Navigating Regulatory Headwinds

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Ryan Henley, CFA
Managing Director
henleyr@stifel.com
(205) 949-3509

STIFEL | Fixed Income Strategy

More than 125 years old and still growing

- ***FDIC Assessment Calculation***
- *CECL: Held-to-Maturity Municipal Securities*
- *Upcoming Hedge Accounting Changes*
- *Interest Income on Callable Debt*

Executive Summary

- The Federal Deposit Insurance Corporation (FDIC) issued a notice on January 21, 2016 that proposed the further refinement of the deposit insurance assessment for small insured depository institutions that have been federally insured for at least 5 years (established small banks). On April 26, 2016, the FDIC adopted the final rule as proposed
- "The primary purpose of the [final] rule…is to improve the risk-based deposit insurance assessment system applicable to small banks to more accurately reflect risk"
- The FDIC currently uses various financial ratios to estimate the probability of failure over three years. The final FDIC assessment changes some of the current methods, including the treatment of brokered deposits and the one-year asset growth measure, the addition of the loan mix index, and the weight of the Tier 1 Leverage Ratio in the final calculation of the assessment
- "The FDIC states that the final rule would take effect the quarter after the Deposit Insurance Fund (DIF) reserve ratio has reached 1.15%"*
- **The FDIC Press Release on August 30, 2016 confirmed that as of June 30, 2016, the Deposit Insurance Fund (DIF) reserve ratio has reached 1.17%.(1)** ***As a result, the calculation adopted in the final rule for Small Bank FDIC Assessments will be reflected in 2016Q3 accruals***
- The Bank's estimated Current Assessment, Final Rule Assessment and Cost Savings are summarized in the chart below, using the FDIC Calculator available as of 6/30/2016:

Cost Savings due to Final Rule Assessment

	Assessment Base ($000s)	Current Assessment		Final Rule Assessment		Savings	
		Rate (bp)	Cost ($000s)	Rate (bp)	Cost ($000s)	Rate (bp)	($000s)
CAMELS 1 Rating	3,508,078	7.02	$2,463	5.88	$2,063	1.14	$400
CAMELS 2 Rating	3,508,078	8.12	$2,849	7.40	$2,596	0.72	$253

* Source: FDIC website; https://www.fdic.gov/news/board/2016/2016-03-15_notice_dis_b_fr.pdf

(1) *https://www.fdic.gov/news/news/press/2016/pr16073.html*

(2) *Federal Deposit Insurance Corporation: Notice of Proposed Rulemaking. January 21, 2016. https://www.fdic.gov/news/board/2016/2016-01-21_notice_dis_b_fr.pdf*

(3) *Memorandum: Update of Proposed Deposit Insurance Fund Losses, Income, and Reserve Ratios for the Restoration Plan. Federal Deposit Insurance Corporation. April 7, 2015. https://www.fdic.gov/news/board/2015/2015-04-21_notice_dis_b_mem.pdf*

Final Rule FDIC Assessment

Current Risk Category I Financial Ratios Method	Final Financial Ratios Method
• Weighted Average CAMELS Component Rating	• Weighted Average CAMELS Component Rating
• Tier 1 Leverage Ratio	• Tier 1 Leverage Ratio
• Net Income before Taxes/Risk-Weighted Assets	• Net Income before Taxes/Total Assets
• Nonperforming Assets/Gross Assets	• Nonperforming Loans and Leases/Gross Assets
	• Other Real Estate Owned/Gross Assets
• Adjusted Brokered Deposit Ratio	• Brokered Deposit Ratio
	• One Year Asset Growth
• Net Loan Charge-Offs/Gross Assets	
• Loans Past Due 30-89 Days/Gross Assets	
	• Loan Mix Index

Key Changes

- **<u>Brokered Deposit Ratio:</u>**
  - Adjusted Brokered Deposit Ratio:

    Brokered Deposits / Domestic Deposits (only affects assessment if ratio exceeds 10% and bank's assets have grown > 40% in previous 4 years)
  - Updated Brokered Deposit Ratio:

    Brokered Deposits – Reciprocal Deposits / Total Assets (only affects assessment if ratio exceeds 10%)

- **<u>One-Year Asset Growth Measure:</u>**
  - Final ruling only increases assessment rate for one-year asset growth greater than 10 percent

(1) *Federal Deposit Insurance Corporation: Notice of Proposed Rulemaking. January 21, 2016. https://www.fdic.gov/news/board/2016/2016-01-21_notice_dis_b_fr.pdf*

Final Rule FDIC Assessment

Key Changes (continued)

- **Loan Mix Index**
  - Loan mix index is defined as the cumulative sum of each loan category's industry-wide historical weighted average charge off rate (from 2001-2014) multiplied by that loan category's percentage of that bank's total assets
    - Loan categories such as construction and development have significantly higher weighted average charge-off rates

- **Tier 1 Leverage Ratio**
  - The pricing multiplier for the Tier 1 Leverage Ratio has increased, such that the contribution to the assessment rate has increased

Implications and Implementation

- **Overall decrease in assessments paid**
  - Small banks paying the minimum assessment rate increases from 26% to 56%

- **Implementation timeline**
  - ***With the Deposit Insurance Fund (DIF) Ratio reaching 1.17%, 2016Q3 assessments will reflect the final rule***

(1) Federal Deposit Insurance Corporation: Notice of Proposed Rulemaking. January 21, 2016. https://www.fdic.gov/news/board/2016/2016-01-21_notice_dis_b_fr.pdf
(2) Memorandum: Update of Proposed Deposit Insurance Fund Losses, Income, and Reserve Ratios for the Restoration Plan. Federal Deposit Insurance Corporation. April 7, 2015. https://www.fdic.gov/news/board/2015/2015-04-21_notice_dis_b_mem.pdf

Assessment Rate Calculation: Current Method (CAMELS 1)

Section 2 - Financial Ratios					
Which quarter of financial data do you wish to use?			June 30, 2016		
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers		Contribution to Assessment Rate
Tier 1 Leverage Ratio	**9.582**	x	(0.056)	=	(0.537)
Loans Past Due 30-89 Days/Gross Assets	**0.158**	x	0.575	=	0.091
Nonperforming Assets/Gross Assets	**1.289**	x	1.074	=	1.384
Net Loan Charge-Offs/Gross Assets	**0.508**	x	1.210	=	0.615
Net Income before Taxes/Risk-Weighted Assets	**0.637**	x	(0.764)	=	(0.487)
Adjusted Brokered Deposit Ratio	**0.000**	x	0.065	=	0.000
Sum of Contributions					1.067

