# REPORT PREPARED FOR THE FLORIDA HURRICANE CATASTROPHE FUND



# **CLAIMS-PAYING CAPACITY ESTIMATES**

May 18, 2017

Once finalized, the statement of the FHCF's estimated borrowing capacity, estimated claims-paying capacity, and projected year-end balance required under s. 215.555(4)(c)2., F.S., will be published in the Florida Administrative Register as required by law.

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- A) Bonding Capacity Solicitation & Senior Manager Responses
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The Florida Hurricane Catastrophe Fund ("FHCF") is a tax-exempt trust fund created by the State of Florida in 1993 and is administered by the State Board of Administration of Florida under Section 215.555, Florida Statutes. Its sole purpose is to stabilize the State's property insurance markets by providing contractually specified coverage that provides reimbursement for a portion of residential property insurers' hurricane losses. Participation is mandatory for authorized property insurers, subject to limited exceptions.

Participating insurers pay the FHCF annual reimbursement premiums as consideration for this coverage. The reimbursement premiums are based on insured values of covered properties, as reported annually to the FHCF. The FHCF statute requires the annual adoption of a premium formula that generates "actuarially indicated" premiums as defined by law. An insurer's premium is proportionate to its coverage selection at a percentage level and its share of the FHCF's risk exposure.

The annual reimbursement contract provides for reimbursement of a percentage of an insurer's residential hurricane losses in excess of its "retention" which is determined under a statutory formula. Reimbursement is provided at one of three percentage levels (90%, 75%, or 45%) selected in advance by the insurer.

The FHCF may obtain funds to pay its contractual reimbursement obligations from the following available potential sources:

- (1) Accumulated reimbursement premiums
- (2) Pre-event bond proceeds and other pre-event liquidity resources
- (3) Recoveries from reinsurance and other risk-transfer mechanisms
- (4) Proceeds of post-event revenue bonds issued under Section 215.555(6), Florida Statutes, and secured by emergency assessments, if needed
- (5) Emergency assessments under Section 215.555(6)(b), Florida Statutes, if needed
- (6) Investment earnings on accumulated reimbursement premiums and emergency assessments

The actual and potential obligations of the FHCF are limited by statute. For the contract year June 1, 2017 – May 31, 2018, the maximum potential liability of the FHCF is \$17 billion, with total liquid resources of \$17.6 billion, which is \$600 million above the maximum potential liability and therefore available for the subsequent season. In addition, the FHCF statute limits the Fund's reimbursement liability to its actual claims-paying capacity, which may depend on financial market conditions at the time of sale if post-event revenue bonds are needed to pay claims. The following chart summarizes the FHCF's



projected coverage for the 2017-2018 contract year based on assumptions in the 2017 ratemaking formula report.

Projected FI	HCF Coverage for 2017-2018 Contract Year	Ground Up Losses (\$B)	Return Time (Years)	Probability (%)
	\$2.1 B of \$2.7 B – Series 2013A and Series 2016A	\$28.7	46	2.18%
<b>t</b> s	Pre-Event Bonds			
\$5.4 B Industry Co-Payments	\$14.9 B - Projected 2017 Year-End Fund Balance	\$26.0	39	2.53%
	\$7.0 B — Industry Retention	\$7.0	10	10.47%

Not drawn to scale

In this chart the relevant data are aggregated for 156 FHCF participating insurers. The references to probabilities, probable maximum losses, and cash exhaustion are shown for illustrative purposes only. The probabilities in this chart are presented as if all of the participating insurers had uniform exposures and loss experiences. In actual practice, each participating insurer has its own retention and coverage limits based upon its actual exposures, and therefore each participating insurer has its own unique probabilities of triggering its FHCF coverage and reaching its FHCF coverage limit.

Pursuant to Section 215.555(4)(c)(2), Florida Statutes, "in May and October of the contract year, the board shall publish in the Florida Administrative Register a statement of the fund's estimated borrowing capacity, the fund's estimated claims-paying capacity, and the projected balance of the fund as of December 31." The purpose of these claims-paying capacity estimate reports is to provide an estimate of the borrowing and claims-paying capacity of the FHCF for the 2017 season in order to assist the FHCF's 161 participating insurers in determining their reimbursements.

Providing estimates at these particular times of the year is useful from the perspective that some insurers operate in multiple states and tend to purchase their private reinsurance effective January, while many other insurers operate solely in Florida and purchase their private reinsurance prior to June, effective June 1<sup>st</sup> of each year.



As in prior years, in order to estimate the FHCF's borrowing capacity for the 2017 and 2018 seasons, we took the following three steps:

(1) Evaluated market conditions for the FHCF using our internal resources. Raymond James & Associates, Inc. ("Raymond James"), a full service broker-dealer with approximately \$10.4 billion in market capitalization (NYSE: RJF, www.raymondjames.com), serves as the independent

Raymond James and the FHCF staff utilized the resources of the FHCF's five senior managing underwriters to estimate FHCF bonding capacity

financial advisor to the FHCF. Raymond James serves as an advisor to numerous governmental catastrophe insurance entities across the country and our experience includes the evaluation and placement of risk transfer programs in the traditional reinsurance market and capital market, the issuance of pre-event bonds and other liquidity mechanisms, the issuance of post-event bonds, and serving as investment consultant. We rank among the top 10 municipal underwriters in the country and participate daily in the market for fixed income securities similar to those the FHCF has issued or would issue to help meet its reimbursement obligations after an event and have served as advisor or underwriter on the issuance of over \$40 billion of debt and related financial instruments for the FHCF and other governmental catastrophe insurance entities around the country since 2005.

- (2) Solicited formal written feedback from the five current senior managing underwriters of the FHCF's financial services team. These firms Bank of America / Merrill Lynch, Citi, J.P. Morgan, Morgan Stanley and Wells Fargo are among the largest financial services firms in the world, and each one has an extensive experience and expertise with FHCF securities and similar instruments for other municipal issuers. They all were also part of the team for the successful execution of the Series 2013A and Series 2016A pre-event financings. In the solicitation for the preparation of this report, we asked them to provide their estimates, given certain assumptions, of the FHCF's bonding capacity. In our written request for feedback, we sought to ensure that the underwriters had a clear understanding of the purpose of asking them to provide such estimates and the uses therefore. A copy of the solicitation and the response of each of the managers is contained in Appendix A.
- (3) We evaluated the written feedback and determined a recommended bonding capacity estimate for inclusion in this report.



The FHCF has very strong debt repayment capabilities. From a credit standpoint, the ability to levy emergency assessments on all property and casualty insurance lines except workers' compensation, medical malpractice, federal flood, and accident and health lines is similar to a statewide sales tax on an essential product with an underlying premium base of over \$43 billion. The

The major constraint, if any in the future, for the FHCF in achieving its maximum reimbursement obligation is potential limitation of market access and capacity, not a lack of assessment capability or credit strength

strength of this pledged revenue stream is the primary reason the three major rating agencies – Moody's, Standard & Poor's, and Fitch – rate the FHCF's debt Aa3, AA, and AA, respectively. To put these ratings in perspective, less than 5% of U.S. corporations have ratings in the AA category by Standard & Poor's.

While the FHCF statute does limit the amount of assessments that can be levied – 6% for losses attributable to one contract year and 10% for losses attributable to all years – these percentages, when applied to the current assessment base of \$43.7 billion¹ mean the FHCF could levy annual assessments of as much as \$2.62 billion for losses from hurricanes occurring in one contract year and as much as \$4.37 billion for losses from hurricanes occurring over multiple contract years. These annual amounts, in conjunction with the other available resources of the FHCF, are estimated to be more than sufficient to support enough bonds to enable the FHCF to meet its maximum initial season obligation and subsequent season coverage as well, assuming that the fixed income markets continue to function in a normal manner and the FHCF has market access to issue such bonds at the current market rate for the initial season, or even at inflated rates of as high as 7%.

Market conditions have significantly improved over the last nine years with U.S. and global interest rates at almost all-time lows, with fixed rate issuance at all-time highs, enabling the FHCF successfully executed the \$2 billion Series 2013A and \$1.2 billion Series 2016A taxable pre-event financings in 2013 and 2016, respectively. However, market conditions and access are never guaranteed, especially after an event, and therefore always have some marginal uncertainty, which is critical to understanding the potential challenges the FHCF may face, especially after a large event. In addition, the FHCF also completed its first reinsurance purchase for the 2015 season in the amount of \$1 billion at an attachment point of \$12.5 billion and then again in 2016, transferred \$1 billion of risk to the global markets through traditional reinsurance at an attachment point of \$11.5 billion for the 2016 season.

Under section 215.555(4) (b) 1, Florida Statutes, an insurer is prohibited from electing a lower coverage percentage upon renewal of its FHCF reimbursement contract if any post-event revenue bonds

<sup>&</sup>lt;sup>1</sup> See Appendix B for an analysis of the size of the FHCF's assessment base over time.



are outstanding. After the defeasance of FHCF revenue bonds in 2014, some participating insurers elected to lower their coverage percentage selection for the 2015-2016 or subsequent contract years. The average percentage coverage selection dropped from 89.9% for the 2014-2015 contract year to 74.8% for the upcoming 2017-2018 contract year. As a result of these changes, the copayment amount for a \$17 billion FHCF payout rose from \$1.8 billion for the 2014-2015 contract year to \$5.4 billion for the 2017-2018 contract year. As seen in the table below, for the 2017-2018 Contract Year, the FHCF has \$17.6 billion of liquidity resources, which surpasses its maximum statutory obligation of \$17 billion by \$600 million. After an event and depending on the market conditions and interest rates, the FHCF may be able to either draw on its pre-event bond proceeds and repay the pre-event bonds by levying an emergency assessment, or the FHCF could issue post-event bonds and leave its pre-event bond proceeds outstanding for a subsequent season(s). The table below shows the FHCF's obligations and its projected liquidity resources for the 2017-2018 Contract Year.

FHCF Obligations and Liquidity Resources – 2017-2018 Contract Year	Amount (\$B)
Total Potential FHCF Obligations	\$17.0
Projected 2017 Year-End Fund Balance	\$14.9
Series 2013A and Series 2016A Pre-Event Bonds Balance	\$2.7
Total Liquidity Resources	\$17.6
Total Liquidity Resources Above Potential Obligations	\$0.6

If the FHCF were to leave all its Series 2013A and Series 2016A pre-event bond proceeds outstanding, the potential maximum amount of post-event bonding needed is projected to be approximately \$2.1 billion for the 2017-2018 contract year. Bonding needs of this size are not very large by municipal market standards, and under normal market conditions this bonding amount is a size that both the taxable and tax-exempt municipal market sees in most years. For example, the charts on the following page show that 23 issues were completed above this amount, or \$2.1 billion, in the taxable or tax-exempt municipal market since 2012.



	Largest 25 Taxah	ole Municipa	al Issuances B	y Par Amount Since 2012	
			arrasaanees b	, , , , , , , , , , , , , , , , , , , ,	Par
Rank	Issuer Name	State	Year of Sale	Issue Description	(\$MM)
1	Grand Parkway Transport Corp	TX	2013	Subordinated Tier Toll Rev Bonds	\$2,920
2	California	CA	2013	Various Purpose GO Bonds	\$2,472
3	Regents of the Univ of California	CA	2013	General Revenue Bonds	\$2,459
4	New York Transportation Dev Corp	NY	2016	Special Facilties Bonds	\$2,410
5	New Jersey Economic Dev Auth	NJ	2013	School Facs Constr Ref Bonds	\$2,253
6	New Jersey Economic Dev Auth	NJ	2015	School Facilities Con Ref Bonds	\$2,178
7	NYS Utility Debt Securitization Auth	NY	2013	Restructuring Bonds	\$2,022
8	Port Authority of NY & NJ	NY	2012	Consolidated Bonds	\$2,000
8	State Board of Adminsitration Fin Corp	FL	2013	Revenue Bonds	\$2,000
8	Port Authority of NY & NJ	NY	2015	Consolidated Bonds	\$2,000
9	Los Angeles Comm College Dt	CA	2014	GO Refunding Bonds	\$1,893
10	Empire State Development Corp	NY	2017	State Personal Inc Tax Rev Bonds	\$1,843
11	Regents of the Univ of California	CA	2015	Ltd Project Revenue Bonds	\$1,671
12	California	CA	2016	Various Purpose GO Bonds	\$1,649
13	Regents of the Univ of California	CA	2013	General Revenue Bonds	\$1,594
14	JobsOhio Beverage System	ОН	2013	Stwide Sr Ln Liquor Profits Bonds	\$1,511
15	California	CA	2016	Various Purpose GO Bonds	\$1,468
16	NYC Transitional Finance Auth	NY	2012	Future Tax Secured Sub Bonds	\$1,400
17	Georgia	GA	2016	GO Refunding Bonds	\$1,371
18	SC Pub Svc Au (Santee Cooper)	SC	2013	Revenue Obligations	\$1,341
19	Empire State Development Corp	NY	2014	State Personal Inc Tax Rev Bonds	\$1,297
20	Washington	WA	2016	General Obligation Bonds	\$1,295
21	Georgia	GA	2015	General Obligation Bonds	\$1,284
22	California	CA	2017	High-Speed Passenger Train Bonds	\$1,248
23	New York City-New York	NY	2013	General Obligation Bonds	\$1,242
24	New Jersey Economic Dev Auth	NJ	2014	School Fas Constr Ref Bonds	\$1,229
25	Empire State Development Corp	NY	2013	State Personal Inc Tax Rev Bonds	\$1,209

Source: Thomson Financial for long-term taxable issuances from January 1, 2012 to April 30, 2017.

