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From: The Division of Economic and Risk Analysis¹

Date: March 17, 2014

Re: Municipal Money Market Funds Exposure to Parents of Guarantors

In this memo, the Division of Economic and Risk Analysis presents an analysis of the exposure municipal money market funds (“MMFs”) have to the parents of guarantors.² There are two types of municipal MMFs on Form N-MFP (item 10): Single State and Other Tax-Exempt funds. The analysis examines the extent to which MMFs use the “25% basket” under which up to 25% of the value of securities held in a MMF portfolio may be subject to guarantees or demand features from a single guarantor in municipal MMFs. The analysis is intended to assist the Commission in developing final rules regarding Money Market Fund Reform.

Data and Methodology

We collect information from Form N-MFP submissions between November 2010 and November 2012 for all MMFs. From these filings, we extract the reported monthly portfolio information for each money market fund. Here we focus on two types of reported information for each security. First, funds report whether or not the security has a Demand Feature, and, if so, the identity of the Demand Feature issuer (item 37). We manually link the Demand Feature issuer to its ultimate parent. Second, funds report whether the security has a Guarantee, and, if so, the identity of the Guarantee issuer (item 38). We also manually link the Guarantee issuer to its ultimate parent.

During our sample period, there are 1.74 million security-fund-month observations. Approximately 41% of these have a Demand Feature, 30% have a Guarantee, and 22% have both. Therefore, 52% have neither. All reported dollar calculations are stated in terms of amortized cost, and all charts are based on a monthly average of 641 funds. Due to data quality concerns specific to this analysis, we exclude the February 2012 N-MFP submission data from our charts³. Given the low variability of the data, we do not anticipate the omitted month of data to alter inferences and, hence, conclude its omission is not economically significant. We also

¹ This is a memo by the Staff of the Division of Economic and Risk Analysis of the U.S. Securities and Exchange Commission. The Commission has expressed no view regarding the analysis, findings or conclusions contained herein.

² In companion memos, we present analyses of the exposure money market funds have to the parents of issuers and the parents of guarantors. See “The Exposure Money Market Funds Have to the Parents of Guarantors” (<http://www.sec.gov/comments/s7-03-13/s70313-21.pdf>) and “The Exposure Money market Funds Have to the Parents of Issuers” (<http://www.sec.gov/comments/s7-03-13/s70313-20.pdf>) for details.

³ In the February 2012 N-MFP filings, several funds’ guarantors were left blank. In our analyses these guarantors would be grouped together as “<BLANK>,” and would appear as a spike in the charts.

determined the credit risk of the top 20 guarantors using CDS spreads and a composite credit rating.

To simplify the discussion in the remainder of this memo, we use *guarantors* to refer both to the ultimate parent of issuers of Guarantees and issuers of Demand Features. Similarly, we use *guarantees* to refer both to Guarantees and to Demand Features.

Overview of Municipal Funds

We begin by examining the number and size of municipal MMFs. The following two tables show the number and total net assets of funds by dollar size and fund type. There are no Single State funds with more than \$10 billion in assets under management. Specifically, the largest 19 Single State funds have \$52.6 billion in total net assets as of November 2013. In contrast the single largest Other Tax-Exempt fund has \$28.8 billion in total net assets.

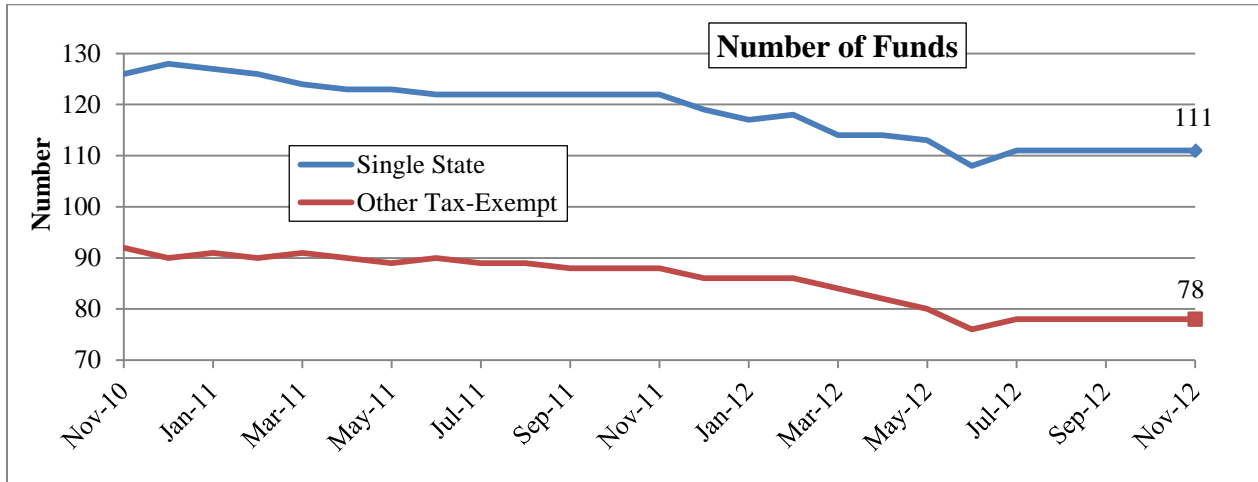
**Number of Money Market Funds
By Dollar Size and Fund Type as of November 2013**

Size	All Funds	Other Tax-Exempt	Single State
>\$100 billion	3	0	0
\$50-\$100 billion	4	0	0
\$20-\$50 billion	31	1	0
\$10-\$20 billion	48	3	0
\$1-\$10 billion	190	30	19
\$100 million to \$1 billion	222	32	64
Less than \$100 million	67	8	16
Total	565	74	99

**Distribution of the Money Market Industry's Total Net Asset (\$ Billions)
By Dollar Size and Fund Type as of November 2013**

Size	All Funds	Other Tax-Exempt	Single State
>\$100 billion	366.5	0	0
\$50-\$100 billion	259.9	0	0
\$20-\$50 billion	909.5	28.8	0
\$10-\$20 billion	723.4	49.7	0
\$1-\$10 billion	652.5	101.5	52.6
\$100 million to \$1 billion	92.8	16.3	22.8
Less than \$100 million	3.3	0.5	1.0
Total	3008.0	196.8	76.4