Part A - Financial Ratios Method				
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers	Contribution to Initial Base Assessment Rate
Uniform Amount				4.861
Sum of Financial Ratios Contributions				1.067
Weighted Average CAMELS Component Rating	1.000	x	1.095	1.095
Sum of Contributions				**7.023**
Initial Base Assessment Rate from Financial Ratio Method				**7.02**

(1) Source: FDIC Assessment Calculator
(2) Assumes CAMELS rating of "1" on each piece and composite

Assessment Rate Calculation: Final Rule Method (CAMELS 1)

Section 2 - Financial Ratios					
Which quarter of financial data do you wish to use?			June 30, 2016		
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers		Contribution to Assessment Rate
Leverage Ratio	9.582	x	(1.264)	=	(12.112)
Net Income before Taxes/Total Assets	0.605	x	(0.720)	=	(0.436)
Nonperforming Loans and Leases/Gross Assets	1.232	x	0.942	=	1.161
Other Real Estate Owned/Gross Assets	0.057	x	0.533	=	0.030
Brokered Deposit Ratio	0.000	x	0.264	=	0.000
Loan Mix Index	103.299	x	0.081	=	8.367
One-year Asset Growth	3.150	x	0.061	=	0.000
Sum of Contributions					(2.989)

The final Brokered Deposit Ratio assumes the following calculation:

$$\left(\frac{\text{Brokered Deposits} - \text{Reciprocal Deposits}}{\text{Total Assets}}\right) - 10\%$$

Part A - Initial Base Assessment Rate					
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers		Contribution to Initial Base Assessment Rate
Uniform Amount					7.352
Sum of Financial Ratios Contributions					(2.989)
Weighted Average CAMELS Component Rating	1.000	x	1.519		1.519
Sum of Contributions					**5.882**
Initial Base Assessment Rate from Financial Ratio Method					**5.88**

(1) Source: FDIC Assessment Calculator
(2) Assumes CAMELS rating of "1" on each piece and composite

Loan Mix Index: Final Rule Method (CAMELS 1)

Calculation of the Loan Mix Index (June 30, 2016)

Loan Type	Reported Amount ($000)	Percentage of Total Assets *	Weighted Average Charge-off Rate	Contribution to Loan Mix Index *
Construction & Development	**253,235**	6.442	4.4965840	28.968
Commercial & Industrial	**1,132,321**	28.806	1.5984506	46.045
Leases	**0**	0.000	1.4974551	0.000
Other Consumer	**22,028**	0.560	1.4559717	0.816
Loans to Foreign Government	**0**	0.000	1.3384093	0.000
Real Estate Loans Residual	**0**	0.000	1.0169338	0.000
Multifamily Residential	**121,730**	3.097	0.8847597	2.740
Nonfarm Nonresidential	**945,791**	24.061	0.7286274	17.531
1-4 Family Residential	**393,491**	10.010	0.6973778	6.981
Loans to Depository Banks	**0**	0.000	0.5760532	0.000
Agricultural Real Estate	**33,151**	0.843	0.2376712	0.200
Agriculture	**2,933**	0.075	0.2432737	0.018

Total Assets	**3,930,879**	Loan Mix Index	103.299

C&D Loans: Charge-off Rate of 4.49 makes it the largest contributor to Loan Mix Index

(1) Source: FDIC Assessment Calculator
(2) Assumes CAMELS rating of "1" on each piece and composite

Assessment Rate Calculation: Current Method (CAMELS 2)

Section 2 - Financial Ratios					
Which quarter of financial data do you wish to use?			June 30, 2016		
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers		Contribution to Assessment Rate
Tier 1 Leverage Ratio	**9.582**	x	(0.056)	=	(0.537)
Loans Past Due 30-89 Days/Gross Assets	**0.158**	x	0.575	=	0.091
Nonperforming Assets/Gross Assets	**1.289**	x	1.074	=	1.384
Net Loan Charge-Offs/Gross Assets	**0.508**	x	1.210	=	0.615
Net Income before Taxes/Risk-Weighted Assets	**0.637**	x	(0.764)	=	(0.487)
Adjusted Brokered Deposit Ratio	**0.000**	x	0.065	=	0.000
Sum of Contributions					1.067

Part A - Financial Ratios Method				
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers	Contribution to Initial Base Assessment Rate
Uniform Amount				4.861
Sum of Financial Ratios Contributions				1.067
Weighted Average CAMELS Component Rating	2.000	x	1.095	2.190
Sum of Contributions				**8.118**
Initial Base Assessment Rate from Financial Ratio Method				**8.12**

(1) Source: FDIC Assessment Calculator
(2) Assumes CAMELS rating of "2" on each piece and composite

Assessment Rate Calculation: Final Rule Method (CAMELS 2)

Section 2 - Financial Ratios					
Which quarter of financial data do you wish to use?			June 30, 2016		
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers		Contribution to Assessment Rate
Leverage Ratio	9.582	x	(1.264)	=	(12.112)
Net Income before Taxes/Total Assets	0.605	x	(0.720)	=	(0.436)
Nonperforming Loans and Leases/Gross Assets	1.232	x	0.942	=	1.161
Other Real Estate Owned/Gross Assets	0.057	x	0.533	=	0.030
Brokered Deposit Ratio	0.000	x	0.264	=	0.000
Loan Mix Index	103.299	x	0.081	=	8.367
One-year Asset Growth	3.150	x	0.061	=	0.000
Sum of Contributions					(2.989)

The final Brokered Deposit Ratio assumes the following calculation:

$$\left(\frac{\text{Brokered Deposits} - \text{Reciprocal Deposits}}{\text{Total Assets}}\right) - 10\%$$

Part A - Initial Base Assessment Rate					
(Place cursor over underlined text for definition)	Risk Measure Value		Pricing Multipliers		Contribution to Initial Base Assessment Rate
Uniform Amount					7.352
Sum of Financial Ratios Contributions					(2.989)
Weighted Average CAMELS Component Rating	2.000	x	1.519		3.038
Sum of Contributions					**7.401**
Initial Base Assessment Rate from Financial Ratio Method					**7.40**

(1) Source: FDIC Assessment Calculator
(2) Assumes CAMELS rating of "2" on each piece and composite

FDIC Assessment – Crossing the $10 Billion Mark

Large Institution Calculator:

- Established in 2011 and not currently subject to any proposed changes. It is comprised of two scores:
  - Performance Score - measures a financial institution's performance and ability to withstand stress
  - Loss Severity Score - measures the relative magnitude of potential losses to the FDIC in the event of the large institution's failure
- The performance score is multiplied by the loss severity score, and then converted into a base assessment rate

FDIC Surcharge:

- Intent is to raise the DIF to 1.35% no later than December 31, 2018. However, Dodd Frank requires the FDIC to "offset the effect of [the increase in the minimum reserve ratio] on insured depository institutions with total consolidated assets of less than $10,000,000,000."
- For institutions with total assets greater than or equal to $10 billion, a surcharge of 4.5 bps annually is charged against their surcharge base, which is generally defined as:
  - The institution's deposit insurance assessment base for the period minus $10 billion (Cliff Effect)
  - Each quarter between the effective date and December 31, 2018 carries a multiplier that will increase the surcharge base by a defined incremental amount for that respective quarter
  - **The FDIC Press Release on August 30, 2016 confirmed that as of June 30, 2016, the Deposit Insurance Fund (DIF) reserve ratio has reached 1.17%.[1] As a result, the 4.5bp surcharge will be reflected in 2016Q3 accruals**

CLO Concentration – "Higher Risk" Loans within FDIC Assessment:

- The Large Institution calculation includes a greater insurance assessment for "higher risk" C&I loans
  - Practically speaking, CLOs on the bank's balance sheet are usually included in the "higher risk" category, increasing the performance score portion of the FDIC Assessment
  - The result is an estimated 30bp to 50bp reduction to earnings on CLO holdings
  - Only applies to instruments that were either issued on April 1, 2013 or purchased after April 1, 2013

(1) Source: FDIC website; https://www.fdic.gov/news/board/2016/2016-03-15_notice_dis_b_fr.pdf
(2) Source: https://www.fdic.gov/news/news/financial/2011/fil11008.pdf

- *FDIC Assessment Calculation*
- ***CECL: Held-to-Maturity Municipal Securities***
- *Upcoming Hedge Accounting Changes*
- *Interest Income on Callable Debt*

CECL Municipal HTM Securities

326-20-30-10 *An entity's estimate of expected credit losses shall include a measure of the expected risk of credit loss* ***even if that risk is remote,*** *regardless of the method applied to estimate credit losses. However, an entity is not required to measure expected credit losses on a financial asset (or group of financial assets) in which historical credit loss information adjusted for current conditions and reasonable and supportable forecasts results in an expectation that nonpayment of the amortized cost basis is zero.*

- While municipal defaults are extremely rare, and actual losses even more infrequent, the potential that an issuer might fail to make scheduled interest or principal payments must still be assessed.
- Even if an entity can mathematically demonstrate that the expected loss for an HTM municipal security is zero or immaterial (i.e. no reserve is necessary), that entity must still document and support both its conclusion and assumptions.
- Few have ever experienced a municipal credit loss – institutional history for municipal defaults can't be relied on to provide the necessary data. But a lack of experience with municipal defaults does not exempt an institution from the requirements of CECL.

(1) ASC 326-20-30-10

Municipal Default and Recovery Rates

- Municipal issuers, especially tax supported and essential service utility borrowers, have significantly lower default rates, higher recovery rates, and less ratings volatility than comparable corporate issuers.
- **87.2%** of municipal issuers remain in their ratings category in any given year vs. **79.7%** for corporate issuers.
- The average ultimate recovery on municipal defaults is **65%**, compared to **53%** for corporate issuers.
- Municipal default rates are significantly lower over every time horizon than corporate issuers.

Cumulative Default Rates 1970-2015 Municipal vs. Corporate Issuers

	Rating	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
All Municipals	Aaa	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Aa	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%
	A	0.00%	0.01%	0.02%	0.02%	0.03%	0.04%	0.04%	0.05%	0.06%	0.07%
	Baa	0.01%	0.04%	0.08%	0.12%	0.15%	0.20%	0.25%	0.30%	0.34%	0.38%
	Ba	0.27%	0.79%	1.24%	1.80%	2.33%	2.73%	3.17%	3.59%	3.94%	4.24%
	B	2.88%	5.55%	8.06%	10.28%	12.50%	14.10%	15.09%	15.87%	16.72%	17.88%
	Caa-C	9.16%	13.43%	16.49%	18.57%	19.77%	20.95%	22.26%	23.72%	25.13%	26.03%
	Investment-Grade	0.00%	0.01%	0.02%	0.03%	0.04%	0.05%	0.06%	0.07%	0.08%	0.09%
	Speculative-Grade	1.33%	2.47%	3.47%	4.44%	5.33%	6.00%	6.61%	7.15%	7.67%	8.18%
	All Rated	**0.02%**	**0.03%**	**0.05%**	**0.07%**	**0.08%**	**0.09%**	**0.11%**	**0.12%**	**0.14%**	**0.15%**
Global Corporates	Aaa	0.00%	0.01%	0.01%	0.03%	0.09%	0.14%	0.20%	0.26%	0.33%	0.40%
	Aa	0.02%	0.06%	0.11%	0.20%	0.30%	0.42%	0.54%	0.65%	0.72%	0.81%
	A	0.06%	0.17%	0.36%	0.55%	0.79%	1.06%	1.34%	1.65%	1.98%	2.31%
	Baa	0.19%	0.48%	0.83%	1.25%	1.67%	2.11%	2.53%	2.97%	3.48%	4.03%
	Ba	0.96%	2.59%	4.50%	6.54%	8.44%	10.22%	11.79%	13.31%	14.85%	16.45%
	B	3.62%	8.50%	13.49%	17.98%	22.06%	25.69%	29.03%	31.82%	34.28%	36.28%
	Caa-C	10.75%	19.01%	25.80%	31.20%	35.76%	39.21%	41.88%	44.33%	46.34%	48.03%
	Investment-Grade	0.09%	0.25%	0.46%	0.70%	0.96%	1.23%	1.51%	1.80%	2.12%	2.45%
	Speculative-Grade	4.07%	8.27%	12.25%	15.76%	18.85%	21.51%	23.84%	25.87%	27.73%	29.42%
	All Rated	**1.50%**	**3.00%**	**4.39%**	**5.58%**	**6.60%**	**7.48%**	**8.24%**	**8.92%**	**9.56%**	**10.16%**

(1) Sources: Moody's Investors Services

Municipal Default and Recovery Rates

- Loss estimates for CECL must reflect expectations for the contractual term of the financial asset.
- Even though the one-year default rate for A rated credits was 0.00%, three of the nine S&P rated non-housing defaults in 2015 were initially rated A or higher at the time of issuance.
- In order to model the expected loss, every path a security can take as it moves toward maturity can be assigned a probability based on its starting rating (GO only)
- For example, a credit might remain AAA over its 5 year lifetime. Or it could migrate to AA (0.71% annual probability), then to BBB (0.02%), and then default (0.07%)

Table 26

USPF Static Pool One-Year Transition Matrices By Category (%)* (cont.)