Largest 25 Tax-Exempt Municipal Issuances By Par Amount Since 2012						
					Par	
Rank	Issuer Name	State	Year of Sale	Issue Description	(\$MM)	
1	Puerto Rico	PR	2014	General Obligation Bonds	\$3,500	
2	California	CA	2016	GO Various Purpose Ref Bonds	\$2,951	
3	Grand Parkway Transport Corp	TX	2013	Sub Tier Toll Rev Tender Bonds	\$2,920	
4	Michigan Finance Authority	MI	2012	Unemploy Oblig Assess Rev Bonds	\$2,917	
5	Pennsylvania Econ Dev Fin Auth	PA	2012	<b>Unemploy Compensation Rev Bonds</b>	\$2,827	
6	California	CA	2017	GO Var Purpose & Refunding Bonds	\$2,793	
7	New Jersey Trans Trust Fund Au	NJ	2016	Revenue Notes	\$2,741	
8	California	CA	2016	GO Various Purpose & Ref Bonds	\$2,653	
9	California	CA	2013	GO Various Purpose & Ref Bonds	\$2,630	
10	California	CA	2013	Various Purp GO Refunding Bonds	\$2,472	
11	Regents of the Univ of California	CA	2013	General Revenue Bonds	\$2,459	
12	California	CA	2014	GO Various Purpose & Ref Bonds	\$2,370	
13	Puerto Rico	PR	2012	GO Public Improvement Ref Bonds	\$2,318	
14	Foothill/Eastern Transp Corridor Agy	CA	2013	Toll Road Refunding Revenue Bonds	\$2,275	
15	New Jersey Economic Dev Auth	NJ	2013	School Facs Constr Ref Notes	\$2,253	
16	New Jersey Economic Dev Auth	NJ	2015	School Facilities Con & Ref Bonds	\$2,178	
17	California Health Facs Fin Auth	CA	2017	Revenue Bonds	\$2,126	
18	California	CA	2013	General Obligation Bonds	\$2,097	
19	NYC Sales Tax Asset Rec Corp	NY	2014	Sales Tax Asset Revenue Bonds	\$2,035	
20	NYS Utility Debt Securitization Auth	NY	2013	Restructuring Bonds	\$2,022	
21	Port Authority of NY & NJ	NY	2015	Consolidated Bonds	\$2,000	
22	Chicago City-Illinois	IL	2015	Gen Airport Sr Ln Rev & Ref Bonds	\$1,947	
23	California	CA	2015	Various Purpose GO & Ref Bonds	\$1,945	
24	California	CA	2015	Various Purpose GO & Ref Bonds	\$1,926	
25	California	CA	2012	Various Purpose GO Ref Bonds	\$1,905	

Source: Thomson Financial for long-term tax-exempt issuances from January 1, 2012 to April 30, 2017.



After a hurricane occurs, if the FHCF determines to issue post-event bonds, it most likely will not need to do one single large financing. Based on the higher attachment point and the past payout patterns the FHCF could also easily meet its 2017-2018 obligations by issuing two or more series of bonds over a period of 12 months or longer, if needed. Accordingly, it is also helpful to evaluate which issuers in the municipal market (both taxable and tax-exempt) have issued the most debt in a 12-month period. Since 2012, municipal entities have issued more than \$2.1 billion in a calendar year 93 times. The chart below shows the largest amounts issued in 2012 was by the New York State Dormitory Authority in the amount of \$7.0 billion. The largest amounts issued in 2013 and 2014 were by the State of California in the amount of \$8.5 billion and \$6.2 billion, respectively. In 2015 and 2016, the largest amounts issued were \$9.1 billion by the New York State Dormitory Authority \$8.9 billion by the State of California, respectively. Year-to-date 2017, the largest amount issued is \$4.6 billion by the State of California.

	Largest 25 Issuers By Issued Par Amount In 2	2012
		Par
Rank	Issuer Name	(\$MM)
1	NYS Dorm Authority	\$7,02
2	Metropolitan Transport Authority (MTA)	\$6,69
3	California	\$5,76
4	New York City-New York	\$5,70
5	NYC Transitional Finance Authority	\$5,663
6	Illinois	\$5,118
7	Michigan Finance Authority	\$3,819
8	Port Authority of NY & NJ	\$3,69
9	Washington	\$3,509
10	Pennsylvania Econ Dev Finance Authority	\$3,03
11	Puerto Rico	\$2,73
12	Chicago City-Illinois	\$2,67
13	NYS Thruway Authority	\$2,66
14	Connecticut	\$2,65
15	NYC Municipal Water Finance Authority	\$2,55
16	Dallas & Fort Worth Cities-Texas	\$2,52
17	New Jersey Economic Dev Authority	\$2,16
18	California St Public Works Board	\$2,10
19	Puerto Rico Aqueduct & Sewer Authority	\$2,09
20	Indiana Finance Authority	\$1,97
21	Massachusetts	\$1,95
22	San Antonio City-Texas	\$1,91
23	Regents of the Univ of California	\$1,86
24	Illinois Finance Authority	\$1,83
25	Louisiana	\$1,81

24	Illinois Finance Authority	\$1,830
25	Louisiana	\$1,815
	Largest 25 Issuers By Issued Par Amount I	
		Par
Rank	Issuer Name	(\$MM)
1	NYS Dorm Authority	\$9,093
2	California	\$6,380
3	NYC Transitional Finance Auth	\$5,476
4	Chicago City-Illinois	\$4,241
5	Connecticut	\$3,611
6	Regents of the Univ of California	\$3,350
7	Texas Transportation Commission	\$3,301
8	Metropolitan Transport Auth (MTA)	\$3,111
9	New York City-New York	\$3,070
10	Port Authority of NY & NJ	\$3,025
11	Michigan Finance Authority	\$2,802
12	Washington	\$2,569
13	Massachusetts	\$2,552
14	New Jersey Economic Dev Auth	\$2,448
15	Pennsylvania	\$2,242
16	Miami-Dade Co-Florida	\$2,168
17	Illinois Finance Authority	\$2,144
18	NYC Municipal Water Fin Auth	\$2,033
19	NYS Housing Fin-Mortgage Agcy	\$1,763
20	Golden State Tobacco Sec Corp	\$1,692
21	North Texas Tollway Auth (NTTA)	\$1,627
22	Honolulu City & Co-Hawaii	\$1,588
23	Wisconsin	\$1,570
24	San Antonio City-Texas	\$1,541
25	Massachusetts Dev Finance Agov	\$1 527

		Par
Rank	Issuer Name	(\$MM)
1	California	\$8,450
2	New York City-New York	\$5,574
3	Regents of the Univ of California	\$4,702
4	Illinois	\$3,354
5	Empire State Development Corp	\$3,283
6	Massachusetts	\$3,226
7	NYC Transitional Finance Auth	\$3,207
8	NYS Dorm Authority	\$3,031
9	New Jersey Economic Dev Auth	\$3,018
10	Washington	\$2,936
11	Grand Parkway Transport Corp	\$2,920
12	Metropolitan Transport Auth (MTA)	\$2,763
13	Connecticut	\$2,730
14	NYC Municipal Water Finance Auth	\$2,392
15	Foothill/Eastern Transp Corridor Agy	\$2,275
16	New Jersey Turnpike Authority	\$2,137
17	Dallas & Fort Worth Cities-Texas	\$2,067
18	Utility Debt Securitization Auth	\$2,022
19	Florida St Board Admin Fin Corp	\$2,000
20	California St Public Works Board	\$1,912
21	Port Authority of NY & NJ	\$1,850
22	SC Pub Svc Au (Santee Cooper)	\$1,848
23	NYS Thruway Authority	\$1,831
24	Jefferson Co-Alabama	\$1,786
25	NYC Housing Dev Corp	\$1,773

	Largest 25 Issuers By Issued Par Amount In 2016				
		Par			
Rank	Issuer Name	(\$MM)			
1	California	\$8,921			
2	NYS Dorm Authority	\$5,863			
3	Metropolitan Transport Auth (MTA)	\$5,192			
4	Massachusetts	\$4,826			
5	NYC Transitional Finance Auth	\$4,750			
6	Massachusetts Dev Finance Agcy	\$4,132			
7	New York City-New York	\$3,882			
8	Connecticut	\$3,657			
9	Chicago City-Illinois	\$3,513			
10	Illinois	\$3,362			
11	Illinois Finance Authority	\$3,327			
12	New York Transportation Dev Corp	\$3,255			
13	California Health Facs Fin Auth	\$3,214			
14	Washington	\$2,850			
15	Pennsylvania	\$2,841			
16	New Jersey Trans Trust Fund Au	\$2,741			
17	Pennsylvania Turnpike Commission	\$2,713			
18	Univ of Texas Sys Bd of Regents	\$2,628			
19	Michigan Finance Authority	\$2,567			
20	Regents of the Univ of California	\$2,391			
21	Georgia	\$2,260			
22	Wisconsin	\$2,197			
23	Indiana Finance Authority	\$2,165			
24	Miami-Dade Co-Florida	\$1,957			
25	California Statewide CDA (CSCDA)	\$1.950			

	Largest 25 Issuers By Issued Par Amount In 2	014
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Rank	Issuer Name	(\$MM)
1	California	\$6,243
2	Texas Transportation Commission	\$5,522
3	NYS Dorm Authority	\$4,182
4	NYC Transitional Finance Auth	\$3,831
5	Massachusetts	\$3,616
6	Puerto Rico	\$3,500
7	Connecticut	\$3,283
8	New York City-New York	\$2,998
9	Port Authority of NY & NJ	\$2,880
10	Washington	\$2,856
11	Michigan Finance Authority	\$2,825
12	Chicago City-Illinois	\$2,585
13	Houston City-Texas	\$2,524
14	Illinois	\$2,427
15	NYC Municipal Water Fin Auth	\$2,391
16	Metropolitan Transport Auth (MTA)	\$2,349
17	Bay Area Toll Authority (BATA)	\$2,213
18	NYC Sales Tax Asset Rec Corp	\$2,035
19	Pennsylvania Turnpike Commission	\$1,982
20	New Jersey Economic Dev Auth	\$1,972
21	NYC Housing Dev Corp	\$1,933
22	NYS Housing Fin-Mortgage Agcy	\$1,893
23	Maryland	\$1,887
24	Los Angeles Comm College Dt	\$1,843
25	Wisconsin	\$1,762
	Largest 25 Issuers By Issued Par Amount 2017	YTD

	Largest 25 Issuers By Issued Par Amount 2017YTD				
		Par			
Rank	Issuer Name	(\$MM)			
1	California	\$4,645			
2	California Health Facs Fin Auth	\$2,419			
3	NYC Transitional Finance Auth	\$1,895			
4	Empire State Development Corp	\$1,843			
5	Los Angeles Dept of Wtr & Power	\$1,376			
6	Triborough Bridge & Tunnel Auth	\$1,203			
7	California State Univ Trustees	\$1,196			
8	Chicago City-Illinois	\$1,160			
9	Maryland	\$1,141			
10	Tsasc Inc	\$1,103			
11	Salt Lake City-Utah	\$1,072			
12	Oregon	\$983			
13	NYS Environmental Facs Corp	\$925			
14	New York City-New York	\$900			
15	Wisconsin	\$865			
16	Bay Area Toll Authority (BATA)	\$859			
17	Port Authority of NY & NJ	\$855			
18	NYS Dorm Authority	\$850			
19	Texas Transportation Commission	\$770			
20	Massachusetts	\$768			
21	Washington	\$752			
22	Connecticut	\$747			
23	NYC Municipal Water Fin Auth	\$729			
24	New Jersey Educational Facs Au	\$703			
25	New Jersey Economic Dev Auth	\$671			

Source: Thomson Financial for long-term issuances from January 1, 2012 to April 30, 2017.

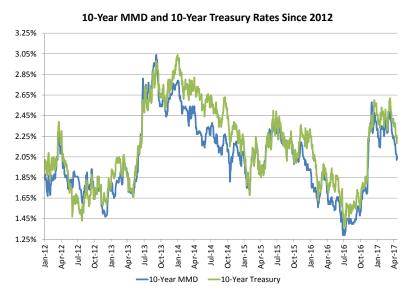


In reviewing this history of large municipal issuers, however, it is important to note that the FHCF has been a relatively infrequent but large issuer of debt. Since 2006, the FHCF has completed seven bond issues totaling \$12.1 billion (three tax-exempt issues totaling \$2.6 billion and four taxable issues totaling \$9.5 billion), of which \$3.2 billion in pre-event debt has been issued since 2012 with \$2.7 billion currently outstanding. By comparison, for example, since 2012, the State of California has completed 67 bond issues totaling \$59.0 billion, the New York State Dormitory Authority has completed 168 bond issues totaling \$30.7 billion, and the State of Florida has completed 146 bond issues totaling \$13.5 billion. The FHCF's debt has always been issued with relatively short maturities ranging from 1-7 years (although it has the authority to issue debt with maturities of up to 30 years). California's issues, by comparison, have had maturities ranging from 1-34 years, and the New York State Dormitory Authority and the State of Florida have had maturities ranging from 1-30 years.

As a less frequent issuer with relatively less debt outstanding and primarily at the shorter end of the yield curve, the FHCF is not as well covered by investor credit analysts in the primary or secondary markets who invest at the long-end of the yield curve, even though it has very strong credit ratings. This relative lack of long-term exposure and investor familiarity could potentially be a limiting factor in determining the FHCF's potential market access in the short run, especially for longer maturities.

