MOODY'S
INVESTORS SERVICE

SPECIAL COMMENT

U.S. Municipal Bond Defaults and Recoveries, 1970-2011

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This special comment presents historical default, transition, recovery and ratings performance statistics for Moody's-rated issuers in the U.S. municipal long-term bond market. Our findings include:

» As expected, the number of municipal defaults increased since the recession, with 11 defaults on long-term bonds rated by Moody's in 2010 and 2011, averaging 5.5 defaults per year compared with an average of 2.7 annual defaults over the period 1970-2009. Default rates for rated municipal bonds remain very low, with only 71 defaults over the period 1970-2011.

» The majority of municipal defaults (73%) occurred in the healthcare and housing sectors. Only five general obligation (GO) bond issuers, including cities, counties and other districts, defaulted on GO bonds in the 41-year study period (7% of defaults); only one GO issuer, out of approximately 9,700 rated by Moody's at the end of 2011, defaulted on GO bonds in the last three years.

» Municipal downgrades exceeded upgrades for 27 consecutive months to the end of 2011. For most of 2011 downgrades surpassed upgrades by a multiple of between three and four. The prevalence of downgrades reflects a sluggish U.S. economy burdened by persistently high unemployment, depressed real estate prices and low income growth, all of which put pressure on municipal issuers.

» Historical ultimate recovery rates on defaulted U.S. municipal bonds are higher, on average, than those on senior unsecured bonds of corporate issuers. The average ultimate recovery for municipal bonds was 65% for the period 1970-2011, compared to 49% on corporate senior unsecured bonds over 1987-2010. That said, municipal recovery rates are highly dispersed across individual bonds, with some recovering 100 cents on the dollar and others receiving five cents on the dollar.

» The burdens of non-debt obligations and the effect of the recession on revenues are now the dominant pressures facing municipal governments.

» The U.S. economy has avoided a major depression and the U.S. government has avoided a debt crisis. If either of these events were to occur, a substantially higher rate of default incidents would be expected in the municipal sector.

» Our base case assumption is that the vast majority of municipal issuers will continue to pay their debts, but we also expect a growing number of general government issuers—albeit still a very small share of total rated issuers—to default on their bonded debts.

» Moody's municipal ratings have been as powerful historically as corporate ratings in differentiating defaulters from non-defaulters. The historical five-year rolling average defaulter position is 0.89 for municipals, very similar to the 0.86 average defaulter position for corporates.

Introduction

This default study presents historical default, loss and transition statistics for Moody's-rated issuers in the United States municipal long-term bond market over the period 1970-2011. There is limited default experience in this market. The methodology used to arrive at our findings is described in Appendix C.

Many municipal governments have the ability to secure their debt with a "general obligation" (GO) pledge; that is, the debt is secured by the full faith, credit and taxing power of the issuer. The strength of the GO pledge contributes to the limited default history for municipal bonds. GO bonds are normally sold to fund "brick and mortar" capital improvement projects such as roads, parks, or schools. However, nearly half of all rated municipal bonds are not backed by a GO pledge. Non-GO bonds—predominantly revenue bonds—are repaid by revenues generated from an enterprise, such as hospital system, housing, or infrastructure project or from special taxes (sales, gasoline, hotel, etc). Non-GO bonds also include bonds backed by lease revenues, appropriations and moral obligations. Of the 71 Moody's-rated municipal defaults since 1970, 66 have been defaults on non-GO debt.

Municipal issuers have historically experienced lower average cumulative default rates than global corporate issuers overall, and by like-rating category. Moody's ratings speak to expected future performance and with municipal credit quality remaining pressured on the backdrop of a sluggish economic recovery, we will eventually expect municipal default rates by like-rating category to drift closer to their corporate counterparts.

The past two years, 2010 and 2011, have been characterized by downgrades dominating rating revisions across U.S. public finance sectors, and with the traditional lags between the financial performance of many municipal issuers and the broader economic activity, we anticipate continued credit strain over 2012 even if macroeconomic variables pick up. A modest increase in the number of speculative-grade ratings, particularly for local government and housing issuers, also demonstrates increasing financial difficulties. The number of actual defaults increased in 2010 and 2011 to an average of 5.5 defaults by year, compared with an average of 2.7 annual defaults over the period 1970-2009. Most of the defaults over the last couple of years have been in the multi-family affordable housing and not-for-profit health care sectors, both of which are exposed to competition and economic volatility at the local market level.

We expect municipal debt defaults will remain infrequent and isolated events, rather than systemic events, despite unprecedented credit pressure. Unlike corporates and sovereigns, only a small portion of rated municipalities have refinancing risks, and debt service typically represents a low percentage of municipal expenditures, so municipal issuers have little to gain by defaulting. Further, missing debt service might cause the municipality to be shut out from short-term note and bank-lending markets and/or to face much higher borrowing rates. Municipal bankruptcy is itself a rare event given the significant political and legal hurdles to filing. Having said this, our expectations for continued low default rates are conditioned on no new U.S. recession for some time to come and that the U.S. government will avert a debt crisis and implement federal deficit reduction measures in the near and medium term that are needed to stabilize its debt and fiscal position over time.

Characteristics of Municipal Issuers

Broken out by GO and non-GO ratings, Exhibit 1 shows the annual sample rating counts since 1970. From just over 1,500 ratings beginning in 1970, the total number of ratings in the sample grew to approximately 17,700 by the end of 2011. Approximately 9,700 of the current municipal ratings (or 55%) are assigned to GO bonds.

EXHIBIT 1

Growth in U.S. Municipal Ratings

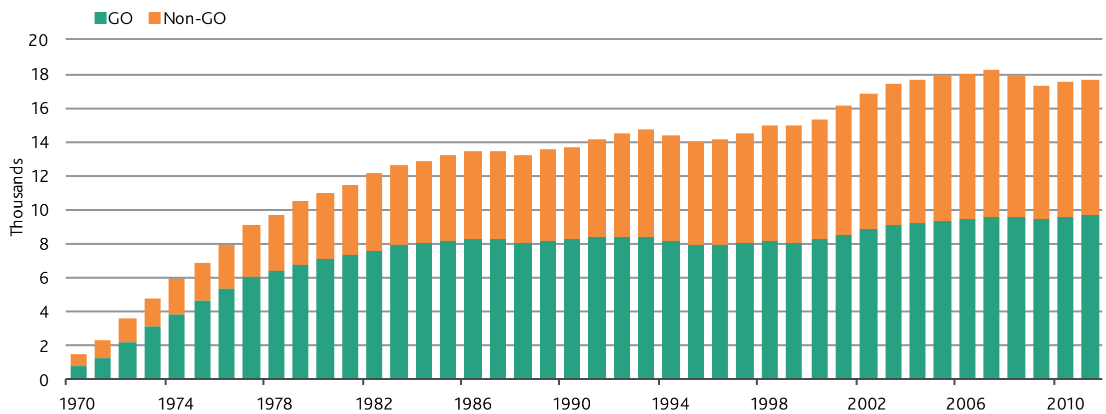
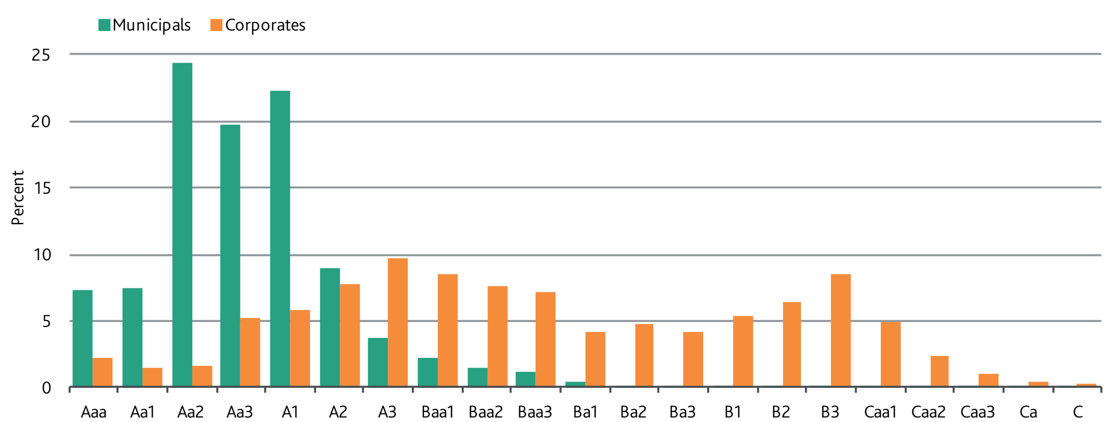


Exhibit 2 compares the current ratings distribution of U.S. municipal issuers with the current distribution for global corporate issuers.[1] Virtually all municipal issuers have investment-grade ratings, with 94% of issuers rated single-A or higher. By comparison, approximately 34% of global corporate issuers are currently rated single-A or higher.

EXHIBIT 2

Ratings Distributions: Municipals vs. Corporates, Year End 2011



1 For more information on default statistics for Moody's corporate issuers, see "Corporate Default and Recovery Rates, 1920-2010".

Rating Transitions

Rating migration matrices provide a complete picture of rating dynamics over time—upgrades, downgrades, withdrawal and default. In a rating transition matrix, each cell shows the fraction of debts that held a given row's rating at the beginning of the period and the column's rating at the end of the period. The matrices also include columns showing the fraction of debts that defaulted or had their ratings withdrawn (WR). The largest values in the average one-year transition matrix are the diagonal elements, which show the fraction of debts that held the same rating at the end of the 12-month period as they did at the beginning.[2] The cells left of the diagonal show upgrades while those to the right show downgrades.

Exhibit 3 compares the municipal average one-year rating transition rates to those of corporate issuers for the period 1970-2011, while Exhibit 4 does the same but for the period since the start of the global recession in 2008 through 2011. Exhibits 5 and 6 present the same results but break-out transition rates for GO and non-GO ratings. Municipal ratings were more stable, and defaulted and withdrew less frequently, than did their corporate counterparts. In every rating category, the one-year average default rates for municipal debts are substantially below those for corporate issuers. Moreover, the default rate for investment-grade municipal debts is virtually zero.

EXHIBIT 3

Average One-Year Rating Transition Rates, 1970-2011, Municipal vs. Corporates

All Municipals

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	95.40%	1.44%	0.16%	0.03%	0.01%	0.00%			2.96%
Aa	0.46%	95.96%	1.44%	0.04%	0.01%	0.00%	0.00%	0.00%	2.10%
A	0.03%	1.78%	93.34%	0.66%	0.03%	0.01%	0.00%	0.00%	4.13%
Baa	0.02%	0.04%	1.51%	91.53%	0.49%	0.06%	0.01%	0.01%	6.34%
Ba	0.01%	0.10%	0.35%	4.53%	83.56%	3.21%	0.57%	0.27%	7.41%
B		0.18%	0.41%	1.73%	4.90%	77.21%	5.23%	3.08%	7.25%
Caa_C		0.03%	0.43%	0.79%	2.51%	2.81%	72.43%	8.33%	12.66%

Global Corporates

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	87.24%	8.56%	0.61%	0.01%	0.03%	0.00%	0.00%		3.55%
Aa	0.95%	84.93%	8.01%	0.36%	0.05%	0.02%	0.01%	0.02%	5.65%
A	0.06%	2.62%	86.36%	5.28%	0.52%	0.11%	0.04%	0.06%	4.96%
Baa	0.04%	0.18%	4.37%	84.57%	4.04%	0.76%	0.19%	0.18%	5.68%
Ba	0.01%	0.05%	0.36%	5.65%	75.78%	7.17%	0.63%	1.07%	9.29%
B	0.01%	0.03%	0.12%	0.33%	4.77%	73.45%	6.40%	4.02%	10.87%
Caa_C		0.02%	0.02%	0.12%	0.43%	8.08%	62.53%	16.25%	12.57%

Notes:

1. The first cohort considered is the one-year cohort starting on January 1, 1970. The last cohort considered is the one-year cohort starting on January 1, 2011.

2. Transition rates are averaged over cohorts spaced one month apart.

[2] The default column in Exhibit 3 does not precisely match the one-year cumulative default rate in Exhibit 12 because the cumulative default rates in Exhibit 12 are adjusted for rating withdrawals, while default and withdrawal are considered distinct end states in Exhibit 3.

EXHIBIT 4

Average One-Year Rating Transition Rates, 2008-2011, Municipal vs. Corporates

All Municipals

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	89.22%	1.76%	0.23%	0.05%	0.07%	0.00%			8.67%
Aa	0.20%	95.04%	1.52%	0.01%	0.00%	0.00%	0.00%	0.00%	3.21%
A	0.03%	1.77%	90.32%	0.84%	0.05%	0.01%	0.00%	0.00%	6.98%
Baa	0.03%	0.11%	2.25%	78.62%	2.35%	0.22%	0.08%	0.07%	16.27%
Ba	0.05%	0.09%	0.23%	5.05%	77.17%	6.31%	0.99%	0.07%	10.05%
B		1.20%		0.17%	2.91%	68.81%	16.88%	3.77%	6.26%
Caa_C							73.47%	14.44%	12.09%

Global Corporates

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	72.75%	18.68%	0.26%	0.11%					8.20%
Aa	0.05%	70.70%	14.84%	0.90%	0.11%	0.03%	0.03%	0.06%	13.28%
A		0.71%	80.00%	7.32%	0.73%	0.29%	0.07%	0.34%	10.54%
Baa	0.03%	0.11%	1.47%	86.05%	3.39%	0.62%	0.12%	0.30%	7.91%
Ba			0.02%	4.72%	74.91%	8.06%	1.39%	0.93%	9.98%
B			0.04%	0.16%	3.69%	70.84%	10.45%	3.32%	11.50%
Caa_C				0.09%	0.32%	8.45%	62.52%	18.47%	10.15%

Notes:

1. The first cohort considered is the one-year cohort starting on January 1, 2008. The last cohort considered is the one-year cohort starting on January 1, 2011.

2. Transition rates are averaged over cohorts spaced one month apart.

Exhibit 4, which isolates the period since the start of the recession, shows, on average, higher default rates than the historical average for rated municipals. For example, the average one-year default rate for speculative-grade municipal debts for the period starting in 2008 increases to 2.1% from an average of 1.2% for the period 1970-2011.

EXHIBIT 5

Average One-year Rating Transition Rates, 1970-2011, GO and Non-GO

Non-General Obligations

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	141637	4614	120	46				2506	141637
Aa	6297	1.45E+06	20679	446	19	20		24293	6297
A	146	27678	1.31E+06	6983	138	9	12	51879	146
Baa	44	203	6453	478613	1075	76	3	34079	44
Ba		24	65	608	10111	102	2	732	
B			20	48	77	1184	22	49	
Caa_C						12	59	12	

General Obligations

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	20499	534						355	20499
Aa	422	200023	2848	12		3		3607	422
A	18	2172	105624	420	38	8		5952	18
Baa		12	167	6599	168	22	3	2896	
Ba				45	426	43	2	24	
B						74	22	6	
Caa_C							21		

Notes:

1. The first cohort considered is the one-year cohort starting on January 1, 1970. The last cohort considered is the one-year cohort starting on January 1, 2011.

