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Committee on Banking and Insurance

OPTIONS FOR TRANSFERRING RISK FROM THE FLORIDA HURRICANE CATASTROPHE FUND

SUMMARY

Property insurance legislation enacted in the 2007 Special Session A, significantly increased the hurricane reimbursement coverage provided by the Florida Hurricane Catastrophe Fund (FHCF or "fund"). The Legislature was responding to the problem of affordability of residential property insurance by focusing on the high cost of private reinsurance and expanding the capacity of the FHCF to take advantage of its lower cost structure. This exposes the FHCF to much greater potential liability in the event of a major hurricane and has spurred interest in the financial options that may be available to transfer this risk in order to be less dependent on assessments.

The FHCF reimburses insurers for a portion of their hurricane claims payments on residential property, similar to reinsurance that an insurance company purchases from a private reinsurer. If a hurricane occurs and the cash balance of the FHCF from premiums charged to insurance companies, plus investment income, is not sufficient to cover fund obligations, the FHCF must borrow funds by issuing revenue bonds. To finance the bonds, the SBA must impose emergency assessments on most types of property and casualty insurance policies. The law limits the assessments to 6 percent of premium annually to finance losses arising from a single year and to 10 percent of premium annually in the aggregate to finance losses arising from all years.

The 2007 legislation did not change the "mandatory coverage" provided by the FHCF, which totals \$15.85 billion for all insurers combined for 2007. The new law allowed insurers to purchase up to \$12 billion of additional coverage above the mandatory coverage, referred to as Temporary Increase in Coverage Limits ("TICL"), available only for 2007, 2008, and 2009.

The law authorizes the SBA to purchase reinsurance for FHCF obligations. The 2007 law expanded this

authority to allow the SBA to enter into capital market transactions, including industry loss warranties, catastrophe bonds, and side-car arrangements. To date, the SBA has never purchased reinsurance or any other risk transfer products.

The FHCF has potential reimbursement obligations to insurers of \$27.85 billion for the 2007 hurricane season. To meet this potential obligation, the FHCF is relying on up to \$25.75 billion in bonds to be issued after a hurricane. This would require an annual assessment of about 5 percent of premiums for 30 years. The FHCF estimates that its maximum potential obligations for two years of about \$56 billion would require the maximum allowable assessment of 10 percent annually for 30 years.

A bond issue of \$26 billion or more would be unprecedented, raising the question of whether the market exists to even make this possible. The added uncertainty of how a major hurricane would affect interest rates, bond ratings, and the assessment base, makes relying on large bond issues funded by assessments that much more precarious.

The FHCF evaluated the feasibility of purchasing risk transfer products for the 2007 hurricane season. The FHCF estimated that up to \$6 billion of risk transfer products could be available at the top half of the TICL layer, at a total estimated cost of \$670 million. This cost equals 11.2 percent of the \$6 billion of coverage purchased. Based on certain assumptions, in order to realize any benefit from this purchase, a storm causing residential losses of about \$31.3 billion would have to occur, which is about a 1-in-52 year storm. If the full \$6 billion coverage was paid, the estimated 30-year annual assessment would be reduced from 4.98 percent to 3.94 percent, a savings of over \$350 million per year, or about a \$10.87 billion savings over 30 years. But, the probability of a cash shortfall (assessments) for lower level storms would be increased from

24.7 percent to 27.5 percent. The SBA did not approve the purchase of risk transfer products for 2007 or solicit bids.

The purchase of any risk transfer product requires payment of a much greater premium than the FHCF collects for the amount of risk transferred. For the top \$6 billion of the TICL layer, the FHCF is charging insurers a 1.85 percent rate on line, or \$111 million, compared to the estimated 11.2 percent rate on line, or \$670 million, to transfer this risk. Any risk transfer product for the high end of FHCF coverage will require paying at least 7 to 12 percent of the amount of the risk transferred. This cost differential would either need to be passed-on to insurers (and their policyholders) in increased premiums for FHCF coverage, or the FHCF would retain an inadequate premium for the risk that has not been transferred. If the cost is passed on in higher FHCF premiums, the question arises whether the FHCF can purchase risk transfer products at prices cheaper than the sum of all its participating insurers. If not, there would not appear to be any benefit from purchasing risk transfer products as a long term strategy other than equalizing costs among insurers and their policyholders (which results in winners and losers). For 2008 and 2009 when the TICL coverage continues to be offered, transferring risk would also provide greater assurance that sufficient bonds could be issued after a major hurricane to meet FHCF obligations.

There are two main options to reduce the risk of loss to the FHCF other than purchasing risk transfer products. The primary option is to reduce the \$12 billion TICL coverage. The projected rate savings have not yet been realized, as many rate filings have been initially disapproved by the Office of Insurance Regulation and remain pending. The outcome will be a key test for policymakers to evaluate whether the increased FHCF exposure was worth doing. The other main option is to charge higher premiums for FHCF coverage. This would provide additional cash reserves that reduce the risk of assessments and would make the purchase of risk transfer products a more viable option, but must be balanced against the goal of affordability of coverage.

Committee staff recommends the following:

1. The Legislature should not mandate that the SBA purchase reinsurance or other risk transfer products for the FHCF, but should retain the current authority for the SBA to do so.

2. The Legislature should either require or allow the SBA to add a risk load or rapid cash build-up factor to the actuarially indicated premium charged for the mandatory coverage and TICL coverage provided by the FHCF. The risk load percentage should be greater for TICL coverage compared to the mandatory coverage.

3. Assuming the TICL coverage continues to be offered, the SBA should consider purchasing risk transfer products for the FCHF, as would be prudent within the fund's premium structure.

4. The SBA and OIR should conduct a market analysis to determine whether the FHCF can obtain risk transfer products at a cost that is less than the sum of the premiums paid by insurers independently. This would assist the Legislature and SBA in determining whether it is logical for the FHCF to purchase risk transfer products as a long-term strategy.

5. The Legislature should analyze the impact of the expanded FHCF coverage on insurance rates in order to evaluate the public benefit provided by the expanded FHCF coverage options. Based on this analysis, the Legislature should consider reducing the optional coverage amounts or increasing the premium, or delegating authority to the executive branch to do so.

BACKGROUND

Property insurance legislation enacted in the 2007 Special Session A significantly increased the hurricane reinsurance coverage provided by the Florida Hurricane Catastrophe Fund (FHCF or "fund").¹ This exposes the FHCF to much greater potential liability in the event of a major hurricane. If premiums collected from insurers for their coverage from the fund are not sufficient to meet these obligations, the shortfall must be met by issuing bonds financed by multi-year assessments levied on most property and casualty insurance policyholders. This has spurred interest in the financial options that may be available to transfer this risk in order to be less dependent on assessments.

Original Legislative Purpose of FHCF: Expand Reinsurance Capacity

The FHCF reimburses insurers for a portion of their hurricane claims payments on residential property. Coverage provided by the fund is similar to reinsurance that an insurance company purchases from a private reinsurer. All residential property insurers are required

¹ Chapter 2007-1, L.O.F., amending s. 215.555, F.S.

by law to purchase a specified amount of coverage from the FHCF based upon each insurer's insured values in the state.

