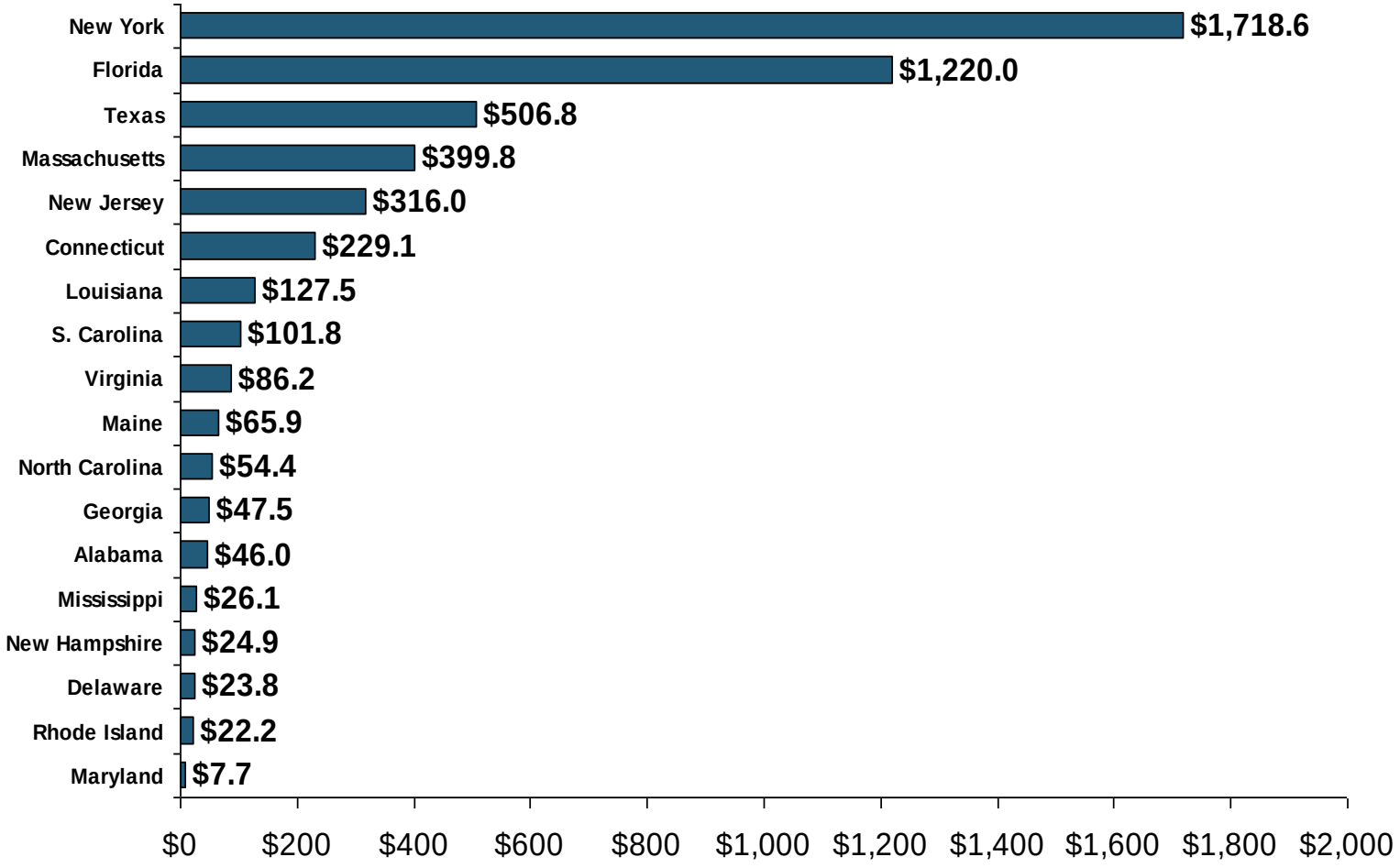
Source: AIR Worldwide

Value of Insured Residential Coastal Exposure In 2007 ($ Billions)



Source: AIR Worldwide

Value Of Insured Commercial Coastal Exposure 2007 ($ Billions)



Source: AIR Worldwide

Public Attitude Monitor 2006: Unfairness of Policyholder Subsidies

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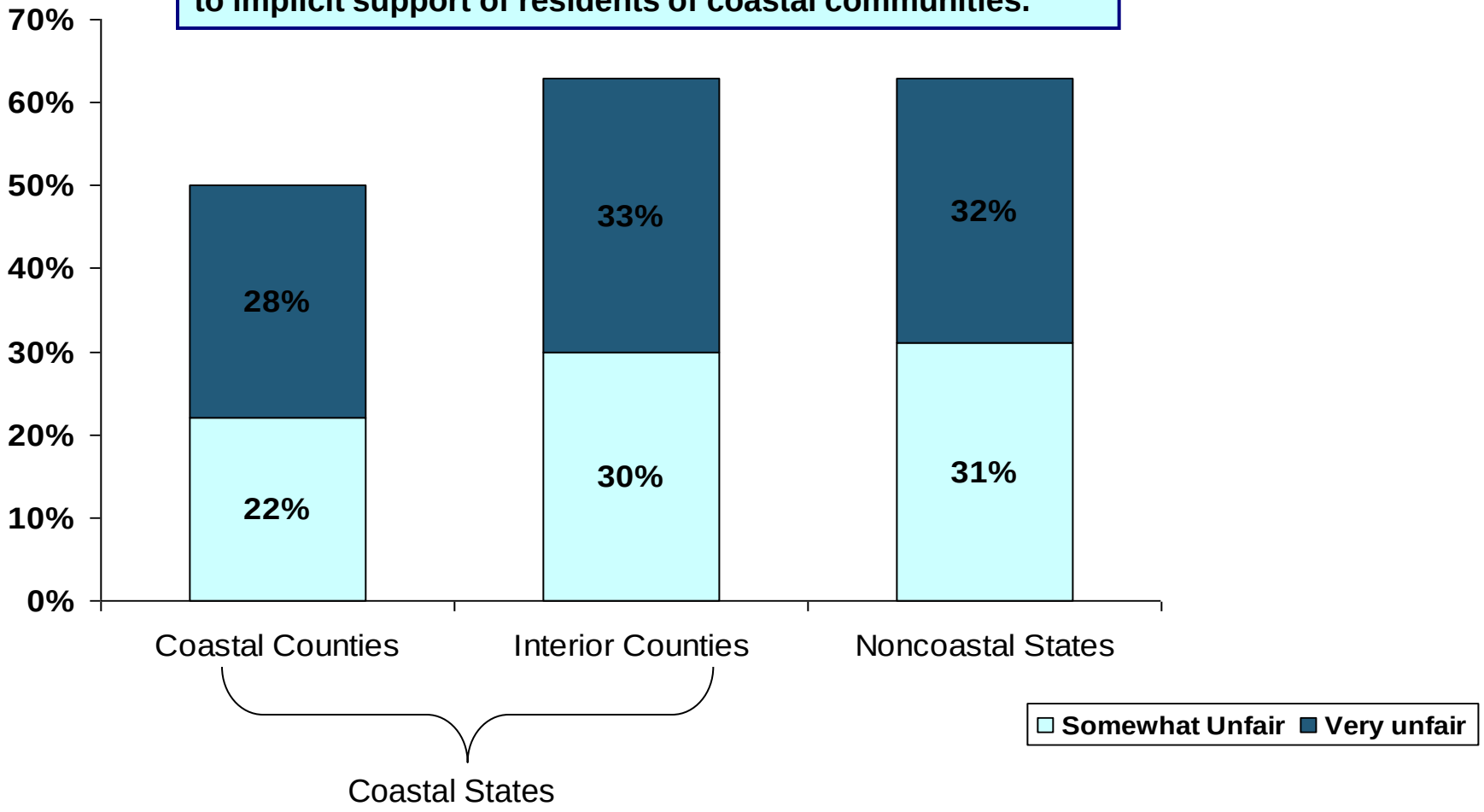
Growth in residual market mechanisms may be due in part to implicit support of residents of coastal communities.