2. Transition rates are averaged over cohorts spaced one month apart.

Exhibits 5 and 6 compare transition rates for GO ratings with those for non-GO ratings for the periods 1970-2011 and 2008-2011, respectively. For both periods, while GO and non-GO ratings exhibit similar stability rates, GO debts default at a lower frequency than non-GO debts. As discussed above, of the 71 total municipal defaults since 1970 only 5 were on GO debt.

EXHIBIT 6
Average One-year Rating Transition Rates, 2008-2011, GO and Non-GO

Non-General Obligations

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	84.91%	1.29%	0.37%	0.09%	0.11%	0.01%			13.23%
Aa	0.19%	92.37%	1.76%	0.03%	0.00%	0.01%	0.00%		5.63%
A	0.04%	1.64%	88.14%	1.32%	0.06%	0.01%	0.01%	0.00%	8.78%
Baa	0.05%	0.11%	2.47%	83.09%	2.59%	0.22%	0.10%	0.03%	11.35%
Ba	0.05%	0.10%	0.26%	4.60%	76.97%	6.09%	1.08%	0.03%	10.83%
B		1.32%		0.19%	3.19%	68.45%	16.43%	4.13%	6.29%
Caa_C							72.57%	14.94%	12.50%

General Obligations

From/To:	Aaa	Aa	A	Baa	Ba	B	Caa_C	Default	WR
Aaa	95.84%	2.50%							1.66%
Aa	0.20%	96.67%	1.38%	0.01%		0.00%		0.00%	1.74%
A	0.02%	1.90%	92.46%	0.37%	0.03%	0.01%			5.21%
Baa		0.12%	1.69%	66.77%	1.70%	0.22%	0.03%	0.16%	29.30%
Ba				8.30%	78.60%	7.93%	0.37%	0.37%	4.43%
B						72.55%	21.57%		5.88%
Caa_C							100.00%		

Notes:

1. The first cohort considered is the one-year cohort starting on January 1, 2008. The last cohort considered is the one-year cohort starting on January 1, 2011.
2. Transition rates are averaged over cohorts spaced one month apart.

Downgrades have outpaced upgrades in every month since late 2009. Exhibit 7 shows that the drift (the net percentage of upgrades relative to downgrades) started trending down as early as mid-2006 and has been negative for the last 30 months.

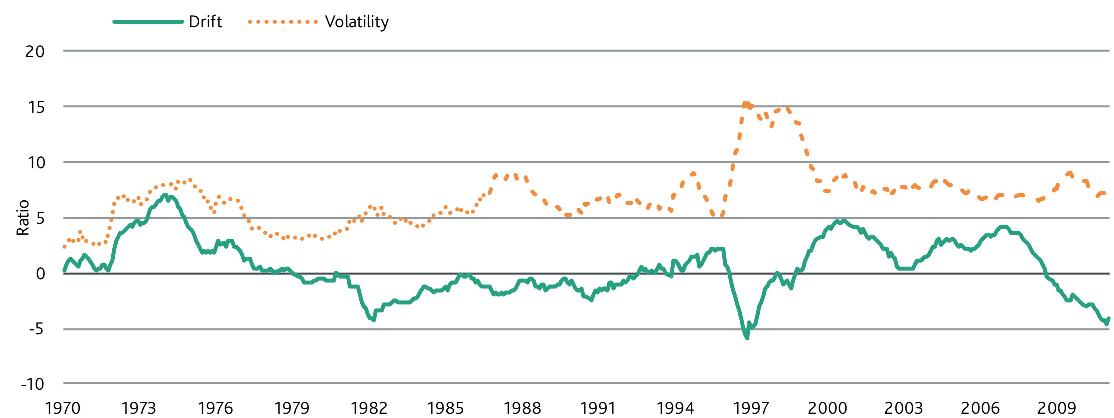
This deterioration in municipal credit quality is partly a reflection of the sluggish economy since 2008. Macroeconomic challenges associated with declines in housing prices, stagnant growth, increased unemployment, and lower business and consumer spending are having direct implications for municipal credit quality. Deleveraging in the housing sector contributes to weak consumer demand, stagnant or reduced assessed values and lower property tax collections. The prospect of federal fiscal consolidation and procurement spending is also a credit negative for U.S. municipal issuers.[3]

Multi-notch downgrades (downgrades of three or more notches) during the course of 2011 were particularly concentrated on cities as a result of a sharp deterioration in credit metrics and city administrators' inability to stem financial pressures, such as struggling enterprises or a loss of a major taxpayer.[4] The housing sector comprised the majority of multi-notch downgrades, on average, over 2009 and 2010.

[3] For a comprehensive study of the recession on U.S. municipal issuers see "The Impact of US Federal Fiscal and Economic Strain on Municipal Credits."

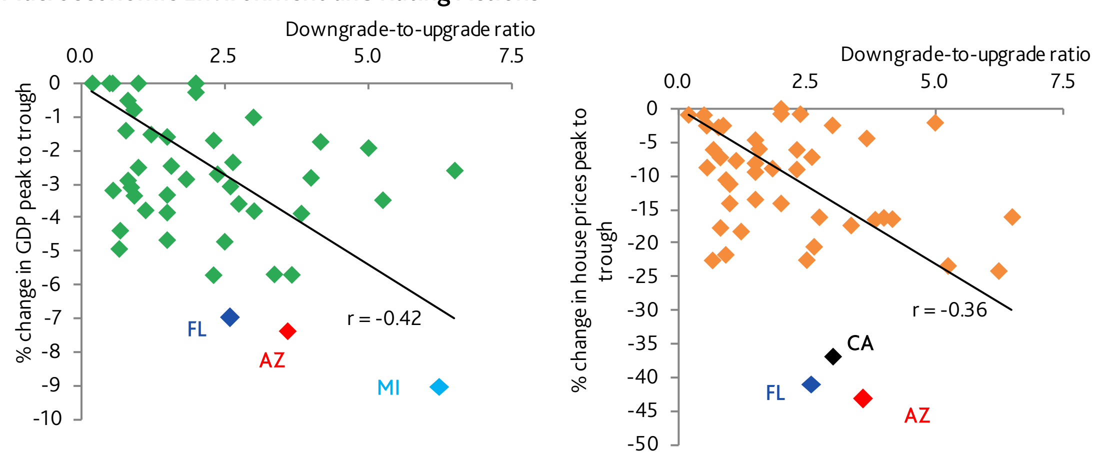
[4] See "U.S. Public Finance Rating Revisions for Q4 and Full Year 2011: Downgrade Activity Outpaces Upgrades, Again."

EXHIBIT 7
Notch-Weighted Drift and Volatility Ratios



The left panel in Exhibit 8 correlates with the drop in the level of GDP by state from its peak before the crisis to its trough (vertical axis) with the downgrade-to-upgrade ratio over the period 2009-2011 (horizontal axis); the right panel plots the fall in house prices from peak to trough in the vertical axis, and the downgrade-to-upgrade ratio in the horizontal axis. The charts show that those states which have seen the biggest drops in their GDP and/or house prices are broadly also the ones with the highest downgrade-to-upgrade ratio over the last three years.

FIGURE 8
Macroeconomic Environment and Rating Actions



Between 2009 and 2011 the housing sector had a downgrade-to-upgrade ratio of 4.9, the highest of any sector (Exhibit 9).[5] This reflects the severity of the housing downturn in some regions since the start of the recession: overhanging housing supply lowered housing projects' rental revenue and hence their debt service coverage. Moreover, since these projects, and particularly the multi-family affordable housing projects, are typically small, dips in occupancy can precipitate a downgrade.[6] We do not anticipate a change in this trend until the macroeconomic environment improves.

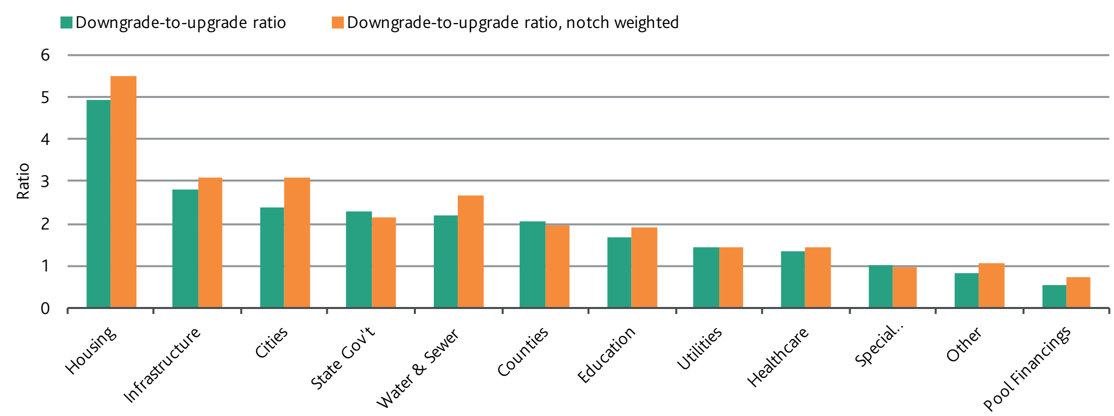
5 For detail information on downgrade activity for 2011 see "U.S. Public Finance Rating Revisions for Q4 and Full Year 2011: Downgrade Activity Outpaces Upgrades, Again."

6 For more information please see "US Municipal Rating Revisions Through the Great Recession."

Infrastructure issuers have the second highest downgrade-to-upgrade ratio over the last three years. This economic downturn has been characterized by high unemployment which likely reduced traffic and related usage revenues for airports and toll roads. Slow business growth also depressed demand for commercial air and road traffic and port activity.

State and local governments have also seen twice as many downgrades as upgrades over the last three years as the economic slowdown cut directly into sales, income and property tax growth (Exhibit 10). States in particular have relatively high dependence on federal revenues, which have been affected by federal budget cuts, and their economies tend to be highly correlated with macroeconomic trends. We expect downgrades to continue in 2012: as of December 2011, there were 13 states with negative outlook. Local governments, although they have low dependence on federal revenues, do depend on aid from states, which might themselves experience direct cuts in federal funding. Exposure to failing enterprises is an additional pressure for some local governments. The economy is the most important factor in local governments' ratings, accounting for a 40% weighting in our methodology. For many of these credits, a weak economy encouraged poor budgeting and excessive cash-flow borrowing.

EXHIBIT 9
Downgrade-to-Upgrade Ratio by Sector

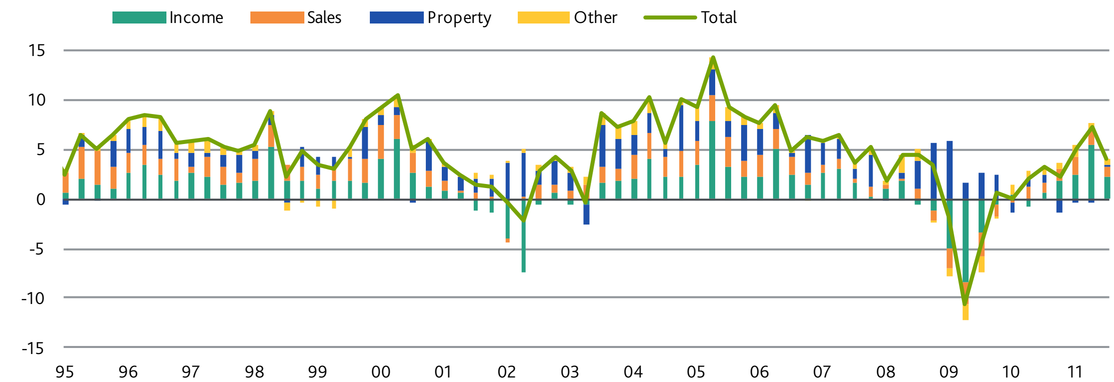


Healthcare institutions, on the other hand, have maintained a downgrade-to-upgrade ratio at around 1.3 for the period 2009-2011. Hospital management teams have been preparing for Medicare cuts for many years and have been able to absorb the decrease in these funds through expense reductions. That said, we anticipate downgrades likely to continue to surpass upgrades given the prospects for flat revenue and dissipating opportunities to maintain margins by cutting excess expenses, coupled with uncertain funding levels for federal reimbursements.

All that said, ratings for municipal issuers continue to be very stable: more than 90% of ratings were unchanged over any 12-month period between 1970 and 2011.

EXHIBIT 10

National Totals of State and Local Tax Revenue, by Type of Tax—Percentage Change on a Year Ago



Cumulative Default Rates

Only 71 Moody's-rated municipal issuers defaulted on their bonded debts during the period 1970-2011.[7] Exhibit 11 shows the default counts by purpose. The vast majority of defaults were in the health care and housing sectors.

EXHIBIT 11

Default Counts by Sale Purpose, 1970-2011

Purpose	Number of Defaults	Percentage
Housing	29	40.8%
Hospitals & Health Service Providers	22	31.0%
Education	3	4.2%
Infrastructure	4	5.6%
Utilities	2	2.8%
Cities	2	2.8%
Counties	1	1.4%
Special Districts	1	1.4%
Water & Sewer	1	1.4%
State Governments	1	1.4%
NON GENERAL OBLIGATION	66	93.0%
GENERAL OBLIGATION	5	7.0%
TOTAL	71	100%

7 This study does not capture Moody's-rated note defaults, although some detail on short-term defaults is provided in Appendix B.

As shown in Exhibit 12, municipals had lower average cumulative default rates than did global corporates overall and by like rating category.