The Florida Legislature created the FHCF in 1993, the year following Hurricane Andrew, as a tax-exempt trust fund administered by the State Board of Administration (SBA).² The unexpectedly high losses to reinsurers from Hurricane Andrew resulted in private reinsurance being much less available and more costly which caused insurers to also reduce their hurricane exposure by nonrenewing policies and increasing rates. The Legislature's purpose in creating the FHCF was to provide additional reinsurance capacity and to thereby stabilize the property insurance market and assure that property insurance remained available.³ The FHCF was not initially designed to lower reinsurance costs, but rather to provide additional reinsurance capacity to the marketplace given a shortage of private reinsurance capacity following Hurricane Andrew.

Property insurers are highly dependent on reinsurance, particularly for catastrophic losses, not only to pay claims, but to write policies. Without reinsurance, an insurer would be forced to rely on its own capital and surplus to pay claims. In order to protect against insolvencies, all states impose "premium to surplus" limitations that limit the amount of premiums (i.e., policies) that an insurer may write, as a multiple of the insurance company's surplus (net worth). However, if an insurance company buys reinsurance, the law generally allows the insurer to deduct the premiums it pays ("cedes") to the reinsurer in calculating its premium to surplus ratio, up to certain limits, which allows the insurer to write more policies.⁴ Florida insurers are particularly dependent on reinsurance, with approximately 50 percent of residential property insurance premiums ceded to reinsurers, compared to a national average of about 30 percent.⁵ This results from the Florida market being dominated by smaller, domestic property insurers writing exclusively in Florida, which are more dependent on catastrophe reinsurance than larger, national companies writing in other states.

Use of FHCF to Address Affordability of Property Insurance

Over the years since the FHCF was created, property insurance premiums have continued to rise and the problem of affordability of coverage has become acute for many Florida homeowners, particularly after the eight hurricanes striking Florida in 2004 and 2005. Similar to the post-Andrew experience, the cost of reinsurance increased and availability decreased. Reinsurers paid about \$40 billion in worldwide catastrophe losses from 2005 alone. About \$27 billion of private capital flowed back into the reinsurance sector in 2005 and 2006, but pricing at the beginning of 2006 for private sector Florida hurricane reinsurance increased 50-70 percent from the prior year and increased another 50-100 percent on July 1.⁶ Florida insurers generally passed on these costs in the form of increased rates to homeowners in 2006. The impact was made worse by the need for insurers to purchase additional reinsurance based on updated hurricane loss models and revised standards of insurance rating agencies for assigning financial strength ratings.

The Legislature in its January, 2007 special session responded to the problem of affordability of homeowners' coverage by focusing on the cost of reinsurance and expanding the capacity of the FHCF. The FHCF has historically provided reinsurance at a cost of about 20 to 33 percent of the cost of private reinsurance. In addition to its tax-exempt status and low cost of administration, the primary reason that the FHCF is significantly less expensive than private reinsurance is that it does not include a profit factor or "risk charge" in its rates. A private reinsurer, in order to attract capital, must provide investors a return on their capital which reflects the risk they are taking. For the FHCF coverage, the law requires the SBA to establish the "actuarially indicated" premium that insurers must pay, which is generally defined to mean an amount determined according to principles of actuarial sciences to be adequate, but not excessive, to pay current and future obligation and expenses of the fund.⁷ As historically applied by the SBA, the actuarially indicated premium is equal to the estimated average annual loss for the coverage purchased, based on a weighted average of the four hurricane loss

² Chapter 93-409, L.O.F. The SBA is headed by the Governor, Attorney General, and Chief Financial Officer.

³ Section 215.555(1), F.S.

⁴ Section 624.4095, F.S.

⁵ *The World Catastrophe Reinsurance Market*, Guy Carpenter, September 2006.

⁶ *A Study of Private Capital Investment Options and Capital Formation Impacting Florida's Residential Insurance Market*, SBA, September 19, 2006 (citing Credit Suisse, *Equity Research Report: Reinsurance*, August 21, 2006, and reports of other reinsurance brokers).

⁷ Sections 215.555(5) and 215.555(2)(a), F.S.

models approved by the Florida Commission on Hurricane Loss Projection Methodology, plus the SBA's costs of administration. For one year, 2006, the law required that the FHCF premiums add a "rapid cash buildup" factor of 25 percent of the actuarially indicated premium, which was repealed in the 2007 act.

The goal of using the FHCF to reduce premiums to policyholders is different than the original legislative purpose of creating the FHCF to provide additional reinsurance capacity and to stabilize the market. These goals are not necessarily in conflict, but to the extent that lower costs are emphasized as the capacity of the FHCF is increased, the risk of loss to the FHCF is increased, which could destabilize the market if the FHCF is unable to fully meet its anticipated obligations.

FHCF Reliance on Debt Financing and Assessments on Policyholders

If a hurricane occurs and the cash balance of the FHCF from premiums charged to insurance companies for their FHCF coverage, plus investment income, is not sufficient to cover fund obligations, the FHCF must borrow funds by issuing bonds. To finance the bonds, the SBA must impose emergency assessments on all property and casualty insurance policies (property, auto, liability, etc.), including surplus lines insurance, but excluding workers' compensation, accident and health, medical malpractice, and federal flood insurance. The assessments are collected as equal percentage surcharges to each policyholder's premium for as many years as are necessary to retire the bonds, up to 30 years. The law limits the amount of the assessments to 6 percent of premium annually to finance FHCF losses arising from a single year (i.e., one year's hurricanes), and to 10 percent of premium annually in the aggregate to finance FHCF losses arising from all years.

The hurricanes of 2004 and 2005 resulted in \$8.45 billion in losses to the FHCF, requiring it to use its entire \$7.1 billion in cash reserves and to issue \$1.35 billion in bonds for the shortfall. The bonds are currently being financed by a 1 percent of premium assessment, which began January 1, 2007, estimated to be levied for six years (through 2012).

Relying on assessments to fund FHCF obligations raises many concerns. One is the potential additional cost added to future premiums, which directly counters the goal of affordability of coverage. A second concern is the arguable inequity of requiring non-residential

policyholders (auto, for example) to subsidize residential property insurance losses, as well as requiring future policyholders to subsidize losses of prior policyholders. A third concern is that if the assessment caps (6 percent/10 percent) are not sufficient to fund the bonds required to meet the estimated coverage obligations (whether due to bond market conditions, interest rates, investor perceptions, or other reasons), insurers will experience a shortfall in their anticipated recoveries from the FHCF unless the Legislature (or Congress) provides additional funding. This becomes more likely in the years following hurricanes that require assessments, since a portion of the 10 percent assessment cap would already be committed. The FHCF is only liable to the extent of its assets and bonding (borrowing) capacity -- the state is not liable for any shortfall.⁸ Even the mere perception by the insurance industry and the financial markets that the FHCF cannot fully meet its estimated obligations is likely to have a detrimental impact on availability and cost of homeowner's coverage, compromising the legislative purpose of the FHCF.

The SBA recognized the fundamental concern about debt financing in a study it prepared at the request of Governor Bush on the factors affecting private sector capital commitments to Florida's residential property insurance market. The report stated:

"When the State has the authority to assess its citizens to pay for debt to fund insurance losses, the State is substituting capital of its own citizens for insurance company capital. The FHCF's reliance on debt financing should receive careful consideration."⁹

Changes Made to FHCF in 2007-A Special Session

Chapter 2007-1, L.O.F., the property insurance legislation enacted in the January, 2007 Special Session A, did not change the "mandatory coverage" provided by the FHCF, but provided significant additional optional coverage to insurers. The mandatory coverage totals \$15.85 billion for all insurers combined for 2007. Each insurer must first pay all hurricane claims up to a specified amount, referred to as the insurer's "retention." The retention is about \$6.1 billion for all insurers combined in 2007. This retention must be met for each of the first two hurricanes, but drops to one-third of the full retention for the third and each subsequent hurricane (in order of loss magnitude). After the retention is met, insurers are

⁸ Sections 215.555(5)(c) and (6)(a), F.S.