Source: Insurance Research Council

Public Attitude Monitor 2006: Unfairness of Taxpayer Subsidies

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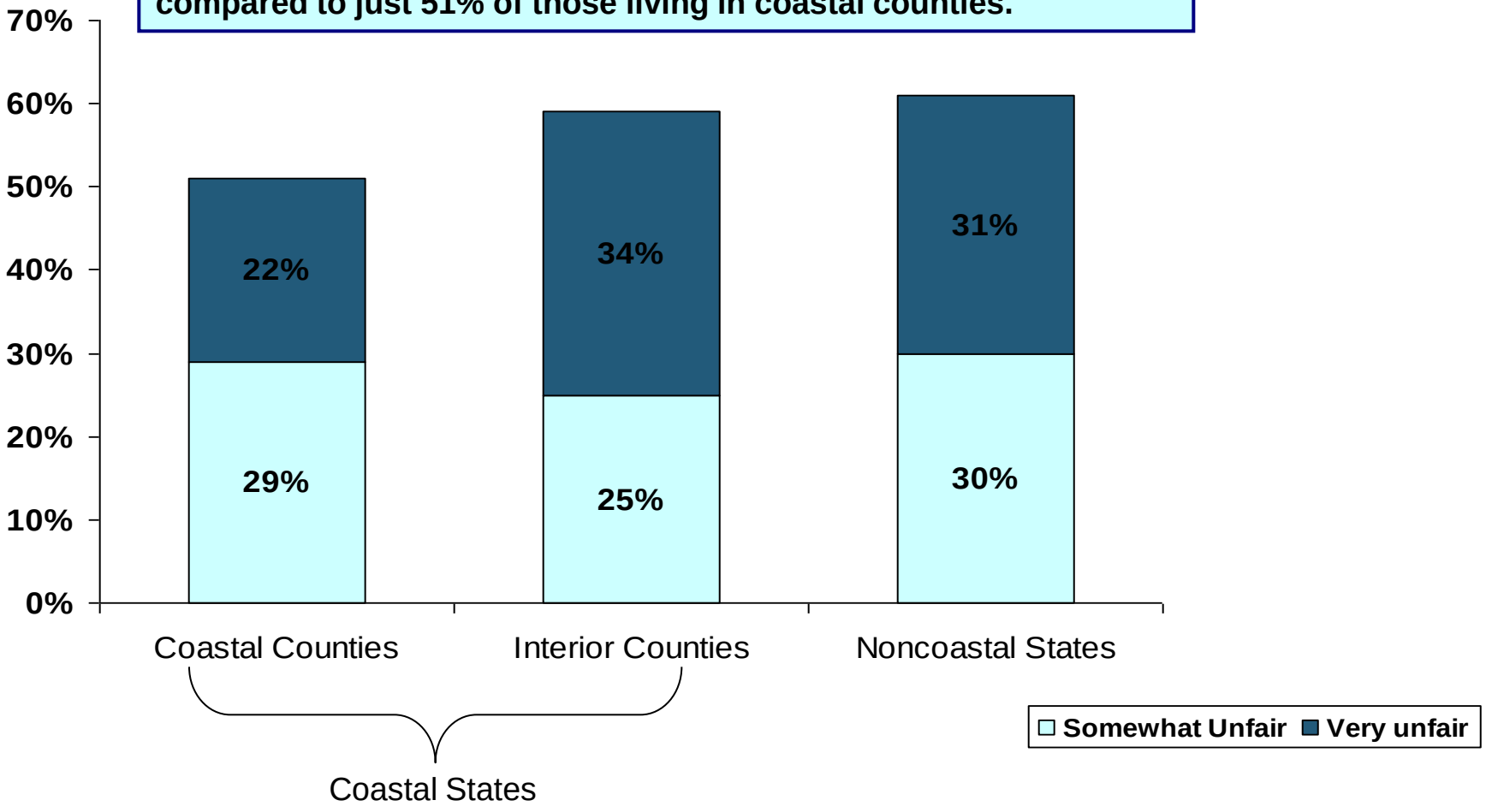
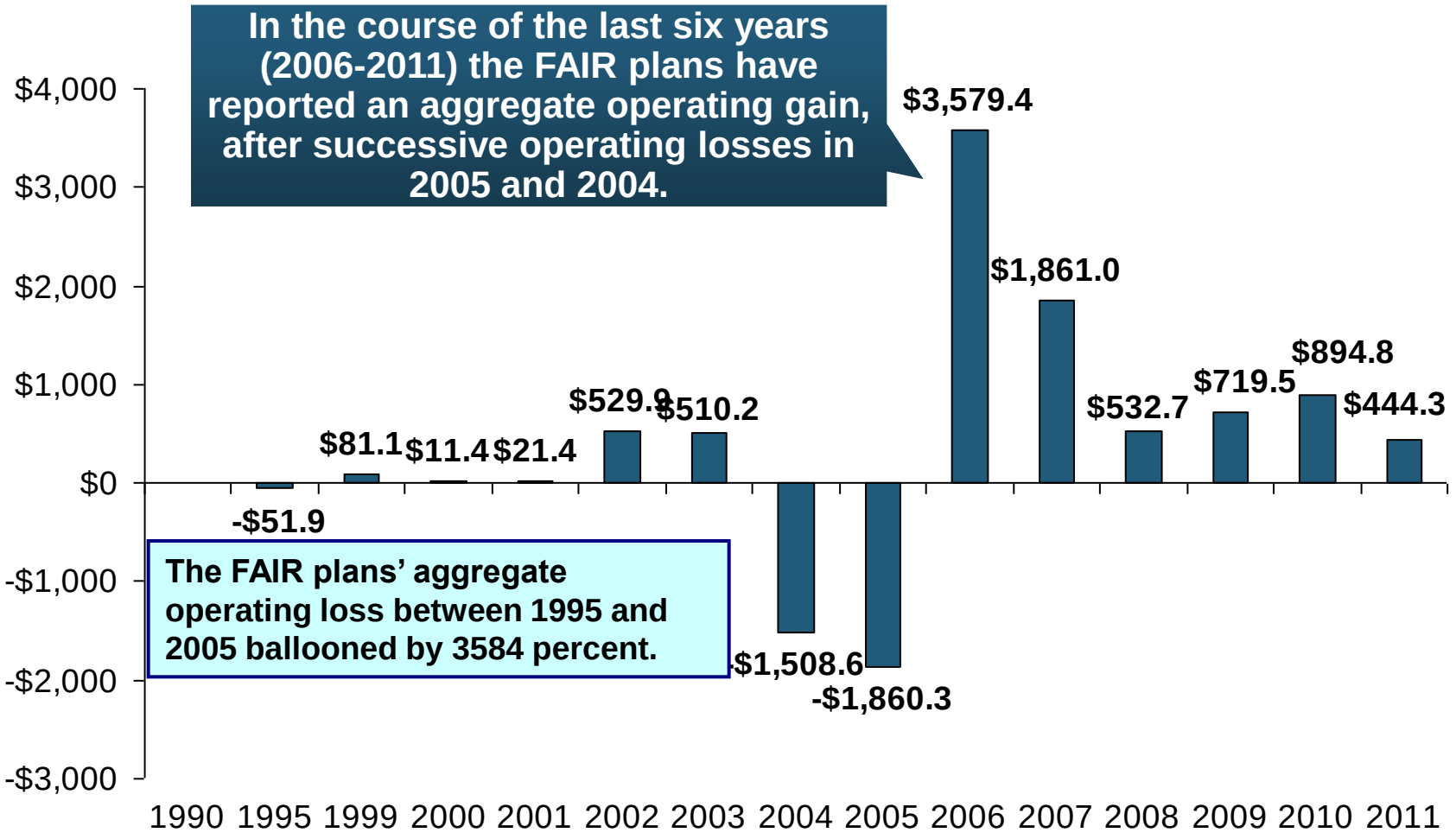
Some 59% of those living in interior counties and 61% in noncoastal states think taxpayer-subsidized insurance is unfair, compared to just 51% of those living in coastal counties.