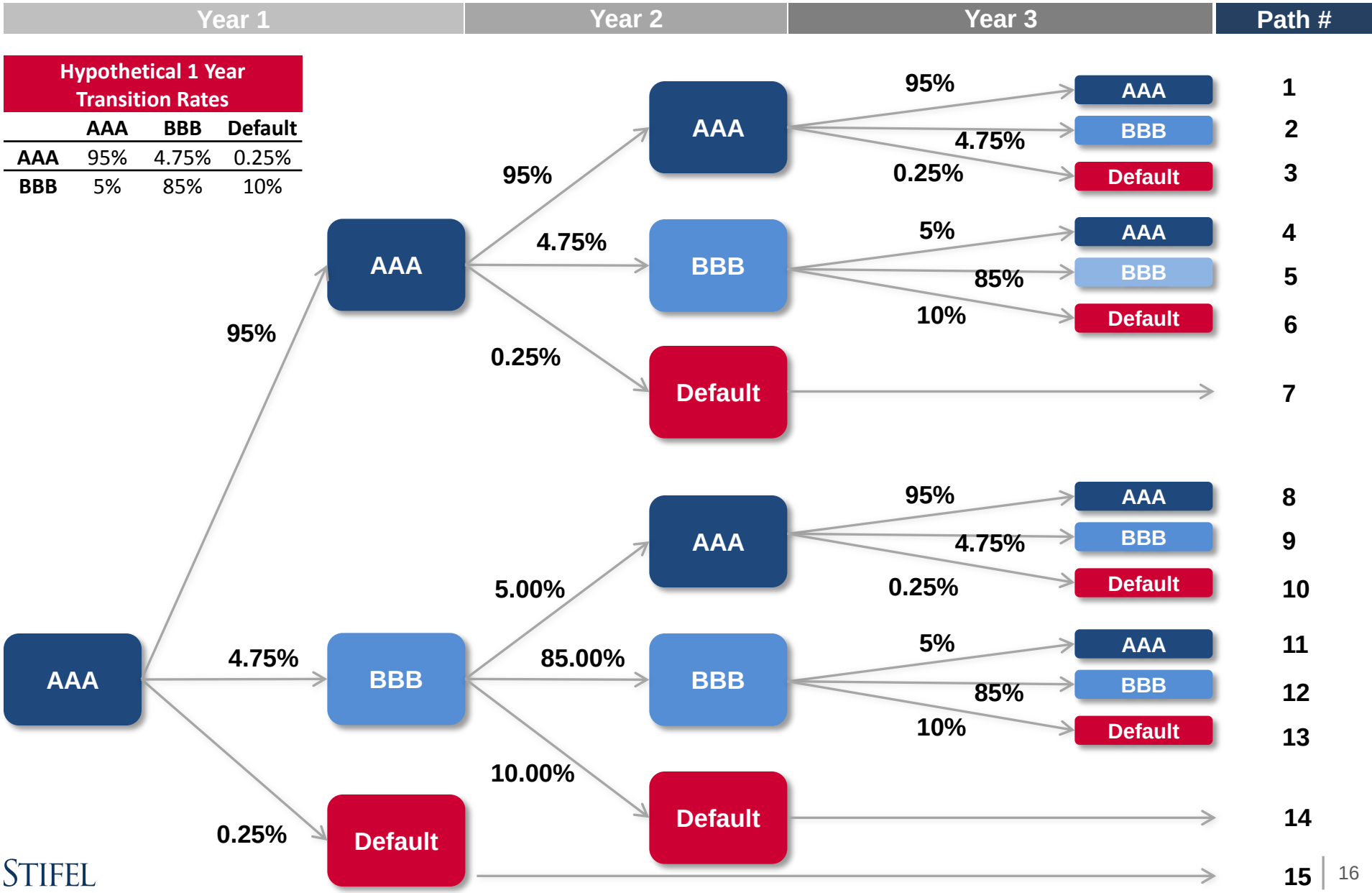
From/to	Issuers	AAA	AA	A	BBB	BB	B	CCC/C	D	NR
Static pool: 1/1/2015										
AAA	851	96.36	0.71	0.12	0.12	0.00	0.00	0.00	0.00	2.70
AA	8,051	0.35	94.49	0.88	0.02	0.00	0.00	0.00	0.00	4.26
A	9,197	0.00	2.03	92.93	0.46	0.02	0.01	0.00	0.00	4.54
BBB	1,335	0.00	0.15	7.79	84.04	1.87	0.22	0.30	0.07	5.54
BB	244	0.00	0.00	0.41	8.20	70.49	1.64	11.07	1.64	6.56
B	44	0.00	0.00	0.00	0.00	9.09	68.18	13.64	2.27	6.82
CCC/C	17	0.00	0.00	5.88	5.88	0.00	5.88	64.71	17.65	0.00

*Excludes housing. Source: Global Fixed Income Research.

(1) Source: S&P Global Ratings, Default, Transition, and Recovery: 2015 Annual U.S. Public Finance Default Study and Rating Transitions

Municipal Expected Loss Methodology

Hypothetical 1 Year Transition Rates			
	AAA	BBB	Default
AAA	95%	4.75%	0.25%
BBB	5%	85%	10%



Municipal Expected Loss Methodology

- Simplified CECL Transition/Default probability table:

Path Number	Path Probability	Expected Cash Flow	Path Proability Weighted Expected Cash Flow
1	85.74%	$20.00	$17.15
2	4.29%	$20.00	$0.86
3	0.23%	$10.00	$0.02
4	0.23%	$20.00	$0.05
5	3.84%	$20.00	$0.77
6	0.45%	$10.00	$0.05
7	0.24%	$10.00	$0.02
8	0.23%	$20.00	$0.05
9	0.01%	$20.00	$0.00
10	0.00%	$10.00	$0.00
11	0.20%	$20.00	$0.04
12	3.43%	$20.00	$0.69
13	0.40%	$10.00	$0.04
14	0.48%	$10.00	$0.05
15	0.25%	$10.00	$0.03
		Total Expected Cash Flows	$19.80
		Total Contractual Cash Flow	$20.00
		Expected Cash Flow %	98.98%
		CECL Required Reserve	**1.02%**