EXHIBIT 12

Average Cumulative Default Rates, 1970-2011, Municipal vs. Corporates

All Municipals

From/To:	1	2	3	4	5	6	7	8	9	10
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%	0.01%	0.01%
A	0.00%	0.00%	0.01%	0.01%	0.02%	0.02%	0.02%	0.03%	0.04%	0.04%
Baa	0.01%	0.04%	0.07%	0.11%	0.14%	0.19%	0.24%	0.28%	0.33%	0.37%
Ba	0.28%	0.80%	1.32%	1.83%	2.29%	2.76%	3.26%	3.60%	3.82%	3.92%
B	3.21%	6.27%	9.18%	12.21%	15.20%	17.12%	18.19%	19.06%	20.15%	21.85%
Caa_C	9.17%	13.01%	15.39%	16.65%	17.58%	18.72%	20.15%	21.97%	23.68%	23.68%
Investment-Grade	0.00%	0.01%	0.02%	0.02%	0.03%	0.04%	0.05%	0.06%	0.07%	0.08%
Speculative-Grade	1.33%	2.47%	3.49%	4.45%	5.35%	6.08%	6.71%	7.19%	7.59%	7.94%
All Rated	0.01%	0.03%	0.04%	0.05%	0.07%	0.08%	0.09%	0.10%	0.12%	0.13%

Global Corporates

From/To:	1	2	3	4	5	6	7	8	9	10
Aaa	0.00%	0.01%	0.01%	0.04%	0.10%	0.17%	0.24%	0.31%	0.39%	0.48%
Aa	0.02%	0.06%	0.13%	0.24%	0.35%	0.46%	0.57%	0.67%	0.76%	0.86%
A	0.06%	0.19%	0.39%	0.58%	0.80%	1.04%	1.30%	1.61%	1.93%	2.22%
Baa	0.18%	0.50%	0.91%	1.38%	1.89%	2.42%	2.92%	3.44%	4.03%	4.71%
Ba	1.12%	3.10%	5.44%	7.91%	10.15%	12.21%	14.02%	15.83%	17.67%	19.54%
B	4.25%	10.01%	15.73%	20.74%	25.27%	29.51%	33.50%	36.97%	40.16%	43.00%
Caa_C	17.32%	28.95%	38.27%	45.67%	51.97%	56.23%	59.21%	62.60%	66.22%	70.24%
Investment-Grade	0.09%	0.26%	0.49%	0.74%	1.02%	1.32%	1.61%	1.92%	2.26%	2.61%
Speculative-Grade	4.56%	9.35%	13.89%	17.87%	21.34%	24.35%	26.99%	29.37%	31.60%	33.69%
All Rated	1.61%	3.27%	4.82%	6.14%	7.26%	8.22%	9.04%	9.79%	10.50%	11.17%

Notes:

1. The first cohort considered is the one-year cohort starting on January 1, 1970. The last cohort considered is the one-year cohort starting on January 1, 2011.
2. Transition rates are averaged over cohorts spaced one month apart, as opposed to cohorts spaced 1 year apart.

The median rating one year before default for all municipal issuers is Ba3, with about 2/3 of all defaulted issuers falling into the speculative-grade category one year before default (Exhibit 13). The median rating for defaulted issuers five years before default was already Baa3, just one notch above speculative-grade.

EXHIBIT 13

Rating Before Default

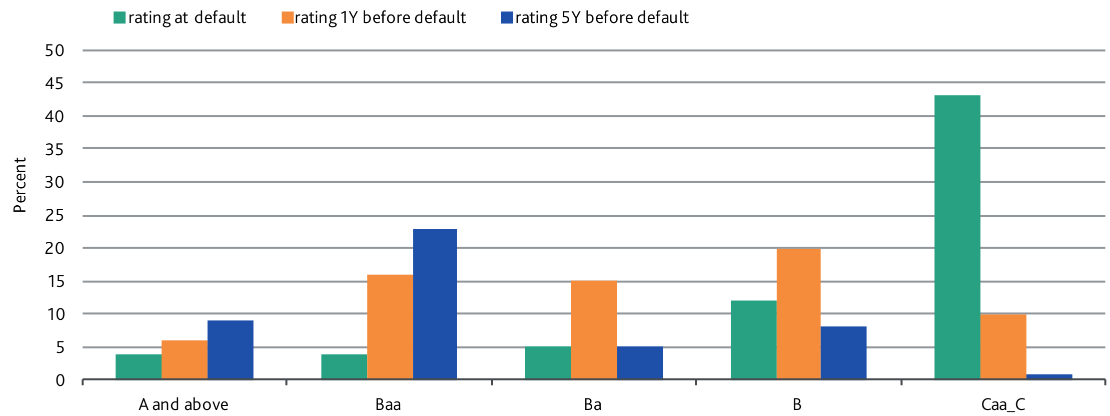


Exhibit 14 shows cumulative default rates for GO and non-GO debts broken out separately, and indicates that GO debts have defaulted at a much lower frequency than non-GO debts even after controlling for rating levels.

EXHIBIT 14

Average Cumulative Default Rates, 1970-2011, GO and Non-GO

All Municipals

From/To:	1	2	3	4	5	6	7	8	9	10
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%	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%	0.03%	0.03%
A	0.00%	0.01%	0.02%	0.02%	0.03%	0.04%	0.05%	0.06%	0.08%	0.09%
Baa	0.02%	0.07%	0.14%	0.22%	0.29%	0.38%	0.48%	0.58%	0.68%	0.77%
Ba	0.38%	1.16%	1.96%	2.75%	3.50%	4.29%	5.15%	5.76%	6.15%	6.36%
B	3.95%	7.74%	11.38%	15.25%	19.18%	21.78%	23.30%	24.59%	26.33%	29.24%
Caa_C	9.43%	13.36%	15.79%	17.06%	18.00%	19.17%	20.63%	22.51%	24.29%	24.29%
Investment-Grade	0.00%	0.02%	0.03%	0.05%	0.06%	0.09%	0.11%	0.13%	0.16%	0.18%
Speculative-Grade	1.83%	3.44%	4.92%	6.33%	7.69%	8.85%	9.86%	10.67%	11.36%	12.01%
All Rated	0.03%	0.06%	0.09%	0.12%	0.15%	0.18%	0.21%	0.24%	0.27%	0.30%

Global Corporates

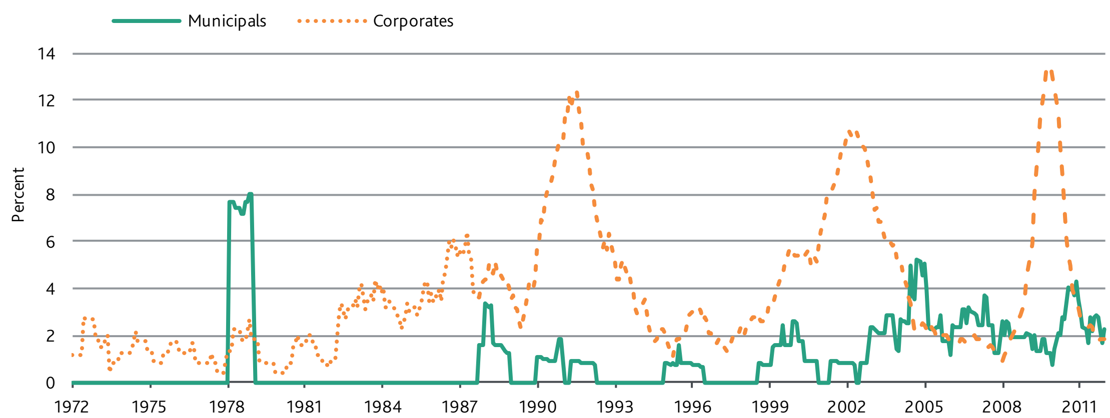
From/To:	1	2	3	4	5	6	7	8	9	10
Aaa	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Aa	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%
A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%
Baa	0.00%	0.01%	0.01%	0.02%	0.02%	0.03%	0.03%	0.03%	0.04%	0.04%
Ba	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%	0.08%
B	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Caa_C	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Investment-Grade	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Speculative-Grade	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%	0.07%
All Rated	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%

Notes:
1. The first cohort considered is the one-year cohort starting on January 1, 1970. The last cohort considered is the one-year cohort starting on January 1, 2011.
2. Transition rates are averaged over cohorts spaced one month apart.

The average trailing twelve-month speculative-grade municipal default rate since the financial crisis has increased to 2.3% from an average of 1.2% for the 1991-2007 period. That said, the trailing twelve-month municipal default rate had started to increase before the recession: the average between 2003 and the start of the recession was already 2.7% (Exhibit 15). This default rate is well below the wave of defaults predicted by some market commentators[8] and its increase is also not comparable with the increase in the corresponding default rate for corporates (Exhibit 15). However, the effects of the financial crisis are far from over, and we might still see some of those effects translated into somewhat persistently higher default rates in the near term.

EXHIBIT 15

Trailing Twelve-Month Speculative-Grade Default Rates



Recovery Rates

To the extent data are available, Exhibit 16 presents ultimate recovery rates for each of the 71 Moody's rated municipal defaults since 1970. Ultimate recovery rates are calculated, whenever possible, as the discounted recovery rate based on the value creditors actually received at the resolution of the default event relative to what they should have contractually received, inclusive of any accrued interest.[9]

[8] Such forecasts typically apply to the total, both rated and unrated, municipal market. See for example http://www.bondview.com/blog/muni-defaults-whitney-and-roubini-32611/ .

[9] For further details on the ultimate recoveries, see the circumstances surrounding the various defaults in Appendix A.

EXHIBIT 16

Recovery Rates for Defaulted Municipal Issuers, 1970-2011

Defaulted OBLIGOR	Default date	Purpose	Security Class	Ultimate recovery
Chesapeake Bay Bridge and Tunnel District	7/1/1970	Infrastructure	Toll Revenue	100%
Midlands Community Hospital	1/1/1978	Health Care	Hospital Revenue	85%-100%
Hilton Head Hospital	1/1/1978	Health Care	Hospital Revenue	85%-100%
Washington Power Supply System	8/1/1983	Utilities	Electric Revenue	40%
Belfield (City of)	4/1/1987	Cities	GO Limited Tax	55% of principal
Vanceburg (City of)	12/1/1987	Utilities	Electric Revenue	100%
Baldwin County	10/1/1988	Counties	GO Limited Tax	100%
Metropolitan Hospital	12/1/1989	Health Care	Hospital Revenue	64%
Choate –Symmes Hospitals	1/1/1990	Health Care	Hospital Revenue	61%
Northwest General Hospital	4/1/1991	Health Care	Hospital Revenue	33%
Downtown Hospital Association	8/1/1991	Health Care	Hospital Revenue	100% of principal and 50% of interest
Polk County	12/1/1991	Counties	Lease Rental: Appropriation	100%
Connecticut Housing Authority	7/1/1994	Housing	Multi Family: FHA	Unknown
Orange County	12/6/1994	Counties	GO Limited Tax	100%
Michigan Health Care Corporation	6/1/1995	Health Care	Hospital Revenue	10%
Graduate Health System	7/21/1998	Health Care	Hospital Revenue	Pending
Allegheny Health and Education Research Foundation	7/21/1998	Health Care	Hospital Revenue	Pending
Boston Regional Medical Center	2/1/1999	Health Care	Hospital Revenue	20%
Greater Southeast Healthcare System	5/1/1999	Health Care	Hospital Revenue	Less than 50%
Tarrant Housing Finance Corporation	11/15/1999	Housing	Single Family Mortgage Loans	Unknown
Marine Military Academy	5/1/2000	Education	Revenue	100% of principal
Citizens' General Hospital	1/1/2001	Health Care	Hospital Revenue	100%
Genesee Hospital	5/1/2001	Health Care	Hospital Revenue	Undisclosed
Erie County Hospital Authority / Metro Health Center	7/1/2002	Health Care	Hospital Revenue	21%
Nebraska Investment Finance Authority / Yorkshire Development Project	10/1/2002	Housing	Multi-Family Subsidized	100% of principal
St. Francis Medical Center	11/1/2002	Health Care	Hospital Revenue	Less than 100% for the uninsured bonds
Indianapolis Econ Dev Authority / The Meadows (aka Phoenix Project)	7/1/2003	Housing	Multi-Family Subsidized	4%
Lakeview Apartments	7/1/2003	Housing	Multi-Family Subsidized	
Senior Series				9%
Junior Series				4%
Subordinate Series				2%
Cicero Local Development Corporation	11/1/2003	Cities	Lease Rental: Appropriation	10% of principal
Tarrant County Housing Finance Corporation—Fair Oaks Apartments	1/1/2004	Housing	Multi-Family Subsidized	
Senior Series				70%
Junior Series				2%
Junior Subordinate Series				1%
Mercy Hospital and Medical Center	1/2/2004	Health Care	Hospital Revenue	100%

EXHIBIT 16

Recovery Rates for Defaulted Municipal Issuers, 1970-2011

Defaulted OBLIGOR	Default date	Purpose	Security Class	Ultimate recovery
National Benevolent Association	2/16/2004	Hospital & Health Service Providers	Hospital Revenue	100%
National Benevolent Association	2/16/2004	Long-Term Care	Hospital Revenue	100%
National Benevolent Association	2/16/2004	Health Care	Hospital Revenue	100%
Magnolia Apartments	5/1/2004	Housing	Multi-Family Subsidized	
Senior Series				66%
Subordinate Series				0%
Westridge Apartments	6/1/2004	Housing	Multi-Family Subsidized	
Senior Series				60%
Subordinate Series				0%
Fort Worth Osteopathic Hospital	8/1/2004	Health Care	Hospital Revenue	21% for the uninsured series
Bay Club at Mesa Cove	9/1/2004	Housing	Multi-Family Subsidized	Uninsured bonds 36% of principal Insured bonds paid in full by MBIA
Riverbend Apartments	9/15/2004	Housing	Multi-Family Subsidized	
Senior Series				100%
Junior Series				94%
Junior Subordinate Series				94%
Crossroads Apartments	12/31/2004	Housing	Multi-Family Subsidized	
Senior Series				Paid by bond insurance policy and proceeds from foreclosure
Subordinate Series				0%
Legacy at Anderson	2/1/2005	Housing	Mortgage: Other	
Senior Series				86%
Taxable Series				89%
Park at Wells Branch Apartments	6/1/2005	Housing	Multi-Family Subsidized	Pending
Ashton Place and Woodstock Apartments	8/1/2005	Housing	Multi-Family Subsidized	
Senior Series				96%
Junior Series				2%
Subordinate Series				0%
River Falls Project (Senior)	1/1/2006	Housing	Multi-Family Subsidized	100%
River Falls Project (Subordinate)	1/1/2006	Housing	Multi-Family Subsidized	100%
Lee County Industrial Development Authority / Legacy at Lehigh Project	6/1/2006	Housing	Multi-Family Subsidized	100%
Cameron Crossing Project I & II / Greenville Housing Finance LLC	6/1/2006	Housing	Mortgage: Other	85% of principal
Canterbury/3 Fountains/River Falls/Puckett Place	9/1/2006	Housing	Multi-Family Subsidized	Pending
Forum Health	9/1/2006	Health Care	Hospital Revenue	100%
Jefferson Commons at the Ballpark	1/1/2007	Housing	Student Housing Revenue	
Senior Series				Pending
Junior Series				Pending
Tampa Home Mortgage Series 1983 A	4/1/2007	Housing	Single-Family: Whole Loans	Pending