⁹ Id, p. 5

then reimbursed for 90 percent (or 75 percent or 45 percent, if selected) of residential hurricane losses, up to the maximum limit, currently \$15.85 billion. Both the retention and the maximum limit are increased annually by the same percentage as the fund's increase in exposure, which is affected primarily by the increased value of all insured residential property; however, the maximum limit cannot increase more than the annual increase in the cash balance of the FHCF. A retention and maximum limit are calculated for each insurer based on its market share of total FHCF premiums. For example, an insurer that pays 10 percent of total FHCF premiums in 2007 has a retention of about \$610 million (10 percent of \$6.1 billion) and has a maximum limit of \$1.585 billion (10 percent of \$15.85 billion).

The new law allowed insurers to purchase additional coverage from the FHCF above the maximum limits of the mandatory coverage.¹⁰ This option is referred to as Temporary Increase in Coverage Limits ("TICL"), and is available only for the 2007, 2008, and 2009 contract years. The TICL options allow an insurer to purchase additional coverage for its share of up to \$12 billion, in \$1 billion increments, above the mandatory coverage limit (i.e., increasing maximum limits from \$15.85 billion to \$27.85 billion in 2007). The law authorized the SBA to further increase the limits by an additional \$4 billion, but the SBA did not approve this increase.

Insurers must pay a premium for the optional TICL coverage, established by the SBA under the same method it uses for determining "actuarially indicated" premiums for the mandatory FHCF coverage.¹¹ As historically applied by the SBA, the actuarially indicated premium is the premium that is equal to the estimated average annual loss for the coverage purchased, based on a weighted average of the four hurricane loss models approved by the Florida Commission on Hurricane Loss Projection Methodology, plus the SBA's costs of administration. For the TICL coverage options, the premium is 2.2 percent of the coverage amount, for an insurer electing to buy its full share of the \$12 billion TICL limits. This 2.2 percent "rate-on-line" is much less expensive than the premiums charged by private reinsurers, which range from about 10 to 20 percent for this level of coverage. This is the primary source of expected premium savings under the new law. Insurers

took nearly full advantage of the TICL options, purchasing about \$11.43 billion of the \$12 billion offered, in exchange for a total premium of \$242 million.

The 2007 law also allowed insurers to purchase additional coverage below each insurer's retention (i.e., below the mandatory coverage), referred to as Temporary Emergency Additional Coverage Options ("TEACO"), for the 2007, 2008, and 2009 contract years. The TEACO options allow an insurer to reduce its retention to its market share of \$3 billion, \$4 billion, or \$5 billion, to cover 90 percent (or 75 percent or 45 percent, if selected) of its losses up to the normal retention (\$6.1 billion in 2007) for the mandatory coverage. In sharp contrast to the TICL options, the act established premiums for the TEACO options at near market levels. For the \$3 billion, \$4 billion, and \$5 billion retention, the premium was established at 85 percent, 80 percent, and 75 percent rate-on-line, respectively. The TEACO coverage applies to two hurricanes for each contract year. No insurance company selected the TEACO option, apparently due to the availability of comparable coverage from private sector reinsurers at equal or better rates. If the TEACO options had been purchased, the relatively high premiums would have also served to significantly offset the risk to the state for the TEACO coverage and the need for assessments and bonding.

The 2007 law also allowed eligible insurers (generally, those with \$25 million in surplus or less) to each purchase up to \$10 million in additional FHCF coverage at a level well below the normal retention and likely to be even lower than offered under the TEACO options. The retention for the \$10 million coverage is equal to 30 percent of the insurance company's surplus. The premium is set at a 50 percent rate on line (i.e., \$5 million for \$10 million coverage). The coverage applies to two hurricanes and is offered only for the 2007 contract year (and was similar to coverage offered in 2006). Thirty-one insurers purchased this option, paying the FHCF a total premium of \$139 million for total coverage of \$557 million (\$278 million for each of two hurricanes). Given the extremely low retention, the chance of loss to the FHCF is relatively high, given a hurricane of almost any size. But, the size of the maximum loss is viewed as manageable compared to the multi-billion liability for other FHCF coverage.

The new law also repealed the 25 percent "rapid cash buildup" factor required to be charged to insurers for their coverage from the FHCF. This was a requirement added in 2006 to increase FHCF premiums by

¹⁰ Section 215.555(17), F.S.

¹¹ Section 215.555(17)(f), F.S., which references s. 215.555(5), F.S.

25 percent in order to help build up cash reserves and thereby help mitigate the need for assessments. However, the 2007 law repealed this requirement in order to lower premiums to insurers and, in turn, lower premiums to residential policyholders, which was estimated to result in an average 3 percent decrease in premiums.

Since the FHCF statute was originally enacted, the law has authorized the SBA to purchase reinsurance for FHCF obligations for the purpose of maximizing the capacity of the FHCF. The new law expanded this authority, by amending s. 215.555(7), F.S., as follows:

(7) ADDITIONAL POWERS AND DUTIES.

(a) The board may procure reinsurance from reinsurers acceptable to the Office of Insurance Regulation for the purpose of maximizing the capacity of the fund and may enter into capital market transactions, including, but not limited to, industry loss warranties, catastrophe bonds, side-car arrangements, or financial contracts permissible for the usage under s. 215.47(10) and (11), consistent with prudent management of the fund.

By providing this additional authority, the Legislature recognized that new types of financial arrangements may be available for purchase by the SBA to transfer obligations of the FHCF, consistent with prudent management of the fund. To date, however, the SBA has not purchased reinsurance or any other type of financial instrument to transfer FHCF obligations. The purpose of this report is to examine the options for transferring risk from the FHCF.

METHODOLOGY

Committee staff reviewed various reports prepared by the SBA, FHCF, and the FHCF financial advisor, Raymond James, regarding the financial status of the fund, private capital investment options, and liquidity and risk transfer considerations, as well as proposals submitted to the FHCF by reinsurance and financial brokerage firms; and other studies or reports of reinsurance and capital market instruments. Staff also interviewed individuals with these organizations and firms.

FINDINGS

Current Financial Status of FHCF¹²

The Florida Hurricane Catastrophe Fund has potential reimbursement obligations to insurers of \$27.85 billion for the 2007 hurricane season. This amount consists of:

- \$15.85 billion of mandatory FHCF coverage, (subject to a growth factor each year);
- \$11.43 billion of TICL coverage selected by insurers (of the optional \$12 billion offered only for 2007, 2008, and 2009); and
- \$557 million selected by insurers eligible to purchase up to \$10 million additional coverage (offered only for 2007).

To fully meet the potential \$27.85 billion obligation for 2007, the FHCF is relying on:

- \$2.08 billion estimated year-end cash balance;
- \$6.3 billion in proceeds from pre-event notes that have already been issued (for short-term liquidity needs);
- Up to \$25.75 billion in bonds to be issued after a hurricane (which could be used to retire the pre-event notes).