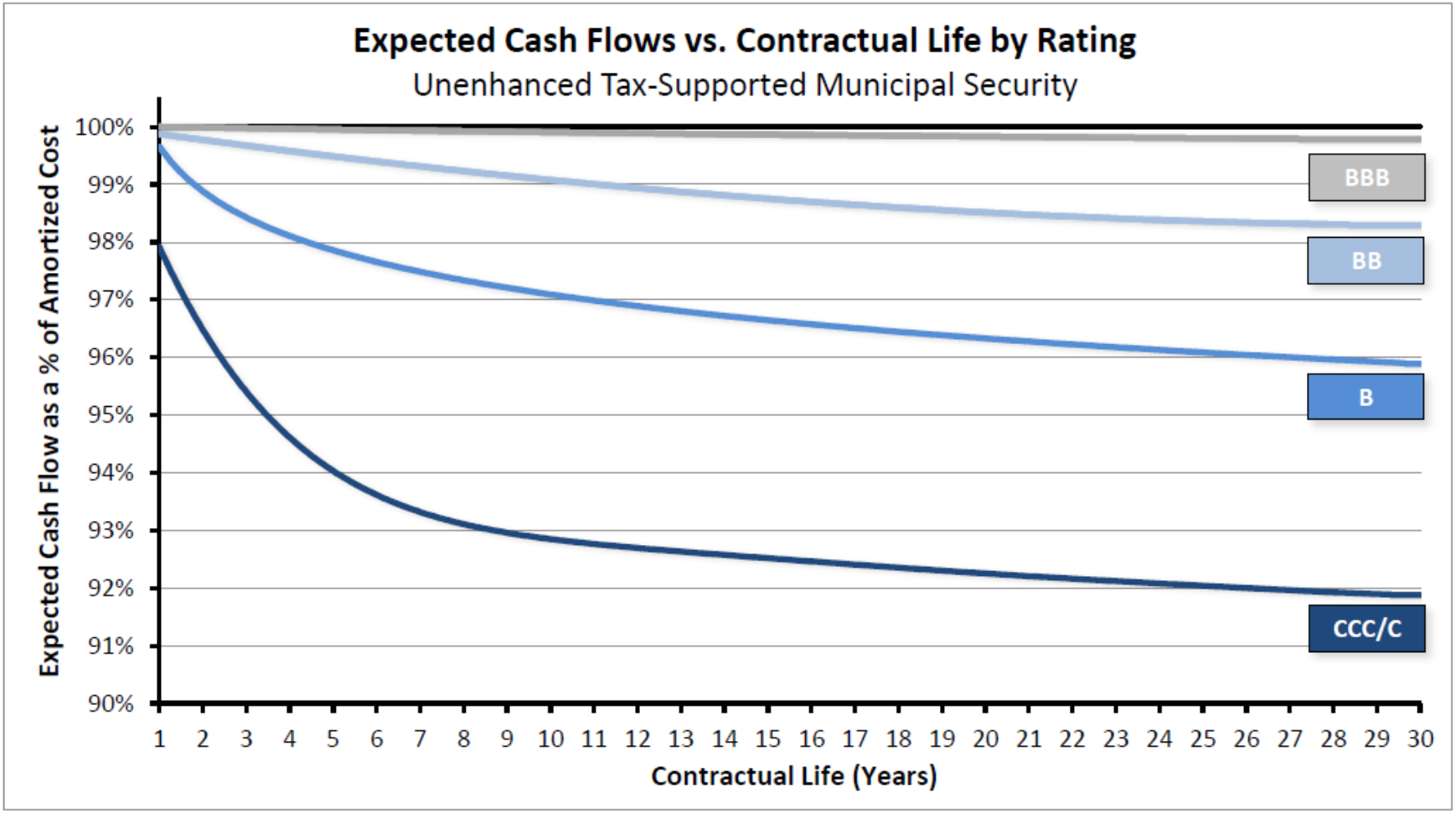
Municipal Expected Loss Data

- Based on these assumptions and methodologies, credits rated A or above exhibit negligible losses with expected cash flows covering at least 99.99% of amortized cost.
- For credits rated below BBB, however, the expected recovery can be materially lower than the cost basis, especially for longer term holdings. While BBB securities still exhibit a 99.8% recovery out 30 years, similarly termed BB securities show much lower 98.5% recovery rates, potentially requiring reserve totaling 1.5% of amortized cost.
- Sectors other than tax supported (general obligation) bonds required significantly higher reserves across the board.

	Time Horizon - Years to Maturity						
	1	5	10	15	20	25	30
AAA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
AA	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
A	100.00%	100.00%	100.00%	100.00%	99.99%	99.98%	99.98%
BBB	99.99%	99.96%	99.90%	99.90%	99.82%	99.79%	99.81%
BB	99.76%	99.64%	99.00%	98.96%	98.51%	98.19%	98.50%
B	99.52%	98.05%	97.01%	96.78%	96.18%	96.32%	95.81%
CCC/C	97.88%	94.17%	93.07%	92.58%	92.14%	92.14%	91.90%

Municipal Expected Loss Data (continued)

- Speculative grade B and CCC rated credits deteriorate rapidly, with 98.0% and 94.2% recovery expectations out five years, and 97.0% and 93.0% out ten years, respectively.



Municipal Expected Loss Forecasting

- Obviously, these loss expectations are extremely sensitive to changes in the assumed transition rates.
- To attempt to quantify a worst-case scenario, we ran the model with default and transition rates provided by Moody's for the crisis period 2008-2014. Based on these diminished assumptions, A rated securities show a **99.7%** recovery and BBB securities a **98.1%** recovery out 20 years, compared to 99.9% and 99.8% under the prior assumptions.

Default and Transition Rates – Crisis vs. Historical Averages

	From/To:	Aaa	Aa	A	Baa	Ba	B	Caa-C	Default	Withdrawn
2008-2015	Aaa	**88.10%**	2.21%	0.23%	0.09%	0.04%	0.00%	0.00%	**0.00%**	9.34%
	Aa	0.14%	**93.94%**	1.68%	0.04%	0.01%	0.00%	0.00%	**0.00%**	4.18%
	A	0.00%	1.62%	**90.39%**	1.21%	0.26%	0.02%	0.00%	**0.00%**	6.50%
	Baa	0.00%	0.09%	3.21%	**80.77%**	3.68%	0.35%	0.10%	**0.05%**	11.74%
	Ba	0.16%	0.11%	1.06%	7.20%	**69.61%**	4.83%	1.47%	**0.04%**	15.51%
	B	0.00%	0.43%	0.00%	2.47%	6.32%	**64.21%**	12.46%	**3.51%**	10.60%
	Caa-C	0.00%	0.00%	0.00%	0.27%	0.13%	2.40%	**63.76%**	**13.86%**	19.59%
	From/To:	Aaa	Aa	A	Baa	Ba	B	Caa-C	Default	Withdrawn
1970 - 2015	Aaa	**94.50%**	0.90%	0.15%	0.06%	0.01%	0.00%	0.00%	**0.00%**	4.38%
	Aa	0.53%	**93.98%**	1.65%	0.05%	0.02%	0.00%	0.00%	**0.00%**	3.77%
	A	0.06%	1.55%	**92.23%**	0.91%	0.13%	0.02%	0.01%	**0.00%**	5.08%
	Baa	0.03%	0.04%	1.95%	**90.47%**	1.04%	0.12%	0.03%	**0.02%**	6.29%
	Ba	0.02%	0.07%	0.61%	5.03%	**77.96%**	4.03%	1.02%	**0.37%**	10.88%
	B	0.00%	0.17%	0.52%	1.97%	5.38%	**72.83%**	6.95%	**3.95%**	8.24%
	Caa-C	0.00%	0.00%	0.32%	0.65%	1.20%	2.24%	**72.14%**	**8.77%**	14.68%