Analysis of potential market acceptance of large amounts of FHCF debt must include not only relevant historical references, but also an evaluation of current market conditions and cash flow needs. In this regard, conditions seem to be excellent in the tax-exempt municipal market, as well as in both the taxable municipal and corporate markets.

In 2016, corporate issuance of \$1.54 trillion (\$1.3 trillion investment grade, \$237 billion high yield, and \$21 billion convertible) surpassed the previous record issuance of \$1.51 trillion (\$1.2 trillion investment grade, \$261 billion high yield, and \$20 billion convertible) in 2015. Year-to-date 2017, corporate bond issuance is \$584 million, or 12% higher than the \$521 million] issued

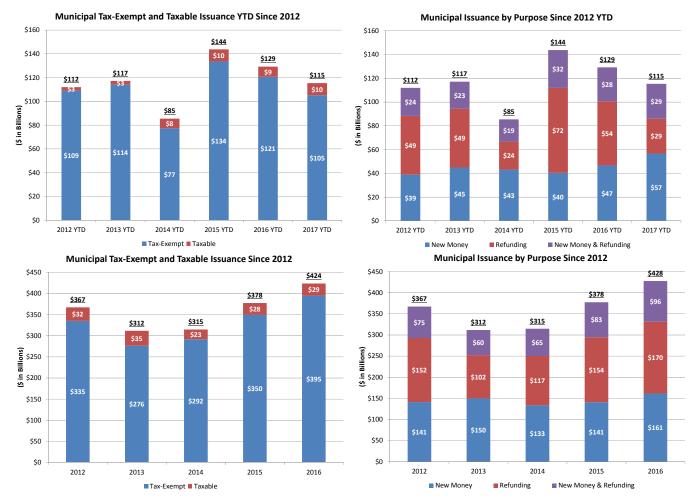


over the same time period in 2016. The corporate bond market has topped \$1 trillion each year since 2011 as interest rates have been consistently historically low.



While corporate bond issuance has reached record levels since 2011, most issuances are for financial engineering rather than to fund growth – i.e., more issuances are to fund mergers and acquisitions or stock buybacks, such as Apple's buyback and dividend program with over \$90 billion issued since 2013, Microsoft issuing \$20 billion in 2016 to help finance its \$26 billion takeover of professional networking site LinkedIn, Anheuser-Busch InBev's \$46 billion issuance to finance its purchase of SAB Miller in 2016, and Dell Inc.'s issuance of \$20 billion of bonds to back its takeover of EMC Corp. in 2016.

In 2015, municipal long-term issuance was 20% higher than issuance in 2014 with \$378 billion issued versus \$315 billion in 2014. For 2016, municipal long-term issuance was 12% higher than 2015 with \$423 billion of issuance. For year-to-date 2017, municipal long-term issuance is 11% lower than the same time period in 2016 with \$115 billion of issuance. A majority of municipal issuance over the past few years has been issued for refundings to capitalize on low interest rates, which is evidenced by the amount of new money issuance for 2016 – \$161 billion, or 38% of the total \$428 billion of long-term issuance – versus eleven years ago – in 2006, \$253 billion, or 66% of the total \$382 billion of long-term issuance, was for new money projects.



Source: Thomson Financial for municipal long-term issuances from January 1, 2012 to April 30, 2017.



Increased issuance is encouraging for the FHCF, as it reflects strong investor demand in both the tax-exempt and taxable markets; however, global market conditions can be volatile. Nonetheless, the FHCF has multiple factors working in its favor independent of market trends, including, but not limited to: (1) the FHCF is a well-regarded, highly-rated credit (AA category), closely associated with (though not guaranteed by) the State of Florida, a blue-chip name in the market; (2) in February 2016, the FHCF successfully priced \$1.2 billion of Series 2016A taxable pre-event bonds with 3 and 5-year maturities at a true interest cost of 2.52%, which re-established the strength of the FHCF credit in the taxable market; and (3) similar to its pre-event financings, any post-event bond issuances of the size the FHCF may need to undertake would also be included in the various benchmark indices market observers use to track market performance, so institutional money managers seeking to at least match indexed returns may have a strong additional incentive to buy FHCF bonds, particularly if they are offered at interest rates marginally higher than those typically associated with typical AA rated credits.

Estimating the FHCF's post-event bonding capacity is an inexact science. To do so requires a consideration of the factors above, an extrapolation about what market conditions might exist after hurricanes of various sizes, and an evaluation of the many subjective and substantive considerations surrounding these estimates and the uses thereof. Certainty is not a defining characteristic of an exercise like this; nor can the results be responsibly guaranteed. Nevertheless, with the proper experience, market perspective and analysis, one can make estimates suitable for the FHCF's requirements – conservative estimates, not guaranteed to be accurate, but responsibly determined using the best available sources.

One additional note of caution is that financial markets can be highly volatile and uncertain at various times. Such uncertainity may create an additional risk for participating insurers who rely on the FHCF for reimbursements. Although financial market conditions have significantly improved since the Great Recession of 2007 and are currently very conducive to favorable debt issuance, it is not possible to guarantee financial market conditions into the future for long-term sustainability of the FHCF. The FHCF's estimated claims-paying capacity above the available liquid resources is highly subjective and depends heavily on the opinions and our evaluation of its five senior managing underwriters responses to our questions. As such, participating insurers should recognize the potential impact that financial markets can have on the FHCF's claims-paying ability for a subsequent season. The following pages provide current bonding and claims-paying capacity estimates.



To estimate the FHCF's bonding capacity, we used the general process described in Section II and detailed in Appendix A. The specific wording of the capacity question we asked the FHCF's senior managing underwriters was as follows:

The preliminary estimated bonding capacity of the FHCF for the current contract year is \$8.1 billion

"Please provide us with your firm's opinion on the potential tax-exempt and/or taxable post-event market capacity over the next 0-12 <u>and</u> 12-24 months at rates that are at or above the current "market" scale, as needed."<sup>2</sup>

We considered all data, and based on cash flow requirement projections from Paragon Strategic Solutions Inc., the FHCF's consulting actuary, guidance from FHCF staff about potential payout timing, and a desire for prudence, as in the past we continue to use the capacity estimates for the first 12 months in formulating the bonding capacity estimate for the initial season.

In general, it would take a hurricane event resulting in ground-up losses exceeding \$26.0 billion to exhaust the FHCF's cash balance, and the FHCF has projected liquid resources of \$17.6 billion, or \$600 million above its potential maximum obligation of \$17.0 billion, which includes \$2.1 billion of the outstanding \$2.7 billion of pre-event bonds. The FHCF has excess capacity and liquidity resources to meet its maximum potential obligations for the 2017-2018 season. Nonetheless, the amount of debt that the FHCF can raise within the first twelve months is helpful for the FHCF and participating insurers in protecting their financial solvency as well as for the FHCF to preserve its pre-event bond proceeds for a subsequent season.

We are also comfortable including estimates that contained some above-market interest rate capacity estimates in recognition of the fact that the FHCF has ample assessment capability within its statutory limits to issue bonds, even at significantly higher rates<sup>3</sup>. For purposes of calculating the potential assessment impact of the FHCF's bonding needs, we have calculated the assessment rate if the FHCF postevent bonds carry interest rates at current market levels as well as at an "above market" interest rate of 7%. There is also some overlap between tax-exempt and taxable capacity estimates as the investor base has changed and market acceptance has increased for municipal taxable bonds and the success of the Series 2013A and Series 2016A pre-event taxable financings, which will marginally reduce the capacity for tax-exempt debt. A summary of the senior managers' responses is shown in the following table:

<sup>&</sup>lt;sup>2</sup> The complete information request and all responses are included in Appendix A.

<sup>&</sup>lt;sup>3</sup> For example, a 30-year bond issue at a 7% interest rate sized to produce the maximum potential FHCF obligation (\$2.1 billion), for the current contract year, assuming no pre-event bonds are used to pay claims and no pre-event bonds are refinanced would require an annual assessment of only 0.38%, well below the 6% statutory cap.



FHCF Post-Event Estimated Bonding Capacity						
	Bank of America /					
	Merrill Lynch	Citi	J.P. Morgan	Morgan Stanley	Wells Fargo	Average <sup>1</sup>
Bonding Estimates						
Tax-Exempt:						
0-12 Months	\$4-\$5B	\$2-\$3B	\$4-\$5B	\$3-\$4B	\$6-\$8B	\$4.4B
12-24 Months	\$2-\$3B	\$2-\$3B	\$3-\$4B	\$3-\$4B	\$3-\$5B	\$3.2B
Total tax-exempt	\$6-\$8B	\$4-\$6B	\$7-\$9B	\$6-\$8B	\$9-\$13B	\$7.6B
Taxable:						
0-12 Months	\$4-\$5B	\$3-\$4B	\$2.5-\$3.5B	\$3.5-\$4B	\$3-\$4B	\$3.7B
12-24 Months	\$3-\$4B	\$3-\$4B	\$2.5-\$3.5B	\$4-\$4.5B	\$2-\$3B	\$3.4B
Total taxable	\$7-\$9B	\$6-\$8B	\$5-\$7B	\$7.5-\$8.5B	\$5-\$7B	\$7.1B
Tax-Exempt and Taxable						
0-12 Months Total	<u>\$8-\$10B</u>	<u>\$5-\$7B</u>	\$6.5-\$8.5B	\$6.5-\$8.0B	<u>\$9-\$12B</u>	<u>\$8.1B</u>
12-24 Months Total	<u>\$5-\$7B</u>	<u>\$5-\$7B</u>	\$5.5-\$7.5B	\$7.0-\$8.5B	\$5-\$8B	\$6.6B
0-24 Months Total	\$13-\$17B	\$10-\$14B	\$12-\$16B	\$13.5-\$16.5B	\$14-\$20B	\$14.7B

<sup>&</sup>lt;sup>1</sup> Averages are rounded to the nearest hundred million dollars

As discussed earlier, we believe that using only the 0-12 months number to compute an average is a prudent approach to estimating bonding capacity for the initial season. Using this methodology yields an estimated bonding capacity of approximately \$8.1 billion and this capacity is significantly above what would be needed to meet the FHCF's potential obligations for the initial season if it were to leave its already issued pre-event bond proceeds outstanding, even if one conservatively expects that the FHCF payout after an event will need to occur within the first twelve months. However, when considering the larger picture of the FHCF's ability to pay additional claims for a subsequent season, the FHCF's bonding capacity beyond 0-12 months is also an important factor. Each of the senior managers believes that the FHCF would have significant additional capacity in the period 12-24 months after an event<sup>4</sup>. This additional capacity, along with the subsequent season reimbursement premiums and excess capacity available from the initial season, could be used to fund approximately 67% of the amount potentially needed for subsequent season losses, in the approximate amounts as shown on the following pages.

### **Estimated Claims-Paying Capacity**

Claims-paying capacity of the FHCF is equal to the sum of the projected year-end fund balance plus the available Series 2013A and Series 2016A pre-event bonds (\$2.7 billion is available for the 2017-2018 contract year), risk transfer (if any), any other financing resources available, and the estimated bonding capacity. The FHCF projects that its year-end fund balance for the 2017-2018 contract year will be \$14.9 billion as calculated by its administrator, Paragon. For the 2017-2018 contract year, based on the funding sources available and estimated bonding capacity of \$8.1 billion, the FHCF has a total estimated claims-paying capacity of \$25.7 billion, which is \$8.7 billion above its statutory limit of \$17.0 billion.

After an event, the FHCF may be able to draw on its pre-event bond proceeds and repay the preevent bonds at maturity by levying an emergency assessment, or the FHCF could issue post-event bonds

<sup>&</sup>lt;sup>4</sup> The longer the time frame for estimation purposes, the greater the degree of uncertainty.



and leave its pre-event bond proceeds outstanding for a subsequent season. These two options give the FHCF flexibility regarding the use of its pre-event bond proceeds after an event. For purposes of this analysis, we have shown the FHCF's claims-paying capacity for the initial and subsequent season assuming the FHCF will leave the pre-event bond proceeds outstanding to serve as liquidity for the subsequent season and issue post-event bonds to fund its obligations for the initial season. Preserving its pre-event bond proceeds for the subsequent season allows the FHCF to take advantage of its sufficient available bonding capacity for the initial season while providing the liquidity, flexibility and additional stability of funding sources for the subsequent season. The subsequent season may have some remaining additional bonding capacity from the initial season in the amount of \$8.7 billion, but for purposes of this analysis we assume the available initial season bonding capacity in the amount of \$8.1 billion is also available for the subsequent or 2018-2019 contract year. For any remaining losses beyond the FHCF's estimated claims-paying capacity for the 2018-2019 season, the FHCF may have additional 12-24 month bonding capacity of up to \$6.6 billion available.

Under this scenario, if an event happens, we assume that the FHCF would leave its pre-event bond proceeds outstanding and issue \$2.1 billion of post-event bonds to fund its maximum potential obligation for the 2017-2018 contract year. For the 2018-2019 contract year, the FHCF can then use its bonding capacity of \$8.1 billion, its \$2.2 billion of Series 2013A and Series 2016A pre-event bond proceeds (\$500 million of Series 2013A bonds mature on July 1, 2018 and are therefore not available to pay claims for the 2018-2019 contract year), and the \$1.1 billion of reimbursement premiums accumulated during the subsequent season for a total estimated claims-paying capacity of \$11.4 billion, or approximately 67% of its potential maximum statutory obligation of \$17 billion for the 2018-2019 season. Under this scenario, the FHCF would need only an additional \$5.6 billion in funding sources in order to reach its maximum statutory obligation of \$17 billion for the 2018-2019 contract year.