The estimated \$2.08 billion cash balance of the FHCF for 2007 is derived from reimbursement premiums collected from insurers for the 2006 and 2007 contract years, for which no hurricane losses have occurred. The year-end cash balance represents the non-debt, cash resources available to pay potential 2007 claims. This balance includes the 2007 FHCF premiums of \$1.3 billion, paid by insurers in installments on August 1, October 1, and December 1. The pre-event notes provide additional liquidity of \$6.3 billion, which gives the FHCF immediate access to a total of \$8.3 billion for paying claims for the 2007 contract year.

The proceeds of the pre-event notes have been invested and have earned investment income sufficient to pay the interest due on the notes, so there has been no net cost to the fund. It is expected that going forward, however, the investment income will not fully offset the interest due on the 2006 and 2007 notes, and that the net cost will be about \$30 million annually, assuming the note proceeds are not needed to pay claims.¹³ Such costs would be added into the reimbursement premium formula for future years.

¹² *Florida Hurricane Catastrophe Fund, Estimated Claims-Paying Capacity, October 2007*, FHCF and Raymond James

¹³ Staff interview with John Forney (with Raymond,

The pre-event notes address liquidity, but they do not transfer any risk from the FHCF. If a hurricane occurs that requires the note proceeds to actually be used to reimburse insurers, the interest must still be paid on the notes. This would likely require that post-event bonds be issued, financed by emergency assessments. The proceeds of the post-event bonds could be used to take out or pay off the pre-event notes. The financing cost of the post-event debt is likely to be lower due to the tax-exempt nature of the post-event bonds, while the pre-event notes interest is taxable to investors. The SBA has the flexibility as to when and how to utilize the pre-event notes including the option of not using the pre-event notes if post-event financing can be done timely.

If the maximum \$25.75 billion of post-event bonds is required, an annual assessment of about 5 percent of premiums would be imposed for 30 years on most property and casualty insurance policies.

Even if the FHCF is required to pay its full 2007 obligations, it will again be liable for its obligations in 2008 and each year thereafter. The mandatory coverage and TICL options in 2008 and 2009 are likely to again expose the FHCF to about \$27-28 billion in additional obligations for a subsequent season, subject to the limitations of the fund's actual claims-paying (bonding) capacity.

The FHCF estimates its total multiple-years claims paying capacity, as follows:

- \$27.83 billion initial season claims paying capacity, consisting of:
 - \$2.08 billion cash balance and
 - \$25.75 billion bond proceeds.
- \$26.37 billion subsequent season claims paying capacity, consisting of:
 - \$1.16 billion cash balance,
 - \$25.21 billion bond proceeds, and
 - \$1.25 billion in reimbursement premiums following the subsequent season.
- Total multiple years claims paying capacity = \$55.45 billion.

Paying the total \$55.45 billion over multiple seasons would require the maximum allowable 10 percent of premium assessment for 30 years, which also accounts for the 1 percent assessment currently being levied through 2012. The estimated \$55.45 billion claims paying capacity is slightly below the maximum

obligations of the FHCF for both the initial and subsequent seasons. If the FHCF commits substantially all of its assessment authority to fund bonds, it will thereafter be unable to provide additional reinsurance capacity to help stabilize the property insurance market.

Pre-Hurricane Financing of FHCF Losses

The FHCF issued \$2.8 billion in pre-event notes in July, 2006 and \$3.5 billion in pre-event notes in October, 2007, totaling \$6.3 billion. The proceeds from pre-event notes provide the FHCF with cash in hand before it is actually needed to pay claims. The additional liquidity enables the FHCF to reimburse insurers more promptly after a hurricane. Otherwise, a delay in reimbursement could occur due to the time required to structure a post-event bonding transaction or educating investors about the FHCF.

The pre-event notes also reduce risks associated with accessing the capital markets after a large hurricane, such as being unable to issue bonds in amounts or on terms sufficient to meet obligations. Any delay in payment also depends on how soon insurers submit claims, which the FHCF has been able to estimate. The FHCF was able to reimburse insurers within two to seven days after claims were submitted for the 2004 and 2005 hurricanes, due largely to the \$6.1 billion cash balance that was initially available. After bonds were needed to pay claims in 2005, this time period increased to eight to fourteen days due to about a one week lag necessary to liquidate the bond proceeds. A large multi-billion dollar event could result in an early drain on FHCF resources prior to post-event financing being accomplished. A strong liquidity position will enable the FHCF to timely reimburse insurers and help stabilize the market following a large hurricane event when there may be a financial market condition that delays the issuance of additional debt.

The SBA's recent experience in securing the 2007 pre-event financing illustrates how quickly the financial markets can change and negatively affect the availability and cost of financing and the fund's ability to meet its obligations. In 2006, the FHCF executed \$2.8 billion in pre-event, extendible floating rate notes. The 2006 notes have a five-year term with a "floating" rate of interest equal to LIBOR plus 1 basis point for year one, plus 2 for year 2, plus 3 for year 3, and plus 4 for years four and five.¹⁴ The notes are "extendible"

¹⁴ LIBOR stands for the London Interbank Offered Rate and is the rate of interest at which banks offer to lend money to one another in the wholesale money markets in London. It is a standard financial index used in U.S.

meaning that the investors have the option each month to extend, or not, for the next 13 months.

As it entered the 2007 hurricane season, the SBA authorized the FHCF to secure up to \$7 billion in additional pre-event financing in order to meet its liquidity needs in anticipation of a major hurricane. In August, as the SBA staff and its financial advisors prepared to market the bonds to potential investors, the credit crisis occurred, caused by the subprime mortgage loan collapse. In the words of the FHCF financial advisor, "The timing could not have been worse." After canvassing the financial markets, the SBA determined that it was unable to issue any new pre-event financing at reasonable cost and even faced the prospect of some investors electing not to extend the 2006 notes. This credit crisis affected all extendible corporate variable rate notes, of which an estimated 30 percent did not extend, even though such notes are routinely extended.¹⁵ In September, the Federal Reserve reduced the prime interest rate which helped loosen the credit markets, but rates were about 30 to 50 basis points higher than they were a few months previously.¹⁶ In order to entice investors to extend the 2006 notes, the SBA increased the interest rates to LIBOR plus 21, 22, 23, and 25 basis points for the remaining four years, respectively. Still, certain investors elected not to extend about \$300 million of notes, reducing the total 2006 pre-event notes from \$2.8 billion to \$2.5 billion (but this reduction does not take effect until 2008).

In October, 2007, after the credit crisis had eased somewhat, the SBA was able to issue \$3.5 billion in five-year floating rate notes for the FHCF. This was the maximum amount of short term financing available at a reasonable cost, even though the SBA had approved up to \$7 billion and the goal was to secure about \$5 billion. The 2007 notes are at about a one-half-percent interest rate higher than the 2006 notes. The 2007 notes are five-year floating rate notes issued at a rate of LIBOR plus 78 basis points. The FHCF also benefits from the market's higher interest rates when it invests the proceeds of the notes, but the spread is likely to result in a net cost to the FHCF that will be added to future reimbursement premiums paid by insurers.

The lesson learned from the mid-summer credit crisis is that there will be times when credit is very tight and may not be available at any price. This reflects the value for the FHCF to have sufficient liquidity (cash on hand) to meet its immediate short-term needs pending the time required to secure permanent, long-term financing. This may also reflect the potential value of reinsurance and other capital market options that transfer (and not merely finance) the risk of loss. However, the cost of such risk transfer products must be taken into account to evaluate such options.