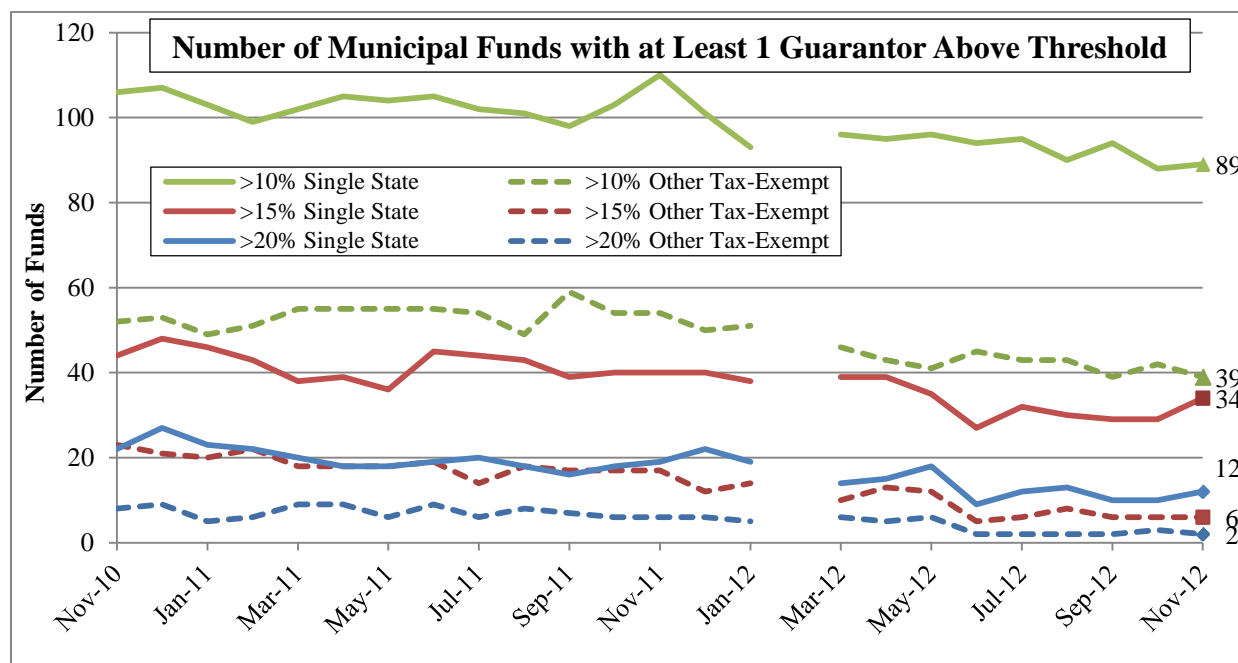
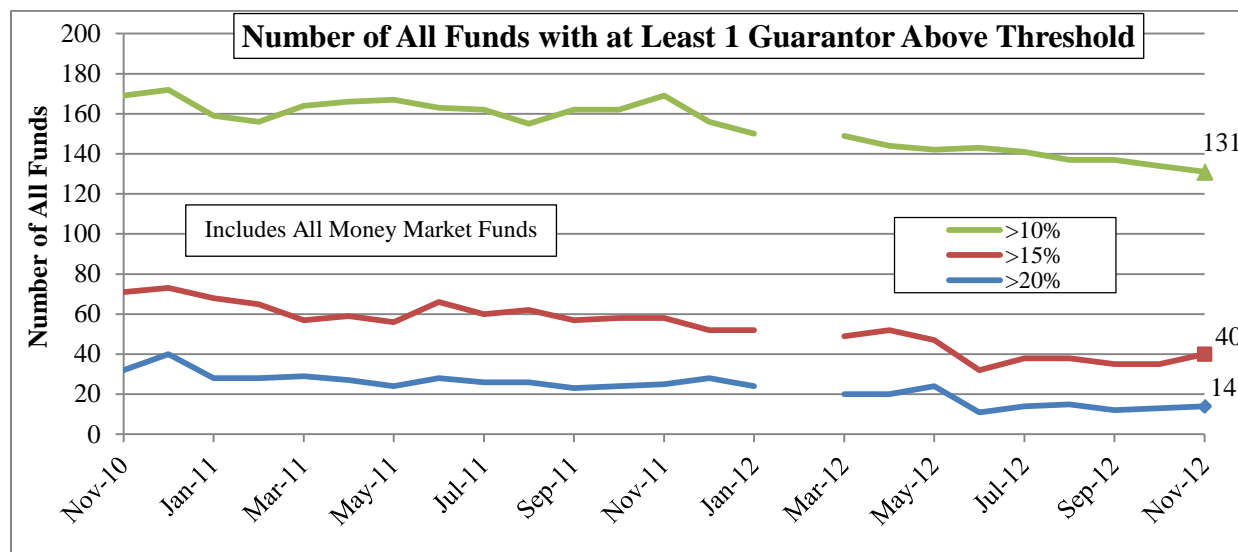
The figure below shows the number of Single State MMFs declined from a high of 128 in December 2010 to 111 in November 2012. The number of Other Tax-Exempt funds fell also to 78 funds in November 2012. The decline in funds reflects both the decline in number and the total dollar amount of guarantees in this sample period.