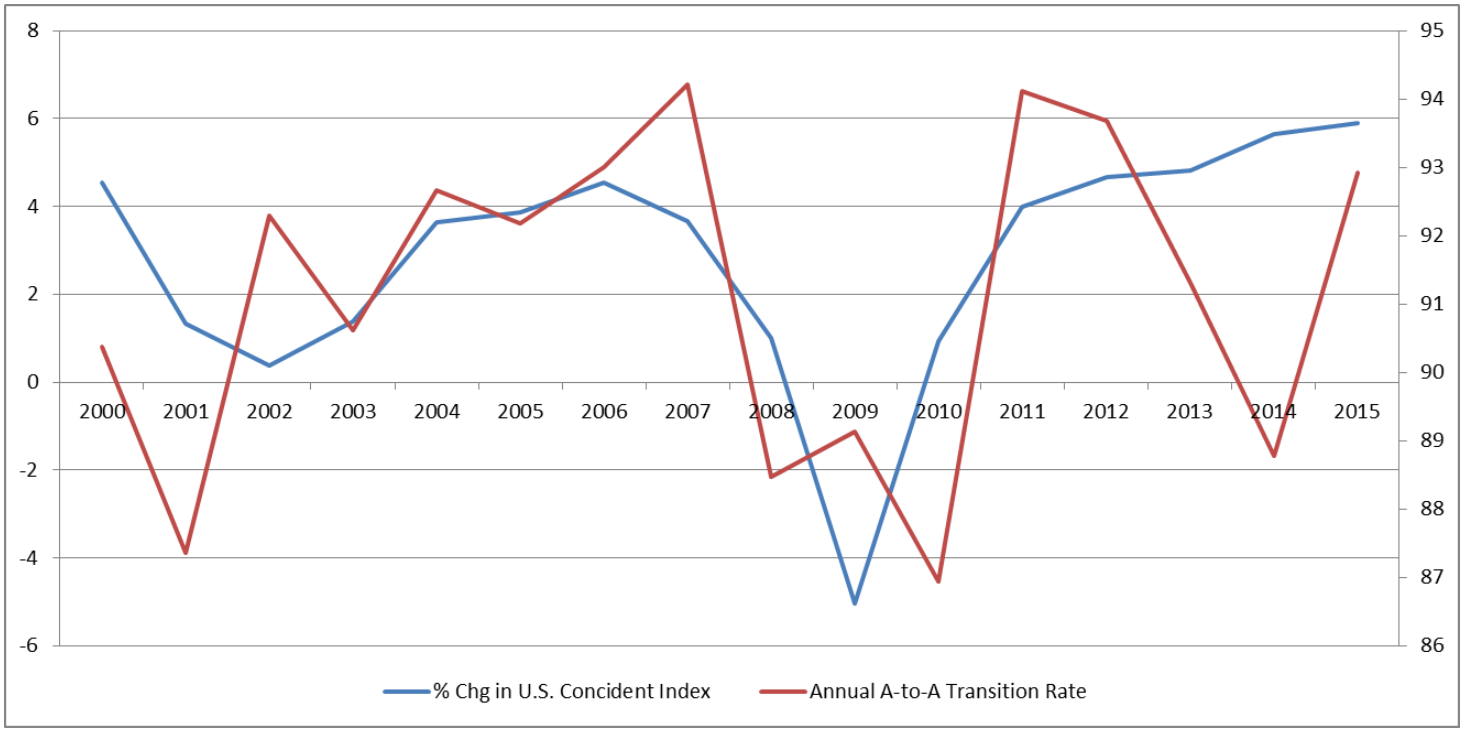
(1) ASC 326-20-30-9

CECL Expected Loss Forecasting

326-20-30-9 *An entity shall not rely solely on past events to estimate expected credit losses. When an entity uses historical loss information, it shall consider the need to adjust historical information to reflect the extent to which management expects current conditions and reasonable and supportable forecasts to differ from the conditions that existed for the period over which historical information was evaluated.*

- The values illustrated on the prior slides represent the average of annual transition probabilities over the historic time period.

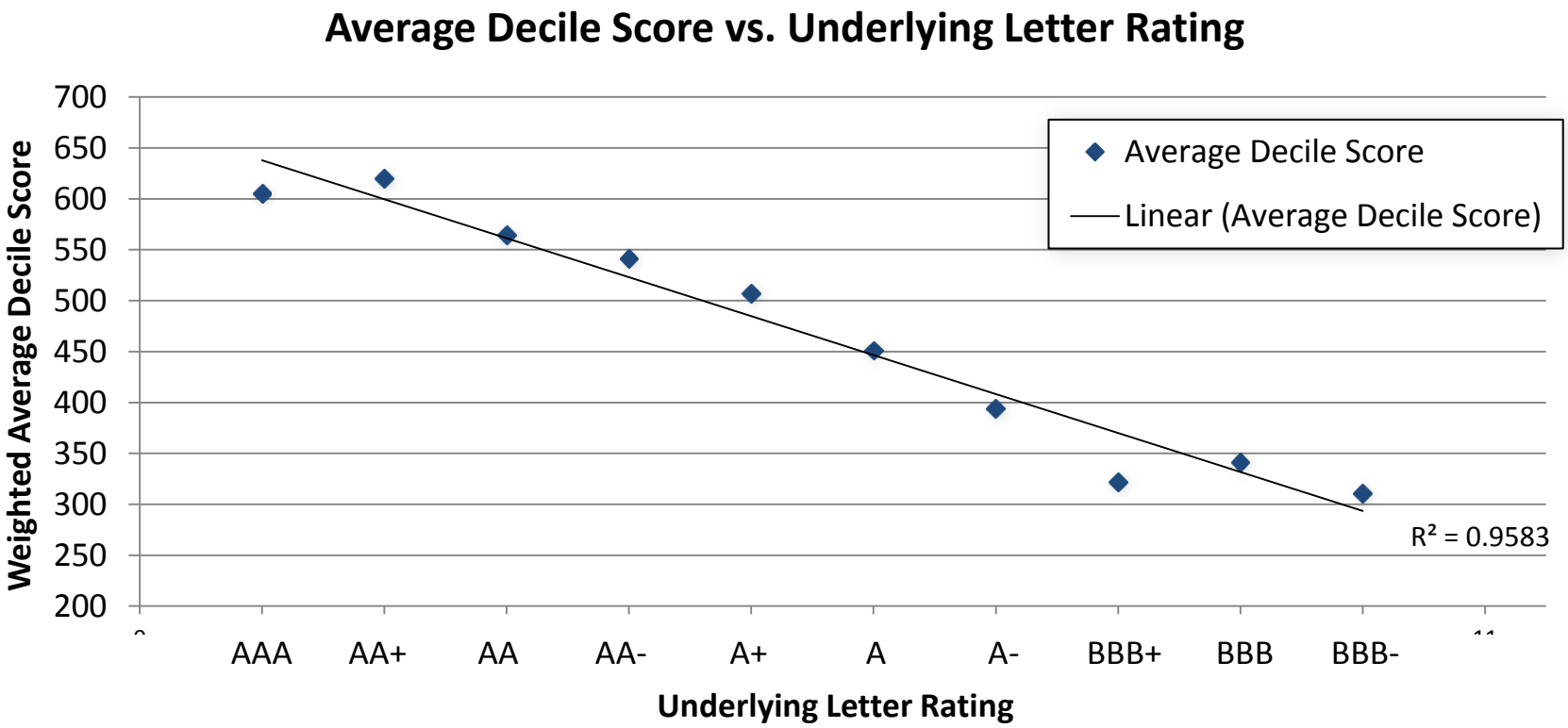
- Transition probabilities do illustrate a relationship to the U.S. Coincident Index over history, implying greater loss expectations during crisis periods.