Post-Hurricane Financing of FHCF Losses

The credit problems that persist in the corporate bond market, which is the market for FHCF pre-event notes, are not likely to be as severe if the FHCF is forced to issue bonds after a hurricane, according to the financial advisor for the FHCF. The market for post-event financing is the tax-exempt government bond market, for which much greater capacity exists. (The pre-event corporate notes are taxable.) To a limited extent, the FHCF has proven its access to this market with the 2006 post-event financing for 2005 storm losses. In 2006 the FHCF issued \$1.35 billion in tax-exempt, fixed rate bonds with six-year term and a true interest cost of 3.985 percent, funded by an annual 1 percent of premium assessment for six years. These bonds had a AA rating from all three major rating agencies, which were downgraded to AA- by two of the agencies after the 2007 Special Session property insurance law was enacted (Aa3 by Moody's, AA- by Standard and Poor's, and AA- by Fitch).

The FHCF would be forced to issue nearly \$26 billion in post-event bonds to meet its maximum obligations for 2007, with similar obligations likely for 2008 and 2009, due to the \$12 billion in TICL options. A bond issue of such size would be truly unprecedented and may require multiple bond issues over a period of time, while attempting to match time frames for insurers to pay claims and seek timely reimbursement. The largest single long-term tax exempt financing ever done was for just over \$6 billion, but there have been programs consisting of multiple financings over a period of several months for over \$10 billion, and the largest single municipal financing was a taxable pension financing of \$10 billion.¹⁷ But there are over \$2.5 trillion in tax-exempt municipal bonds currently held (of which over \$900 billion are held by households alone), reflecting a large market appetite

capital markets. "One basis point" is one-tenth of one percent. For example, if LIBOR is 5 percent, LIBOR plus one is 5.1 percent.

¹⁵ Staff interview with John Forney, *supra*.

¹⁶ *Id*

¹⁷ *Florida Hurricane Catastrophe Fund: Liquidity and Risk Transfer Considerations*, by FHCF for State Board of Administration of Florida.

for such securities.¹⁸ The financial advisor for the FHCF believes that the full amount of bonding needed could be issued by the FHCF over a 9 to 18 month period in a series of several issues. This belief is based in part on written opinions earlier this summer from each of the three senior managers of the FHCF -- Bear Stearns, Goldman Sachs, and Lehman Brothers -- each of whom said that they believed the entire amount was achievable in a similar or shorter time frame.¹⁹

A \$26 billion bond issue would require a premium assessment of about 5 percent per year for 30 years on Florida policyholders, given current interest levels. The actual amount of the assessment will depend on the growth in the premium assessment base (currently, \$37.5 billion), the FHCF credit ratings, and interest rates (which were at historic lows prior to the August credit crisis). Given that the 5 percent assessment is only 1 percent below the maximum allowable assessment, any unfavorable change in these factors could impair the fund's ability to bond the full amount needed. The current bonding estimates are based on interest rates as of October 1, 2007 and assume a 4.77 percent interest rate for the 30-year, tax-exempt bonds. The FHCF estimates that if interest rates increased by about 1.5 percent, it would be unable to meet its maximum 2007 obligations within the 6 percent assessment cap. The added uncertainty of how a major hurricane would affect interest rates, bond ratings, and the assessment base, makes relying on large bond issues financed with assessments that much more precarious.

The largest insurance rating service, A.M. Best, expressed concern that the FHCF may be unable to issue bonds to produce its maximum claim-paying capacity through the TICL layer. In a report issued shortly after the 2007 law was enacted, A.M. Best raised the credit risk factor for reinsurance recoverables from the FHCF from 4 percent to 12 percent, meaning that for purposes of rating the financial strength of an insurer, the reinsurance recoverables from the FHCF are reduced 12 percent.²⁰

Two other important considerations should be noted at this point. The first is that the \$12 billion TICL option added by the 2007 legislation is the primary cause of

the potential shortfall from the maximum bonding capacity (given the current assessment caps). There is a much greater confidence and likelihood that the mandatory coverage obligations (\$15.85 billion) could be fully funded by bonding. This would require an estimated 2.7 percent assessment for 30 years, and a slightly higher assessment of 2.86 percent for 30 years for a subsequent season loss of this magnitude, which are well within assessment cap limits.

The second consideration is that the probability of the full \$26 billion loss to the FHCF occurring in any given year is relatively low, but not remote. This would require a hurricane resulting in about \$36 billion of insured residential hurricane losses (including the losses covered by the insurer's retention and 10 percent or greater co-pay), which is estimated to have a probability of 1.6 percent, or a hurricane that occurs about once every 65 years. The chances of the same size storm occurring again in a subsequent season (or by 2009, when the TICL coverage option expires) is more remote. By comparison, the probability of loss to the FHCF for the full mandatory coverage, but without the TICL coverage, is currently estimated to be about 3 percent, or once every 33 years. The probability of any loss at all to the FHCF (i.e., a loss above the industry retention of \$6.1 billion) is 13.33 percent, or once every 7.5 years.

Given the factors that could impair the fund's ability to bond the full amount of its potential obligations, as well as the policy concerns regarding reliance on large bond issues financed with assessments, it is prudent to thoroughly consider options for transferring risk from the FHCF by purchasing reinsurance or other capital market risk transfer products. However, the costs and benefits of these options must be compared to other options for reducing the potential liability of the FHCF.

Risk Transfer Products: Reinsurance and Capital Markets Products²¹

Reinsurance - The traditional method for an insurer or reinsurer to transfer risk is through the purchase of reinsurance. The FHCF is not subject to the same statutory requirements that apply to a Florida licensed insurer regarding the criteria that a reinsurer must meet in order for the ceding Florida insurer to obtain credit on its financial statements. However, as a matter of

¹⁸ *FHCF Estimated Claims-Paying Capacity, October 2007*, FHCA and Raymond James.

¹⁹ Staff interview with John Forney (with Raymond James), financial advisor to FHCF.

²⁰ *Rating Implications of Florida Legislation*, A.M. Best, Feb. 23, 2007.

²¹ The source for much of the information on capital markets products in this section is, *A Study of Private Capital Investment Options and Capital Formation Impacting Florida's Residential Insurance Market*, SBA, Sept. 19, 2006.

prudent management, the SBA is likely to require that any reinsurance it purchases for the FHCF be from reinsurers that meet these criteria, which generally include reinsurers licensed in the U.S., reinsurers licensed in other countries that meet U.S. trust fund deposit requirements, and a reinsurance exchange such as Lloyd's of London.²² A reinsurance transaction always involves some "credit risk" since it depends on the financial ability of the reinsurer to meet its obligations.

A reinsurance contract can be structured in many different ways. Virtually any identifiable portion of the insurance coverage (risk) can be reinsured for a price (premium), as negotiated between the ceding insurer and the assuming reinsurer. Rates and policy forms for reinsurance are not subject to regulatory approval. Currently, reinsurers offer the greatest potential source of capacity to assume some of the risk held by the FHCF, but the capacity is limited.