	2017-2018	2018-2019
(\$ in Billions)	Contract Year	<b>Contract Year</b>
FHCF Potential Coverage Obligation		
FHCF Coverage Obligation	\$17.0	\$17.0
FHCF Estimated Funding Sources Available		
Projected FHCF Year-End Fund Balance	\$14.9	\$1.1
2013A and 2016A Pre-Event Bond Proceeds Available <sup>1</sup>	\$2.7	\$2.2
Total Funding Sources Available	\$17.6	\$3.3
Additional Funds / Potential Borrowing Need	\$0.6	\$13.7
FHCF Claims-Paying Capacity		
Estimated FHCF Borrowing Capacity	\$8.1	\$8.1
Total Funding Sources Available <sup>1</sup>	\$17.6	\$3.3
Total Estimated Claims-Paying Capacity	\$25.7	\$11.4
Total Estimated Claims-Paying Capacity as a % of Statutory Limit	151%	67%
Amount Above / (Below) Statutory Limit	\$8.7	(\$5.6)
Post-Event Bonds Needed	\$2.1	\$8.1

Totals may not add due to rounding.

Under this scenario, the breakdown of the potential assessments required for the FHCF's potential borrowing needs and repayment of pre-event bond proceeds are shown in the table below based on current market interest rates and an "above market" interest rate of 7% over a 30-year period, for informational purposes only. As seen in the table below, even with an "above market" rate of 7%, the FHCF has significant remaining assessment capabilities within its 6% statutory cap.

	2017-2018	2018-2019
(\$ in Billions)	<b>Contract Year</b>	<b>Contract Year</b>
Total Potential Borrowing (Assuming Repayment of Pre-Event Bonds Used in	\$2.1	\$10.3
the 2018-2019 Contract Year)		
Assessment % if Financed at Current Market Rates	0.31%	N/A
Assessment % if Financed at "Above Market" Rate of 7%	0.38%	1.88%

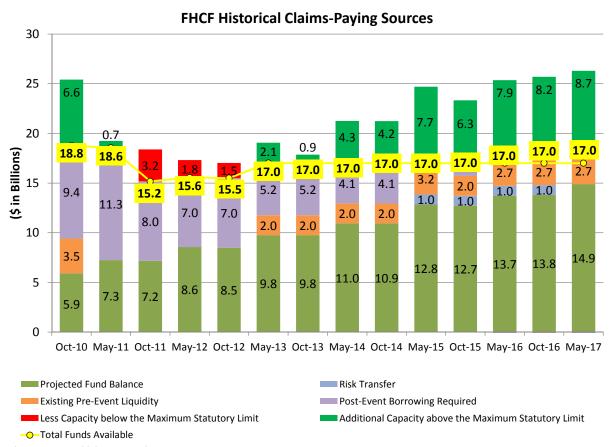
# Historical Perspective on Estimated Claims-Paying Capacity

The estimated claims-paying capacity of the FHCF over time is subject to changes in the projected fund balance, risk transfer amount, available pre-event liquidity, and estimates of bonding capacity. While the projected fund balance has climbed steadily due to eleven years without a major hurricane that triggered the FHCF, the senior managers' estimates of the FHCF's bonding capacity have stabilized, but have significantly varied during that time period, reflecting both the big picture fundamental changes to the market described in Section III and the impact of market volatility at the time we asked them for estimates. The current average estimate for 0-12 months of \$8.1 billion is \$400 million higher than it was in October 2016 and \$500 million higher than it was in October 2015.

<sup>&</sup>lt;sup>1</sup> Pre-event bonds are available in the amount of \$2.7 billion but we are assuming no pre-event bonds will be used to pay claims for the 2017-2018 contract year and therefore will be available to pay claims for the 2018-2019 contract year. However, post-event bonds will be issued, if needed, in the amount of up to \$2.1 billion to meet the potential statutory obligation for the 2017-2018 contract year.



The chart below shows the total estimated initial season claims-paying capacity of the FHCF since October 2010 with projected fund balance (light green), existing pre-event notes (orange), \$1 billion of risk transfer for the 2015-2016 and 2016-2017 contract years (light blue), estimated post-event borrowing capacity (light purple), if needed, and total funds available (yellow) with capacity above (dark green) and/or capacity below (red) the maximum statutory limit.



Numbers may not add due to rounding.

For the 2015-2016 contract year, the reinsurance placement was for \$1 billion in excess of \$12.5 billion of ground-up losses. For the 2016-2017 contract year, the reinsurance placement was for \$1 billion in excess of \$11.5 billion of ground-up losses.

The chart reflects the history of the FHCF's claims-paying capacity estimates. The outstanding preevent notes, risk transfer, and the projected fund balance are reliable amounts since they are known prior to an event, but the post-event bonding capacity can vary significantly depending on financial market conditions after a hurricane event, as denoted by the purple portion of the bars above. The FHCF has \$17.6 billion of liquid resources, or 104% of its 2017-2018 statutory capacity. Despite having liquidity resources above its potential maximum obligation, it is still important that the FHCF's claimspaying capacity estimates be reasonable and prudent in order to minimize financial risk for participating insurers for subsequent seasons and long-term sustainability.

Even though the range has narrowed and stabilized, it is interesting to compare the range of the estimates during this time period, which is indicative of the level of uncertainty and variability among the



team of senior managers with regard to the FHCF's bonding capacity. The table below shows the aggregate ranges for each estimate since May 2013.

Post-Event Estimated Bonding Capacity Over 12 Months (Senior Managers' Range)										
										Oct. 2016 - May
(\$ in Billions)	May-13	Oct-13	May-14	Oct-14	May-15	Oct-15	May-16	Oct-16	May-17	2017 Change
Overall Range	\$3.5-\$9.8	\$4.5-\$7.5	\$5.5-\$14	\$5.5-\$14	\$5-\$12	\$4.5-\$12	\$4.5-\$12	\$5.5-\$12	\$5-\$12	<b>⟨···&gt;</b>

The wide range of estimates shown in the table reflects the fundamental underlying uncertainty of the markets and the bonding capacity estimating process for the FHCF. We believe the process of using a survey of the opinions of the best experts with the most relevant experience, and employing a prudent approach to pick among several potential estimates of capacity, provides a reasonable estimate that suits the purposes of the FHCF and the needs of its participating insurers. Due to the continued increase in the projected fund balance, the successful addition of the 2016A pre-event financing, and improved market conditions, the FHCF is able to fund the initial season and has significantly improved the funding for the subsequent season compared to years prior to 2017. However, it still does not provide a guaranteed source of liquidity or claims-paying capacity for future seasons, and the actual bonding results achieved by the FHCF after a hurricane could vary substantially from this estimate for subsequent seasons. The FHCF has \$17.6 billion of liquidity, or 104% of its potential maximum statutory obligation of \$17 billion for the initial season. Additionally, the FHCF has projected claims-paying capacity up to approximately 67% of its maximum statutory obligation of \$17 billion for the subsequent season with low projected assessment rates and the largest assessment base ever in the amount of \$43.7 billion.



# Disclaimer

The analysis or information presented herein is based upon projections and have limitations. No representation is made that any results indicated will be achieved. Changes to any prices, levels, or assumptions contained herein may have a material impact on results. Any estimates or assumptions contained herein represent our best judgment as of the date indicated and are subject to change.



# Appendix A – Bonding Capacity Solicitation & Senior Manager Responses

### Sasha Stipanovich

From: Sasha Stipanovich

**Sent:** Monday, April 24, 2017 1:41 PM

Cc: Kapil Bhatia

**Subject:** FHCF Bonding Capacity Analysis

#### FHCF Senior Manager Team:

As part of the FHCF's statutorily required semiannual bonding capacity estimates, we need your input for the FHCF Advisory Council Meeting scheduled for May 18<sup>th</sup> at 1:30 P.M.

We would like to know your opinion of the FHCF's <u>tax-exempt</u> and <u>taxable</u> bonding capacity over a <u>0-12 month</u> and <u>12-24 month</u> period. We are still comfortable including estimates that contain some above-market interest rate capacity estimates in recognition of the fact that the FHCF has ample assessment capability within its statutory limits to issue bonds, even at above market rates, if needed. We use an above-market estimate of 7%, which is several hundred basis points above the FHCF's expected current market rates in order to add more conservatism to the analysis.

In order to prepare the FHCF Bonding Capacity Report for May 2017, we need the following data elements from you by Friday, April 28<sup>th</sup>:

- 1. Please provide a 30-year tax-exempt scale for the FHCF using the MMD at the close of business Thursday, April 27<sup>th</sup>. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 7/1/47) with 5.0% coupons throughout when writing the scale. Base the scale on an uninsured financing given the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).
- 2. Please provide a 30-year taxable scale using the Treasury curve at the close of business Thursday, April 27<sup>th</sup>. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 7/1/47) with par-ish coupons throughout when writing the scale. Again, base the scale on an uninsured financing given again the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).
- Please provide us with your firm's opinion on the potential tax-exempt and/or taxable post-event market
  capacity over the next 0-12 <u>and</u> 12-24 months at rates that are at or above the current "market" scale, as
  needed. In addition, please include and describe briefly in your response if there is any overlap in tax-exempt /
  taxable capacity.

FHCF Post-Event Market Capacity					
Time Period	Tax-Exempt	Taxable	Total		
0-12 Months					
12-24 Months					

<u>We would like to have to your responses back by Friday, April 28<sup>th</sup>.</u> Additionally, we would like a representative from your firm (banker and/or underwriter) to be present at the meeting either via phone or in-person to answer any questions. If you have any questions or comments, please call or e-mail Kapil Bhatia (727-567-1791, <a href="mailto:kapil.bhatia@raymondjames.com">kapil.bhatia@raymondjames.com</a>) or Sasha Stipanovich (727-567-1790, <a href="mailto:sasha.stipanovich@raymondjames.com">sasha.stipanovich@raymondjames.com</a>).

# Memorandum



**To:** Florida Hurricane Catastrophe Fund

From: Bank of America Merrill Lynch

**Date:** April 28, 2017

Subject: Florida Hurricane Catastrophe Fund – May 2017 Bonding Capacity Analysis

Bank of America Merrill Lynch ("BofAML") is pleased to provide the Florida Hurricane Catastrophe Fund ("FHCF") with our firm's estimates and views of the FHCF's post-event bonding capacity and current market borrowing costs.

#### **Market Commentary**

In March, the Federal Reserve increased its federal funds rate by 25 basis points, the third increase since 2006. In the March meeting, the Fed signaled that there would likely be more rate tightening coming in the form of a two-part plan – two more rate increases in 2017 to reach a target range of 1.25%-1.50%, followed by three rate increases in 2018 and an unwinding of its \$4.5 trillion balance sheet by reversing the quantitative easing the Fed undertook over the past few years. The process is expected to be gradual to prevent market disruption. The strengthening job market and stronger business and consumer confidence point to an increase at the upcoming May and/or June meetings. The Fed does not think it is meeting its 2% inflation target on a sustained basis, and that may slow the pace of rate hikes. Further complicating the direction of the Fed, GDP growth in the first quarter of 2017 slowed to 0.7% – a sharp decline from 2.1% growth in the last quarter of 2016, the weakest growth number in three years, and slightly lower than the expectation of 0.9% growth. The decline was primarily driven by very little consumption growth in the first quarter. Many expect that the new data will not change the Fed's course of action, as seasonal factors such as warm weather, and a reversion of high consumer spending from the last quarter of 2016 seemed to be the main drivers of the low growth rate.

Municipal-focused bond funds have seen inflows for 11 of 15 weeks in 2017, with \$1.6 billion of net inflows occurring two weeks ago – the largest weekly inflow since 2009. Municipals have outperformed Treasuries primarily because of increased fund flows and underwhelming tax-exempt primary issuance. Since the last FOMC meeting, the MMD curve has moved aggressively lower in yield. Since our last bonding capacity analysis presented in the October meeting, yields on the longer end of the curve (10+ years) have increased 62-70 basis points, or an average of 69 basis points. Within 10 years, rates have increased by 8-63 basis points since our last update, or about 37 basis points on average. The movements in the short- and long-end of the yield curve have steepened the yield curve, reversing the flattening trend seen throughout 2016. New issue supply in the municipal market thus far in 2017 has averaged approximately \$7.9 billion per week, down by 11% when compared to the same period last year. We expect an uptick in issuance that will likely weigh negatively on municipal performance in the near-term. Going forward, BofAML's research team expects municipal issuance on track in 2017 to total approximately \$470 billion – 6% higher than 2016 levels.

As we have stated in the past, despite the market dynamics in play in the current environment, a transaction or series of transactions by the FHCF and possibly other insurance-related entities in the State of Florida (Citizens, FIGA) after a hurricane event has been generally untested and may significantly impact market dynamics for a specific transaction. In the pages that follow, we provide BofAML's estimate of the FHCF's current borrowing costs, as well as our view on the FHCF's unconstrained issuance capacity in the current market. If you have any questions, please contact the BofAML team.

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1. Please provide a 30-year tax-exempt scale for the FHCF using the MMD at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with 5.0% coupons throughout when writing the scale. Base the scale on an uninsured financing given the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

Below, we have provided a 30-year tax-exempt scale reflecting our view of the FHCF's estimated current market borrowing costs based on an uninsured financing, Aa3/AA/AA- ratings from Moody's, S&P and Fitch, respectively, and no capacity constraints.