(1) ASC 326-20-30-9

CECL Non-Rated Securities

- In order to apply the methodology described classifying each non-rated credit into letter rating bucket is necessary before the transition and default rates shown above can be applied. This can be accomplished through careful analysis of each issuer's relevant financial, demographic, and economic ratios.
- Stifel's Municipal Credit Snapshot (MCS) system uses a similar methodology that we've shown to be highly correlated with underlying letter ratings as shown in the graph below.



Municipal HTM Classification

ASC 320-10-25-6

The sale or transfer of a held-to-maturity security due to one of the following changes in circumstances shall not be considered inconsistent with its original classification:

1. ***Evidence of a significant deterioration in the issuer's creditworthiness (for example, a downgrading of an issuer's published credit rating)***
2. A change in tax law that eliminates or reduces the tax-exempt status of interest on the debt security (but not a change in tax law that revises the marginal tax rates applicable to interest income)
3. A major business combination or major disposition (such as sale of a component of an entity) that necessitates the sale or transfer of held-to-maturity securities to maintain the entity's existing interest rate risk position or credit risk policy
4. A change in statutory or regulatory requirements significantly modifying either what constitutes a permissible investment or the maximum level of investments in certain kinds of securities, thereby causing an entity to dispose of a held-to-maturity security
5. A significant increase by the regulator in the industry's capital requirements that causes the entity to downsize by selling held-to-maturity securities
6. A significant increase in the risk weights of debt securities used for regulatory risk-based capital purposes.

The sale of a held-to-maturity security in advance of any deterioration in the creditworthiness of the issuer, perhaps based solely on industry statistics, will call into question an investor's stated intent to hold other debt securities to maturity in the future. The sale of a held-to-maturity security must be in response to an actual deterioration, not mere speculation. That deterioration shall be supported by evidence about the issuer's creditworthiness; ***<u>however, the entity need not await an actual downgrading in the issuer's published credit rating or inclusion on a credit watch list.</u>***

(1) ASC 320-10-25-6
(2) ASC 320-10-25-5

- *FDIC Assessment Calculation*
- *CECL: Held-to-Maturity Municipal Securities*
- ***Upcoming Hedge Accounting Changes***
- *Interest Income on Callable Debt*

Potential Hedge Accounting Changes = Greater Ease of Hedging

On Monday, June 29, 2015, the Financial Accounting Standards Board (FASB) convened a decision making meeting at which the board members discussed and arrived at tentative decisions regarding several revisions to hedge accounting which could greatly reduce this complexity.

As recommended by the FASB staff members, the board voted in favor of significant changes to key items within the current ASC 815 framework. These items are listed below:

1) Benchmark interest rate of variable-rate hedged items
2) Benchmark interest rate of fixed-rate hedged items
3) Hedges of callable debt
4) Partial term fair value hedges
5) Fair value hedges and the total coupon issue

Update: On September 8, 2016, the FASB issued the exposure draft "Derivatives and Hedging – Targeted Improvements to Accounting for Hedging Activities", with comments due November 22, 2016.

Benchmark interest rate: Variable-rate hedged items

Board decision:

Allow the contractually specified index rate to be the designated interest-rate risk. The benchmark rate definition would no longer apply to hedges of variable-rate hedged items.

What it means:

Financial institutions will no longer be tied to the narrowly defined benchmark interest rate set composed of LIBOR, U.S. Treasury, and Fed Funds Effective (OIS). For example, currently the cash flows associated with instruments tied to benchmark interest rates can be aggregated and hedged with no regard to the various spreads above or below the index on each instrument. ***One can simply look towards the underlying benchmark rate and ignore the noise surrounding it (spreads, etc.).***

However, in order to hedge cash flows associated with instruments tied to non-benchmark interest rates such as PRIME, one must aggregate the instruments into homogenous buckets, with identical spreads (one cannot ignore the noise). This can often prove difficult when spreads over PRIME, within perhaps one's loan portfolio, vary significantly. ***Removing the definition of the benchmark interest rate and allowing institutions to hedge contractually-specified indexes such as PRIME, with no regard for spreads, is a huge step forward in providing more flexible methods of achieving hedge accounting.***

Hedges of Callable Debt

Board decision:

Allow an entity to focus on changes in the value of a prepay option solely as it relates to changes in the designated benchmark interest rate.

What it means:

Using interest rate swaps to convert callable fixed-rate debt to float proves quite challenging given the ineffectiveness that arises under the existing rules. **The requirement to consider all of the factors that might lead an entity to prepay the debt (interest rate, credit spreads, and other factors) creates this issue.** For example, a municipal debenture could carry a call option. In order to hedge that debenture, one could attempt to build a hedge relationship with an interest rate swap that also carried a mirror image call option. However, the options will not behave identically or said differently, the option values do not behave identically. This divergence in option value changes specifically occurs as municipal spreads change**. If municipal spreads were to tighten significantly yet swap rates remained unchanged, this would make a call trigger more likely on the municipal debenture. In contrast, with swap rates unchanged, the option within the swap would have little to no change in value. Therein lies the issue with this type of hedging relationship currently and why the Board and staff sought to revise the concept.**

The Board's tentative decision to allow one to only consider the effect of changes in the value of the call option as it relates to changes in the benchmark interest rate would help one achieve an effective hedge when swapping callable fixed rate municipal securities to floating by entering into a pay-fixed/receive float interest rate swap with a mirrored call option.