Industry Loss Warranties (ILWs) - ILWs are reinsurance contracts that pay off when a specified trigger or triggers are met. They differ from traditional reinsurance by being triggered by a specified loss to the entire insurance industry, referred to as an "index trigger" (such as hurricane losses in Florida for all insurers exceeding \$20 billion). There is also usually a second trigger that must be met, based on the losses to the individual insurer buying the ILW. The ILW will have a specified limit it will pay if the triggers are met. The seller of the ILW may be a reinsurer, or may be an investor such as a hedge fund. They are attractive to investors due to the index trigger, which is not dependent on an individual insurance company's losses. They also have relatively low transaction costs and are short-term. They may be attractive to insurers since they are generally less expensive than reinsurance, but the insurer has the risk of having losses that are greater, on average, than the industry-wide loss, referred to as "basis risk." Various sources estimate the amount of coverage provided by existing ILWs at between \$5 billion and \$7 billion, but some observers believe that they have a high potential for growth.

Catastrophe (Cat) Bonds - Cat bonds are a relatively new instrument, having been in the market for about ten years, though they are well established. They are, in effect, a high-interest loan for which the insurer pays the interest to the investor if there is no hurricane loss above a specified amount, but the investor loses the

entire principal if the specified hurricane loss occurs. Even though structured as a debt instrument, the insurer transfers the risk of specified hurricane losses to investors similar to transferring risk to a reinsurer in exchange for a premium. However, Cat bonds differ from reinsurance by being collateralized; meaning that the investors have set aside funds equal to the coverage amount in an account, thereby eliminating the credit risk and default risk associated with private reinsurance.

The insurer ("sponsor") creates a special purpose entity that issues the Cat bond. Investors buy the bond, which might pay them a rate of interest anywhere from 8 to 25 percent. The rate of interest (just like the rate-on-line for reinsurance) depends primarily on the risk of loss, so that the interest rate will be less as the probability of loss decreases. Unlike reinsurance, which is typically issued with a one-year policy term, a Cat bond usually has a 3 to 5 year term. Cat bonds typically cover the high end of an insurer's risk, having about a 1 to 2 percent chance of being triggered (i.e., a 50 to 100-year storm), while traditional reinsurance is used to cover lower level storms. If no hurricanes hit, then the investors make a healthy return on their investment. But if a hurricane hits and triggers the Cat bond, then the principal (investment) paid by the investors is forfeited and used by the insurer to pay claims.

Usually payment from a Cat bond is triggered by a specified industry-wide (index) loss, rather than by the amount of the insurer's losses. This allows the investors to be unconcerned about the expected losses to any particular insurer, eliminating any need to "underwrite" the insurer that receives payment from the Cat bond. But, from the insurer's perspective, this entails a considerable amount of "basis risk" which is the risk that the insurer's loss may not match the triggering industry loss event. This mismatch is the primary reason that Cat bonds are not perfect substitutes for private reinsurance. Cat bonds become more viable and more price competitive during hard reinsurance markets and less viable and less price competitive during soft reinsurance markets.

The total amount of Cat bonds outstanding are estimated to be between \$10 and \$15 billion and rarely exceed \$200 million for a single issue. There is very limited liquidity in the secondary market and the complexity of forming a special purpose entity to issue the bond has been a drawback to its growth. There are reportedly only four investment funds consisting of

²² See, s. 624.610, F.S.

about 30 investors that specialize in purchasing Cat bonds.

However, a recent article in the New York Times, *In Nature's Casino*²³, featuring John Seo, the founder of a hedge fund that invests in Cat bonds, helps to demystify the pricing and utility of Cat bonds and may serve to increase investor interest. Seo, profiled as a mathematical prodigy with a broader social purpose than the typical hedge fund manager, is founder and manager of a fund that controlled about \$1 billion in Cat bonds in 2005. According to the article, its investors lost millions in Hurricane Katrina, although overall returns that year were slightly profitable, compared with 10 to 12 percent returns the firm had previously delivered. But the firm now controls \$2 billion, or more than twice what it had before the most costly natural disaster in history. The article concludes:

Big investors weren't scared off by Katrina. Just the reverse. It has led many of them to turn to Seo and others like him to make money from catastrophe. And they probably will. But what interests Seo more is what might happen in the bargain, that the financial consequences of catastrophe will be turned into something they have never been: boringly normal.

Sidecars - A sidecar is a relatively new arrangement that has been called "an insurance company within an insurance company." A sidecar is a reinsurance entity that reinsures only the sponsoring insurer. It generally provides this reinsurance on a fully collateralized basis. Sidecars provide coverage similar to "quota-share" reinsurance, which is sharing in the premiums and losses equally, at a specified percentage. Both the insurer and outside investors contribute capital to the sidecar for a relatively short period of two years or less. They usually require a significant investment (as much as \$200 million) compared to Cat bonds (around \$10 million). Like Cat bonds, sidecars are complex transactions that can be costly to organize.

Exchange-Traded Futures and Options - Exchange-traded catastrophe futures or options give the holder a right to receive payment if catastrophe losses exceed a specified amount. However, previous attempts to add hurricane-related futures or options at established exchanges have failed due to insufficient interest and volume. The Chicago Board of Trade traded hurricane loss options from 1992 to 2000, then withdrew the

contracts in response to low volume. The Bermuda Cat Exchange traded hurricane futures from 1997 to 1999 and shut down trading due to low volume. Recent attempts to establish Internet-based exchanges have had very light trading. However, proponents have indicated that some of the flaws with earlier exchange-traded contracts in attempting to match investor and insurer needs may possibly be addressed by greater acceptance and reliance on hurricane loss models.

The Feasibility of Purchasing Risk Transfer Products for the FHCF

During the summer of 2007 the staff of the FHCF and its Financial Advisor, Raymond James, evaluated the feasibility and economics of purchasing risk transfer products for the FHCF for the 2007 hurricane season and beyond.²⁴ The evaluation team (hereafter "FHCF") surveyed the market and estimated that up to \$6 billion of risk transfer products could be available, of which \$4 billion consisted of traditional reinsurance, \$1 billion consisted of industry loss warranties, and \$1 billion consisted of Cat bonds. The specific cost and coverage amounts estimated by the FHCF for the risk transfer products, were as follows, characterized as conservative assumptions of availability and pricing:

- Reinsurance:
 - \$4 billion capacity
 - Price: 12 percent rate-on-line
 - Total premium: \$480 million
- Cat Bonds:
 - \$1 billion capacity
 - Price: 9 percent rate-on-line
 - Total premium: \$90 million
- Industry Loss Warranties:
 - \$1 billion capacity
 - Price: 10 percent rate-on-line
 - Total premium: \$100 million
- Total Risk Transfer Products:
 - \$6 billion capacity
 - Price: 11.2 percent rate-on-line
 - Total premium: \$670 million

The FHCF estimated that the \$6 billion of risk transfer products would cost about \$670 million, which is 11.2 percent of the amount purchased. This was based on the assumption that the \$6 billion coverage was at the top half of the \$12 billion TICL layer. The \$6 billion also is about the top one-fifth (21.5 percent) of the total \$27.85 billion potential fund obligations for 2007. The reason this portion was chosen was to

²³by Michael Lewis, *New York Times*, August 26, 2007.

²⁴ *Florida Hurricane Catastrophe Fund: The Feasibility of Purchasing Risk Transfer Products*, July, 2007, FHCA.

achieve the maximum amount of protection against a truly catastrophic event. This means that FHCF losses would have to reach \$22 billion and total insured residential hurricane losses (“ground-up losses”) would have to reach about \$31 billion, before any risk would be transferred. This also exposes the FHCF to increased liability for lower loss scenarios, since it would have \$670 million less in cash, with no risk transfer protection.