Florida Hurricane Catastrophe Fund								
Tax-Exempt Scale								
Maturity								
(July 1)	Coupon	MMD (4/27/17)	Spread (bps)	Yield				
2018	5.00%	0.86%	25	1.11%				
2019	5.00%	0.98%	40	1.38%				
2020	5.00%	1.11%	55	1.66%				
2021	5.00%	1.25%	60	1.85%				
2022	5.00%	1.41%	65	2.06%				
2023	5.00%	1.55%	70	2.25%				
2024	5.00%	1.70%	75	2.45%				
2025	5.00%	1.90%	75	2.65%				
2026	5.00%	2.04%	75	2.79%				
2027	5.00%	2.13%	75	2.88%				
2028	5.00%	2.23%	75	2.98%				
2029	5.00%	2.33%	75	3.08%				
2030	5.00%	2.42%	75	3.17%				
2031	5.00%	2.51%	75	3.26%				
2032	5.00%	2.59%	75	3.34%				
2033	5.00%	2.66%	75	3.41%				
2034	5.00%	2.73%	75	3.48%				
2035	5.00%	2.79%	75	3.54%				
2036	5.00%	2.83%	75	3.58%				
2037	5.00%	2.87%	75	3.62%				
2038	5.00%	-	-	-				
2039	5.00%	-	-	-				
2040	5.00%	-	-	-				
2041	5.00%	-	-	-				
2042	5.00%	2.96%	80	3.76%				
2043	5.00%	-	-	-				
2044	5.00%	-	-	-				
2045	5.00%	-	-	-				
2046	5.00%	-	-	-				
2047	5.00%	3.01%	80	3.81%				



2. Please provide a 30-year taxable scale using the Treasury curve at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with par-ish coupons throughout when writing the scale. Again, base the scale on an uninsured financing given again the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

Below, we have provided a 30-year taxable scale reflecting our view of the FHCF's estimated current market borrowing costs based on an uninsured financing, Aa3/AA/AA- ratings from Moody's, S&P and Fitch, respectively, and no capacity constraints.

Florida Hurricane Catastrophe Fund						
Moturity		Taxa	ble Scale			
Maturity (July 1)	Coupon	UST Term	UST (4/27/17)	Spread (bps)	Yield	
2018	1.85%	1Y	1.10%	75	1.85%	
2018	2.02%	2Y	1.27%	75 75	2.02%	
2019	2.30%	3Y	1.45%	85	2.30%	
2020	2.68%	5Y	1.83%	85 85	2.68%	
2021	2.83%	5Y	1.83%	100	2.83%	
				100		
2023	3.12%	7Y	2.12%		3.12%	
2024	3.32%	7Y	2.12%	120	3.32%	
2025	3.56%	10Y	2.31%	125	3.56%	
2026	3.66%	10Y	2.31%	135	3.66%	
2027	3.71%	10Y	2.31%	140	3.71%	
2028	3.81%	10Y	2.31%	150	3.81%	
2029	3.91%	10Y	2.31%	160	3.91%	
2030	4.01%	10Y	2.31%	170	4.01%	
2031	4.11%	10Y	2.31%	180	4.11%	
2032	4.21%	10Y	2.31%	190	4.21%	
2033	-	-	-	-	-	
2034	-	<del>-</del>	-	-	-	
2035	-	-	-	-	-	
2036	-	-	-	-	-	
2037	4.58%	30Y	2.98%	160	4.58%	
2038	-	-	-	-	-	
2039	-	-	-	-	-	
2040	-	-	-	-	-	
2041	-	-	-	-	-	
2042	-	-	-	-	-	
2043	-	-	-	-	-	
2044	-	-	-	-	-	
2045	-	-	-	-	-	
2046	-	-	-	-	-	
2047	4.73%	30Y	2.98%	175	4.73%	



3. Please provide us with your firm's opinion on the potential tax-exempt and/or taxable post-event market capacity over the next 0-12 <u>and</u> 12-24 months at rates that are at or above the current "market" scale, as needed. In addition, please include and describe briefly in your response if there is any overlap in tax-exempt / taxable capacity.

In the table below, we have provided our current tax-exempt and taxable "unconstrained" FHCF capacity estimates. We believe that sufficient demand exists at these capacity levels to complete a transaction of the sizes provided below and the risk of cross-market cannibalization is low.

Florida Hurricane Catastrophe Fund Post-Event Market Capacity (BN)					
Time Period	Tax-Exempt	Taxable	Total		
0-12 Months	\$4.0-5.0	\$4.0-5.0	\$8.0-10.0		
12-24 Months	\$2.0-3.0	\$3.0-4.0	\$5.0-7.0		
0-24 Months	\$6.0-8.0	\$7.0-9.0	\$13.0-17.0		



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# Memorandum



To: Florida Hurricane Catastrophe Fund

From: Citigroup Global Markets Inc. ("Citi")

Date: April 27, 2017

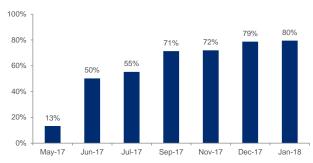
Re: FHCF April 2017 Capacity Analysis

Citigroup is pleased to provide the Florida Hurricane Catastrophe Fund (the "FHCF") with an updated estimated post-event bond capacity analysis.

After reaching all-time lows last summer, municipals have increased by as much as 108 basis points throughout the yield curve. The sell-off in the municipal market following the U.S. presidential election in November more than erased the rate environment that was brought on by Brexit at the end of June. Since November, the market has been hyper-responsive to headlines surrounding the Trump administration, leading to ongoing volatility despite expectations of economic expansion. Even when investors look to be retreating back to fixed income markets for a number of reasons, including stymied healthcare reform, positive economic data prevents any potential for a rate rally. Although we forecast a bearish municipal market, one which has been decidedly lackluster with \$3.2 billion of net inflows since

#### **Expectations of Next Fed Increase in Rates**

Market bets of a Fed rate increase in May currently stand at 13%, with the probability of a rate hike before the end of 2017 standing at 80%



Current rates and expectation of Fed hike as of April 21, 2017

the beginning of the year, Citi remains slightly more optimistic than the economic consensus. Several events on the horizon for 2017 may tip the scales for municipals – additional Fed rate hikes and tax reform may cause municipals to underperform, while events that may benefit municipals, at least short-term, include the French election and the U.K.'s steps away from the E.U.

- **FOMC Action.** After the first projected rate hike of 2017 occurred in March, the next two are expected in June and September, as shown in the chart above. Since these Fed decisions have been priced into the market, they will not have a material impact on yields going forward if they happen as expected. Investors understand that the Fed has the requisite tools to rein in inflation expectations. That said, if investors find any indication of a faster than expected pace of rate hiking, we may see a sell-off in municipal securities. Further sell-offs could result from the Fed deciding to begin shrinking the central bank's \$4.5 trillion balance sheet later this year.
- **Tax Reform.** The current plan compensates for the proposed decrease in income taxes with increases to import tariffs, and would keep the tax-exemption of municipals in place, but reduce their appeal due to lower marginal tax rates.
- French Presidential Election. According to recent polls and reports, the Populist Party leader is expected to finish 2<sup>nd</sup> in this upcoming French election. Regardless, investors have taken to pricing in the risk of her win. Specifically, these investors expect that the election of the populist candidate could lead to the largest sovereign default on record. Regardless of the actual outcome of the election or of her proposals, even the possibility of such an event could lead to sharp flight to safety similar to what we saw during Brexit, pushing municipal yields down as prices rise.
- **Brexit Formal Process.** Another potential source of municipal rate declines are the upcoming steps that the U.K is expected to make as it prepares to exit the European Union. The expected market reaction, if any, would be beneficial for Treasuries and, to a lesser extent, municipals as well.

In line with what has generally been seen post-election, supply in the municipal market has been light, with year-to-date volume 14% lower from the same period in 2016. Despite ending 2016 with 7 consecutive large outflows, fund flows have been positive for 12 out of 17 weeks in 2017.



1. Please provide a 30-year tax-exempt scale for the FHCF using the MMD at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with 5.0% coupons throughout when writing the scale. Base the scale on an uninsured financing given the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

T = .0.1						
	_	Tax-Exempt S	icale			
	Apr 27	MMD		Base		
Year	MMD	Spread	Coupon	Yield		
2018	0.86%	30	5.00%	1.16%		
2019	0.98%	35	5.00%	1.33%		
2020	1.11%	40	5.00%	1.51%		
2021	1.25%	45	5.00%	1.70%		
2022	1.41%	50	5.00%	1.91%		
2023	1.55%	55	5.00%	2.10%		
2024	1.70%	60	5.00%	2.30%		
2025	1.90%	62	5.00%	2.52%		
2026	2.04%	65	5.00%	2.69%		
2027	2.13%	70	5.00%	2.83%		
2028	2.23%	72	5.00%	2.95%		
2029	2.33%	75	5.00%	3.08%		
2030	2.42%	75	5.00%	3.17%		
2031	2.51%	75	5.00%	3.26%		
2032	2.59%	75	5.00%	3.34%		
2033	2.66%	75	5.00%	3.41%		
2034	2.73%	75	5.00%	3.48%		
2035	2.79%	75	5.00%	3.54%		
2036	2.83%	75	5.00%	3.58%		
2037	2.87%	75	5.00%	3.62%		
2038	2.90%	-				
2039	2.92%					
2040	2.94%					
2041	2.95%					
2042	2.96%	75	5.00%	3.71%		
2043	2.97%					
2044	2.98%	-				
2045	2.99%	-				
2046	3.00%					
2047	3.01%	75	5.00%	3.76%		

### Florida Hurricane Catastrophe Fund Bonding Capacity Analysis Update April 28, 2017



2. Please provide a 30-year taxable scale using the Treasury curve at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with par-ish coupons throughout when writing the scale. Again, base the scale on an uninsured financing given again the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

Taxable Scale						
	Apr 27	TSY				
Year	TSY	Spread	Coupon	Yield		
2018	1.25%	70	1.95%	1.95%		
2019	1.25%	75	2.00%	2.00%		
2020	1.44%	105	2.49%	2.49%		
2021	1.81%	95	2.76%	2.76%		
2022	1.81%	110	2.91%	2.91%		
2023	2.10%	100	3.10%	3.10%		
2024	2.10%	120	3.30%	3.30%		
2025	2.30%					
2026	2.30%					
2027	2.30%	130	3.60%	3.60%		
2028	2.30%					
2029	2.30%					
2030	2.30%					
2031	2.30%					
2032	2.30%	190	4.20%	4.20%		
2033	2.96%					
2034	2.96%					
2035	2.96%					
2036	2.96%					
2037	2.96%	150	4.46%	4.46%		
2038	2.96%					
2039	2.96%					
2040	2.96%					
2041	2.96%					
2042	2.96%	160	4.56%	4.56%		
2043	2.96%					
2044	2.96%					
2045	2.96%					
2046	2.96%					
2047	2.96%	170	4.66%	4.66%		

# Florida Hurricane Catastrophe Fund

Bonding Capacity Analysis Update April 28, 2017



3. Please provide us with your firm's opinion on the potential tax-exempt and/or taxable post-event market capacity over the next 0-12 and 12-24 months at rates that are at or above the current "market" scale, as needed. In addition, please include and describe briefly in your response if there is any overlap in tax-exempt / taxable capacity.

## **FHCF Post-Event Market Capacity**

Time Period	Tax-Exempt	Taxable	Total
0-12 Months	\$2.0-3.0 bn	\$3.0-4.0	\$5.0-7.0
12-24 Months	\$2.0-3.0 bn	\$3.0-4.0	\$5.0-7.0
Total	\$4.0-6.0 bn	\$6.0-8.0	\$10.0-14.0

Our capacity numbers assume no overlap between the tax-exempt and taxable sectors.

#### Florida Hurricane Catastrophe Fund

Bonding Capacity Analysis Update April 28, 2017



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# J.P.Morgan

To: Florida Hurricane Catastrophe Fund

From: J.P. Morgan

Date: April 28, 2017

Subject: FHCF Estimated Bonding Capacity and Pricing

Please find below J.P. Morgan's estimate of the Florida Hurricane Catastrophe Fund's ("FHCF") potential bonding capacity over the next 0-12 and 12-24 months, based on current market conditions. In addition, we have provided indicative pricing for taxable and tax-exempt offerings, as requested.

### **Market Update**

The first quarter of 2017 finished on a rather mild note for the US fixed income markets, and yields were very range-bound over the quarter, with most tenors in a 10-15bps range 75% of the time. While the Federal Reserve raised rates in March, yields remain at attractive levels and the yield curve has flattened. The municipal curve is flatter than it has been over the past five years, particularly in the intermediate area, where the 5-10's curve spread is 66bps or 27bps tighter than the 5yr average.<sup>1</sup>

So far into the second quarter, the post-election reflation trade has faded near the Trump administration's 100-day mark. Legislative inaction, mixed data, and heightened geopolitical risks have all contributed. Early last week, UST and MMD yields declined following comments from the U.S. Treasury Secretary that tax reform "could slip to later in the year", though reversed later in the week following news that tax reform may be implemented sooner than expected. This past Wednesday, Treasuries were choppy throughout the day, but rates declined following President Trump's tax announcement which lacked specific details and left many questioning its effectiveness as well as its implications on the national deficit, if passed. In Europe, U.K. Prime Minister Theresa May called for snap elections on April 18, further adding to political uncertainty in Western Europe as France seeks to elect a new President in the final round of voting on May 7.

In addition to political developments, throughout the week last week, several Fed officials made statements in support of tightening monetary policy such as Boston Fed President Rosengren, who indicated that balance sheet normalization could start "relatively soon" and should not alter the continuous normalization of short-term interest rates. J.P. Morgan Research expects the Fed to hike rates 25bps two more times in 2017 at the June and September FOMC meetings, although the Committee maintains an explicitly accommodative policy and continues to monitor global financial and economic developments to guide future action. We have included J.P. Morgan Research's UST and tax-exempt interest rate forecasts below.