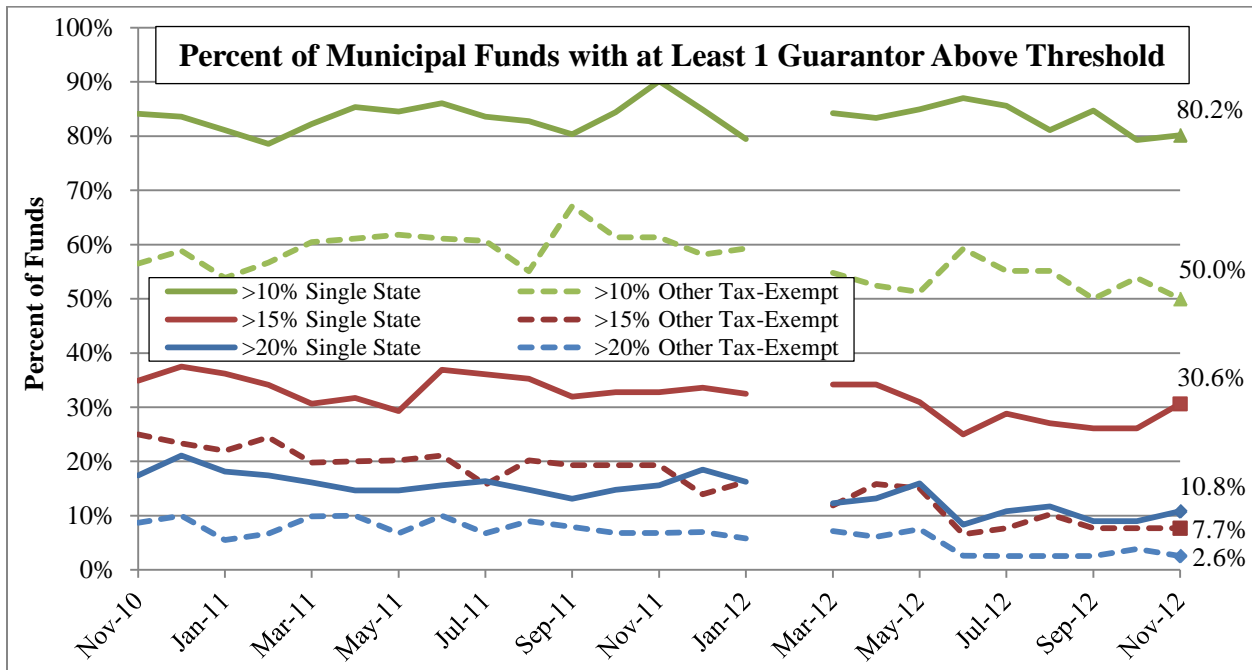
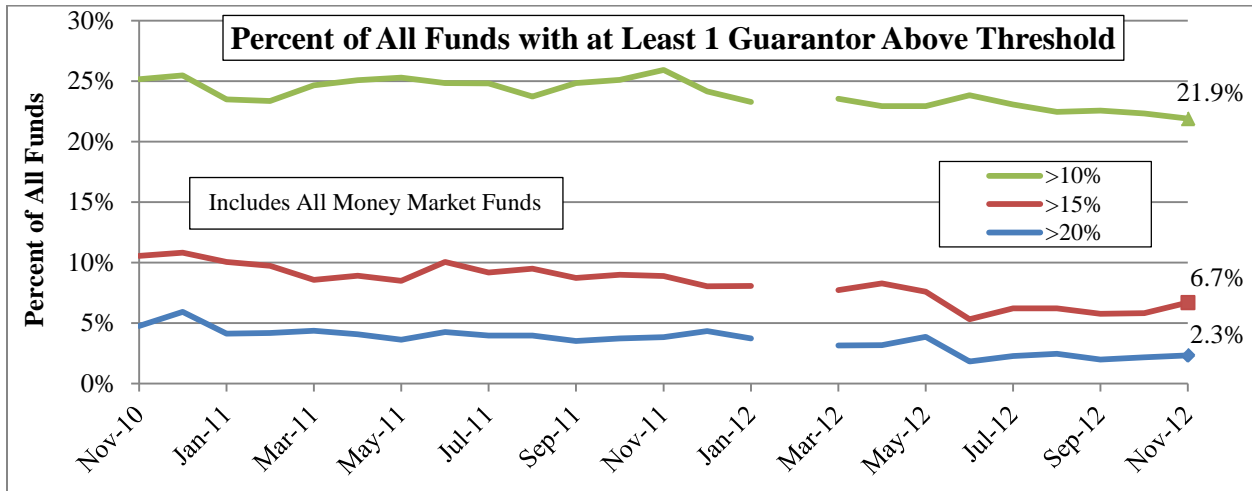
Exposure to Guarantors

Under current regulations, MMFs can use a “25% basket” that allows up to 25% of the value of the portfolio to be invested in securities with guarantees from a single guarantor. We examine the number of funds for which guarantors compose more than 10%, 15%, and 20% of their portfolios. This analysis indicates the relative importance of the large guarantors.

For each of the 24 months in our sample period, we aggregate the amortized-cost dollar holdings of all MMFs in each guarantor. In the following figures, we report the number of funds with at least one guarantor above each of these thresholds. The first figure examines all MMFs, whereas the second looks at municipal funds where Single State funds are represented by a solid line and Other Tax-Exempt funds by a dashed line. For example, the green line in the first figure indicates that 131 funds had at least one guarantor guarantee over 10% of their portfolios in November 2012. The next chart shows 89 of those 131 funds (68%) were Single State funds and another 39 (30%) were Other Tax-Exempt funds. At the 15% threshold (red line), 34 of 40 funds (85%) were Single State funds and the remaining six (15%) were Other Tax-Exempt funds.

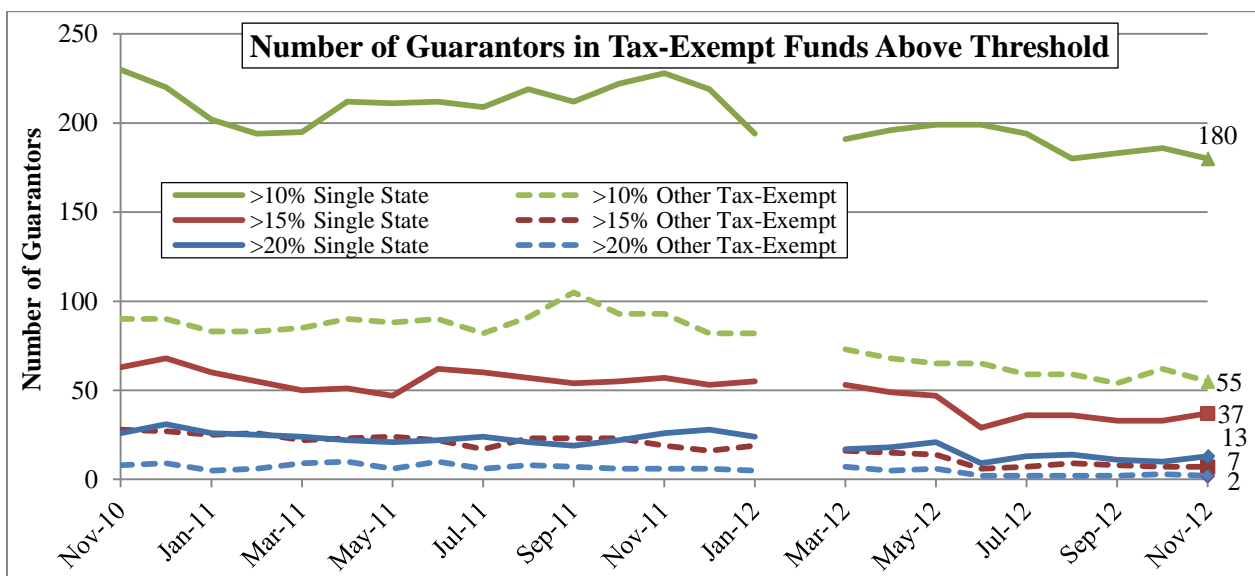
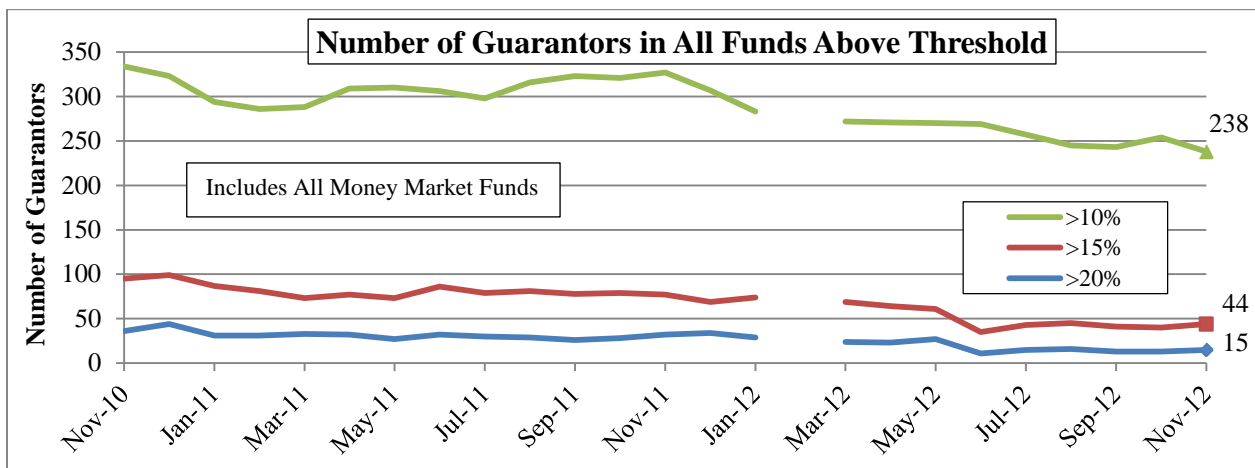