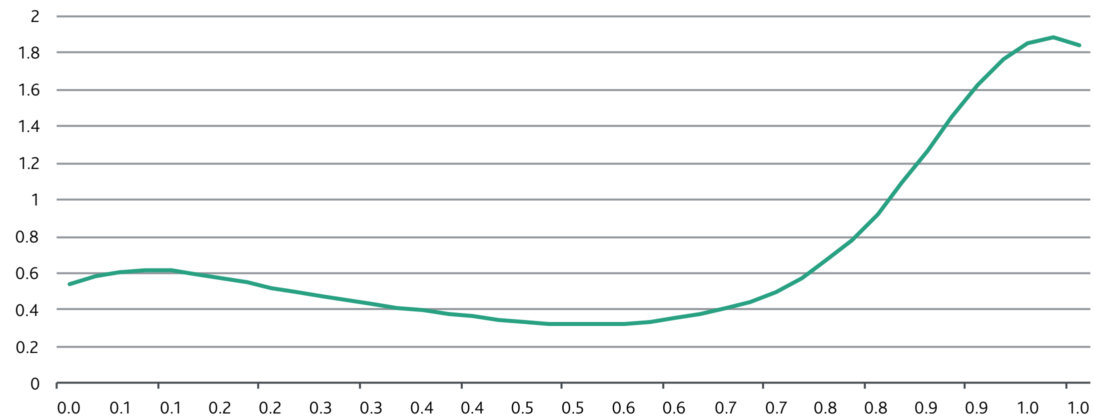
EXHIBIT 16

Recovery Rates for Defaulted Municipal Issuers, 1970-2011

Defaulted OBLIGOR	Default date	Purpose	Security Class	Ultimate recovery
Sankofa Shule (A Michigan Public School Academy)	12/1/2007	Education	Charter School: Enrollment Based State Aid	Pending
Nob Hill Apartments	12/1/2007	Housing	Multi-Family Subsidized	Pending
North Oakland Medical Center	2/1/2008	Health Care	Hospital Revenue	10%
Jefferson (County of) Sewer Enterprise	4/1/2008	Water & Sewer	Sewer Revenue	Pending
Jefferson (County of)	9/15/2008	Counties	GO Limited Tax	Pending
Fullerton Village at DePaul University	12/1/2008	Housing	Student Housing Revenue	
Senior Series				Pending
Subordinate Series				Pending
St. Louis Industrial Development Authority / St. Louis Convention Center Hotel Project	12/15/2008	Hotel	Hotel Revenue	Pending
Harrisburg (City of)	6/1/2009	Cities	General Obligation	Pending
Lower Bucks Hospital	12/15/2009	Health Care	Hospital Revenue	Pending
Las Vegas Monorail	1/13/2010	Infrastructure	Farebox Revenue	Pending
The Waters at Northern Hills Apartments	2/1/2010	Housing	Multi-Family Subsidized	
Senior Series				Not in default
Subordinate Series				Pending
Honey Creek Apartments	4/1/2010	Housing	Multi-Family Subsidized	
Senior Series				Not in default
Subordinate Series				Pending
AOH—Golf Villas, Rivermill, Village Square Apartments	6/1/2010	Housing	Multi-Family Subsidized	
Senior Series				MBIA continues to cover the debt
Subordinate Series				Pending
Whispering Palms Apartments	7/1/2010	Housing	Multi-Family Subsidized	National Public Finance Guarantee making bond payments
Pegasus Landing & Pegasus Pointe at University of Central Florida	10/1/2010	Housing	Student Housing Revenue	Pending
Rutland Place Apartments	11/1/2010	Housing	Multi-Family Subsidized	Pending
Boston Industrial Development Finance Authority / Crosstown Center Project	5/24/2011	Parking Garage and Hotel	Parking and Hotel Revenue	Pending
Santa Rosa Bay Bridge Authority	7/1/2011	Infrastructure	Toll Revenue	Pending
Charitable Leadership Foundation	7/1/2011	Research	501c3 Lease Revenue	Pending
Southern California Logistics Airport Authority / the City of Victor Valley and Victorville Economic Development Authority	12/1/2011	Special District	Tax Allocation/Increment	Pending
			Estimated Average Recovery	*65%*
			Estimated Median Recovery	*80%*

Average ultimate recoveries on Moody's-rated municipal bonds are higher than those on senior unsecured bonds of corporate issuers. That said, municipal recovery rates are highly dispersed across individual bonds, with some recovering 100 cents on the dollar and others receiving 5 cents on the dollar. Exhibit 17 shows that ultimate recovery rates on municipal bonds can be modeled as a beta distribution: most of the mass of the distribution (55%) is to the right of a 70% recovery rate, with some mass (25%) below a 30% recovery rate, but very little elsewhere.

EXHIBIT 17
Kernel Density Estimate for Recovery Rates on Municipal Bonds



GO bonds experience higher recovery rates during the study period. Nearly all counties recovered 100% of the initial loss, while the handful of cities that experience default had very low recoveries.

Accuracy Measures

The cumulative default rates presented in Exhibit 12 show that the likelihood of default for Moody's-rated municipal issuers increases monotonically as one moves down the rating scale for most horizons. To further investigate how well Moody's municipal ratings rank-order default risk, we calculate the average defaulter position (AP), which measures the ordinal power of ratings. The position of any credit in a given cohort is defined as the share of credits rated equal to or better than it, assuming each credit occupies the midpoint of its rating category. The AP is simply the average position of the defaulted credits. Intuitively, a more powerful rating system should have low rated defaults and high rated non-defaulters, meaning the average position of defaulters should be high for an effective rating system. AP is bounded between 0 and 1, with 1 indicating perfect sorting power, 0.5 indicating no power, and 0 indicating perfectly negative power.[10]

By this measure, municipal ratings have had approximately the same level of accuracy as corporate ratings in differentiating defaulters from non-defaulters. For example, over the entire period 1970-2011, the one-year AP of municipal issuers was 0.93, compared with 0.92 for corporate issuers. The five-year AP are 0.89 and 0.86 for municipal and corporate issuers respectively.

A key metric commonly used to measure the relative accuracy of a rating system, or default model more generally, is the cumulative accuracy profile (CAP) or power curve. A CAP is constructed by first ranking all issuers from the riskiest to the safest according to the model along the horizontal axis. Then starting with the riskiest issuers by plotting on the vertical axis the cumulative proportion of defaults picked up by the model. Thus, for a sample in which 1% of issuers default, a perfect model would include all the defaults within the riskiest percentile. By contrast, in a random model the first percentile would tend to include only 1% of the defaults and its CAP would be represented by the 45

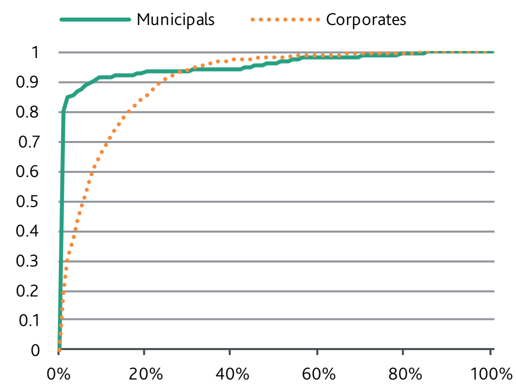
[10] A discrete rating system can never obtain an AP of 1 (or 0), hence we make a correction for the default rate itself. For details, please see "Glossary of Moody's Rating Performance Metrics".

degree line. The better the model at ranking issuers the more bowed towards the upper-left corner its CAP will be. The CAP is sample-dependent in that its shape is dependent on the proportion of issuers in the sample that default.

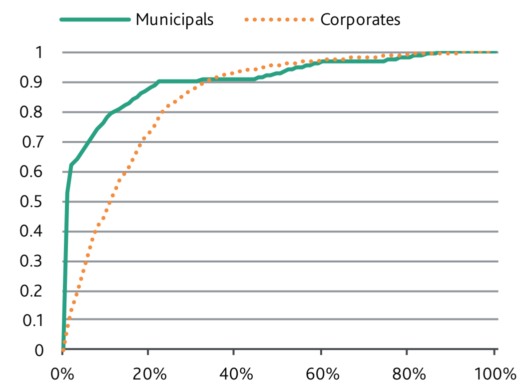
Exhibit 18 presents the twelve-month-ahead horizon CAP curves for municipal and corporate ratings observed between 1970 and 2011. The CAP plot reveals that historically, municipal ratings have done a good job rank-ordering one-year default risks. For example, over the entire period 1970-2011, the riskiest 25% of municipal issuers accounted for 94% of all defaulters, which is very similar to the 91% of corporate defaulters that reside in the riskiest 25% of corporate issuers.

EXHIBIT 18

One-year Cumulative Accuracy Profile (1970-2011)



Five-year Cumulative Accuracy Profile (1970-2011)



Looking Forward: A Qualitative Assessment

Over the past 41 years, the U.S. municipal market has seen 71 Moody's-rated long term bond defaults and two rated short-term note defaults. Ratings in this sector have unsurprisingly been very high over this same period. At the same time, the U.S. economy has avoided a major depression and the U.S. government has avoided a debt crisis. If either of these events were to occur, a substantially higher rate of default incidents would be expected in this sector. The incidents we have seen to date, however, lead to three broad and related observations about municipal defaults.

Observation #1: Enterprise Risk Remains the Common Theme Among Defaulters

An examination of default history reveals several interesting patterns, but one overriding theme— enterprise risk.

Most rated defaults occurred in the health care and multifamily sectors, which together account for just under 70% of all events of default. The combined principal amount of debt affected, however, was just 5% of the total in the record. This is perhaps not surprising, since these defaults concerned relatively small scale, stand-alone project financings. In contrast, just two defaults— Washington Public Power Supply System (WPPSS) and Jefferson County—accounted for a full 66% of principal in default.

Despite the number of health care and multifamily housing defaults, the individual stories generally are minor variations on a common theme: failure to compete successfully in a local market, whether hospital or apartment rental. Although a handful of these defaults were precipitated by a bankruptcy filing, trustee withholding of reserves, or withdrawal of a federal guaranty or subsidy, underlying enterprise risk was the driver in every situation. In only a few multifamily defaults did an exogenous factor such as water damage, crime, or a design flaw worsen the competitive rental position. Separately, looking across the landscape of defaults from the last several years in these two sectors, it appears that recovery rates have slowed, as demand for rental housing properties and redundant hospital plant remains weak. We note that the presence of bond insurance may be a factor in slowed recoveries, as insurers have an incentive to defer rather than recognize losses.

A similar pattern is present among the six defaults in the transportation sector—toll bridges and a monorail—and among commercial real estate projects, which together comprise less than 10% of default events and of principal. Here, actual utilization and revenue in five of the project financings fell well short of the original forecasts. The sixth project failed with the collapse of a dominant rental tenant.

The two energy-related bond defaults in the history—WPPSS and the much smaller Vanceburg electric system—were caused by project construction delays and cost overruns. Both defaults were triggered by legal action to invalidate power purchase agreements, taken by wholesale customers once the projects had lost their economic enterprise value. The City of Menasha, Wisconsin's note default concerning a failed industrial steam plant conversion, follows a similar pattern of cost overruns and inability to generate commercial value.

Enterprise risk also extends to three out of the five GO bond defaults, as well as to both of the defaults on lease appropriation debt by a general government in the study period. The failures by Cicero, New York and Harrisburg, Pennsylvania to make lease or guaranty payments for an ice rink and an incinerator, respectively, directly stem from project financings that proved uneconomic. The inability of Belfield, North Dakota to raise sufficient tax revenues similarly derived from a failed residential project where it had debt-financed roads and water service. Finally, Polk County, Iowa's default on lease revenue bonds began with its desire to cut losses associated with a failing racetrack. The county had advanced funds to cover debt service pending a refinancing of the debt; the default should have been avoided, and was caused only when the racetrack's bankruptcy filing led to an automatic stay. In contrast, the Orange County, California and Baldwin County, Alabama defaults had nothing to do with enterprise risk but rather liquidity problems and weak governance.

Although Jefferson County's default and bankruptcy certainly relates to its sewer enterprise, the story here is colored by a court mandate to build what proved to be an unaffordable set of projects, complicated by the county's excessive use of complex and risky debt and swap instruments in an effort to comply with that mandate. Ultimately a confluence of events contributed to Jefferson County's default on GO as well as sewer revenue debt, including mounting project costs over more than a decade, political corruption and ultimately a lack of political will required to raise revenues sufficient to pay growing debt costs.

Across 41 years, the sample of 71 (73 including short-term defaults) rated defaults is tied together by a common theme of enterprise risk. Even then, given the number of project financings and successful, well-run municipal enterprise systems, this is a strong record. This record is in part due to the growth of state bond banks, revolving funds, and other pool structures and the role of government oversight in managing small scale enterprises.

Observation #2: Spotlight Has Shifted from Healthcare and Project Financings to General Government Default Risk

While enterprise risk claims most of the historical defaults, we suspect that future defaults could arise from a different set of circumstances. However favorable the recent record may be, the very narrowness of the empirical base gives us no cause for complacency, and in fact provides several reasons to be on guard. The new pattern that may be emerging concerns not enterprises but general governments themselves.

The latest rated default in the series, that of the Southern California Logistics Airport Authority, involves debt issued to redevelop a former Air Force base, but as a tax increment financing the default has less to do with the project than the massive loss of housing valuation in the region, even though the district's tax base encompasses several cities and exceeds 100 square miles. Recovery will be complicated by newly legislated changes to tax increment districts statewide, which resulted from competition for tax revenue by general governments.

We are also closely watching the handful of recent bankruptcy filings or defaults by small cities that stem from the burdens of non-debt obligations—whether pensions, entitlements, or salaries in an era of sustained high unemployment—that have grown faster than the resources available to pay them. Unrated Prichard, Alabama was unable to pay its pension obligations; unrated Vallejo, California will pay its pensions but not its appropriation-backed debt; and Central Falls, Rhode Island continues to pay its debt while renegotiating its pensions in bankruptcy court.

These examples demonstrate the uncertain outcomes that can emerge in municipal bankruptcy, but provide only a narrow empirical base from which to draw conclusions. However, the combination of the Great Recession, tax and revenue shortfalls, and rising pension and retiree health care obligations are certainly creating stresses points that are new but common among many local governments. Notably, the stresses in Vallejo and Central Falls erupted into substantially greater risk for bondholders. As this report goes to press, the city council of Stockton, California has voted to suspend payments from the General Fund to support bond payments, although provision has been made for debt service through end of fiscal 2012. The city also voted to commence a mandatory mediation process with creditors, per AB 506, that could either avert or lead to Chapter 9 bankruptcy filings.

Observation #3: A Deep Recession or U.S. Government Debt Crisis Would Likely Result in Substantially Higher Default Rates for Municipal Bonds

The empirical base of historic municipal defaults in the modern era is indeed very thin. In the municipal market, we have grown accustomed to looking back 80 years to the 1930s for additional default data, and we also have grown accustomed to considering the Great Depression as a reasonable worst case scenario for municipal bond performance. While our central macroeconomic scenario for the U.S. does not call for a deep economic recession in the near term, we have contemplated what would give rise to a substantial increase in defaults, at perhaps the same level or higher than was seen during the Great Depression.