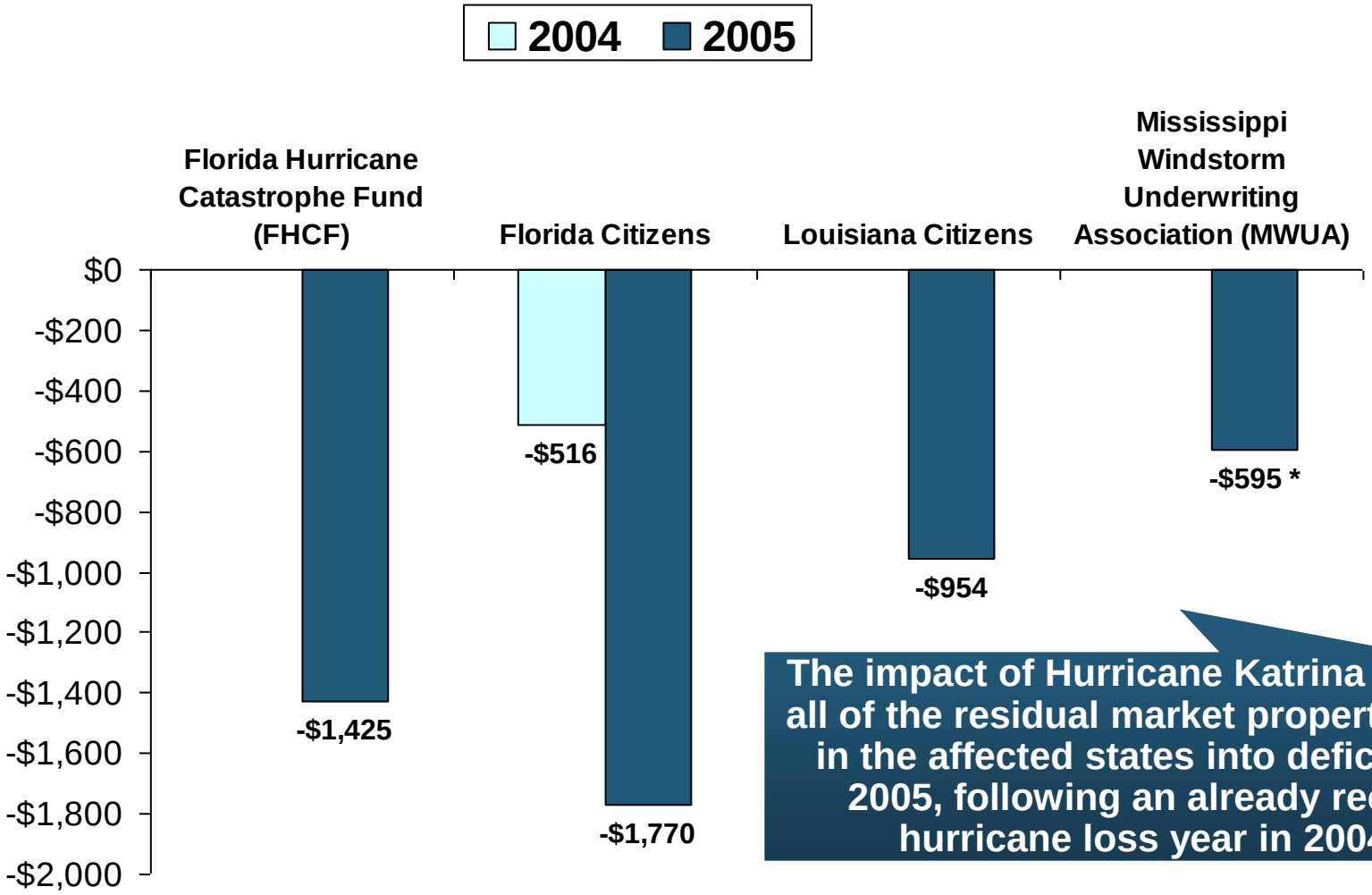
Source: Insurance Research Council

FAIR Plan Operating Gains/Losses 1990-2011 (Millions of Dollars)



Source: PIPSO; Insurance Information Institute.