We repeat the analysis using percentages. The green line in the first figure below, for instance, indicates 21.9% of all MMFs in November 2012 had at least one guarantor over the 10% threshold. The second chart below shows 80.2% of all Single State funds and 50.0% of all Other Tax-Exempt funds had at least one guarantor above the 10% threshold in November 2012. The 20% threshold (blue line) corresponds to 2.3% of all funds, 10.8% of all Single State funds, and 2.6% of all Other Tax-Exempt funds for the same month.



Next, we examine the number of times guarantors exceed each of the three thresholds. For example, if a fund's top five guarantors guarantee 23%, 17%, 13%, 11% and 5% of their portfolio, we count one guarantor above the 20% threshold, two guarantors above the 15% threshold, and four guarantors above the 10% threshold. Also, if a certain guarantor guarantees more than 20% of a portfolio in four different funds, we count this as four guarantors above the 20% threshold.

The red line in the first figure below indicates there were 44 guarantors above the 15% threshold in November 2012. The next chart shows 37 of those 44 guarantors (84.1%) were Single State guarantors and seven (15.6%) were Other Tax-Exempt guarantors. At the 20% threshold (blue line), 13 of the 15 guarantors (86.7%) were Single State guarantors and two (13.3%) were Other Tax-Exempt guarantors.

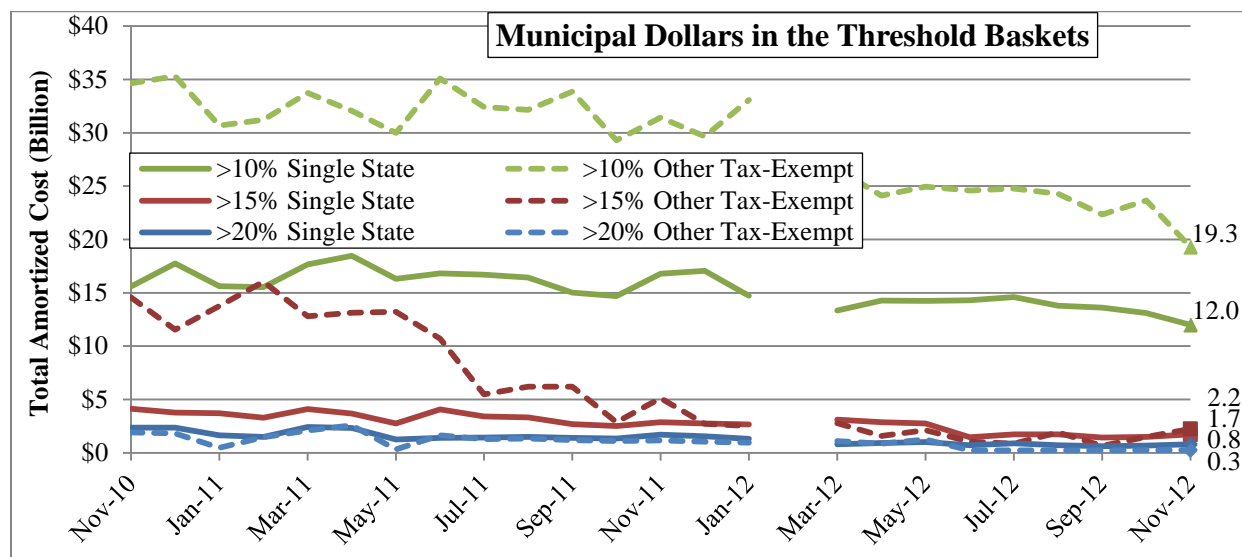
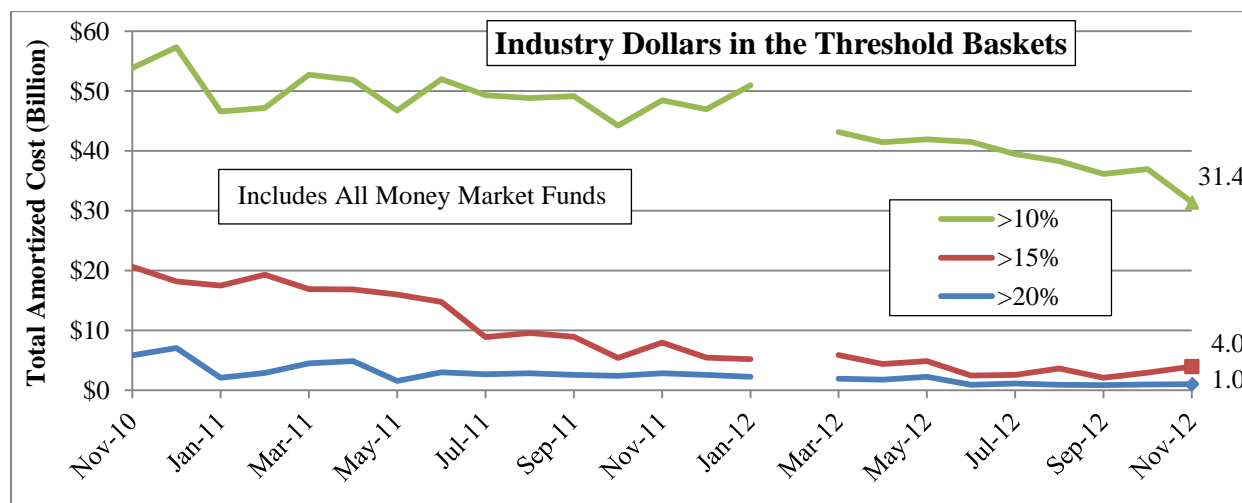


Overall, the number of funds and guarantors exceeding the various thresholds do not exhibit any significant variation over the sample period beyond a general decline from November 2010 to November 2012. The downward trend is most noticeable for the number of guarantors above the 10% threshold.