We note that the credit profiles and composition of municipal issuers today are very different from issuers in the 1930s. In the Great Depression municipal balance sheets were not weighed down by other post-employment benefits (OPEB) and other entitlement obligations like Medicaid, and public sector defined benefit pension plans were still a generation away. Debt levels were lower, and debt structures were simpler, with no interest rate swaps or variable rate bonds and no exposure to large banks with global capital markets operations. There were no bonds backed by appropriation or "moral obligation" debt, and there were no tax increment financings, land-secured bonds and nursing home deals. The municipal bond market today is perhaps more globally connected and more complex—not necessarily in good ways from a credit perspective—relative to the bond market of the 1930s.

As a result of the recent recession, municipal issuers are adjusting to new economic realities. Most issuers have responded to weak revenue performance by cutting spending and using one-time revenue sources including federal stimulus funds, while some have elected to raise taxes in order to close budget gaps and avoid future ones. So far most states, large cities and other not-for-profit organizations have been able to adjust to the new economic reality, and have preserved their credit quality in doing so. Other issuers, including mostly smaller and weaker governments, have yet to demonstrate their willingness to live within their means and to pay for the level of government services that may have been promised and delivered in the past. While we do expect the vast majority of municipal issuers to continue to pay their debts, we also expect a growing number of issuers—albeit still a small share of total rated issuers—to struggle to meet their debt obligations and ultimately we expect a small but growing number will default on their bonded debts.

In this light, it is also worth considering that since the advent of the financial crisis we have seen something that most mortgage underwriters had assumed was only remotely possible—borrowers, whether sub-prime or higher-income, walking away from their debt obligations. Just as corporate bankruptcy lost its stigma in the 1980s, personal bankruptcy has lost its stigma and is viewed as a strategic 'option'. We have seen no evidence that such a fundamental attitude shift toward debt has occurred among municipal bond issuers. Such a shift would be highly challenging to predict in advance of a default, however, and is one that bears close watching.

As we noted above, the effects of the financial crisis and recession are far from over, and we might still see some of those effects translated into somewhat persistently higher default rates in the near term. Nevertheless, there are four reasons to think that while municipal defaults may exceed the historical average,[11] they are still likely to remain rare and isolated events.

1. Most municipalities are not exposed to refinancing risks; the majority of municipal debt is structured as long term, fixed-rate bonds with level debt service requirements including principal amortization.

2. Debt service typically represents a low percentage of municipal expenditures, which for local governments averages between 5% and 7%, so that defaulting on debt would not address the major budget pressures confronting a stressed municipality.

3. Incentives to avoid default remain high, as local governments would face much higher borrowing costs, or risk losing market access altogether, including the short-term note and bank-lending markets which help them bridge cash flow gaps.

4. Municipal bankruptcy is itself rare; given the significant legal hurdles to file for bankruptcy protection and we expect the number of bankruptcy cases each year to remain few in number.

[11] For greater detail see "The Great Credit Shift: US Public Finance Post Crisis".

Moody's Related Research

Special Comments:

» U.S. Municipal Bond Defaults and Recoveries, 1970-2009, February 2010 (122579)

» Corporate Default and Recovery Rates, 1920-2010, February 2010 (131388)

» U.S. Municipal Rating Revisions Through the Great Recession, August 2011 (135386)

» Key Credit Considerations for Municipal Governments in Bankruptcy, January 2012 (136814)

» Glossary of Moody's Rating Performance Metrics, September 2011 (135451)

» The Impact of U.S. Federal Fiscal and Economic Strain on Municipal Credits, November 2011 (135447)

» U.S. Public Finance Rating Revisions for Q4 and Full Year 2011: Downgrade Activity Outpaces Upgrades, Again, January 2011 (139378)

Rating Implementation Guidance:

» Recalibration of Moody's U.S. Municipal Ratings to its Global Rating Scale and Assigning Global Scale, March 2010 (123300)

Special Report:

» The Great Credit Shift: US Public Finance Post Crisis, September 2011 (136136)

Research Guide:

» Rating Symbols and Definitions, February 2012 (79004)

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Appendix A: Details on Individual Long-Term Municipal Default Events, in Chronological Order

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1) Chesapeake Bay Bridge & Tunnel District, VA

» CUSIP: 165141A (applied retroactively as bond issue preceded CUSIPs)

» Default Date: July 1, 1970

» Obligor: Chesapeake Bay Bridge and Tunnel District

» Issuer: Chesapeake Bay Bridge and Tunnel District

» Defaulted Bonds: Series C Third Pledge Revenue Bonds dated July 1, 1960.

» Cause of Default: Insufficient vehicle toll revenues led to the failure to pay interest on $100 mm third lien (interest only) Series C bonds beginning July, 1970, six years after project completion in April 1964.

» Recovery: Increased traffic and toll revenues linked to the military build-up in the region in the late 1970s enabled the District to emerge from default in 1985 by repaying all past due interest. After refilling various reserve accounts, the District began redeeming Series C bonds in 1988.

The Chesapeake Bay Bridge and Tunnel is a classic example of a transportation infrastructure project that defaulted after over-optimistic projections of toll revenues proved unrealistic. Conceived of as a permanent replacement for the traditional ferry service between Virginia Beach and the southern tip of Eastern Shore across the mount of Chesapeake Bay, the state of Virginia authorized the Chesapeake Bay Ferry Commission to build and issue bonds for the project in 1956. At the time, the 17.6 mile project was an engineering marvel, comprising two one-mile tunnels in mid Bay linked by 12 miles of two-lane trestle causeways with four man-made islands and two truss bridges; most of the project, including the tunnels, was built using prefabricated components. The bridge-tunnel configuration was necessary to ensure that the Navy's access to the Atlantic from its bases in Hampton Roads could not be blocked. Construction commenced in September 1960 and was finished in April 1964, financed entirely by the $200 mm 1960 revenue bond issuance.

The 1960 toll revenue bonds comprised $70 mm First Pledge Series A, $30 mm Second Pledge Series B, and $100 mm Third Pledge Series C; the Series C were interest only, without any scheduled amortization, and were to be redeemed with any excess revenues at the bottom of the funds flow beginning July 1970.

The project's original financial feasibility reflected the assumption that a new highway linking Delaware and Virginia Beach would take north-south traffic from I-95/I-5, while the destination attraction was actually much more local. The project risk was, however, hinted at in the bond structure, where the third-lien interest-only Series C bonds comprised half of principal. Ultimately, the Series C bonds were taken out of default by the late 1970 military buildup in Hampton Roads, which led to substantial residential development on the Eastern Shore and the growth of daily commuting traffic over the bridge-tunnel.

The project was subsequently widened with a parallel trestle causeways beginning in 1995.

2) Midlands Community Hospital

- CUSIP: 803728A
- Default Date: January 1978
- Obligor: Midlands Community Hospital
- Issuer: Sarpy County Hospital Authority Number 1
- Defaulted Bonds: Revenue Bonds dated December 1973 and June 1976; $21.7 million of debt affected.
- Cause of Default: Inability to recruit physicians.
- Recovery: 1005 of missed principal payments due between January 1978 and January 1982 were paid between nine months and three years late. (Source: Moody's reports).

Doctors Hospital in Omaha, Nebraska was an aging hospital with declining patient usage and outdated equipment when, in the 1960's, its board of directors decided to close it and build a new 208-bed replacement called Midlands Community Hospital, located 12 miles from Omaha in the town of Papillion. The ability to recruit physicians from Doctors Hospital in Omaha to practice at Midlands Community was a key factor in the future success of the new facility, but this did not go as planned and the hospital opened with only a few doctors. As a result, utilization fell far below the levels necessary to cover operations and maintenance expenses as well as debt service. In 1976 an event of default was declared under the legal documents, debt service reserves were used to make interest payments, and a receiver for the hospital was appointed and approved by the District Court. While no interest payments were missed, the principal payments due between January 1978 and January 1982 were paid between nine months and three years late, with the final catch-up payment made September 1, 1992.

3) Hilton Head Hospital, SC

- CUSIP: 074349AH4
- Default Date: January 1, 1978
- Obligor: Hilton Head Hospital
- Issuer: Beaufort County
- Defaulted Bonds: Revenue Series 1974; approximately $11 million of debt affected
- Cause of Default: Over-optimistic feasibility forecasts and low patient utilization levels.
- Recovery: Bonds were redeemed at par plus call premium from the proceeds of the sale of the hospital. (Source: Moody's files).

In 1974, Beaufort County, South Carolina issued $11.2 million of revenue bonds to finance the first health care facility on Hilton Head Island, which was to be repaid from gross revenues of the hospital. The development of health care facilities on the Island was considered desirable given the already substantial growth of residential, retirement, and resort facilities on Hilton Head, which was expected to continue. The feasibility study for the new hospital accordingly projected high utilization of the proposed 40 acute-care and 40 skilled nursing beds, and indicated that revenues would be sufficient to cover debt service after use of the capitalized interest fund. After construction, however, it became apparent that the growth forecasts for the Island had been over-estimated, in part because of the national economic recession of 1974-75. Further, the hospital opened without being adequately staffed in certain areas so that patient flow was lost to hospitals in nearby Savannah, GA. Patient utilization and revenues were thus well below projected levels, financially straining the hospital. In April 1976, the hospital missed payments on a sixth of the upcoming interest due on the bonds. By January 1978, the capitalized interest and reserve funds had been depleted and the hospital failed to pay the interest payment due on January 1, 1978.

The bonds ultimately became current in December 1988, and were called in full in January 1995.

4) Washington Public Power Supply System, WA (now Energy Northwest)

» CUSIP: 939821

» Default Date: August 1983

» Obligor: Washington Public Power Supply System (WPPSS)

» Issuer: Washington Public Power Supply System (WPPSS)

» Defaulted Bonds: Nuclear Projects 4 & 5; approximately $2.25 billion of debt affected.

» Cause of Default: Declining demand for energy, rising construction costs.

» Recovery: Approximately 40% after the settlement of a class action suit in December 1998. (Source: Moody's files).

The WPPSS default was a classic example of the potentially speculative nature of a construction project, where the confluence of cost overruns, schedule delays, design changes, and project management errors ultimately led to a bond default. It was also an example of how a nominally strong security pledge can be undercut when a project financing no longer has an economic rationale.

In August 1983, Washington Public Power Supply System (WPPSS) defaulted on $2.25 billion of revenue bonds for Nuclear Projects 4 & 5. Washington Public Power Supply System was organized in 1957 as a municipal corporation that allowed publicly-owned utilities in the Pacific Northwest to jointly build power generation facilities. As part of the Ten-Year Hydro Thermal Power Plan, WPPSS and other Northwest utilities assumed that demand for electricity in the northwest region would double every ten years beyond the capacity of current power sources. In the early 1970s WPPSS planned to construct five nuclear generation facilities to meet this forecasted demand. Bonds were sold to finance the cost of the power plants and were to be repaid through participation agreements with numerous municipal and cooperatively-owned electric utilities.

Construction delays and cost overruns on the multiple projects, in part caused by a redesign to meet new safety standards, drove the combined cost of completing the projects to three to four times the original estimate. At the same time, the demand for energy was declining due to energy conservation triggered by high energy bills and a regional economic slowdown. In January 1982, WPPSS abandoned construction on Projects 4 and 5. In January 1983, however, the public utilities participating in WPPSS were obligated to begin repaying the debt incurred by the abandoned projects, even though the participants would never see any electricity from the projects. To repay the debt, the utilities would have had to dramatically increase electricity rates on their customers.

The uproar from the rate increases resulted in legal challenges to the enforceability of the contracts with participants for repayment of the construction and operation costs of Projects 4 and 5 (including repayment of debt service). In 1983, the Washington State Supreme Court ruled that the Washington State public agency participants in Projects 4 and 5 did not have the authority to enter into the Project 4 and 5 participation agreements, rendering void the agreements and the source of revenues to pay debt service. WPPSS became unable to service the debt on the $2.25 billion in bonds issued to finance construction of Projects 4 and 5, thereby precipitating the largest municipal bond payment default in history to that date.

5) Belfield, ND

» CUSIP: 077689C

» Default Date: April 1987

» Obligor: Belfield

» Issuer: Belfield

» Defaulted Bonds: General obligation; $1.9 million of debt affected

» Cause of Default: Insufficient property taxes to repay existing debt.

» Recovery: Approximately 55% of principal (Source: Moody's files).

The oil boom of the early 1980's led to a severe housing shortage in portions of North Dakota as high paying jobs began attracting workers and their families. In order to help accommodate this influx of new residents, the town of Belfield, North Dakota, issued general obligation bonds to extend roads and water and sewer infrastructure to a tract of land planned for residential development. The bonds were expected to be repaid with taxes collected from the new properties within the development. Within a few years, however, the oil market sharply reversed and the regional economic boom collapsed, as did the population influx. With only three homes built on the Belfield tract, the property taxes generated were insufficient to repay the existing debt. A deficiency levy was subsequently instituted on all properties in Belfield to make up the shortfall, but this levy rose to levels that forced an increasing number of homeowners to abandon their properties or otherwise fail to pay their property taxes. Ultimately, the town council refused to raise the levy any further and Belfield defaulted on its outstanding debt.

In July 1991, bondholders agreed to accept settlement of 55% of principal, with no back interest. The settlement was paid through a combination of the town's deficiency levy and some state defaults.

6) Vanceburg, KY

» CUSIP: 921547A

» Default Date: December 1, 1987

» Obligor: Vanceburg

» Issuer: Vanceburg

» Defaulted Bonds: Electric System Revenue Bonds --Greenup Hydro Project Series 1979 and 1984; $137.04 million of debt affected

» Cause of Default: Rising project costs, delays in completion, and consequent lawsuit by a key wholesale customer.

» Recovery: Bondholders received par plus accrued interest through May 26, 1988 from the sale of the project. (Source: Moody's files).

Vanceburg issued its electric revenue bonds in 1979 to fund the construction of a new hydroelectric generating plant. The bonds were secured by a lien on revenues of the Vanceburg Electric System, but the bulk of the power produced from the new plant was to be sold to the Hamilton, Ohio Electric Utility, which was Vanceburg's largest electricity customer. The project was plagued by a series of problems including cost overruns, the sitting of the transmission lines that would deliver the power from Greenup to Hamilton, and a six-month delay in overall project completion. In 1984, the City of Hamilton filed a lawsuit seeking to have their power sales contract declared null and void, alleging various contract breaches and fraudulent inducement to enter into a contract. The December 1, 1987 default was part of the legal settlement between the towns of Vanceburg and Hamilton in which Hamilton would pay off the Vanceburg bonds and assume the responsibility for the ongoing plant.