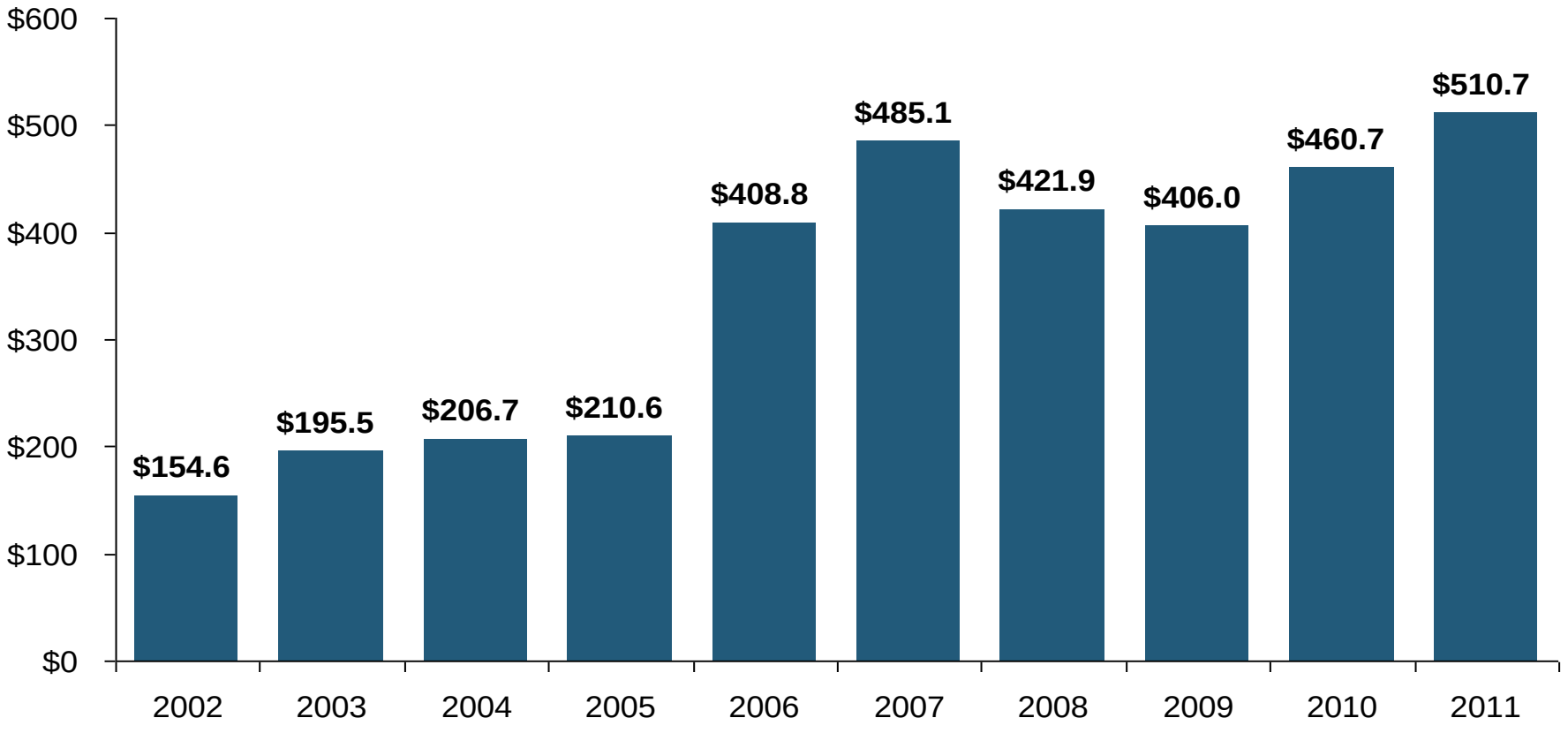
Residual Market Plan Estimated Deficits 2004/2005 (Millions of Dollars)



The impact of Hurricane Katrina pushed all of the residual market property plans in the affected states into deficits for 2005, following an already record hurricane loss year in 2004.

* MWUA est. deficit for 2005 comprises $545m in assessments plus $50m in Federal Aid.
Source: Insurance Information Institute

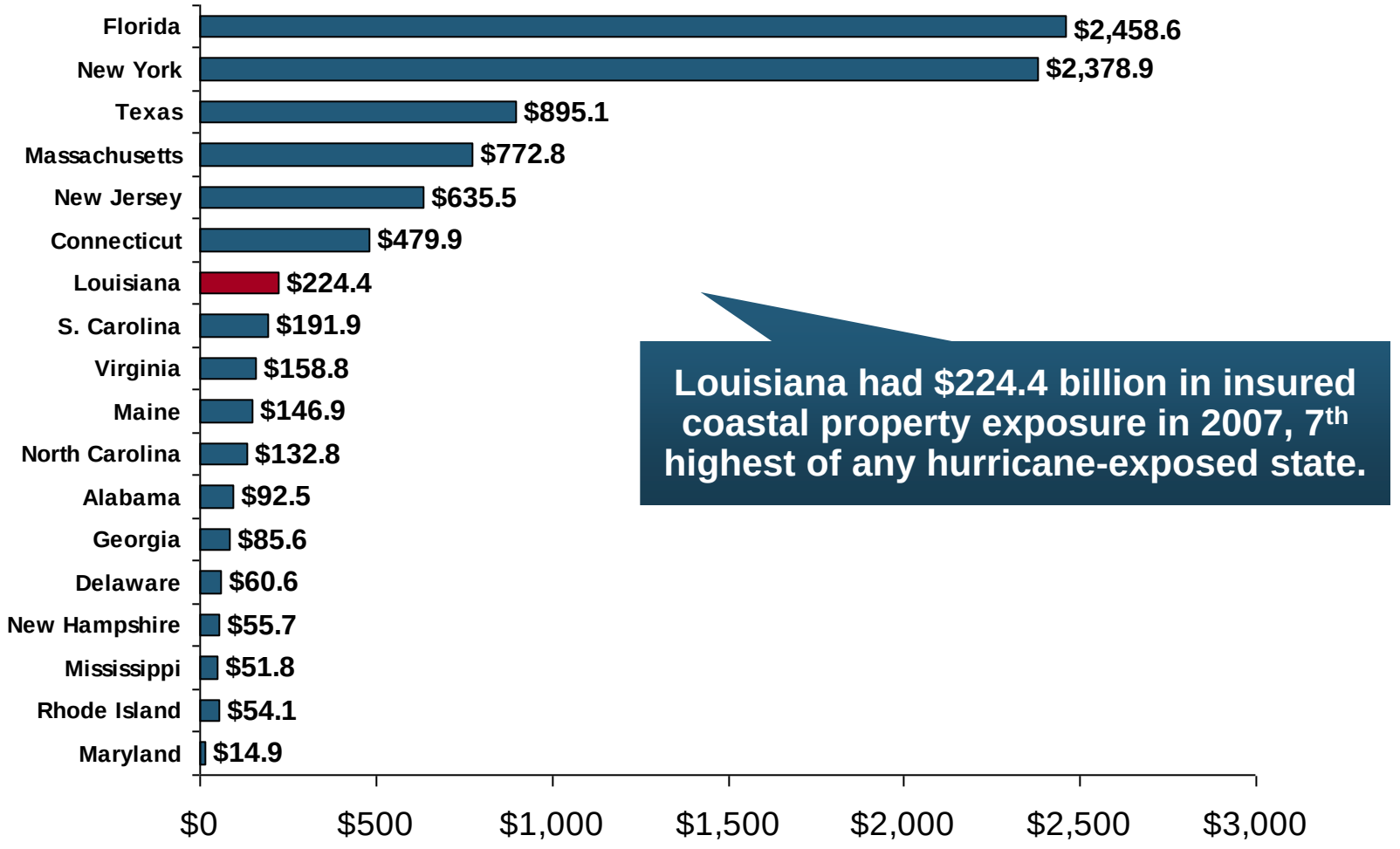
Florida Citizens Exposure to Loss ($ Billions)



Since its creation in 2002, total exposure to loss in Florida Citizens has increased by 230 percent, from $154.6 billion to $510.7 billion in 2011.