While domestic fundamentals have been disappointing on a few fronts recently, J.P. Morgan Research believes that the fundamental picture has not changed materially and continues to expect growth to rebound to 3% in 2Q17, followed by 1.8% growth in 2H17.

JPM U.S. Treasury Interest Rate Forecast (%)							
	4/21/17	5/21/17	6/30/17	9/30/17	12/31/17	3/31/18	
	Current	1m Ahead	2Q17 Forecast	3Q17 Forecast	4Q17 Forecast	1Q18 Forecast	
Fed Funds	0.91%	0.91%	1.15%	1.40%	1.40%	1.40%	
3M LIBOR	1.16%	1.20%	1.35%	1.60%	1.60%	1.60%	
2Y UST	1.18%	1.20%	1.55%	1.75%	1.95%	2.00%	
5Y UST	1.76%	1.80%	2.35%	2.55%	2.70%	2.75%	
10Y UST	2.23%	2.25%	2.70%	2.85%	3.00%	3.05%	
30Y UST	2.89%	2.90%	3.20%	3.30%	3.40%	3.40%	

Source: J.P. Morgan Research, US Fixed Income Strategy, US Interest Rate Forecast, 4/21/2017,	
jpmm.com	

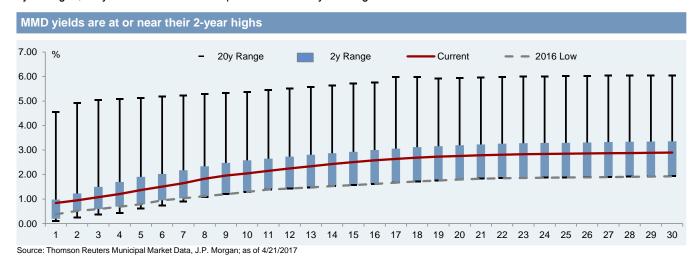
	4/21/17	5/21/17	6/30/17	9/30/17	12/31/17
AAA MMD	Current	1m Ahead	2Q17 Forecast	3Q17 Forecast	4Q17 Forecast
2Y	0.95%	0.95%	1.30%	1.55%	1.65%
5Y	1.37%	1.45%	2.05%	2.30%	2.35%
10Y	2.05%	2.10%	2.55%	2.85%	2.85%
30Y	2.90%	2.90%	3.30%	3.50%	3.50%
IOY MMD/ JST Ratio	91.74%	93.33%	94.44%	100.00%	95.00%
BOY MMD/ JST Ratio	100.23%	100.00%	103.13%	106.06%	102.94%

Source: Thomson Reuters Municipal Market Data; J.P. Morgan Research, *J.P. Morgan Fixed Income Strategy, US Fixed Income Markets Weekly - Municipals*, 4/21/2017, jpmm.com

<sup>&</sup>lt;sup>1</sup> J.P. Morgan US Fixed Income Strategy – April 21, 2017

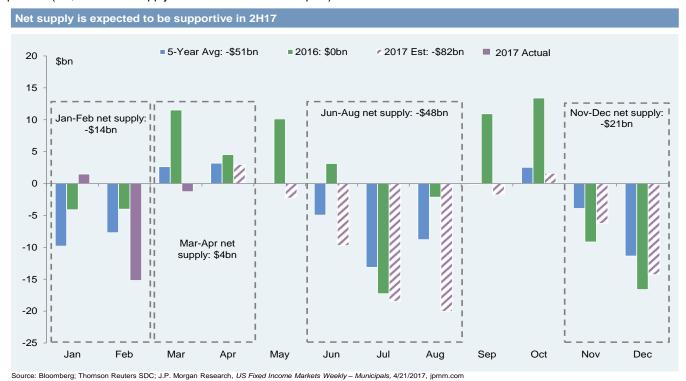
# J.P.Morgan

Supportive net supply, municipal bond fund flows, and the tax reform debate are expected continue to impact the municipal market during 2017. While long-term tax-exempt yields increased significantly following the US elections, almost reaching their 2-year highs, they remain attractive compared to their 20-year range.



With the low rate environment and solid refunding supply, the market saw record issuance of \$445 billion in 2016, surpassing the previous record set in 2010. Gross supply is expected to be \$350 billion during 2017 but will be highly rate dependent. So far, supply has been approximately \$104 billion, mostly driven by new money issuance.

Net negative supply of \$82 billion is forecasted for 2017 and expected to be supportive of tax-exempt yields in the second half of the year, compared to net neutral supply during 2016. During the months when net supply is negative (i.e., new issue supply is smaller than reinvestment capital), issuers face more advantageous market conditions than when net supply is positive (i.e., new issue supply exceeds reinvestment capital).



#### **Potential Market Capacity**

Based on market conditions as of close of business Thursday, April 27th, J.P. Morgan estimates that FHCF could sell \$4-5 billion of tax-exempt bonds and \$2.5-3.5 billion of taxable bonds over the

Indicative Post-Event Market Capacity as of April 27 <sup>th</sup> , 2017						
Time Period	Tax-exempt	Taxable	Total			
0 - 12 Months	\$4-5 billion	\$2.5-3.5 billion	\$6.5-8.5 billion			
12 - 24 Months	\$3-4 billion	\$2.5-3.5 billion	\$5.5-7.5 billion			
Total	\$7-9 billion	\$5-7 billion	\$12-16 billion			

next 0-12 months at the market rate assumptions provided. Over the following 12-24 month period, FHCF could sell an additional \$3-4 billion of tax-exempt bonds and \$2.5-3.5 billion of taxable bonds. This would provide FHCF a total post-event market capacity of \$7-9 billion tax-exempt and \$5-7 billion taxable, for a total of \$12-16 billion.

In order to accomplish an issuance of maximum size, FHCF would likely want to access both the tax-exempt and taxable markets across one or more offerings. Although the post-event bonds would qualify for tax-exemption, the taxable markets may provide additional depth of institutional buyers. By issuing taxable bonds in addition to tax-exempt bonds, FHCF would access certain investors that do not typically participate in tax-exempt offerings, and are not able to use the tax-exemption of municipal bonds. FHCF would likely see a significant increase in capacity by offering both a tax-exempt and taxable series as part of the same issuance, with the ultimate goal being to maximize the tax-exempt issuance. The capacity estimates above do consider the capacity overlap from investors that participate in both the tax-exempt and taxable markets, while prioritizing tax-exempt capacity over taxable.

On the following pages, please find J.P. Morgan's estimated 30-year tax-exempt and taxable scales assuming market conditions as of the close of business Thursday, April 27th. The scales assume FHCF's current underlying ratings of Aa3/AA/AA.

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Florida Hurricane Catastrophe Fund - Tax-exempt Scale								
Year	Maturity	Sinker/Term	MMD	Spread	Coupon	Stated Yield		
1	7/1/2018		0.90%	12	2.00%	1.020%		
2	7/1/2019		1.01%	16	3.00%	1.170%		
3	7/1/2020		1.15%	20	4.00%	1.350%		
4	7/1/2021		1.30%	24	4.00%	1.540%		
5	7/1/2022		1.45%	27	5.00%	1.720%		
6	7/1/2023		1.59%	30	5.00%	1.890%		
7	7/1/2024		1.74%	33	5.00%	2.070%		
8	7/1/2025		1.92%	36	5.00%	2.280%		
9	7/1/2026		2.06%	38	5.00%	2.440%		
10	7/1/2027		2.15%	40	5.00%	2.550%		
11	7/1/2028		2.25%	43	5.00%	2.680%		
12	7/1/2029		2.35%	45	5.00%	2.800%		
13	7/1/2030		2.43%	45	5.00%	2.880%		
14	7/1/2031		2.51%	45	5.00%	2.960%		
15	7/1/2032		2.59%	45	5.00%	3.040%		
16	7/1/2033		2.66%	45	5.00%	3.110%		
17	7/1/2034		2.73%	45	5.00%	3.180%		
18	7/1/2035		2.79%	45	5.00%	3.240%		
19	7/1/2036		2.83%	45	5.00%	3.280%		
20	7/1/2037		2.87%	45	5.00%	3.320%		
21	7/1/2038	*	2.90%					
22	7/1/2039	*	2.92%					
23	7/1/2040	*	2.94%					
24	7/1/2041	*	2.95%					
25	7/1/2042	T	2.96%	45	5.00%	3.410%		
26	7/1/2043	*	2.97%					
27	7/1/2044	*	2.98%					
28	7/1/2045	*	2.99%					
29	7/1/2046	*	3.00%					
30	7/1/2047	Т	3.01%	45	5.00%	3.460%		

Assumes an optional redemption date of 7/1/2027 at par.

# J.P.Morgan

Year	Maturity	Sinker/Term	UST	Spread	Coupon	Stated Yield
1	7/1/2018		1.10%	40	1.498%	1.498%
2	7/1/2019		1.26%	65	1.906%	1.906%
3	7/1/2020		1.44%	75	2.186%	2.186%
4	7/1/2021		1.82%	70	2.520%	2.520%
5	7/1/2022		1.82%	85	2.670%	2.670%
6	7/1/2023		2.10%	75	2.855%	2.855%
7	7/1/2024		2.10%	95	3.055%	3.055%
8	7/1/2025		2.30%	90	3.195%	3.195%
9	7/1/2026		2.30%	100	3.295%	3.295%
10	7/1/2027		2.30%	110	3.395%	3.395%
11	7/1/2028		2.30%	120	3.495%	3.495%
12	7/1/2029		2.30%	130	3.595%	3.595%
13	7/1/2030		2.30%	135	3.645%	3.645%
14	7/1/2031		2.30%	140	3.695%	3.695%
15	7/1/2032		2.30%	150	3.795%	3.795%
16	7/1/2033	*	2.96%			
17	7/1/2034	*	2.96%			
18	7/1/2035	*	2.96%			
19	7/1/2036	*	2.96%			
20	7/1/2037	Т	2.96%	125	4.215%	4.215%
21	7/1/2038	*	2.96%			
22	7/1/2039	*	2.96%			
23	7/1/2040	*	2.96%			
24	7/1/2041	*	2.96%			
25	7/1/2042	*	2.96%			
26	7/1/2043	*	2.96%			
27	7/1/2044	*	2.96%			
28	7/1/2045	*	2.96%			
29	7/1/2046	*	2.96%			
30	7/1/2040	Т	2.96%	150	4.465%	4.46



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### Memorandum

To: Florida Hurricane Catastrophe Fund Date: April 28, 2017

From: Morgan Stanley

**Subject:** Florida Hurricane Catastrophe Fund

Semi-annual Bonding Capacity Analysis - April 2017

Morgan Stanley is pleased to provide to the Florida Hurricane Catastrophe Fund ("FHCF") with our Firm's Semiannual Bonding Capacity Analysis.

#### **TREASURY MARKET UPDATE**

Treasuries experienced intraday volatility last week, and ended lower in yield on the short end of the curve as both the 5Y UST and 10Y UST yields fell by 1 basis point (1.82% and 2.96% respectively). On the longer end of the curve, the 30Y UST yields edged higher by 2 basis points (2.96%). Major market themes include:

**Tax Reform.** The broad market focus remains on the Administration's tax reform plans. Announced this week, the White House wants to move from seven to three tax brackets (10%, 25%, 35%), eliminate the alternative minimum tax, eliminate the estate tax, eliminate the Obamacare Medicare taxes on investment income, double the standard income tax deduction, and eliminate itemized deductions except the two biggest ones, mortgage interest and charitable giving.

**Rate Hike Expectations.** With the current quiet period ahead of next week's FOMC meeting, confidence in a June rate hike reached new highs with a 66% chance of a June rate hike, and pessimism about how much more the Fed could do after June moderated.

**Positive Economic Signs.** A surprisingly strong new home sales report proved another encouraging sign of sustained resumed growth in homebuilding after the weakness in mid-2016 amid persistent homebuilder complaints about "supply-side restraints". Globally, there are encouraging signs and promising quotation activity in many of the markets, with retail sales to users having turned positive for both Machines and Energy & Transportation for the first time in several years.

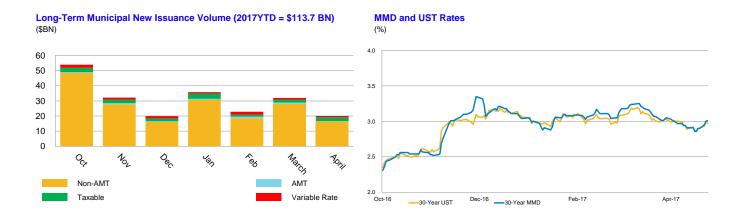
**Market Uncertainty.** There is still a great deal of geopolitical and market uncertainty, along with economic volatility around the world that continues to present risks.

#### **MUNICIPAL MARKET HIGHLIGHTS**

There was stronger than usual supply in the primary market last week with volume at \$6.1 billion. MMD yields were slightly higher on the short end of the curve as the 5Y MMD yield increased by 1 basis point (1.41%) and the 10Y MMD yield was higher by 4 basis points (2.13%). On the longer end of the curve, the 30Y MMD yield edged higher by 6 basis points (3.01%). Municipal market themes include:

**Municipal Bond Fund Net Inflows.** Lipper reported \$145 million of net inflows into municipal bond funds, comprised of \$291 million long term inflows, \$2 million of intermediate outflows, \$145 million of short term outflows, and \$227 million of high yield inflows.