Partial Term Fair Value Hedges

Board decision:

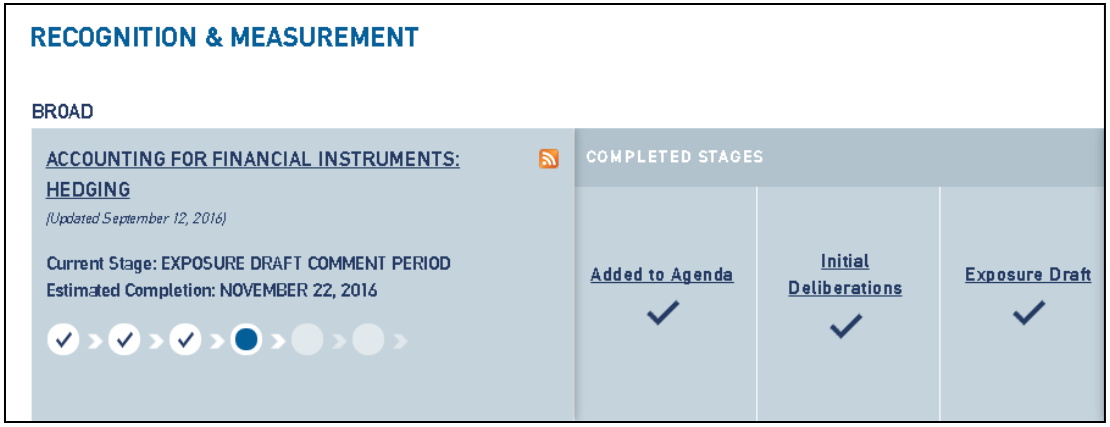
Allow an entity to apply the same term of the hedging instrument (i.e. swap) to the hedged item in a partial-term fair value hedge.

What it means:

While current rules allow an entity to hedge a specific percentage of the change in value of the hedged item, a partial term hedge (e.g., hedging the first 5 years of a 10-year fixed-rate bond) is not allowed under current rules. This has frustrated many institutions looking to convert legacy, or new issue, fixed rate instruments to a coupon structure that more closely aligns with their subjective rate view or overall risk position. For example, certain financial institutions that recently issued subordinated debt have expressed interest in altering the coupon structure post issuance. They might issue 10 year fixed debt, yet with to have the first 2 or 3 years floating (at a lower, cheaper coupon). This strategy isn't feasible under the current rule set; however, the tentative board decision yesterday regarding this would allow for such a hedge under the new framework. This will provide much more flexibility for those wishing to create a "floating-to-fixed" debt instrument.

Progress to Date/Next Steps

- **Board/Other Public Meeting Dates – Current[1]**
  - July 13, 2016: Decisions regarding sweep issues, cost and benefits, and permission to ballot.
  - March 23, 2016: Decisions regarding transition alternatives.
  - December 21, 2015: Decisions regarding additional hedge documentation relief for private companies.
  - October 7, 2015: Decisions regarding net investment hedges, the treatment of excluded components for cash flow hedges and net investment hedges, the use of total coupon cash flows in fair value hedges, sub-benchmark hedges, and contract features that limit exposure in cash flow hedges of nonfinancial items.
  - June 29, 2015: Decisions regarding the qualifying threshold, component hedging for nonfinancial items, benchmark interest rates, application issues related to fair value hedges of interest rate risk, the shortcut method, and presentation and disclosures.
- **Next Steps**
  - Exposure Draft – published September 8, 2016; comments due November 22, 2016



(1) Source: http://www.fasb.org/jsp/FASB/FASBContent_C/ProjectUpdatePage&cid=1176159271017#next_steps
(2) Source: http://www.fasb.org/cs/ContentServer?c=Page&pagename=FASB%2FPage%2FTechnicalAgendaPage&cid=1175805470156#tab_1175805471236

- *FDIC Assessment Calculation*
- *CECL: Held-to-Maturity Municipal Securities*
- *Upcoming Hedge Accounting Changes*
- ***Interest Income on Callable Debt***

Interest Income on Callable Debt

- The FASB Board is in process of redeliberating issues raised regarding the recognition of interest income on callable debt securities (moving to a yield to worst concept)
- The current guidance has led to many institutions recognizing interest income for callable debt securities held at a premium on a yield to maturity basis, which can result in significant one day amortization event if the security is called prior to maturity

Tentative Decisions (through September 16, 2015)

Topic	Decisions Reached	Meeting Dates
General/Scope	• The Board voted to add to its technical agenda a project to require disclosures about interest income on purchased debt securities • The Board voted to amend the scope of the project to consider the amortization period for purchased callable debt securities	March 18, 2015 September 16, 2015
Amortization Period	• For purchased debt securities with an explicit call option, the Board voted to amortize premiums to the first call date of the security. Discounts on purchased debt securities with an explicit call option are still to be amortized to the maturity date of the security.	September 16, 2015

July 27, 2016 Meeting (Decision-making Board meeting):

- The Board broadened the scope to all callable debt securities and discussed transition framework/timeline (more detail on following slide)

September 22, 2016 Meeting (Exposure Draft):

- The Board issued exposure draft with a comment period ending on November 28, 2016

(1) http://www.fasb.org/cs/ContentServer?c=Document_C&pagename=FASB%2FDocument_C%2FDocumentPage&cid=1176166407422

Further Guidance on Transition Framework/Timeline

Transition Framework

- The exposure draft implements the change to yield to worst interest income recognition on callable debt securities using the **"modified retrospective" transition framework**
- Under this framework, restatement of prior reporting periods is not required
- Rather, there is a **cumulative effect adjustment to the opening balance of retained earnings reported at implementation** with the new recognition framework being implemented on a go-forward basis

Example

- The catch up entry was calculated assuming a constant yield amortization method. We amortized all bonds to maturity, then amortized all bonds to "worst" (premiums to first call, discounts to maturity), and found the difference in these methods.

Catch Up Entry (as of 1/31/2017) = ~$10.6 mm

- If a catch up entry is taken, the tax equivalent yield of the Municipal portfolio will decrease from 5.49% to 4.41%. A decrease of 107bps.

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