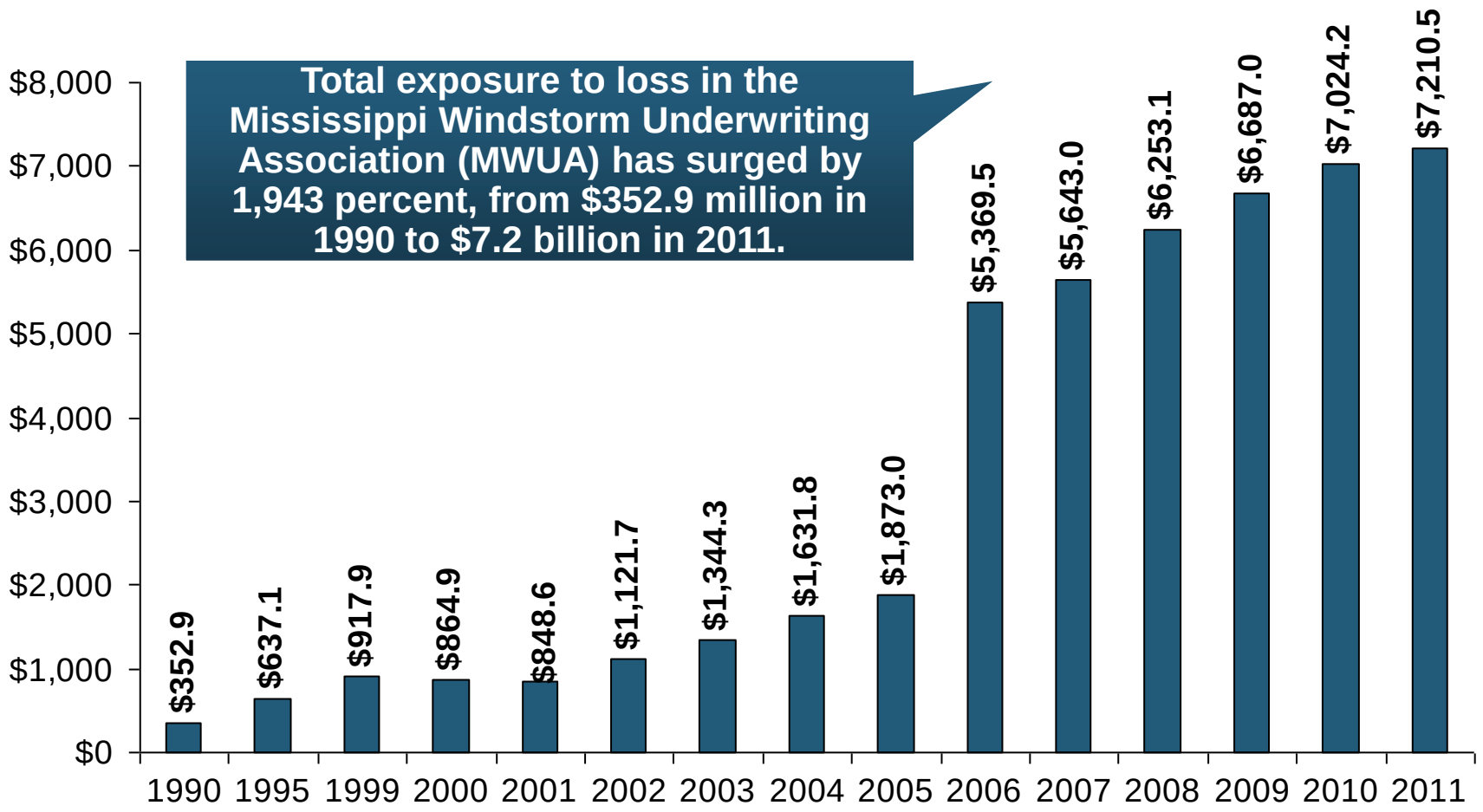
Source: PIPSO; Insurance Information Institute (I.I.I.).

Total Value of Insured Coastal Exposure In 2007 ($ Billions)



Source: AIR Worldwide

Mississippi Windstorm Plan: Exposure to Loss (Millions of Dollars)



Source: PIPSO; Insurance Information Institute

Texas Windstorm Insurance Association (TWIA): Exposure to Loss (Building & Contents Only) ($ Billions)

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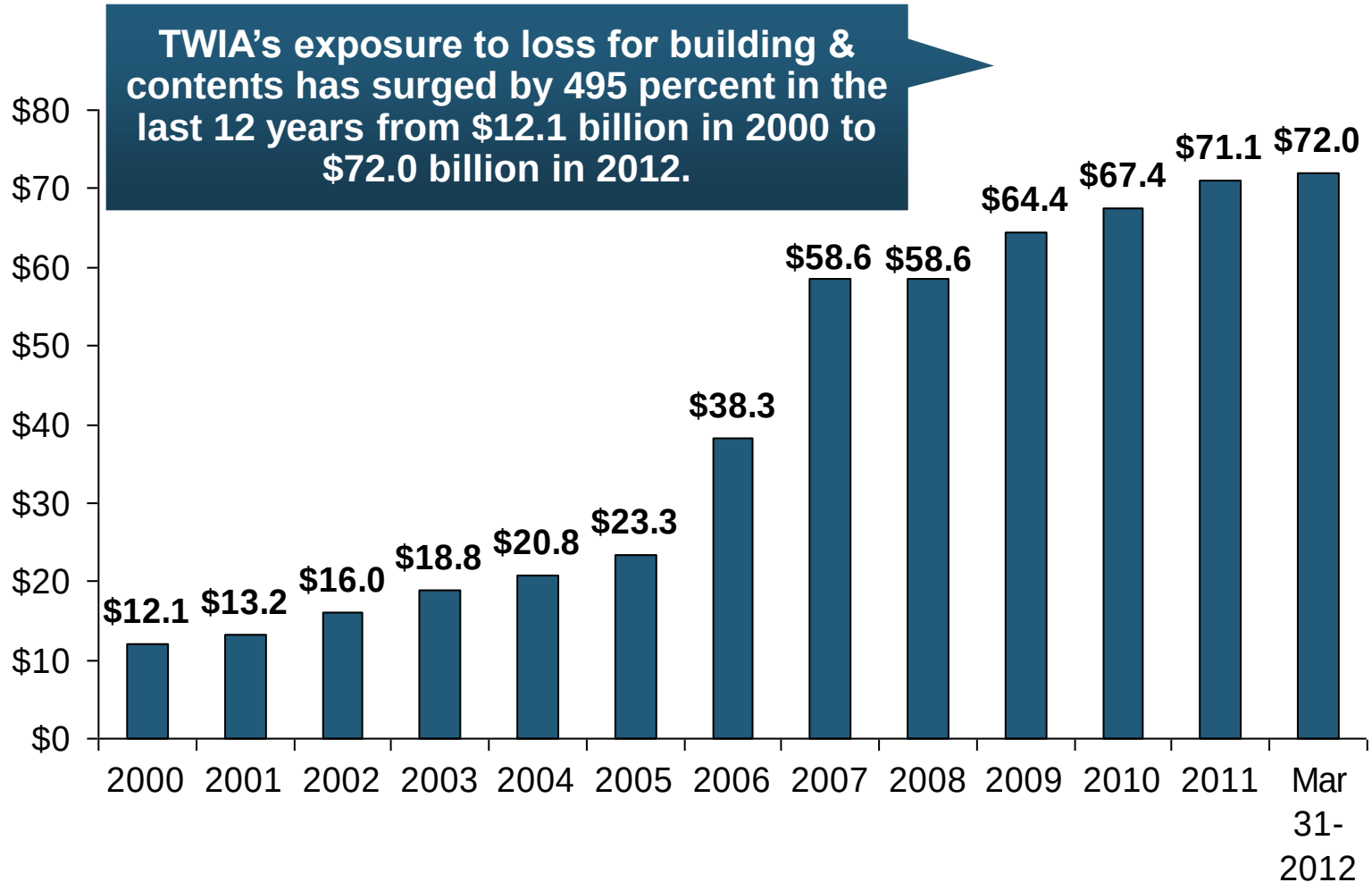