**Lower Issuance Volume in 2017.** Since the start of 2017, the market has produced \$113.7 billion of issuance in 2,806 deals, which is down 16% in volume from this time last year. The fall in issuance volume is largely driven by two factors: 1) a modest decline in new money issuance from financing delays on economic and tax policy uncertainty, and 2) a smaller pool of potential refunding bonds. Municipal bond issuance for April totaled \$27.0 billion in 751 transactions, down from \$35.4 billion in 1,156 transactions during the same period last year. For the first quarter of 2017, there were \$86.7 billion of deals in 2,055 transactions, down from the \$99.9 billion in 2,977 transactions during the same time last year.



#### **PRICING VIEWS**

Rates have increased substantially over the last few months with the 30Y UST yields ranging between 2.42% on October 4, 2016 and 3.19% on March 13, 2017, and the 30Y MMD yields ranging between 2.36% on October 4, 2016 and 3.35% on December 1, 2016. Current 30Y UST yields remain at high levels after the elections and are now 22 basis points off its 2016 highs and 82 basis points above its 2016 lows and edge 61 basis points higher than where it was at the time of our last bonding capacity analysis on October 3, 2016. Similar to UST yields, current 30Y MMD yields remain at elevated levels and are now 34 basis points off its 2016 highs and 108 basis points above its 2016 lows and edge 70 basis points lower than where it was at the time of our last bonding capacity analysis on October 3, 2016.

On the following pages, we have provided our estimate of current pricing levels and bonding capacity over a 0-12 month and 12-24 month period.

1. Please provide a 30-year tax-exempt scale for the FHCF using the MMD at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with 5.0% coupons throughout when writing the scale. Base the scale on an uninsured financing given the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

		FHCF Pricing Views: 30	-Year Tax-Exemp	t Scale	
Year	Maturity	MMD (4/27/2017)	Spread (bps)	Coupon	Yield
1	2018	0.90%	15	5.000%	1.050%
2	2019	1.01%	20	5.000%	1.210%
3	2020	1.15%	25	5.000%	1.400%
4	2021	1.30%	30	5.000%	1.600%
5	2022	1.45%	35	5.000%	1.800%
6	2023	1.59%	40	5.000%	1.990%
7	2024	1.74%	45	5.000%	2.190%
8	2025	1.92%	50	5.000%	2.420%
9	2026	2.06%	55	5.000%	2.610%
10	2027	2.15%	58	5.000%	2.730%
11	2028	2.25%	60	5.000%	2.850%
12	2029	2.35%	60	5.000%	2.950%
13	2030	2.43%	60	5.000%	3.030%
14	2031	2.51%	60	5.000%	3.110%
15	2032	2.59%	60	5.000%	3.190%
16	2033	2.66%	60	5.000%	3.260%
17	2034	2.73%	60	5.000%	3.330%
18	2035	2.79%	60	5.000%	3.390%
19	2036	2.83%	60	5.000%	3.430%
20	2037	2.87%	60	5.000%	3.470%
21	2038	2.90%			
22	2039	2.92%			
23	2040	2.94%			
24	2041	2.95%			
25	2042	2.96%	60	5.000%	3.560%
26	2043	2.97%			
27	2044	2.98%			
28	2045	2.99%			
29	2046	3.00%			
30	2047	3.01%	60	5.000%	3.610%

2. Please provide a 30-year taxable scale using the Treasury curve at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with par-ish coupons throughout when writing the scale. Again, base the scale on an uninsured financing given again the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

		FHCF Pricing Views:	30-Year Taxable	Scale	
Year	Maturity	UST (4/27/2017)	Spread (bps)	Coupon	Yield
1	2018	1.26%	35	1.606%	1.606%
2	2019	1.26%	50	1.756%	1.756%
3	2020	1.44%	60	2.037%	2.037%
4	2021	1.82%	60	2.419%	2.419%
5	2022	1.82%	80	2.619%	2.619%
6	2023	2.10%	95	3.048%	3.048%
7	2024	2.10%	110	3.198%	3.198%
8	2025	2.30%	100	3.295%	3.295%
9	2026	2.30%	115	3.445%	3.445%
10	2027	2.30%	125	3.545%	3.545%
11	2028	2.30%			
12	2029	2.30%			
13	2030	2.30%			
14	2031	2.30%			
15	2032	2.30%	185	4.145%	4.145%
16	2033	2.96%			
17	2034	2.96%			
18	2035	2.96%			
19	2036	2.96%			
20	2037	2.96%	140	4.365%	4.365%
21	2038	2.96%			
22	2039	2.96%			
23	2040	2.96%			
24	2041	2.96%			
25	2042	2.96%			
26	2043	2.96%			
27	2044	2.96%			
28	2045	2.96%			
29	2046	2.96%			
30	2047	2.96%	150	4.465%	4.465%

3. Please provide us with your firm's opinion on the potential tax-exempt and/or taxable post-event market capacity over the next 0-12 and 12-24 months at rates that are at or above the current "market" scale, as needed. In addition, please include and describe briefly in your response if there is any overlap in tax-exempt / taxable capacity.

FHCF Post-Event Market Capacity (\$ in Billions)								
Time Period	Tax-Exempt	Taxable	Total					
0-12 Months	3.0-4.0	3.5-4.0	6.5-8.0					
12-24 Months	3.0-4.0	4.0-4.5	7.0-8.5					
Total	Total 6.0-8.0 7.5-8.5 13.5-16.5							

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To: Florida Hurricane Catastrophe Fund

From: Wells Fargo Securities

Date: April 28, 2017

Re: Florida Hurricane Catastrophe Fund Bonding Capacity Analysis for May 2017

Wells Fargo Securities ("Wells Fargo") is pleased to provide the Florida Hurricane Catastrophe Fund ("FHCF") with our estimate of FHCF bonding capacity for May 2017. On the following pages please find our estimate of current market tax-exempt and taxable scales and spreads along with our estimate of bonding capacity for the 0-12 and 13-24 month time periods assuming unconstrained spreads. Feel free to contact any of the Wells Fargo team if we can provide additional information or address any questions regarding these estimates.

Wells Fargo continues to believe that conditions in the municipal market are favorable for the issuance of FHCF bonds, and our current capacity estimates of \$14.0 billion to \$20.0 billion in combined tax-exempt and taxable bonds over a 24-month time horizon remain unchanged from our previous estimates provided in October 2016. As in our previous bonding capacity estimates, the market scales that we have provided for taxable and tax-exempt FHCF bonds, based on market conditions as of April 27, 2017, both assume a \$3 billion issuance amortized in discrete \$100 million amounts over 30 years. We believe this level of issuance falls within the market's current capacity for FHCF's debt.

Wells Fargo has executed approximately \$800 million of secondary market trades in FHCF bonds since the beginning of 2016, and our estimates for taxable spreads in this memorandum are informed by our trading activities supporting FHCF's bonds in the secondary market.

The municipal market entered a period of increased volatility and rising rates following the 2016 election, with the 30-year 'AAA' MMD¹ yield reaching a post-election high of 3.35% in December (compared to a yield of 2.31% on September 30, 2016, the date of our last bonding capacity estimate). While the threat of tax-reform weighed heavily on the market following the election, we have seen some of this pressure give way, with many investors reengaging amid uncertainty as to the timing and likelihood of tax reform passing during 2017. With investors looking to put cash to work – and 1Q supply down over 12% from the same period in  $2016^2$  – the supply/demand imbalance has also worked in issuers' favor, causing both absolute rates and credit spreads to tighten over the last several weeks. These factors, in conjunction with the flight to quality created by the global uncertainty in North Korea and Syria, have created a more positive market tone for high-grade issuers like FHCF. Overall, since our last bonding capacity analysis, the 30-year benchmark 'AAA' MMD yield has increased by 70 basis points to 3.01% and the 30-year US Treasury has increased by 64 basis points to 2.96%.

Wells Fargo appreciates the opportunity to present our analysis of FHCF's current bonding capacity. As detailed in our response, should the need arise, we expect that current market conditions should allow FHCF to execute one or more transactions in an aggregate amount equal to or greater than the potential capital market funding needs for the current contract year. We will continue to monitor market conditions on FHCF's behalf and keep you informed of market developments that may affect FHCF's future bonding capacity.





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1. Please provide a 30-year tax-exempt scale for the FHCF using the MMD at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with 5.0% coupons throughout when writing the scale. Base the scale on an uninsured financing given the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

		Та	ricane Catasti x-Exempt Sca as of April 27,	ile		
Maturity	MMD	Spread (bps)	Coupon	Yield	Price	Yield to Maturity
7/1/2018	0.860%	15	5.000%	1.010%	104.658	-
7/1/2019	0.980%	20	5.000%	1.180%	108.187	-
7/1/2020	1.110%	25	5.000%	1.360%	111.281	-
7/1/2021	1.250%	30	5.000%	1.550%	113.902	-
7/1/2022	1.410%	35	5.000%	1.760%	115.964	-
7/1/2023	1.550%	40	5.000%	1.950%	117.667	-
7/1/2024	1.700%	45	5.000%	2.150%	118.859	-
7/1/2025	1.900%	48	5.000%	2.380%	119.362	-
7/1/2026	2.040%	50	5.000%	2.540%	120.022	-
7/1/2027	2.130%	53	5.000%	2.660%	120.740	-
7/1/2028	2.230%	55	5.000%	2.780%	119.558	2.935%
7/1/2029	2.330%	55	5.000%	2.880%	118.583	3.150%
7/1/2030	2.420%	55	5.000%	2.970%	117.713	3.328%
7/1/2031	2.510%	55	5.000%	3.060%	116.852	3.483%
7/1/2032	2.590%	55	5.000%	3.140%	116.092	3.613%
7/1/2033	2.660%	55	5.000%	3.210%	115.432	3.721%
7/1/2034	2.730%	55	5.000%	3.280%	114.777	3.819%
7/1/2035	2.790%	55	5.000%	3.340%	114.218	3.900%
7/1/2036	2.830%	55	5.000%	3.380%	113.848	3.962%
7/1/2037	2.870%	55	5.000%	3.420%	113.479	4.018%
7/1/2038	2.900%					
7/1/2039	2.920%					
7/1/2040	2.940%					
7/1/2041	2.950%					
7/1/2042	2.960%	55	5.000%	3.510%	112.654	4.182%
7/1/2043	2.970%					
7/1/2044	2.980%					
7/1/2045	2.990%					
7/1/2046	3.000%					
7/1/2047	3.010%	55	5.000%	3.560%	112.199	4.276%

Please note that the tax-exempt scale shown above assumes that the bonds would be issued with a 10-year par call provision. Bond prices shown in the table above assume an April 27, 2017 dated date.

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2. Please provide a 30-year taxable scale using the Treasury curve at the close of business Thursday, April 27th. This scale should be the one that you believe reflects a "market" scale given the FHCF's credit with no capacity constraints. Please use serial bonds and 20, 25, and/or 30-year term bonds, as needed, over a 30-year amortization period (7/1/18 - 7/1/47) with par-ish coupons throughout when writing the scale. Again, base the scale on an uninsured financing given again the FHCF's current underlying ratings of Aa3/AA/AA (Moody's / S&P / Fitch).

	Florida Hurricane Catastrophe Fund Taxable Scale Rates as of April 27, 2017						
Maturity	UST	Spread (bps)	Coupon	Yield	Price	Yield to Maturity	
7/1/2018	1.060%	65	1.710%	1.710%	100.000	-	
7/1/2019	1.250%	75	2.000%	2.000%	100.000	-	
7/1/2020	1.440%	80	2.240%	2.240%	100.000	-	
7/1/2021	1.810%	70	2.510%	2.510%	100.000	-	
7/1/2022	1.810%	95	2.760%	2.760%	100.000	-	
7/1/2023	2.100%	90	3.000%	3.000%	100.000	-	
7/1/2024	2.100%	110	3.200%	3.200%	100.000	-	
7/1/2025	2.300%	105	3.350%	3.350%	100.000	-	
7/1/2026	2.300%	120	3.500%	3.500%	100.000	-	
7/1/2027	2.300%	130	3.600%	3.600%	100.000	-	
7/1/2028	2.300%	140	3.700%	3.700%	100.000	-	
7/1/2029	2.300%	150	3.800%	3.800%	100.000	-	
7/1/2030	2.300%	160	3.900%	3.900%	100.000	-	
7/1/2031	2.300%	165	3.950%	3.950%	100.000	-	
7/1/2032	2.300%	170	4.000%	4.000%	100.000	-	
7/1/2033							
7/1/2034							
7/1/2035							
7/1/2036							
7/1/2037	2.960%	140	4.360%	4.360%	100.000	-	
7/1/2038							
7/1/2039							
7/1/2040							
7/1/2041							
7/1/2042							
7/1/2043							
7/1/2044							
7/1/2045							
7/1/2046							
7/1/2047	2.960%	155	4.510%	4.510%	100.000	-	

Please note that the taxable scale shown above assumes the bonds would be issued with a make-whole call provision.

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3. Please provide us with your firm's opinion on the potential tax-exempt and/or taxable post-event market capacity over the next 0-12 and 12-24 months at rates that are at or above the current "market" scale, as needed. In addition, please include and describe briefly in your response if there is any overlap in tax-exempt / taxable capacity.