7) Baldwin County, Alabama

» CUSIP: 057845A, 057845B

» Default Date: October 1, 1988

» Obligor: Baldwin County

» Issuer: Baldwin County

» Defaulted Bonds: General Obligation Warrants Series 1984 and 1985; approximately $6 to $8 million of debt affected

» Cause of Default: Diversion of funds to meet operating obligations instead of debt service.

» Recovery: 100% of principal and interest (Source: Moody's reports).

On October 1, 1988, Baldwin County defaulted on two series of outstanding General Obligation Warrants when, faced with insufficient funds on hand, officials decided to use available monies to pay for operating expenses instead of scheduled debt service payments. The County carried an "A" rating on the bonds at the time. Moody's dropped the County's rating to "B" that month as a result of the default. With help from trustee AmSouth Bank, County management was able to come up with sufficient funds 15 days later, and bondholders received 100% of past due principal and interest.

8) Metropolitan Hospital, PA

» CUSIP: 717826

» Default Date: December 1989

» Obligor: Metropolitan Hospital

» Issuer: Philadelphia Hospitals Authority

» Defaulted Bonds: Revenue bonds Series 1976 and 1981; $63.2 million of debt affected

» Cause of Default: Low occupancy rates led to financial distress.

» Recovery: Approximately 64% of par (Source: Moody's files).

The Philadelphia Hospitals Authority bonds were issued to construct Metropolitan Hospital, a new osteopathic facility located in downtown Philadelphia. Primarily due to low occupancy rates, the hospital began experiencing severe cash flow problems. As a result of the financial stress, the hospital filed for bankruptcy protection on July 11, 1989. In December 1989, funds were not available to meet the debt service payment due, triggering the default.

Settlement disbursements on the defaulted bond commenced December 1991 after the October 29 plan of reorganization was approved, which involved liquidating the hospital's three buildings. Through December 1994, six partial settlement payments had distributed a total of $40.726 million to bondholders; settlement distributions included interest and partial principal payments ranging from about 25% to 65% of par.

9) Choate-Symmes Hospitals, MA

- CUSIP: 575850D
- Default Date: January 1, 1990
- Obligor: Choate-Symmes Hospitals (City of Choate)
- Issuer: Massachusetts Health and Educational Facilities Authority
- Defaulted Bonds: Revenue Bonds Series 1982; $32 million of debt affected
- Cause of Default: Liquidity shortfall triggered by return of over collected revenues.
- Recovery: Approximately 61% of par (Source: Moody's files).

The1982 Massachusetts Health and Educational Facilities Authority bonds were issued to help Choate-Symmes to modernize its aged plant, thereby remedying code deficiencies, easing capacity constraints, and centralizing certain services. The bonds were secured by a mortgage pledge as well as a first lien on gross receipts of the hospitals.

In early 1989, the Massachusetts Rate Setting Commission required that Choate-Symmes refund approximately $5.5 million in over-collected revenue. The hospital was unable to deal with the resulting liquidity loss, leading it to file for bankruptcy protection in October 1989. The liquidity shortfall remained unresolved, and Choate-Symmes failed to make its debt service payment due on its revenue bonds on January 1, 1990. The hospital emerged from bankruptcy by August 1990, and with the sale of sister facilities began partial repayment to bondholders that October, who received a combination of replacement bonds and cash equivalent to 61% of original par.

10) Northwest General Hospital, MI

- CUSIP: 594648PW1
- Default Date: April 1991
- Obligor: Northwest General Hospital
- Issuer: Michigan State Hospital Finance Authority
- Defaulted Bonds: Revenue Bonds Series 1980; $4.8 million of debt affected
- Cause of Default: Inadequate federal reimbursements, decline in admissions and competitive position.
- Recovery: Approximately 24% of par (Source: Moody's files).

The Series 1980 bonds were issued by the Michigan State Hospital Finance Authority to construct an addition to Northwest General Hospital, a 104-bed facility located in Detroit. Despite both the expansion project and ongoing financial and managerial support from an outside organization, Botsford General Hospital, Northwest General's financial operations progressively deteriorated throughout the 1980s. Inadequate reimbursements from state and federal agencies, a decline in hospital admissions, an excess of available beds in the area, and the failure to recruit admitting physicians were all cited as reasons for the eventual closure of Northwest General Hospital by its management in September 1990. The Michigan State Hospital Finance Authority provided funds to make the debt service payment immediately due in October 1990, although it was not legally obligated to do so. With no ongoing operations and no further external support, the bonds defaulted in April 1991.

The subsequent sale of the hospital and its equipment, collections of accounts receivables, and other remaining funds enabled the trustee to make an initial distribution of about $800,000 to bondholders in September 1991. A final distribution was made December 15, 1993, bringing total recovery to about $1,867 per bond, equivalent to 33% of par

11) Downtown Hospital Association, TN (D/B/A Downtown General Hospital)

» CUSIP: 162405AL8

» Default Date: August 1, 1991

» Obligor: Downtown Hospital Association

» Issuer: Chattanooga Health and Education Facilities Board

» Defaulted Bonds: Revenue Series 1975; $2.2 million of debt affected

» Cause of Default: Inability to respond to changing Medicare reimbursement and competitive environments.

» Recovery: All principal and approximately 50% of interest owed (Source: Moody's files).

In 1975, Chattanooga Health and Education Facilities Board issued bonds to finance the construction of Downtown General Hospital, a new 54-bed facility in Chattanooga that replaced an aging hospital of similar size. The bonds were secured by a first lien on gross revenues of the hospital. However, by the 1980s several changes in the health care industry began to adversely affect smaller hospitals like Downtown General, the most notable of which was the introduction of the Medicare Prospective Payment System (PPS) and the broader shift away from exclusively inpatient services. Downtown General handled neither transition well. The move from cost basis to a PPS for Medicare reimbursement hurt the hospital financially, and its inability to diversify into new service lines rendered it susceptible to competition from outpatient services. As a result, the hospital's average daily population dropped from over 50 to 14. Beginning in November 1989, the hospital was unable to make its scheduled monthly payments for upcoming debt service payments. By August 1991, the reserve funds had been fully depleted, triggering the default.

At this point, bondholders agreed to a two-year moratorium on interest payments in the hope that this would allow the hospital time to regain its financial health, but Downtown also put itself up for sale. The hospital was ultimately sold by the spring of 1993, and the proceeds enabled the bonds to be called in April 1993.

12) Polk County, IA

» CUSIP: 731211A

» Default Date: December 1991

» Obligor: Polk County

» Issuer: Polk County

» Defaulted Bonds: Sports Facility Revenue Bonds, Series 1984; $39 million of debt affected

» Cause of Default: Bankruptcy court stay of County debt service payments.

» Recovery: Reported to be 100% through proceeds of the 1993 refunding issue. (Source: Moody's files, Polk County debt filings).

The Polk County default was an early example of the automatic stay provisions blocking debt service payments to bondholders. Polk County's 1984 Sports Facility Revenue Bonds had been issued to finance track construction at Prairie Meadows racetrack; the bonds were secured by lease payments from the Racing Association of Central Iowa (RACI), but also by an unconditional commitment from Polk County to the extent necessary. Because of its ultimate responsibility for the debt, the County began taking action to curtail losses associated with the racetrack, including cutting back on RACI's subsidy. In response, RACI sought protection under Chapter 11 of the Bankruptcy Code and filed for bankruptcy on November 27, 1991. Although the County had advanced funds for the upcoming debt service payments, these monies were subjected to the automatic stay under Section 362(a) of the Bankruptcy Code as a result of RACI's filing, and so were unavailable to make the necessary debt service payment due December 1, 1991. The bankruptcy court subsequently released sufficient funds to pay this debt service on January 10, 1992. Funds were again released in May 1992, which paid accrued interest on the late December 1991 payment, but which covered only 95% of the debt service due June 1, 1992. The County's appropriation for the December 1992 payment was also delayed. By spring 1993, RACI emerged from bankruptcy; Polk County refunded the defaulted 1984 lease revenue bonds with GO debt in June 1993, which reportedly made whole all bondholders owed principal, interest, and accrued interest.

13) Connecticut Housing Authority, CT

» CUSIP: 207747KS4

» Default Date: July 1, 1994

» Obligor: Connecticut Housing Authority

» Issuer: Connecticut Housing Authority

» Defaulted Bonds: Mortgage Revenue Bonds (New Haven FHA-Insured Projects, Series 1983); $4.8 million of debt affected

» Cause of Default: Delinquencies and defaults on the loans

» Recovery: Not available.

Connecticut Housing Authority's Mortgage Revenue Bonds were issued to finance multi-family housing projects in the city of New Haven. The repayment of the bonds was secured by the underlying mortgage loans that were in turn insured by FHA pursuant to Section 203(k) of the National Housing Act. The housing projects performed poorly. Loan delinquencies and defaults, less than full payment from HUD on the defaulted loans, and lengthy foreclosure proceedings all combined to shrink program revenues to the points where the Authority was unable to make its scheduled debt service payments.

14) Orange County, CA

- CUSIP: 68428LAN4
- Default Date: December 6, 1994
- Obligor: Orange County
- Issuer: Orange County
- Defaulted Bonds: Pension Obligation Series B; $110 million of debt affected
- Cause of Default: Orange County Investment Pool's investment losses.
- Recovery: Although the county was unable to fulfill its pledge to purchase any tendered bonds, all principal, interest and accrued interest payments were made to bondholders by 1996. (Source: Moody's reports, external reports).

The Orange County default and bankruptcy was the result of a liquidity crisis triggered by investment losses. At the time, it was the largest municipal bankruptcy in U.S. history.

In late 1994, the Orange County Investment Pool (OCIP) suffered losses of approximately $1.5 billion out of a total $7.5 billion pool. The County Treasurer had pursued an investment strategy involving high-risk, rate-sensitive securities, and leveraging of the pool to maximize returns. During the period when interest rates had declined and remained low, the OCIP strategy succeeded. However, when interest rates began to rise in 1994, OCIP's gains turned into very large losses. The liquidity crisis was triggered when OCIP was unable to repay a $1.2 billion loan to a Wall Street creditor, who refused to extend the loan and began selling the securities that OCIP had pledged as collateral. To protect itself from other creditors, Orange County filed for bankruptcy for itself and OCIP on December 6, 1994.

Separately, the County had pledged that the OCIP would purchase any tendered Pension Obligation Series B bonds. As a result of the bankruptcy filing, however, OCIP was unable to fulfill this pledge and the pension bonds defaulted on December 8, 1994. The County did not, however, default on the scheduled principal and interest payments of the Series B bonds or any of its other long-term obligations.

It the aftermath of the filing, Orange County successfully petitioned the bankruptcy court to release funds for upcoming monthly interest payments on four series of short-term Tax and Revenue Anticipation Notes (TRANs) and Teeter Plan Notes, but payments were delayed by a few days each in January and February pending court approval. By March, however, the County had improved its procedures with the bankruptcy court, and note interest payments were timely thenceforward.

15) Michigan Health Care Corporation, MI

- CUSIP: 430586, 251145AA6
- Default Date: June 1, 1995
- Obligor: Michigan Health Care Corporation
- Issuer: Highland Park Hospital Finance Authority
- Defaulted Bonds: Revenue Bonds Series 1986, 1987 and 1992; $262 million of debt affected
- Cause of Default: Service area decline, long term financial strain, and automatic stay from bankruptcy.

» Recovery: Approximately 24 to 54% of par, depending on series (Source: Bloomberg).

Michigan Health Care Corporation's main facilities were located in and around the Detroit area, which by the early 1990's was suffering from high unemployment and population losses from the contraction in the domestic automotive industry. The Corporation was increasingly strained by competition from an over-supply of beds in the Detroit health care market, substantial litigation costs, high debt, and inadequate reimbursement for its high Medicaid and indigent patient load. These factors eventually caused Michigan Health Care Corporation to file for Chapter 11 Bankruptcy on March 31, 1995. An automatic stay under Section 362(a) of the Bankruptcy Code was invoked as a result of the bankruptcy filing, and the bond trustee was prohibited from using funds on hand to pay debt service, resulting in the June 1, 1995 payment default.

16 & 17) Allegheny Health and Education Research Foundation, PA

» CUSIP: 709172 (Delaware Valley Obligated Group); 717825, 717903 (Graduate Health System)

» Default Date: July 21, 1998

» Obligors: Delaware Valley Obligated Group (DVOG) and Graduate Health System (Graduate)

» Issuer: Pennsylvania Higher Educational Facilities Authority (for DVOG); Philadelphia Hospitals and Higher Education Facilities Authority (for Graduate)

» Defaulted Bonds: Delaware Valley Obligated Group and Graduate Health System; approximately $200 million of debt affected

» Cause of Default: Financial deterioration, reduction in Medicaid payments, and an eventual bankruptcy filing.

» Recovery: Pending; DVOG bondholders continue to be paid under MBIA insurance; an appeal was filed on behalf of the Graduate Obligated Group unsecured creditors but there have been no reported developments since spring 2007, through which time bondholders had received distributions of $71.26 mm in principal (45.6% of par) and $3.78 mm in interest (Source: Moody's files).

On July 21, 1998, following a long period of financial deterioration, Allegheny Health and Education Research Foundation (AHERF) filed to seek bankruptcy protection under Chapter 11 of the Bankruptcy Code. The filing triggered an automatic stay under Section 362(a) of the Code and as a result AHERF defaulted on some of its outstanding bond issues.

The filing by AHERF as the parent organization included several other entities including the Philadelphia operations of Delaware Valley Obligated Group and Graduate Health System, as well as the physician organization, Allegheny University Medical Practices.

Beginning in the mid 1980's, AHERF began an expansion from its Pittsburgh base into the highly competitive Philadelphia health care market. From 1987 until 1997 the organization's debt grew from less than $70 million to over $1 billion, as AHERF acquired medical schools, numerous hospitals and physician practices.

AHERF's problems included operating in the highly competitive Philadelphia and Pittsburgh health care markets, and the curb in growth of Medicare reimbursements. Other factors included the increased penetration of managed care plans that negotiated discounts on hospital fees, curbed admissions, and mismanaged and costly endeavors into physician practices. In 1998, AHERF attempted to sell a large portion of its Philadelphia holdings. When the transaction later fell apart in

June 1998, AHERF's options were limited, and one month later several of its entities filed for bankruptcy.

18) Boston Regional Medical Center, MA

- CUSIP: 575851
- Default Date: February 1999
- Obligor: Boston Regional Medical Center (BRMC)
- Issuer: Massachusetts Health and Educational Facilities Authority
- Defaulted Bonds: Revenue Bonds Series 1993B; $30 million of debt affected
- Cause of Default: Large operating deficits
- Recovery: Approximately 20% recovery (Source: Moody's reports).