Source: TWIA at 06/05/12, Texas Department of Insurance, Southwestern Insurance Information Services (SIIS)

Texas Windstorm Insurance Association (TWIA) Total Exposure to Loss (Millions of Dollars)

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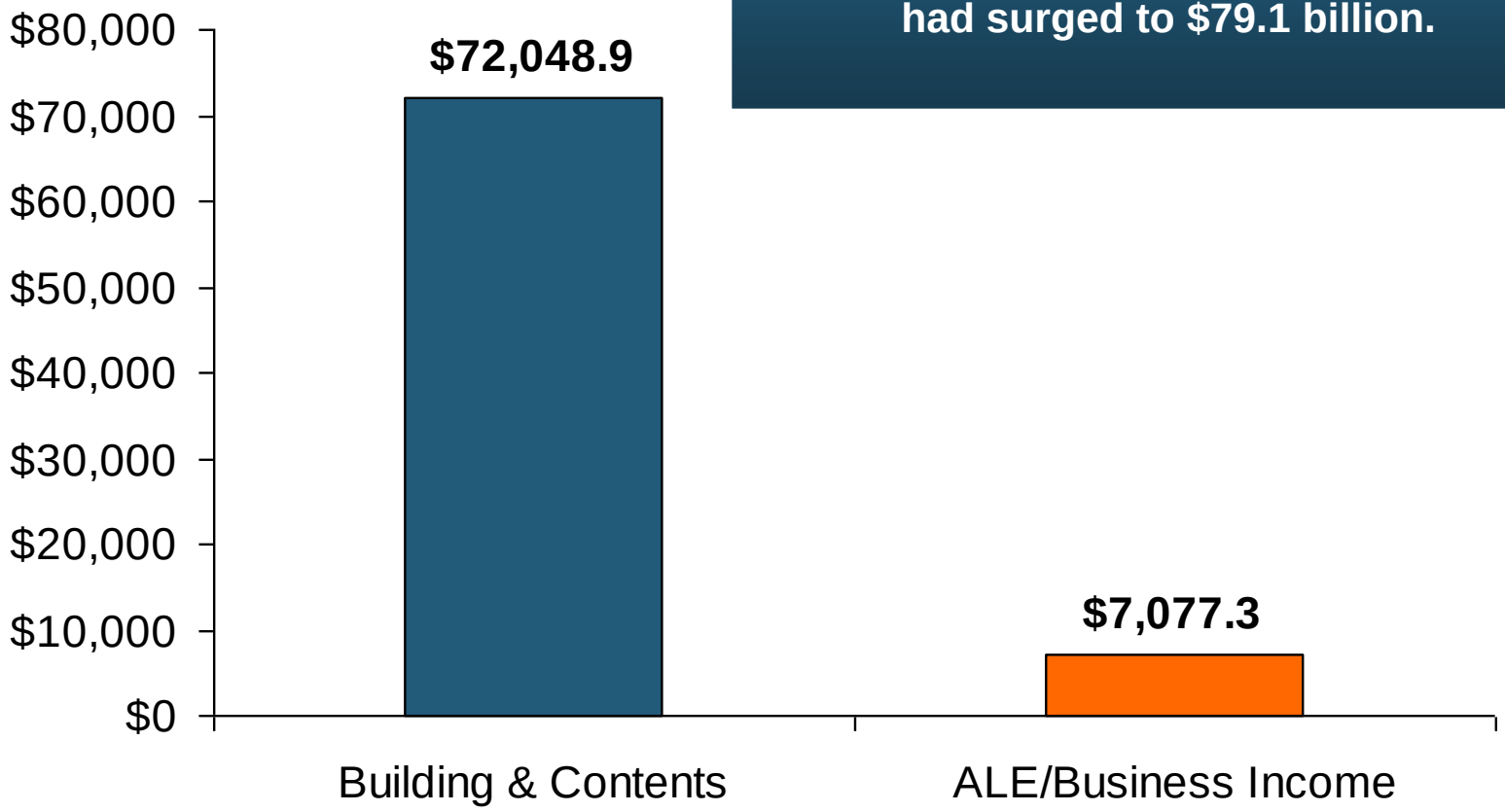
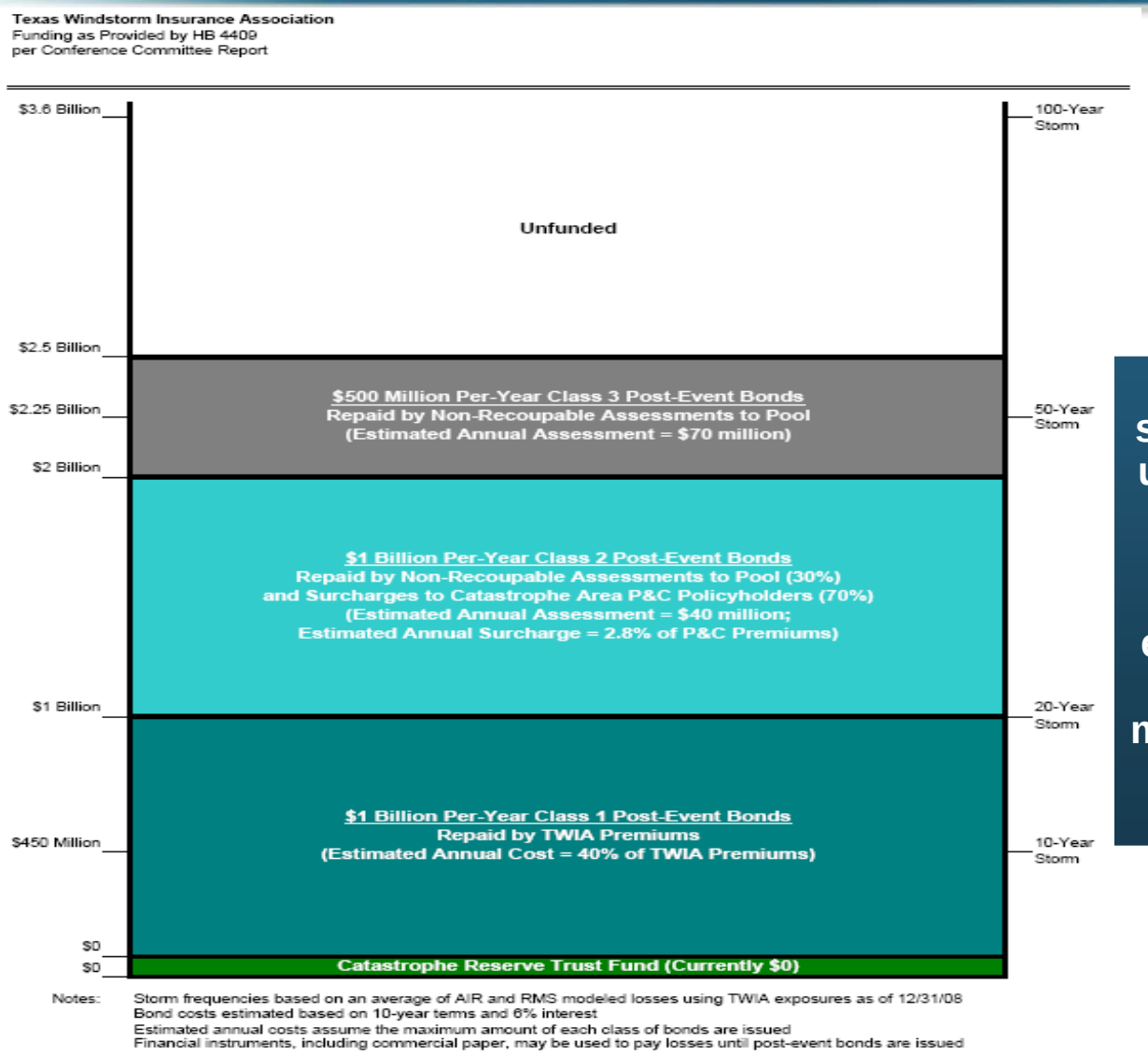
By March 31, 2012, TWIA's total exposure had surged to $79.1 billion.