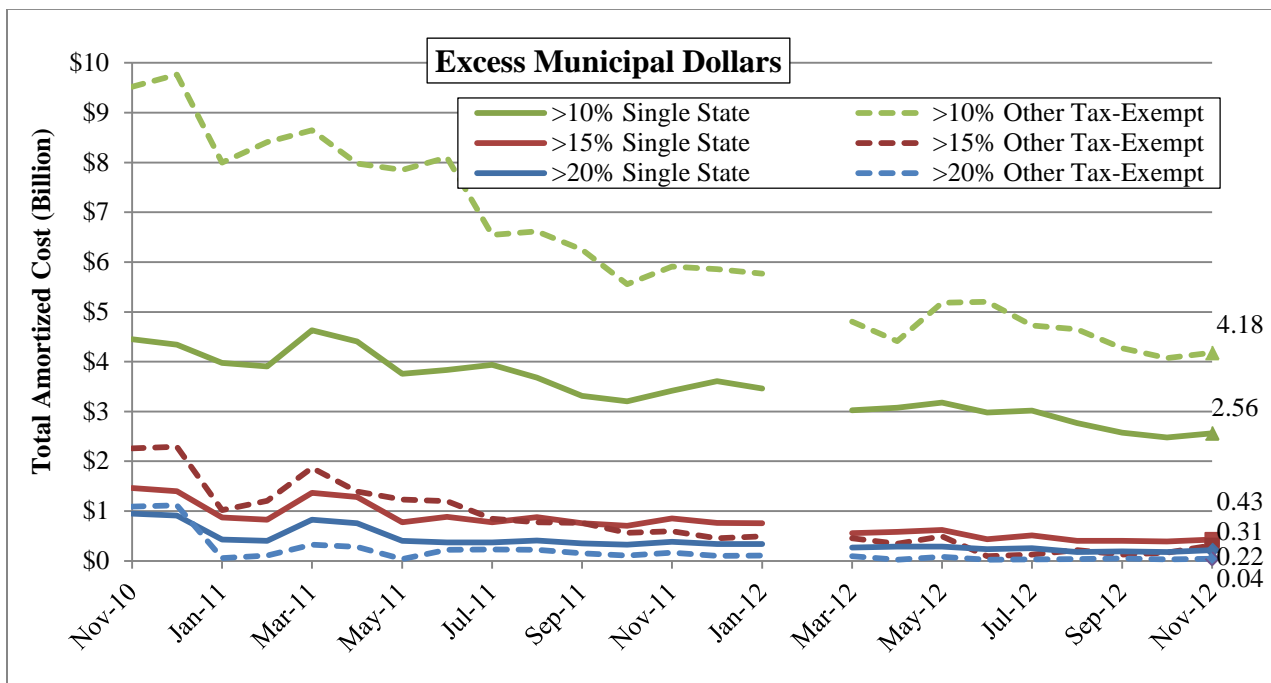
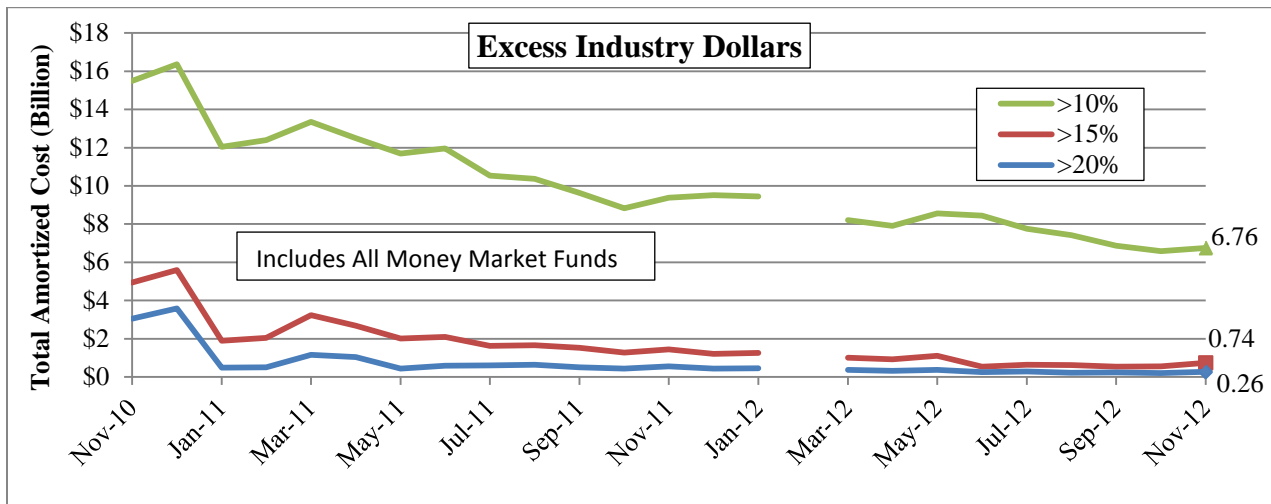
Dollar Value of Guarantor Exposure

The following figures report the amortized-cost dollar value of guarantor exposure in the 10%, 15%, and 20% baskets. For example, if a \$100 million dollar fund's top guarantor guarantees \$23 million or 23% of their portfolio, we count \$23 million as the amount in the 20% basket. We also report the amount of a fund's exposure in *excess* of each threshold. In the case of a 20% threshold in the preceding example, the excess amount would be \$3 million.