In February 1999, Boston Regional Medical Center (BRMC) declared bankruptcy after several years of financial decline, which resulted in a default on principal and interest payments due on the Series 1993B bonds.

Four years of large operating deficits steadily eroded the hospital's balance sheet, which became characterized by a dangerously low cash position, steadily increasing debt due to use of local lines of credit, and a negative fund balance. On-going equity transfers to a physician practice subsidiary also contributed to a violation of its debt service coverage test in fiscal 1997. An anticipated sale of the hospital did not occur as expected, causing the hospital to file for Chapter 11 bankruptcy protection and close the hospital. BRMC's assets were liquidated as part of the liquidation plan approved by the bankruptcy court. The proceeds of the sale of the hospital's tangible assets, including its hospital facility and property, was approximately $23 million and was used to pay secured creditors first, and then unsecured creditors including Series 1993 bondholders. The partial distribution to bondholders was reportedly made December 9, 2005. At the time of the liquidation, approximately $30 million of Series 1993 bonds were outstanding.

19) Greater Southeast Healthcare System, MD

- CUSIP: 741710A
- Default Date: May 1999
- Obligor: Greater Southeast Healthcare System
- Issuer: Prince George's County
- Defaulted Bonds: Revenue Bonds Series 1993; $46 million of debt affected
- Cause of Default: Decreasing Medicaid reimbursement, declining patient volume, and managerial problems resulting in system bankruptcy.
- Recovery: Less than 50% recovery (Source: Moody's reports).

In May 1999, Greater Southeast Healthcare System filed for bankruptcy protection and suspended payments on its approximately $46 million of outstanding Series 1993 bonds . Greater Southeast Healthcare System was a community based health delivery system that included two hospitals, three nursing homes, a physician care network, and extensive community based programs. The system's flagship, the 450 bed Greater Southeast Community Hospital, was located in the southeast quadrant of Washington D.C. with a much smaller 33-bed facility in Fort Washington, Prince George's

County. Prior to the bankruptcy, Greater Southeast Healthcare System was viewed as an essential service provider for a portion of Washington D.C. This service area, however, was characterized by an aging and declining population, below average socioeconomic indicators , and an increasing reliance on governmental payers.

The System's financial situation deteriorated significantly with changes in reimbursement from Medicaid, a legislative elimination of D.C. Medicaid Disproportionate Share payments, and new market forces, which together contributed to the declining patient volume and lower reimbursement rates. Management turnover and labor disputes further weakened the System's credit profile, leading to the May 1999 bankruptcy filing and suspension of debt service payments.

Given the local importance of the System, it was thought that the District of Columbia might provide some financial assistance post-filing, but this did not materialize. In November 1999, the sale of Greater Southeast Community Hospital to Doctors Community Healthcare Inc. for $22.5 million was approved. The sale enabled a partial recovery for bondholders, and the resulting distribution was reportedly made on December 10, 2001.

20) Tarrant County Housing Finance Corporation

» CUSIP: 876394D

» Default Date: November 15, 1999

» Obligor: Tarrant County Housing Finance Corporation

» Issuer: Tarrant County Housing Finance Corporation

» Defaulted Bonds: Home Mortgage Revenue Bonds, Series 1983A; $37.225 million of debt affected

» Cause of Default: Asset deterioration, mortgage insurer cancelled all policies.

» Recovery: Not available

The Tarrant County Housing Finance Corporation default resulted from deterioration in the underlying mortgages compounded by the cancellation of its mortgage guarantee and pool policies.

The Home Mortgage Revenue Bonds were issued to finance a pool of single family mortgage loans. Many of the mortgage loans were originally covered by primary mortgage insurance policies issued by Ticor Mortgage Insurance Company, which also issued the mortgage pool policy. Ticor began experiencing financial difficulties in early 1986 and in 1988 all mortgage guarantee policies issued by Ticor were cancelled. The pool suffered significant asset deterioration as a result of defaulted loans that were not covered by insurance, which led to a failure to make a required redemption payment to bondholders on November 15, 1999.

21) Marine Military Academy, TX

» CUSIP: 413007A

» Default Date: May 2000

» Obligor: Marine Military Academy

» Issuer: Harlingen Higher Education Facilities Corporation

» Defaulted Bonds: Revenue bonds Series 1995 and 1997; $10.4 million of debt affected

- Cause of Default: Civil lawsuits against the Academy
- Recovery: Full principal recovery; partial payment of interest accrued during bankruptcy (Source: Moody's reports).

In May 2000, Marine Military Academy declared bankruptcy and suspended payments on its $10.4 million of Series 1995 and 1997 debt issued through the Harlingen Higher Education Facilities Corporation, TX. The Academy had been the defendant in several civil lawsuits accusing the Academy of not adequately supervising cadets in connection with hazing incidents that occurred between 1993 and 1997. The potential liabilities of the Academy from the litigation exceeded its insurance coverage, and as a protective measure it filed for bankruptcy and suspended payments on its debt. In 2004, the Academy emerged from bankruptcy and resumed making debt service payments on outstanding bonds. The Academy separately negotiated with bondholders for the 1995 and 1997 bonds for settlement of obligations. While all principal payments were made for both series of bonds, bondholders did not receive the full value of interest accrued during bankruptcy.

22) Citizens' General Hospital, PA

- CUSIP: 961008G
- Default Date: First Quarter, 2001
- Obligor: Citizens' General Hospital (CGH)
- Issuer: Westmoreland County Industrial Development Authority
- Defaulted Bonds: Series 1998; $30 million of debt affected
- Cause of Default: Operating losses reflecting competition and scale.
- Recovery: Full repayment of principal and accrued interest (Source: Bloomberg).

Citizens' General Hospital was a small primary and secondary care facility located in New Kensington, Pennsylvania. Given to its small size and pressures stemming from the highly competitive Pittsburgh healthcare market, the hospital incurred several years of large operating losses. As a result of the hospital's poor performance, CGH shut down operations on November 4, 2001. In the beginning of 2001, a forbearance agreement was signed by CGH, requiring the hospital to transfer all available and future funds directly to the bond trustee for the benefit of bondholders. Subsequently, by August 2003, CGH bondholders were fully repaid all owed principal and accrued interest.

23) Genesee Hospital, NY

- CUSIP: 610755P
- Default Date: May 2001
- Obligor: Genesee Hospital
- Issuer: Monroe County Industrial Development Agency
- Defaulted Bonds: Series 1991A tax-exempt and Series 1991B taxable; $32.5 million of debt affected
- Cause of Default: Operating losses and overspending on capital.
- Recovery: Undisclosed; an October 2003 distribution of 6.71% of principal was reported but final distributions following the sale of the property in 2006 are unknown (Source; Bloomberg).

The May 2001 Genesee Hospital default followed a string of serious operating losses between 1998 and 2000 that ultimately caused it to be shut down by its parent, ViaHealth, in the second quarter of 2001. Although certain of Genesee's bank loans were guaranteed by ViaHealth, neither series of the 1991 bonds were guaranteed; Rochester General Hospital, another ViaHealth entity, was also not legally obligated on Genesee's debt. The Genesee Hospital company was legally dissolved and the project property was sold in April 2006 for redevelopment; certain unsecured creditors were paid in January 2007.

24) Metro Health Center, PA

» CUSIP: 295200N

» Default Date: July 01, 2002

» Obligor: Metro Health Center

» Issuer: Erie County Hospital Authority

» Defaulted Bonds: Series 1992; $9 million of debt affected

» Cause of Default: Low liquidity levels and unprofitable operations

» Recovery: Approximately 21% recovery (Source: Trustee notice to bondholders).

Metro Health Center was the smallest hospital in a highly competitive market, surrounded by two large tertiary hospitals and a similarly sized osteopathic hospital. With two large, viable hospitals in the vicinity, there was little need in the community for the services provided by Metro Health. Following a 17% decline in inpatient admissions and a 19% decline in revenues between 1998 and 2001, Metro Health began tapping its cash reserves to fund continuing operations. As a result of the hospital's low liquidity levels and unprofitable operations, Metro Health Center declared bankruptcy on July 1, 2002 and defaulted on its Series 1992 bonds. It finally closed its doors effective July 1, 2003.

The bankruptcy trustee allowed Metro Health to attempt to reorganize and operate as a debtor in possession in bankruptcy, rather than immediately seeking its liquidation. On June 6, 2005, the bondholders of the defaulted Series 1992 bonds received approximately $910 of principal and interest for every $5,000 bond (representing about 18% recovery.) On September 15, 2005, after liquidation of the hospital's collateral, the bond trustee declared a final payment to bondholders of $110.67 for each $5000 bond.

Interest payments of $17.67 and $17.98 were made for each $5000 bond with maturities of 2012 and 2022, respectively. As the result of that liquidation payment, bondholder's total principal and accrued interest recovery rate was approximately 21%.

25) Yorkshire Development Project, NE

» CUSIP: 639673HU9

» Default Date: October 1, 2002

» Obligor: Nebraska Investment Finance Authority (Yorkshire Development LTD)

» Issuer: Nebraska Investment Finance Authority

» Defaulted Bonds: Multi-Family Housing Revenue Bonds, Series 1993; $1,500,000 of debt affected

- Cause of Default: Poor property management and upkeep that led to a loss of Section 8 subsidies for many units.
- Recovery: Bondholders recovered 100% of principal (Source: Bloomberg).

The Series 1993 Multi-Family Housing Revenue Bonds issued through the Nebraska Investment Finance Authority financed the acquisition and rehabilitation of 63 housing units in Omaha, Nebraska, which were subsidized by Section 8 Housing Assistance Payments from HUD.

By 1998, many units in the project had fallen into disrepair, and 20 of the units failed to meet the local housing authority's physical inspection standards rendering them ineligible to receive the Section 8 subsidy. The unwillingness and inability of the property owners to repair the debilitated housing units led to the project's further financial deterioration, and an outright payment default on the $140,000 of principal and $15,618.75 of interest due on October 1, 2002. The project was sold relatively quickly thereafter, on May 2, 2003, and in the final distribution bondholders recovered 100% of principal.

26) St. Francis Medical Center, PA

- CUSIP: 04232L, 01728AP
- Default Date: November 2002
- Obligor: St. Francis Medical Center
- Issuer: Allegheny County Hospital Development Authority, PA
- Defaulted Bonds: $50 million of AMBAC-insured Series 1992 bonds; $29 million of uninsured Series 1997 bonds. St. Francis Medical Center also acted as a guarantor to St. Francis Hospital of New Castle (which defaulted on $15 million of its Series 1992 bonds) and St. Francis Health Care Services (defaulted on approximately $3 million of its Series 1993 bonds)
- Cause of Default: Operating losses and market competition.
- Recovery: With the exception of the Series 1992 St. Francis Medical Center bonds, which were insured by Ambac and paid in full, the final recovery for the bondholders was less than 100%. (Source: Moody's reports).

St. Francis Medical Center’s November 2002 default resulted from its inability to compete in a challenging Pittsburgh market, which produced several years of increasing operating losses and a growing dependence on investment income to offset operating deficits. Prompted by a steady decline in the system's cash position, in August 2002, St. Francis Medical Center entered into an asset purchase agreement with regional organizations to sell off portions of the system.

The default directly affected approximately $50 million of insured Series 1992 bonds and approximately $29 million of uninsured Series 1997 bonds. However, St. Francis Medical Center had also acted as a guarantor to St. Francis Hospital of New Castle, which defaulted on $15 million of its Series 1992 bonds, as well as St. Francis Health Care Services, which defaulted on approximately $3 million of its Series 1993 bonds. A partial distribution of principal and accrued interest of approximately $2,447.03 per $5000 bond was paid to bondholders on November 17, 2003. A settlement with creditors was reached in December 2003 and a final distribution of settlement proceeds was made in January of 2004. With the exception of the Series 1992 St. Francis Medical Center bonds, which were insured by Ambac and paid in full, the final recovery for the bondholders was less than 100%.

27) Meadows/ Phoenix Project, IN

- CUSIP: 455261Q
- Default Date: July 1, 2003
- Obligor: Phoenix
- Issuer: Indianapolis Economic Development Authority
- Defaulted Bonds: City of Indianapolis Economic Development Revenue, Series 1993A; $3,600,000 of debt affected
- Cause of Default: Low occupancy due to location and crime-related history.
- Recovery: 4% for Series 1993A, maturing 7/1/2004, 4% for Series 1993A, maturing 7/1/2009, 4% for Series 1993A, maturing 7/1/2014, and 5% for Series 1993A, maturing 7/1/2023 (Source: Bloomberg).

The Indianapolis Economic Development Authority bonds were issued to fund construction of The Meadows, a 330-unit Section 8 assisted apartment project that was later renamed the Phoenix Project.

The financial difficulties that ultimately led to the project's default primarily derived from its location in an economically depressed, high-crime section of Indianapolis. In 1997, a few years after project completion, several murders occurred on the property, which caused the occupancy rate to fall to 75%; occupancy fluctuated between 70% and 85% in subsequent years. High tenant turnover and significant capital improvement expenses added to financial difficulties. The Debt Service Reserve Fund was depleted by the time of the July 2003 debt service date; the property entered into monetary default under the mortgage documents and without sufficient funds to cover debt expenses, the bonds defaulted on July 1, 2003. On November 30, 2005, distributions were made on Series 1993A bonds of varying dates of maturity. The average rate of recovery on the bonds was 4.37%.

28) Lakeview Apartments, TX

- CUSIP: 89438NA
- Default Date: July 1, 2003 (Series 2001C and Series 2001D); July 1, 2005 (Series 2001A)
- Obligor: Lakeview Apartments
- Issuer: Travis County Housing Finance Corporation
- Defaulted Bonds: Travis County Housing Finance Corporation Multifamily Housing Revenue Bonds, Senior Series 2001A, Junior Series 2001C and Subordinate Series 2001D; $27,690,000 of debt affected
- Cause of Default: Adverse rental market conditions.
- Recovery: Senior bondholders recovered 8.83%; Junior bondholders recovered 3.8%; Subordinate bondholders recovered less than 2%. (Source: Trustee notice to bondholders)

The Travis County Housing Finance Corporation bonds were sold in December 2001 to finance the acquisition and rehabilitation of the Lakeview Apartments, a 504-unit project in Austin, Texas. Initial project revenues were strong, reflecting sufficient market demand, the presence of an experienced management team, and the good physical condition of the apartments. However, as early as July 2002 revenues began to falter, as a downturn in the Austin economy and a softening in demand for multifamily affordable housing caused a significant decrease in occupancy. Revenues became insufficient to cover the full debt service payments, and the debt service reserve fund for each series was tapped. By July 2003, the debt service reserve funds for Series 2001C and Series 2001D were insufficient to cover the full payment due to bondholders, leading to a default for these Series on the July 1, 2003 payment date. Persistent financial deterioration then caused a Series 2001A default on January 1, 2005. On June 7, 2005, the final distribution to bondholders provided a recovery of 8% for Senior Series 2001A, 3% for Junior Series 2001C, and less than 1% for Subordinate Series 2000D.