Source: TWIA at 06/05/12, Texas Department of Insurance

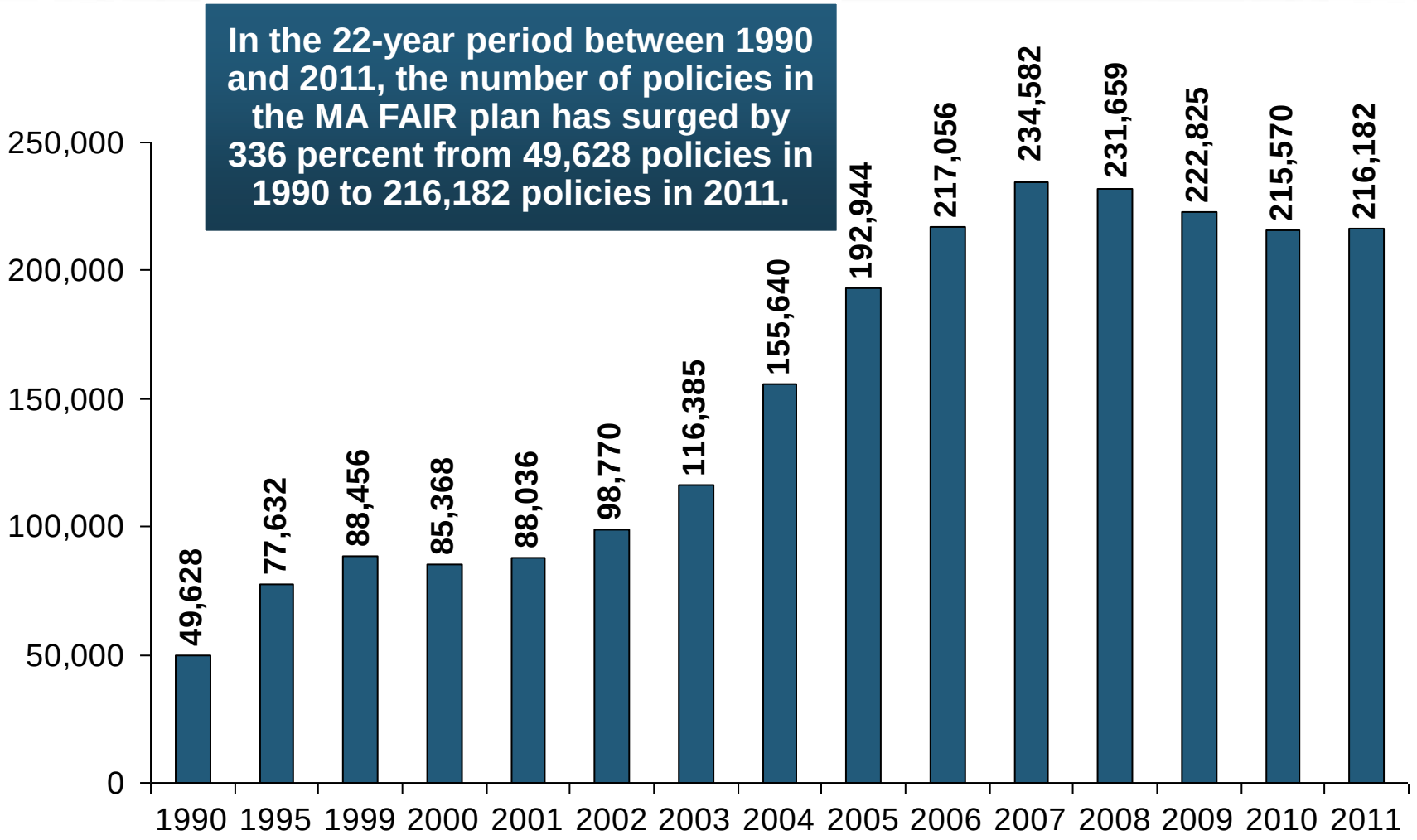
Texas Windstorm Insurance Association (TWIA) New Financial Structure



New TWIA financing structure made available up to $2.5 billion to fund losses via three post-event bonding layers. The new structure eliminated the unlimited assessment on TWIA member insurers and did not call for TWIA to purchase reinsurance.