The basic effect of this purchase would be to transfer a low probability risk of a large liability, in exchange for an increased risk of a much smaller liability. Or, as more specifically summarized by the FHCF, the basic effect would be to establish a tradeoff between slightly increased exposures to losses in excess of available FHCF cash at lower storm loss levels in exchange for significantly enhanced protection from losses in excess of available FHCF cash at higher levels of storm losses. The FHCF analysis further stated that every dollar spent would expose the FHCF to an additional \$1 of potential losses in excess of available cash in low to moderate loss scenarios, but would provide about \$8.95 of increased protection from assessments in large loss scenarios that pierce the top half of the TICL layer. An added value of the risk-transfer is that it addresses the concern about the FHCF’s ability to issue bonds to fully meet its obligations. Transferring \$6 billion of liability would reduce the maximum bonding required from an estimated \$25.75 billion to \$19.75 billion.

The FHCF provided additional quantitative analysis of the risk tradeoff of purchasing \$6 billion in risk transfer products at the top-half of TICL:

- In order to realize any benefit (above break even) from the purchase of the risk transfer products, a storm causing overall residential losses (“ground-up losses”) of about \$31.3 billion would have to occur, which has a probability of about 1.93 percent (or a 1:52 year storm).
- If the full coverage from the risk transfer products was paid, based on market conditions as of July, 2007, the estimated maximum 30-year annual assessment would be reduced from 4.98 percent to 3.94 percent, a savings of over \$350 million per year, or about a \$10.87 billion savings over 30 years.
- The probability of a cash shortfall for lower level storms is increased from 24.7 percent to 27.5 percent if the risk transfer products are

purchased (due to cash reserves being reduced by \$670 million).

One significant concern is that the purchase of any risk transfer product requires payment of a much greater premium than the FHCF collected for the amount of risk transferred. For the top \$6 billion of the TICL layer, the FHCF is charging insurers a 1.85 percent rate on line, or \$111 million, compared to the estimated 11.2 percent rate on line, or \$670 million, to transfer this risk. This results in the FHCF retaining an inadequate premium, in an actuarial sense, for the remaining risk assumed by FHCF. This is due to the current method for determining FHCF premiums. For the mandatory coverage and TICL coverage, the premiums are required to be the “actuarially indicated” amount, which has historically been interpreted as the amount needed to cover the estimated annual average loss of the FHCF, plus expenses. Paying \$670 million to transfer the top \$6 billion of risk would require the FHCF to pay more than half of its \$1.33 billion premium income for 2007. This would leave the fund with about \$660 million (plus prior cash reserves) to cover the risk it retains for \$21.85 billion of potential losses. The \$660 million in premiums retained by the FHCF is about \$538 million less than the actuarially indicated premium of \$1.2 billion it would need to cover the average annual loss, based on its hurricane loss models.

There is no longer any risk-load or “rapid cash build up” factor, added to the actuarially indicated premium. A rapid cash build up factor equal to 25 percent of the actuarially indicated premium was statutorily required for 2006 and prior to that a rapid cash build-up factor was authorized but not implemented. The 2007 law deleted the 25 percent rapid cash build-up factor for 2007 and beyond. Even a 25 percent factor is relatively small, particularly for the TICL coverage, which would increase an average 2.32 percent rate on line to 2.9 percent, which is still well below the 9 to 11 percent rate on line estimated by the FHCF for risk transfer products.

The SBA did not approve the purchase of risk transfer products for 2007 or solicit bids for such products. Hindsight is 20-20, so it appears at the time of this report that the SBA’s decision not to purchase reinsurance or other risk transfer products for 2007 was a wise choice. The cash balance of the FHCF would have been reduced \$670 million, with no tangible benefit, as it prepares for the 2008 hurricane season and beyond. But, going forward, no one knows when the next major hurricane will strike.

An argument can be made for purchasing risk transfer products for the FHCF, at least for 2008 and 2009, when the TICL coverage is provided. Transferring the risk of the top \$6 billion would potentially reduce future assessments by about \$10.87 billion, resulting from about a 1-in-65 year storm. That may be unlikely, but it is not remote. Also, reducing the maximum bonding required from about \$26 billion to \$20 billion materially increases the ability of the FHCF to actually meet this obligation in a timely manner. But, this protection is limited and must be kept in perspective. Even if \$6 billion of risk is transferred and the state “wins the bet” by having a major hurricane, there would still be approximately a 4 percent assessment, rather than 5 percent, for 30 years. Also, for lower loss storms, assessments would increase by the \$670 million paid for the risk transfer products, which would require a 1.79 percent one-time (one year) assessment to recover that amount. The purchase of risk transfer products is no panacea, even if a large storm occurs, and increases debt if a small storm occurs.

There is also the argument that it is illogical or counter-productive for the FHCF to purchase reinsurance. The FHCF was created to add reinsurance capacity to the marketplace. More recently, due to the high cost of private reinsurance, the Legislature has chosen to use the FHCF to lower residential rates by effectively substituting FHCF coverage for higher-priced private reinsurance. Neither purpose is logically supported by the purchase of private reinsurance or other risk transfer products by the FHCF. The purchase of reinsurance by the FHCF would reduce capacity to other insurers and would add to the cost of residential insurance if FHCF premiums are increased to account for at least some of the cost.

A stronger argument could be made for the FHCF to purchase reinsurance if it were demonstrated that the FHCF could purchase reinsurance in bulk that was less expensive than the sum of the premiums paid by individual insurers for the same aggregate amount of coverage. The cost of reinsurance differs among companies for many reasons. Some insurers are able to purchase relatively cheap reinsurance from their parent companies. Some insurers are able to obtain lower rates than other insurers due to having a better book of business (less-risky properties), demonstrating a superior ability to manage claims, having hurricane losses that did not exceed computer-modeled losses, or satisfying other underwriting factors used by private reinsurers. The FHCF acts to “socialize” these differences by charging the same rate to all insurers,

without underwriting. If the FHCF purchases reinsurance, it will receive a uniform rate that is likely to be lower than the premium charged to some insurers, but higher than charged to other insurers. Overall, it has not been determined whether the FHCF would have a lower net cost than all insurers combined. If not, there would not appear to be any benefit to residential policyholders from purchasing risk transfer products other than equalizing costs among insurers and their policyholders (which results in winners and losers). But, for 2008 and 2009 when the TICL coverage continues to be offered, transferring risk would also provide much greater assurance that sufficient bonds could be issued after a major hurricane event to meet FHCF obligations.

The maximum \$6 billion in risk transfer products that the FHCF determined was available for 2007 was based on conservative assumptions about availability and pricing. It is doubtful that much more than \$1-\$2 billion of additional market capacity exists and any less expensive pricing would be marginal. The FHCF market analysis was well documented and based primarily on independent proposals submitted by its senior managers, Bear Stearns, Goldman Sachs, and Lehman Brothers. But, if there are no major catastrophes during the remainder of 2007, it is likely that reinsurance capacity will increase and prices may decrease for 2008.