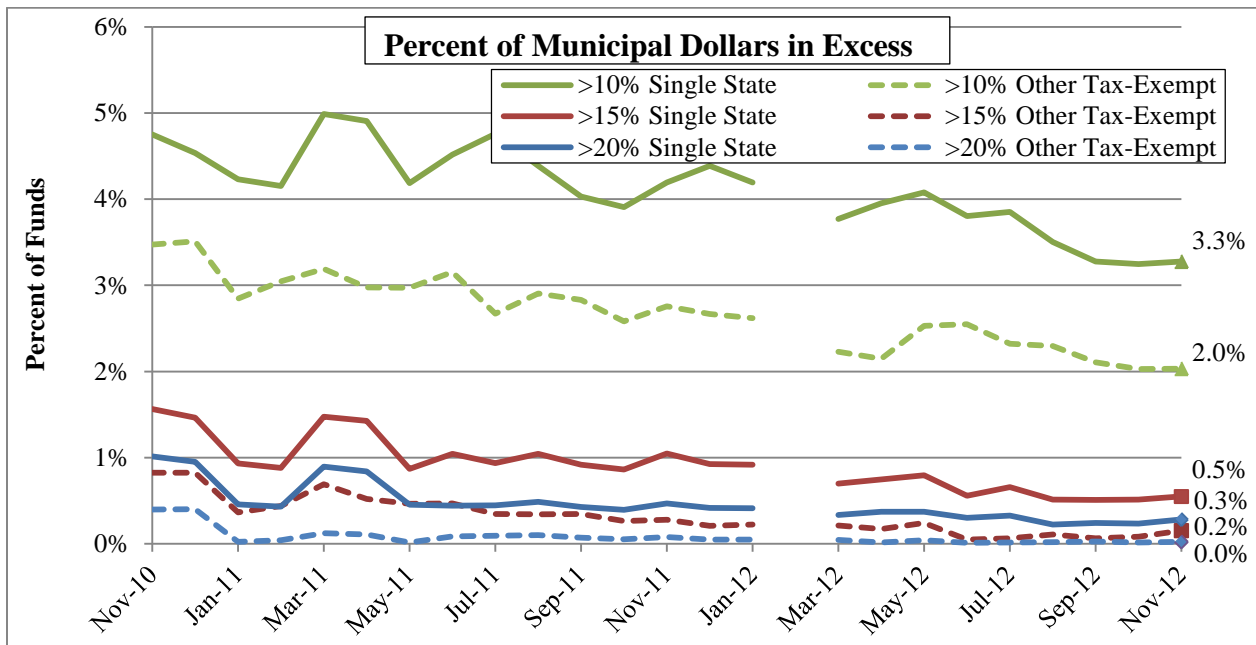
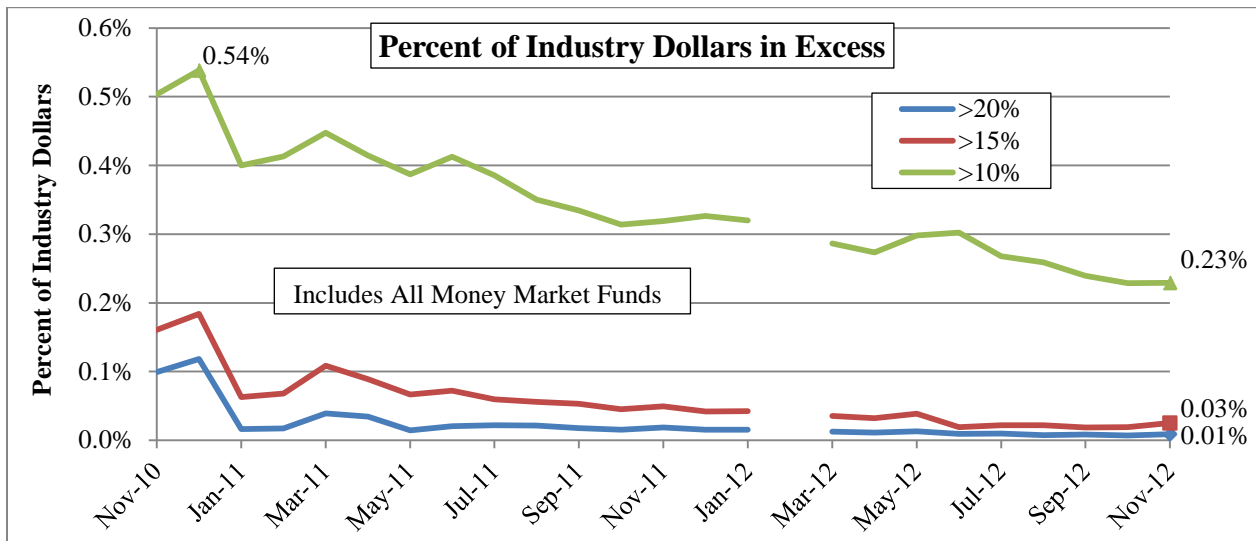
The first figure represents the entire money market fund industry and the second figure represents municipal funds. The green line shows a \$31.4 billion exposure in aggregate for the entire industry from all guarantors above the 10% threshold in November 2012. The second figure shows that \$12.0 billion of the \$31.4 billion (38%) comes from Single State funds and another \$19.3 billion (61%) comes from Other Tax-Exempt funds. The Other Tax-Exempt dollar amount is larger than for Single State funds, because, as reported in the *Overview of Municipal Funds* section on Page 2, Other Tax-Exempt funds hold more than double the amount of industry dollars than Single State funds do. The blue line indicates \$0.8 billion of the \$1.0 billion (76%) in guarantees above the 20% threshold comes from Single State funds and the remaining \$0.4 billion (24%) comes from Other Tax-Exempt funds in November 2012.



Next, we report the amount of excess exposure above the three thresholds. Industrywide on November 2012, the first figure below shows that these values are \$6.76 billion, \$0.74 billion, and \$0.26 billion for a 10%, 15%, and 20% basket threshold, respectively. For Single State funds, the second chart reports these values are \$2.56 billion, \$0.43 billion, and \$0.22 billion, respectively. These values show a steady decline over the sample period. As we show below, these values are small compared to the dollars in the whole MMF industry (with a total of \$3 trillion), in Single State funds (\$76.4 billion), and in Other Tax-Exempt funds (\$196.8 billion).