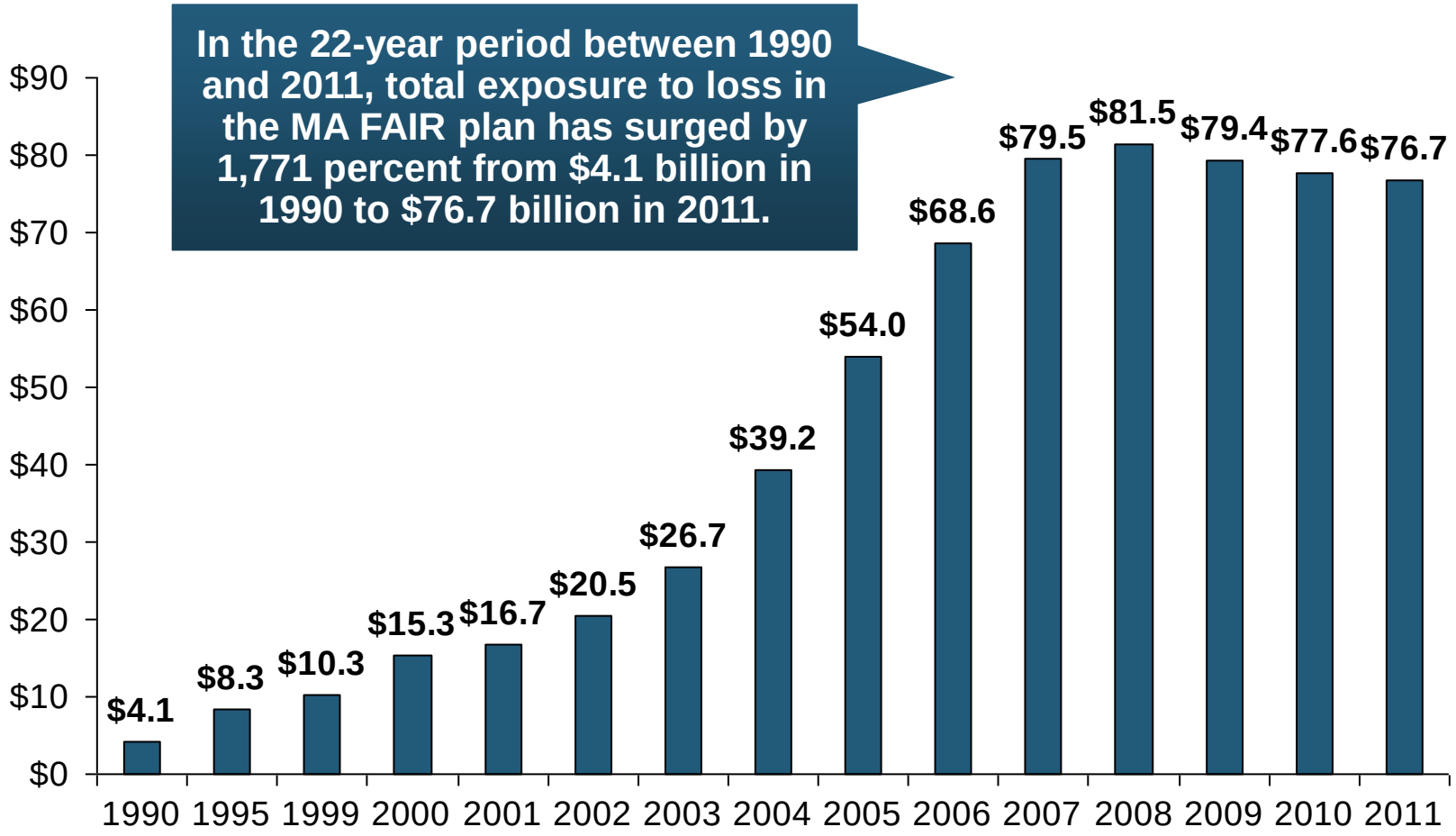
Source: Southwestern Insurance Information Institute (SIIS)

Massachusetts FAIR Plan Policy Count (1990-2011)



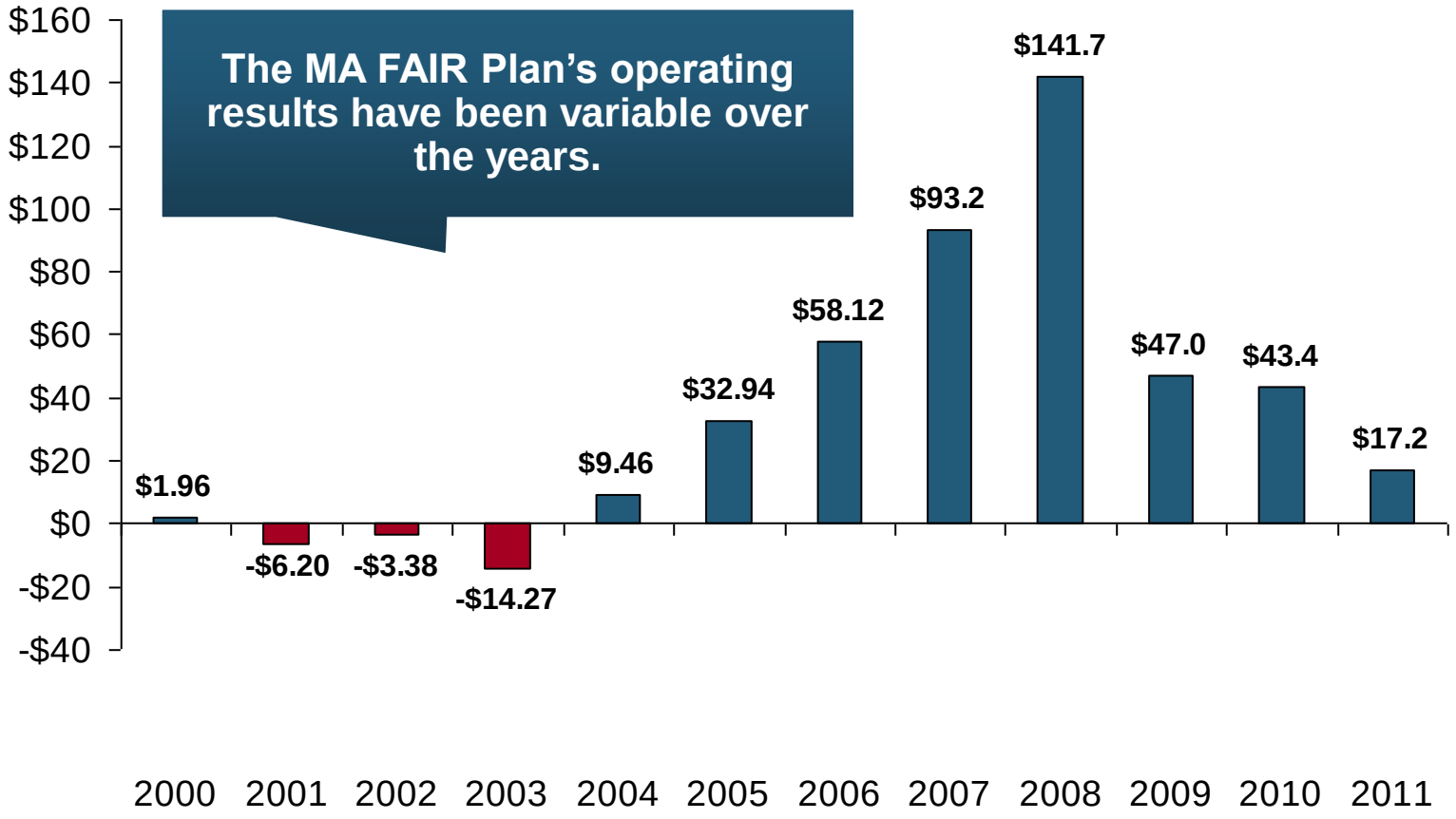
Source: PIPSO; Insurance Information Institute

Massachusetts FAIR Plan Exposure to Loss (Billions of Dollars)



Source: PIPSO; Insurance Information Institute

Massachusetts FAIR Plan Operating Gain or Loss 2000-2011 (Millions of Dollars)



Source: PIPSO; Insurance Information Institute

Insurance Information Institute Online:

www.iii.org

Thank you for your time and your attention!

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