There is also the opinion by some that the non-traditional capital market products are just beginning to grow and have yet to fully meet their potential. The previously mentioned article in the New York Times, *In Nature's Casino*, generally takes this view, focusing on the Cat bond market and its potential for enabling investors to make a profit on catastrophes, but in doing so to finance catastrophe losses in a predictable and measured way. The FHCF has the potential to materially spur the growth of this market. When interviewed by staff, John Seo, the leading Cat bond fund manager featured in the New York Times article, indicated that there would be significant investor interest if the FHCF were to issue at least \$1 billion in Cat bonds. By reinsuring every residential insurer in the state, the FHCF has a much greater ability than other insurers or reinsurers to have an indemnity trigger based solely on the Cat Fund losses, rather than an index trigger based on industry-wide losses. This would eliminate the “basis risk” to the FHCF of having a mismatch between its losses and the industry index trigger. Staff discussions also indicate that the rate-on-line may be one or two percentage points less than the 9 percent rate-on-line assumed by the FHCF for

purchasing \$1 billion of Cat bonds. But, the market has a long way to go. The FHCF's financial advisor has routinely examined the Cat bond market and concludes that there is currently little more than \$1 billion in Cat bonds available for Florida hurricane risk, despite assertions of greater capacity from certain fund managers.

There is no easy answer to the fundamental pricing problem of transferring risk from the FHCF. It is unlikely and probably unwise for policymakers to direct the FHCF to charge premiums to insurers that are higher than the premiums it would be required to pay to transfer a given level of risk. Doing so would significantly reduce or eliminate the favorable pricing of FHCF coverage as compared to private reinsurance, and substantially compromise the goal of affordability of coverage. But, to the extent that the gap can be narrowed, it makes risk transfer a more viable option. Even if the amount of the premium for transferring risk is above the premium charged by the FHCF, there are policy arguments for transferring the risk of large assessments, if it is demonstrated that the FHCF can obtain coverage more cheaply than insurers can independently, or for amounts of coverage for which there is significant uncertainty associated with issuing sufficient bonds. As a long-term strategy, however, using the cash balance to fund risk transfer products is not actuarially sound and is likely to increase assessments for lower level storms. This could also send a negative signal to the market as to the state's commitment to the financial viability of the FHCF.

The idea of creating an exchange for selling futures or options in FHCF losses has theoretical appeal, but does not appear to be a viable option for transferring any significant level of risk. Creating an exchange does not create a market. Instead, an exchange is the result of an existing market and provides a way to manage the market. Rather than attempting to create a new exchange, it would be more viable to attempt to partner with an existing exchange, such as the Chicago Board of Trade, for issuing FHCF futures or options.

In summary, any risk transfer product for the high end of FHCF coverage will require paying at least 7 to 12 percent of the amount of the risk transferred for which the FHCF currently charges about 2 percent. Currently, about \$6 billion in risk could be transferred within this price range, but greater amounts could probably be transferred, particularly if the FHCF were to actively seek to transfer risk, which would help spur investor interest. The costs and benefits of purchasing risk transfer products, as discussed above, must also be

compared to the costs and benefits of other options for reducing the risk of loss to the FHCF.

Other Options for Reducing Risk of Loss to FHCF

There are two main options to reduce the risk of loss to the FHCF other than purchasing risk transfer products. The primary option is to not offer or to reduce the optional \$12 billion TICL coverage limit. This coverage was offered in order to reduce premiums to residential policyholders, which is itself currently a matter of major controversy and dispute between the Office of Insurance Regulation and the insurers, as many rate filings have been disapproved and remain pending. This report does not analyze the effect of the optional FHCF coverages on rate filings, which has yet to play itself out. The results of the rate filings are likely to be a key test of whether the Legislature elects to keep or extend the optional FHCF coverage. Even if the expected rate decreases do not occur, the analysis must still evaluate how much rates would have increased without the expanded FHCF coverage.

The other main option is to charge higher premiums for FHCF coverage. This has already been suggested in order to make the purchase of risk transfer products a more viable option. If not used to purchase risk transfer products, higher premiums provide additional cash reserves that reduce the risk of assessments. Higher premiums for optional TICL coverage could also result in some insurers being able to find reinsurance from the private market at comparable or lower rates, further reducing the risk of loss to the FHCF. The benefits of higher FHCF premiums must be balanced against the goal of affordability of coverage. Further analysis will be required on the impact of the expanded FHCF coverage on residential insurance premiums in order to determine how a FHCF rate increase would further impact premiums.

Recently Chief Financial Officer Sink proposed legislation that would delegate legislative authority to the Governor and Cabinet to reduce the risk of the FHCF by using the options listed above, i.e., by lowering the amount of optional coverage, or increasing the premium, or both. (No change is proposed to the mandatory coverage or to the current authority for the SBA to purchase reinsurance or other risk transfer products.) This proposal would require the FHCF to analyze and report on the availability and cost of private reinsurance, as well as the availability and cost of financing FHCF losses, in order for the Governor and Cabinet to make a determination for setting limits and pricing of FHCF coverage. This determination would be required to be made by

February, to better enable insurers to make elections and to structure private reinsurance, but with an opportunity for the Governor and Cabinet to make final revisions in April if market conditions change. This would arguably eliminate the need for the Legislature to annually review coverage and pricing, which is always problematic due to Regular Session ending immediately before hurricane season begins and after many private reinsurance contracts have already been executed. The proposal would not restrict the Legislature from making coverage or pricing changes. Based on the current law, this proposal could be viewed as potentially increasing the risk of loss to the FHCF in the future, because the TICL and TEACO options would be permanent, subject to executive branch limitations, rather than terminated after 2009, by current law. Similarly the \$10 million coverage option for the smaller-size insurers would be permanent, subject to determination by the Governor and Cabinet, rather than terminated after 2007.

RECOMMENDATIONS

Based on the findings of this report, committee staff recommends the following:

1. The Legislature should not mandate that the SBA purchase reinsurance or other risk transfer products for the FHCF, but should retain the current authority for the SBA to do so.
2. The Legislature should either require or allow the SBA to add a risk load or rapid cash build-up factor to the actuarially indicated premium charged for the mandatory coverage and TICL coverage provided by the FHCF. This additional premium would provide additional reserves that would mitigate assessments and provide additional cash resources to make the purchase of risk transfer products a more viable option. The risk load percentage should be greater for TICL coverage compared to the mandatory coverage, or otherwise be greater for higher levels of coverage, since the rate on line is lower and to reflect the greater uncertainty of the more remote risk occurring in any given year.
3. Assuming the TICL coverage continues to be offered to insurers for 2008 and 2009 (or beyond), the SBA should consider purchasing reinsurance, Cat bonds or other non-traditional risk transfer products for the FCHF, as would be prudent within the fund's premium structure. This would reduce the risk of large assessments and increase the likelihood that sufficient bonds could be issued after a large hurricane event. Also, by more aggressively pursuing Cat bonds, the

SBA could help spur investor interest in such capital market products and establish the legal and administrative framework necessary to make this a potential option in the future.

4. The SBA, with the assistance of OIR, should conduct a market analysis to determine whether the FHCF can obtain risk transfer products at a cost that is less than the sum of the premiums paid by insurers independently, for a given level of coverage. This determination would assist the Legislature and SBA in determining whether it is logical for the FHCF to purchase risk transfer products as a long-term strategy. Unless this determination is made, the value of reinsurance is primarily limited to addressing the uncertainty associated with issuing bonds of a sufficient amount to meet TICL obligations.

5. The Legislature should analyze the impact of the expanded FHCF coverage on insurance rates in order to evaluate the public benefit provided by the expanded FHCF coverage options. Based on this analysis, the Legislature should consider reducing the optional coverage amounts or increasing the premium, or delegating authority to the executive branch to do so.