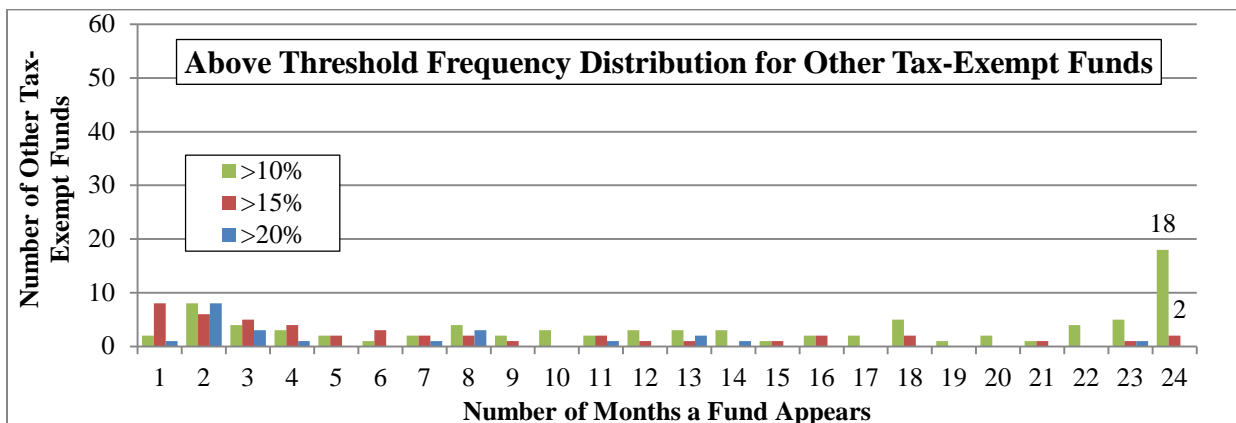
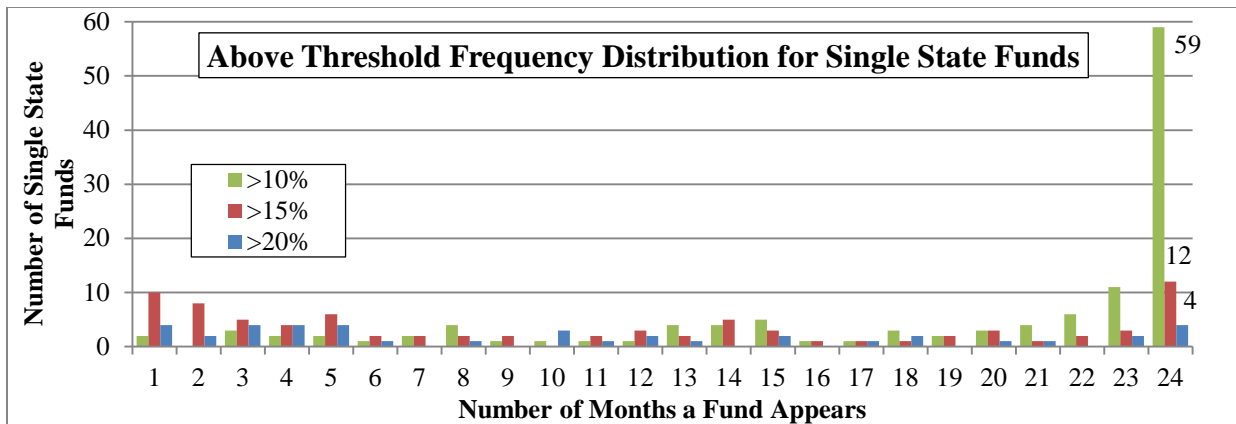
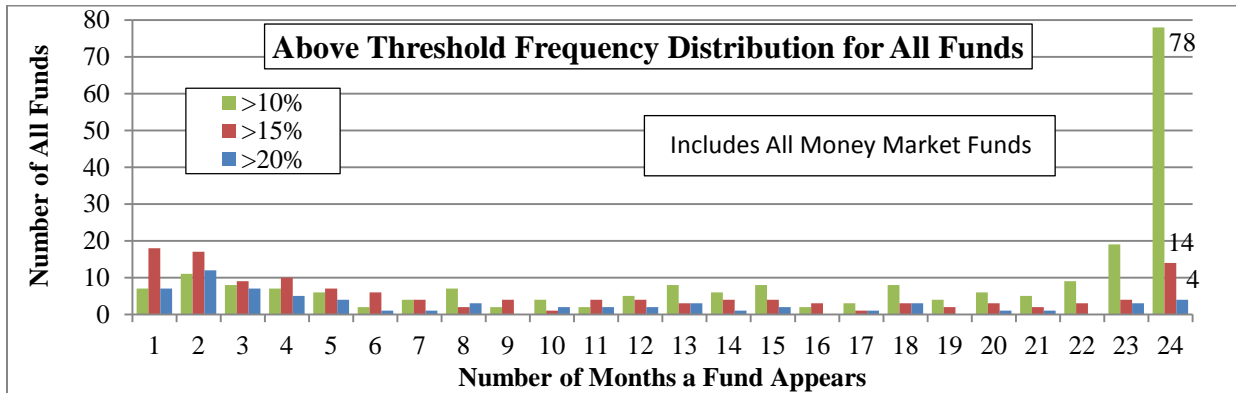


We repeat the last analysis using percentages. The green line in the first figure below indicates that only a small amount (0.23%) of the entire industry dollars comes from guarantors in excess of the 10% threshold in November 2012. The high was 0.54% in December 2010. The second figure shows 3.3% and 2.0% of the guarantor's dollars are excess dollars above the 10% threshold when Single State funds and Other Tax-Exempt funds are considered separately. These percentages drop to 0.03% for the industry, 0.5% for Single State funds, and 0.2% for Other Tax-Exempt funds when the 15% threshold (red line) is used.



Frequency Distribution of Funds

The following three histograms examine how often a fund appears above each of the three basket thresholds of 10%, 15%, and 20% during the 24 months of the sample. The first histogram, which looks at all MMFs, shows that 78 funds had at least one guarantor above the 10% threshold (green bars) every month we examined, suggesting that this size basket is used regularly. All other bins had less than 20 funds. The last two histograms show that 59 of the 78 funds (76%) were Single State funds and 18 (23%) were Other Tax-Exempt funds. When the threshold is 20% (blue bars), all four of the funds that appear every month are Single State funds, suggesting that few funds make full use of the “25% basket”.



Average Exposure to Parents

We next measure total exposure to the top 20 guarantor parents sorted by Single State dollar exposure.⁴ We measure credit risk for each guarantor by CDS spreads⁵ (CDS) and a composite credit rating (Rating).⁶ A guarantor's composite credit rating is the average of the available credit ratings reported by the three main rating institutions using numerical scores.⁷ The first row in the table below shows that JPMorgan Chase has an average credit rating of 6.0, corresponding to an A on the S&P and Fitch scale and an A2 on Moody's, and a CDS spread of 62.5. Two parents have CDS spreads above 200 basis points. The highest spread and rating are for Assured Guaranty.

The table further contains for each guarantor parent the average amortized-cost dollar value (in \$billions) of guarantor exposure from all funds (All), the guarantor's market share, and the average number of funds exposed to that guarantor over our sample period. Each of these metrics is further broken out to include all tax-exempt funds (Muni) and only Single State funds (Single).

The table shows in the first row that on average \$44.31 billion of all the guarantees have JPMorgan Chase as the ultimate parent. This equates to an average market share of 13.5% for all the guarantees using JPMorgan Chase as a guarantor representing 297.8 funds. The municipal MMF exposure to JPMorgan Chase guarantees is \$27.56 billion dollars or 11.5% of their total guarantees. Focusing on Single State funds only, on average 111.2 funds invest \$7.76 billion in JPMorgan Chase guaranteed securities, representing 12.4% of the Single State guarantors.

⁴ “<BLANK>” groups together the guarantors where funds left the guarantor blank in their N-MFP filings.

⁵ The CDS spread is a premium paid by a buyer of protection against the default of a company to the seller of protection. See, for example, http://www.markit.com/assets/en/docs/products/data/indices/credit-index-annexes/CDS_glossary.pdf.

⁶ CDS spreads are from Bloomberg where available and credit ratings are from Moody's, S&P, and Fitch.

⁷ The numerical rating scale is Aaa/AAA = 1, Aa1/AA+ = 2, Aa2/AA = 3, ..., B3/B- = 16.