FHCF Post-Event Market Capacity							
Time Period	Tax-Exempt	Taxable	Total				
0-12 Months	\$6.0 - \$8.0 billion	\$3.0 - \$4.0 billion	\$9.0 - \$12.0 billion				
13-24 Months	\$3.0 - \$5.0 billion	\$2.0 - \$3.0 billion	\$5.0 - \$8.0 billion				
0-24 Months Total	\$9.0 - \$13.0 billion	\$5.0 - \$7.0 billion	\$14.0 - \$20.0 billion				

The capacity estimates shown in the table above assume FHCF would issue debt at higher interest rates than the current "market" tax-exempt and taxable scales that we have provided in our response to questions 1 and 2. Also, please note that there is an overlap between the buyers of taxable and tax-exempt FHCF bonds and the capacity estimates provided in the table above take that overlap into consideration.

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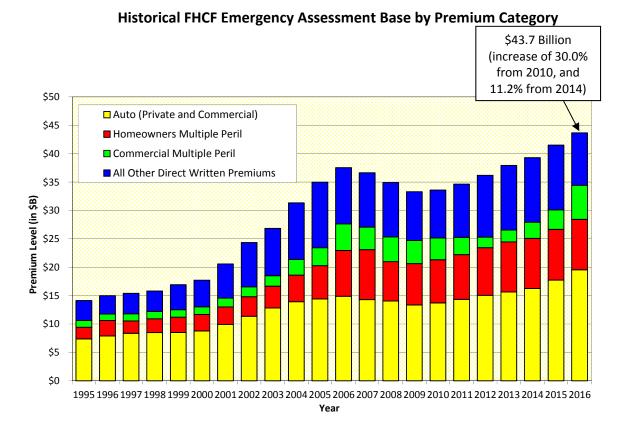
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### Appendix B – The FHCF's Emergency Assessment Base

According to Section 215.555(6)(b)1., Florida Statutes, "(i)f the board determines that the amount of revenue produced under subsection (5) is insufficient to fund the obligations, costs, and expenses of the fund and the corporation, including repayment of revenue bonds and that portion of the debt service coverage not met by reimbursement premiums, the board shall direct the Office of Insurance Regulation to levy, by order, an emergency assessment on direct premiums for all property and casualty lines of business in this state, including property and casualty business of surplus lines insurers regulated under part VIII of chapter 626, but not including any workers' compensation premiums or medical malpractice premiums. As used in this subsection, the term "property and casualty business" includes all lines of business identified on Form 2, Exhibit of Premiums and Losses, in the annual statement required of authorized insurers by s. 624.424 and any rule adopted under this section, except for those lines identified as accident and health insurance and except for policies written under the National Flood Insurance Program."

In numerical terms, this gives the FHCF an ability to assess against a base which, as of the end of 2016 (the last official measurement date), totaled approximately \$43.7 billion. The chart below and table on the following page show the evolution of the FHCF's assessment base over time, both by type of coverage and admitted market and surplus lines.





#### Historical FHCF Emergency Assessment Base (\$MM)

#### Admitted Market, Surplus Lines, and the dollar value of a 6% emergency assessment

		Surplus Lines and NIMA	Total	6%	% Premium
Calendar	Admitted	Clearinghouse	Aggregate	Emergency	Change from
Year	Lines DWP	DWP	Premium	Assessment	Prior Year
1995	\$13,783	-	\$13,783	-	
1996	\$14,994	-	\$14,994	-	8.79%
1997	\$15,402	-	\$15,402	-	2.72%
1998	\$15,817	-	\$15,817	-	2.70%
1999	\$16,036	-	\$16,036	-	1.38%
2000	\$16,780	-	\$16,780	-	4.64%
2001	\$19,195	-	\$19,195	-	14.39%
2002	\$22,150	-	\$22,150	-	15.39%
2003	\$24,411	\$2,435	\$26,845	\$1,611	21.20%
2004	\$28,649	\$2,695	\$31,344	\$1,881	16.76%
2005	\$31,714	\$3,275	\$34,989	\$2,099	11.63%
2006	\$33,346	\$4,208	\$37,554	\$2,253	7.33%
2007	\$32,545	\$4,101	\$36,646	\$2,199	-2.42%
2008	\$30,830	\$4,095	\$34,926	\$2,096	-4.69%
2009	\$29,454	\$3,859	\$33,313	\$1,999	-4.62%
2010	\$29,888	\$3,715	\$33,603	\$2,016	0.87%
2011	\$30,943	\$3,696	\$34,640	\$2,078	3.09%
2012	\$32,323	\$3,862	\$36,185	\$2,171	4.46%
2013	\$33,726	\$4,206	\$37,933	\$2,276	4.83%
2014	\$35,085	\$4,216	\$39,302	\$2,358	3.61%
2015	\$36,957	\$4,550	\$41,507	\$2,490	5.61%
2016	\$39,069	\$4,623	\$43,693	\$2,622	5.26%

Source: Office of Insurance Regulation ("OIR") and Florida Surplus Lines Service Office ("FSLSO")

DWP is as of 12/31 and is based on companies reporting to the OIR on behalf of the FHCF and is subject to change as company/agent adjustments are reported. In 2004, the Florida legislature excluded medical malpractice for 3 years and included surplus lines and has continued to exclude medical malpractice, which has been extended until June 2019.

Average direct written premium increase (geometric mean) from 2000-2016 is 6.07%.

<sup>\*2011-2016</sup> DWP is adjusted to reflect changes in the reporting requirements. The 2011, 2012, 2013, 2014, 2015 and 2016 DWP for admitted lines prior to these allowed adjustments was \$31.4 billion, \$32.7 billion, \$34.1 billion, \$35.4 billion, \$37.1 billion, and \$39.2 billion respectively.



#### **2016 Admitted Market Lines Premiums**

	2016 Total Assessable
	Premium
Line of Business	(\$MM)
Fire	\$721.5
Allied Lines	\$1,591.7
Multiple Peril Crop	\$92.6
Private crop	\$7.8
Farmowners Multiple Peril	\$40.1
Homeowners Multiple Peril	\$8,520.2
Commercial Multiple Peril (Non-Liability)	\$1,203.9
Commercial Multiple Peril (Liability)	\$553.4
Mortgage Guaranty	\$284.4
Ocean Marine	\$309.6
Inland Marine	\$1,193.5
Financial Guaranty	\$6.3
Earthquake	\$5.7
Other liability - occurrence	\$3,107.1
Other liability - claims	\$617.2
Products Liability	\$114.6
Private Passenger Auto No-Fault (PIP)	\$3,577.8
Other Private Passenger Auto Liability	\$8,926.9
Commercial Auto No-Fault (PIP)	\$123.5
Other Commercial Auto Liability	\$1,789.4
Private Passenger Auto Physical	\$4,811.1
Commercial Auto Physical Damage	\$341.8
Aircraft (All Perils)	\$100.0
Fidelity	\$64.1
Surety	\$359.9
Burglary and Theft	\$16.5
Boiler and Machinery	\$58.9
Credit	\$107.5
Warranty	\$465.4
Aggregate Write-ins	\$131.8
Independently Procured Coverage (IPC)	\$0.0
Allowed Adjustments *	-\$175.0
Totals	\$39,069.2

<sup>\*</sup> Adjustments to DWP, which are not subject to FHCF assessments Source: Florida Office of Insurance Regulation, Market Research Unit



### 2016 Surplus Lines and Non-Admitted Insurance Multi-State Agreement ("NIMA")

### **Clearinghouse Premiums**

		2016 Surplus Lines and			2016 Surplus Lines and
		NIMA			NIMA
		Clearinghouse			Clearinghouse
		Premiums			Premiums
Covera	ge Code	(\$MM)	Covera	age Code	(\$MM)
1000	Commercial Property	\$1,630.2	3006	Personal & Pleasure Boats & Yachts	\$16.8
1001	Builders Risk	\$64.8	3007	Ocean Marine Builder's Risk	\$2.2
1002	Business Income	\$2.9	3008	Longshoremen (Jones Act)	\$0.8
1003	Apartments (Commercial)	\$4.0	3010	Marine Operators Legal Liability - Non Taxable	\$0.0
1004	Boiler and Machinery	\$0.1	3011	Marine Liabilities Package - Non Taxable	\$0.2
1005 1006	Commercial Package (Property & Casualty)	\$312.5	4000 4001	Inland Marine (Commercial) Inland Marine (Personal)	\$19.6 \$11.0
1006	Condominium Package (Commercial) Crop Hail	\$56.0 \$0.0	4001	Motor Truck Cargo	\$11.9 \$23.0
1007	Difference In Conditions	\$12.3	4002	Jewelers Block	\$6.3
1009	Earthquake	\$0.5	4004	Furriers Block	\$0.0
1010	Flood	\$24.5	4005	Contractors Equipment	\$1.1
1011	Glass (Commercial)	\$0.0	4006	Electronic Data Processing	\$1.9
1012	Mortgagee Impairment	\$1.1	5000	Commercial General Liability	\$818.2
1013	Windstorm &/or Hail	\$70.4	5001	Commercial Umbrella Liability	\$67.0
1014	Mold Coverage - Commercial	\$1.8	5002	Directors & Officers Liability (Profit)	\$20.7
1015	Sinkhole Coverage - Commerical	\$0.0	5003	Directors & Officers Liability (Non-Profit)	\$4.5
1016	Excess Flood - Commercial	\$12.1	5004	Educator Legal Liability	\$1.7
1017	Collateral Protection	\$40.1	5005	Employment Practices Liability	\$10.9
1018	Fire	\$0.0	5006	Excess Commercial General Liability (Not Umbrella)	\$171.3
1100	Bankers Blanket Bond	\$1.3	5007	Excess Personal Liability (Not Umbrella)	\$3.9
1101	Blanket Crime Policy	\$0.6	5008	Liquor Liability	\$4.0
1102	Employee Dishonesty	\$0.0	5009	Owners & Contractors Protective	\$5.6
1103	Identity Theft	\$0.1	5010	Personal Umbrella	\$7.6
1104	Deposit Forgery	\$0.0	5011	Personal Liability	\$21.2
1105	Miscellaneous Crime	\$1.2	5012	Pollution & Environment Liability	\$57.1
1200	Accident & Health	\$21.1	5013	Product & Completed Operations Liability	\$12.7
1201 1202	Credit Insurance Animal Mortality	\$5.0 \$0.3	5014 5015	Public Officials Liability Police Professional Liability	\$1.6 \$1.3
1202	Mortgage Guaranty	\$0.0	5015	Media Liability	\$1.5
1204	Worker's Compensation-Excess Only	\$5.5	5017	Railroad Protective Liability	\$3.1
1205	Product Recall	\$6.7	5018	Asbestos Removal & Abatement	\$0.0
1206	Kidnap/Ransom	\$0.1	5019	Guard Service Liability	\$0.9
1207	Surety	\$2.7	5020	Special Events Liability	\$3.6
1208	Weather Insurance	\$0.0	5021	Miscellaneous Liability	\$51.6
1209	Prize Indemnification	\$0.1	5022	Cyber Liability	\$40.2
1210	Travel Accident	\$0.0	6000	Hospital Professional Liability	\$1.0
1211	Terrorism	\$13.5	6001	Miscellaneous Medical Professionals	\$0.4
1212	Fidelity	\$1.5	6002	Nursing Home Professional Liability	-\$0.4
2000	Homeowners-HO-1	\$0.8	6003	Physician/Surgeon	\$0.4
2001	Homeowners-HO-2	\$0.3	7000	Architects & Engineers Liability	\$21.4
2002	Homeowners-HO-3	\$285.0	7001	Insurance Agents & Brokers E&O	\$14.4
2003	Tenant Homeowners-HO-4	\$1.1	7002	Lawyers Professional Liability	\$43.7
2004	Homeowners-HO-5	\$21.0	7003	Miscellaneous E&O Liability	\$132.5
2005	Condo Unit-Owners HO-6	\$55.3	7004	Real Estate Agents E&O	\$2.4
2006	Homeowners-HO-8	\$25.5	7005	Software Design Computer E & S	\$3.1
2007	Dwelling Builders Risk	\$2.2 \$14.6	8000	Commercial Auto Excess Liability	\$21.5
2008 2009	Dwelling Property		8001 8002	Commercial Auto Excess Liability Commercial Auto Physical Damage	\$9.4 \$27.5
2009 2010	Dwelling Property Farmowners Multi-Peril	\$84.8 \$2.2	8002	Dealers Open Lot	\$27.5 \$15.9
2010	Mobile Homeowners	\$2.2 \$11.8	8003	Garage Liability	\$15.9
2011	Windstorm	\$20.2	8005	Garage Keepers Legal	\$27.2
2012	Mold Coverage - Residential	\$0.0	8006	Private Passengers Auto-Physical Damage Only	\$0.0
2013	Sinkhole Coverage - Residential	\$0.0	8007	Personal Excess Auto-Frigical Damage Only	\$0.0
2015	Excess Flood - Residential	\$22.7	9000	Commercial Aircraft Hull &/or Liability	\$14.1
3000	Marine Operators Legal Liability - Taxable	\$0.7	9001	Airport Liability	\$1.0
3001	Marine Liabilities Package - Taxable	\$8.8	9002	Aviation Cargo	\$0.1
3002	Ocean Marine-Hull &/or Protection & Indemnity	\$7.8	9003	Aviation Product Liability	\$8.6
3003	Ocean Cargo Policy	\$24.7	9004	Hanger Keepers Legal Liability	\$0.0
3004	Ship Repairers Legal Liability	\$0.0	9005	Personal & Pleasure Aircraft	\$0.1
3005	Stevedores Legal Liability	\$0.0		Allowed Adjustments *	-\$1.4
		•		Totals	\$4,623

<sup>\*</sup> Adjustments to NIMA Clearinghouse Premiums, which are not subject to FHCF assessments Source: FSLSO and NIMA Clearinghouse Based on policies with a submitted/filed/written date from 1/1/16 to 12/31/16.