Average Guarantor Exposure from November 2010 to November 2012

Parent	Credit Risk		Guarantees (\$ Billion)			% Market Share			Average No of Funds		
	CDS	Rating	All	Muni	Single	All	Muni	Single	All	Muni	Single
1 JPMORGAN CHASE	62.5	6.0	44.31	27.56	7.76	13.5%	11.5%	12.4%	297.8	190.6	111.2
2 BANK OF AMERICA	70.3	7.3	34.54	24.21	6.42	10.5%	10.1%	10.3%	246.8	176.6	103.0
3 WELLS FARGO	42.1	5.0	27.36	21.43	5.56	8.3%	9.0%	8.9%	269.6	185.3	107.2
4 CITI	82.5	7.3	19.91	17.65	5.54	6.1%	7.4%	8.9%	191.4	156.3	94.8
5 US BANCORP	52.0	4.7	16.46	13.55	2.70	5.0%	5.7%	4.3%	218.3	154.2	81.8
6 RBC	-	3.7	10.80	9.06	2.19	3.3%	3.8%	3.5%	144.6	108.8	55.0
7 TORONTO DOMINION	-	3.3	4.88	4.12	2.03	1.5%	1.7%	3.2%	154.1	114.3	55.4
8 STATE STREET	-	5.0	6.82	5.96	1.87	2.1%	2.5%	3.0%	141.5	111.7	57.1
9 DEUTSCHE	88.3	5.7	8.07	6.90	1.53	2.5%	2.9%	2.5%	97.0	79.1	44.0
10 STATE CALIFORNIA	89.7	5.7	3.44	3.01	1.53	1.0%	1.3%	2.5%	67.2	55.5	29.5
11 BANK OF NOVA SCOTIA	-	4.0	3.92	3.20	1.38	1.2%	1.3%	2.2%	126.7	102.2	53.1
12 ASSURED GUARANTY	294.0	7.7	7.74	6.67	1.34	2.4%	2.8%	2.2%	96.7	85.4	49.2
13 BARCLAYS	96.6	6.7	6.55	4.41	1.29	2.0%	1.8%	2.1%	131.8	102.6	53.8
14 MORGAN STANLEY	90.5	7.3	4.12	3.73	1.25	1.3%	1.6%	2.0%	66.2	58.8	33.5
15 MITSUBISHI GROUP	64.7	6.0	3.53	2.76	1.14	1.1%	1.2%	1.8%	100.8	78.4	41.0
16 HELABA	67.7	6.0	6.03	5.14	1.12	1.8%	2.1%	1.8%	88.4	71.4	40.9
17 BANK OF NY – MELLON	-	3.5	3.24	2.26	1.06	1.0%	0.9%	1.7%	120.0	87.3	43.4
18 LLOYDS	82.8	6.7	5.29	2.50	1.00	1.6%	1.0%	1.6%	87.2	64.6	31.7
19 DEXIA	230.0	6.0	3.78	3.37	0.90	1.2%	1.4%	1.4%	39.0	36.2	20.4
20 <BLANK>	-	-	2.32	2.07	0.74	0.7%	0.9%	1.2%	1.2	0.8	0.5

The last table examines the excess guarantor exposure to the top 20 guarantor parents for each of the three thresholds of 10%, 15%, and 20%. To illustrate this table, consider a specific example. In the prior table, which is based on monthly averages, 111.2 funds have an average exposure of \$7.76 billion to the guarantor JPMorgan Chase. The table below shows that of those \$7.76 billion in Single State guarantees, 9.92%, 0.58%, and 0.12%, respectively, exceed 10%, 15%, and 20% thresholds. A “-” indicates that a parent has no excess exposure at the given threshold.

Average Guarantor Excess Exposure Above Thresholds as a Percent of Guarantor’s Total Exposure

Parent	Excess Guarantees above 10%			Excess Guarantees above 15%			Excess Guarantees above 20%		
	All	Muni	Single	All	Muni	Single	All	Muni	Single
1 JPMORGAN CHASE	7.28%	11.43%	9.92%	0.62%	0.98%	0.58%	0.11%	0.17%	0.12%
2 BANK OF AMERICA	9.38%	13.38%	13.02%	0.76%	1.08%	0.81%	0.08%	0.11%	0.28%
3 WELLS FARGO	3.26%	4.04%	6.35%	0.97%	1.24%	1.53%	0.29%	0.37%	0.59%
4 CITI	1.90%	2.12%	3.59%	0.23%	0.25%	0.40%	0.04%	0.04%	0.09%
5 US BANCORP	0.07%	0.08%	0.26%	0.00%	0.00%	0.00%	-	-	-
6 RBC	0.04%	0.04%	0.18%	0.06%	0.07%	0.27%	-	-	-
7 TORONTO DOMINION	0.41%	0.49%	0.99%	0.00%	0.00%	0.00%	-	-	-
8 STATE STREET	0.16%	0.18%	0.53%	0.01%	0.02%	0.05%	-	-	-
9 DEUTSCHE	4.19%	4.90%	3.79%	0.10%	0.12%	0.52%	-	-	-
10 STATE CALIFORNIA	10.49%	11.99%	23.46%	6.80%	7.77%	15.29%	4.27%	4.88%	9.61%
11 BANK OF NOVA SCOTIA	0.03%	0.04%	0.08%	-	-	-	-	-	-
12 ASSURED GUARANTY	3.77%	4.38%	5.07%	0.56%	0.64%	0.90%	0.01%	0.01%	0.07%
13 BARCLAYS	0.15%	0.22%	0.05%	0.01%	0.01%	-	-	-	-
14 MORGAN STANLEY	2.62%	2.90%	4.56%	0.34%	0.38%	1.12%	0.10%	0.11%	0.32%
15 MITSUBISHI GROUP	0.17%	0.22%	0.53%	-	-	-	-	-	-
16 HELABA	0.28%	0.33%	0.98%	0.01%	0.01%	0.03%	-	-	-
17 BANK OF NY - MELLON	0.00%	0.00%	0.00%	-	-	-	-	-	-
18 LLOYDS	0.03%	0.05%	0.00%	-	-	-	-	-	-
19 DEXIA	1.14%	1.28%	2.78%	0.13%	0.15%	0.22%	0.00%	0.00%	0.00%
20 <BLANK>	-	-	-	-	-	-	-	-	-

To summarize the exposure, the first of the two tables indicates that the exposure to guarantor parents is concentrated. The top five parents combine a total of 43%, 44%, and 45% of the exposure across all funds, all tax-exempt funds, and all single-state funds, respectively. However, the credit quality of guarantors among the top twenty guarantors is similar to that of the top five guarantors suggesting that even with a 10% guarantor limit, any increase in guarantor diversification should not lead to a deterioration in guarantor credit quality.

Considering the concentration among guarantors, the second table shows that the *excess* exposure is actually small at the 15% and 20% threshold levels for all parents except for the State of California. At the 10% threshold, excess exposures are similarly small except for JPMorgan Chase, Bank of America and the State of California. This further suggests that an increase in guarantor diversification would not necessarily lead to an overall deterioration in guarantor credit quality.