29) Cicero Local Development Corporation, NY

» CUSIP: 171731A

» Default Date: November, 2003

» Obligor: Cicero Local Development Corporation (CLDC)

» Issuer: CLDC (pledged by the Town of Cicero)

» Defaulted Bonds: Revenue Annual Lease Appropriation bonds, Series 2001A; $15.3 million of debt affected

» Cause of Default: Over-optimistic development projections, followed by failures to honor obligations under a lease.

» Recovery: Approximately 10.3% of par (Source: Bloomberg).

The Cicero Local Development Corporation (CLDC) default was caused not only by poor project performance and revenue shortfall, but also because the Town of Cicero failed to honor its lease obligation to cure the resulting debt service deficiency. Cicero subsequently cured the deficiency, but the Town then failed to include an appropriation for the lease in its 2004 budget, leading to a second default.

The CLDC undertook the financing for two ice rinks, a recreational center, and associated residential and commercial developments with the support of the Town of Cicero through its obligations under the Series 2001 Lease Appropriation Bonds. Although the construction was completed as anticipated, CLDC did not realize any revenues from the project because estimates of utilization proved to be overly optimistic. As the result of the project’s poor operating performance, CLDC's reserve fund was initially tapped for the November 2002 debt service payment and then fully depleted following the May 2003 payment. CLDC then entered into discussions with a developer for a land sale, which was expected to close prior to the next debt service payment on November 1, 2003. As reported by the issuer's counsel, the proposed sale fell through on October 27, leaving a debt service funding shortfall. Although the Town of Cicero had a legal obligation under the lease to cure the $244,000 deficiency in the bond fund, it failed to do so, causing a missed payment to bondholders on November 1, 2003. The Town of Cicero subsequently fulfilled its obligation under the lease and cured the November 1 debt service deficiency, but then failed to include the appropriation for the lease in its 2004 budget. Consequently, no funds were available to meet the debt service payment due in May 2004, inducing CLDC's second default. On October 28, 2005 the Trustee commenced a foreclosure sale on the mortgages securing the obligations, generating approximately $2,000,000. Ultimately, the bondholders recovered $1.57 million of the $15.3 million par outstanding, or approximately 10.3%.

30) Fair Oaks Apartments, TX

- CUSIP: 876394N
- Default Date: January 1, 2004
- Obligor: Tarrant County HFC-Fair Oaks Apts. TX
- Issuer: Tarrant County Housing Finance Corporation
- Defaulted Bonds: Tarrant County Housing Finance Corporation Multifamily Housing Revenue Bonds (Fair Oaks Apartment Project) Senior Series 2000A and 2000B, Junior Series 2000C and Junior Subordinate Series 2000D; $8,785,000 of debt affected
- Cause of Default: Adverse rental market conditions.
- Recovery: Senior Series bondholders recovered 70.32%; Junior Series bondholders recovered 1.69%; Junior Subordinate Series bondholders recovered 1.31%. (Source: Bloomberg).

The Maple Avenue Economic Development Corporation (MAEDC) issued bonds through the Tarrant County Housing Finance Corporation to finance the Fair Oaks Apartment Project, which was an affordable housing project located in Euless, Texas. As early as December 2002, the financial health of Fair Oaks had deteriorated because of adverse rental market pressures and low rent revenues. New luxury apartment units became available in the Tarrant County submarket, and offered amenity packages and move-in specials that forced Fair Oaks to make deep pricing concessions in attempt to maintain occupancy. Although the occupancy rate stabilized at approximately 90%, the project's rental revenue was insufficient to cover both the maintenance and debt service expenses of the property. By January 2004 and after multiple taps on debt service reserve funds, no funds were available to pay the full interest due to bondholders. On December 19, 2005, the final distribution was made by the Tarrant County Housing Finance Corporation using proceeds from the foreclosure sale. Bondholders of Senior Series 2000 A and 2000 B recovered 70% on principal, Series 2000 C recovered 2% and Series 2000 D recovered 1%.

31) Mercy Hospital and Medical Center, IL

- CUSIP: 45200
- Default Date: January 2, 2004
- Obligor: Mercy Hospital and Medical Center
- Issuer: Illinois Health Facilities Authority
- Defaulted Bonds: Series 1992 and 1996; $63 million of debt affected
- Cause of Default: Weak cash management and trustee error.
- Recovery: Default cured in full on Feb 17, 2004 (Source: Trustee notices to bondholders).

The Mercy Hospital and Medical Center default had its origins in declining liquidity and operating performance, which had begin in 2000. In addition, management turnover was high, hindering administrative focus and consistency that may have contributed to the default, which was clearly avoidable.

At year-end 2003, Mercy Hospital had transferred $2.1 million of the approximate $6 million in its debt service reserve fund into the Bond Fund to pay for the upcoming interest due on January 2, 2004. While Mercy had expected the bond trustee to tap the debt service reserve fund to make the $3,505,000 principal payment to bondholders, the trustee had the option to not do so, and in fact, did not tap the reserve, resulting in a payment default. Moody's estimates that Mercy had approximately $15 million of unrestricted cash on hand as of January 2, 2004, more than sufficient to have transferred an amount to the trustee adequate to fully pay principal due, thereby avoiding default. Shortly after the January default, Mercy transferred $5,303,005 to the trustee derived from the sale of two building properties. On February 17, 2004, the trustee made the full payment of principal ($3,505,000) and accrued interest ($29,989.44) owed to bondholders, curing the January 2, 2004 default. In April 2005, Mercy retired all of its outstanding rated debt with proceeds derived from bank loans and asset sales.

32-34) National Benevolent Association (NBA), MO

» CUSIP: Multiple

» Default Date: February 16, 2004

» Obligor: National Benevolent Association

» Issuer: Multiple

» Defaulted Bonds: Debt of National Benevolent Association and 25 affiliates; approximately $153 million of debt affected

» Cause of Default: Unsuccessful operations and losses in aggressive investment portfolio.

» Recovery: 100% recovery of interest and principal paid in April 2005 (Source: Trustee notice to bondholders).

On February 16, 2004, senior living sponsor National Benevolent Association (NBA), and 25 of its affiliates voluntarily filed to seek bankruptcy protection under Chapter 11 of the Bankruptcy Code, marking what was then one of the largest non-for-profit enterprises to file for Chapter 11. At the time of bankruptcy filing, NBA had approximately $153 million of Moody's rated debt outstanding issued primarily to finance NBA's expansion of its senior care facilities. Unprofitable operations of its senior living facilities coupled with losses incurred due to a stock market decline, forced NBA to file for bankruptcy protection.

Pursuant to the Chapter 11 re-organization plans, NBA sold some of its senior living facilities and other assets to pay off its creditors. Payment from the sale proceeds covered 100% of outstanding principal, 100% of accrued interest through the February 16, 2004 bankruptcy filing, and interest payments at rates ranging from 2.17% to 2.4% for the period from February 16, 2004 to April 18, 2005.

35) Magnolia Park Apartments, GA

» CUSIP: 184160H

» Default Date: May 2004

» Obligor: Magnolia Apartments

» Issuer: Clayton County Housing Authority

» Defaulted Bonds: Multifamily Housing Revenue Bonds, Series 1999A; $10,100,000 of debt affected.

» Cause of Default: Adverse rental market conditions, insufficient proceeds from foreclosure sale to cover outstanding principal and interest

» Recovery: Approximately 67% of principal and interest on senior series 1999A; 0% subordinate 1999 Series C bondholders. (Source: Moody's issuer report dated May 19, 2004).

Clayton County Housing Authority's Series 1999A bonds were secured by the revenue from the Magnolia Park Apartments, a 328-unit project located 12 miles south of Atlanta. The project had been built in 1972, for low to moderate income tenants, and for most of its history enjoyed a high occupancy rate given a stable local rental market and economy. However, Magnolia Park's occupancy rate fell sharply to 73% by December 2002 after an economic downturn. Rent concessions, bad debt expenses and unbudgeted legal fees further reduced the project's revenue, and the trustee began tapping the debt service reserve fund to make the required bond payments due in July 2003 and December 2003. The project was foreclosed upon in May 2004, prior to the scheduled July 2004 debt service payment, but it sold for less than the outstanding principal and interest due to bondholders, thus producing the default. Bondholders ultimately recovered approximately 67% of outstanding principal and interest from the sale of the Magnolia Park property.

36) Westridge Apartments, TX

» CUSIP: 876394P

» Default Date: June 1, 2004 (Subordinate Series 2001C); June 1, 2005 (Series 2001A, 2001B)

» Obligor: Westridge Apartments

» Issuer: Tarrant County Housing Finance Corporation

» Defaulted Bonds: Tarrant County Housing Finance Corporation, Texas, Housing Revenue Bonds (Westridge Apartments Project) Senior Series 2001A and 2001B, Subordinate Series 2001C; $5,600,000 of debt affected.

» Cause of Default: Adverse rental market conditions.

» Recovery: Overall rated bondholders received 60%, 55% if unrated junior bondholders included. (Source: Moody's Investor Services)

The default on the Series 2001 bonds secured by the Westridge Apartments project in Fort Worth was due to adverse rental market pressures and low rental revenue. Although Westridge had maintained an occupancy rate near 90%, this was the result of deep concessions, including "move-inspecials" and other incentives that decreased rental revenue. Concurrently, the project's utility expenses increased dramatically which reduced operating income to levels insufficient to afford the capital repairs necessary across many apartment units. Monetary default occurred when Series 2001 C interest payments were not made on June 1, 2004. Series 2001 A and 2001 B defaulted one year later after continued financial difficulties.

On May 1, 2007, the Trustee conducted the Foreclosure Sale and sold the Westridge Apartments Project to the highest bidder for $3,400,000.

37) Fort Worth Osteopathic Hospital, TX

- CUSIP: 875906
- Default Date: August, 2004
- Obligor: Fort Worth Osteopathic Hospital
- Issuer: Tarrant County Health Facilities Development Corporation
- Defaulted Bonds: MBIA insured Series 1993, Series 1996 and Series 1997 bonds totaling $79.7 million; $7.1 million of Series 1993 bonds were uninsured
- Cause of Default: Operating losses.
- Recovery: Uninsured bondholders recovered 21% of principal and interest (Source: Moody's files).

Fort Worth Osteopathic Hospital had begun experiencing severe financial difficulties since the late 1990's because of low healthcare reimbursement rates and its small size compared to nearby competitor hospital systems. Facing insufficient operating funds, the hospital sought to partner with these other larger and more established systems. However, potential merger negotiations failed, forcing the hospital to close its doors on October 10, 2004.

The hospital's main campus and ancillary facilities were sold at auction in February 2005 for $7 million, well under its assessed value of over $38 million. As the result of the proceeds collected from post-default liquidation, holders of the uninsured Series 1993 bonds recovered approximately 21% of the principal and interest due.

38) Bay Club at Mesa Cove Project, AZ

- CUSIP: 566823Q
- Default Date: September 1, 2004
- Obligor: Bay Club at Mesa Cove
- Issuer: County of Maricopa Industrial Development Authority
- Defaulted Bonds: Maricopa County Industrial Development Authority Multifamily Housing Revenue Bonds (Bay Club at Mesa Project) Subordinate Series 2000B; $2,200,000 of debt affected
- Cause of Default: Adverse rental market conditions, maintenance problems.
- Recovery: 35% for Series 2000B (Source: Bloomberg)

The 472-unit Bay Club at Mesa was an affordable housing project located in the Maricopa County rental market, which was competitive for this type of housing. Bay Club achieved high occupancy rates, but only through rental discounts and other concessions. As a result, rental revenue was insufficient to cover the capital expenditures needed to repair mold, piping leaks and other maintenance problems; lacking necessary repairs, many apartments were taken off the rental market, worsening the revenue situation. Lack of income finally led the trustee to make debt service payments from the Series 2000 B Debt Service Reserve Fund, and ultimately led to default on the Series 2000 B bonds on September 1, 2004. On November 25, 2005, the trustee made final distributions to bondholders following the sale of the property. Series 2000B bondholders recovered 35.47% of principal.

The Series 2000 A bonds were insured by MBIA, and had defaulted September 1, 2005; the Series 2000 C bonds were unrated by Moody's.

39) Riverbend Apartments, FL

» CUSIP: 14052TA

» Default Date: September 15, 2004

» Obligor: Riverbend Apartments

» Issuer: Capital Trust Agency

» Defaulted Bonds: Multifamily Housing Revenue Bonds Senior Series 2002A, Taxable Series 2002B, Junior Series 2002C and Junior Subordinate Series 2002D; $14,600,000 of debt affected

» Cause of Default: Adverse rental market conditions and poor management.

» Recovery: 99.7%. The Majority Senior Bondholder purchased nearly all of the senior bonds as well as all of the junior bonds and subordinate junior bonds. The Majority Senior bondholder took possession of the project in lieu of payment. The remaining Senior bondholders (approximately 5% of total bondholders) who did not sell their loans to the Majority Senior Bondholder received 94% recovery. (Source: Trustee notice to bondholders)

The Series 2002 A- Capital Trust Agency bonds were issued to finance the acquisition and rehabilitation of the 296-unit Riverbend Apartments affordable housing complex in Tampa. Between March and May 2004, the occupancy rate declined from 88% to 81%, primarily due to poor rental market conditions and inadequate management. The project was not generating sufficient revenues to pay for routine maintenance, and many apartments were taken offline due to the need for substantial repairs; the increasing deferred maintenance expenses sharply amplified the financial difficulties caused by the decline in the occupancy rate. By August 2004, Wellington—Tampa had stopped forwarding project revenues to service its debt, and on September 15 filed for Chapter 11 bankruptcy protection.

After the default on the bonds, the majority senior bondholder purchased nearly all of the senior bonds as well as all of the junior bonds and subordinate junior bonds. The majority senior bondholder took possession of the project in lieu of payment, which we classify as a 100% recovery. The remaining senior bondholders (approximately 5% of total bondholders) who did not sell their loans to the majority senior bondholder received 94% recovery. The combined recovery was 99.7%, and the final resolution date was December 21, 2005.

40) Crossroads Apartments, TX

» CUSIP: 876394Q

» Default Date: December 31, 2004

» Obligor: Crossroads Apartments

» Issuer: Tarrant County Housing Finance Corporation

» Defaulted Bonds: Multifamily Housing Revenue Bonds, Senior Series A $13,300,000 of debt affected; Subordinate Series 2001C, $1,500,000 of debt affected

» Cause of Default: Adverse rental market conditions, unexpected rise in costs

» Recovery: 0% recovery for Subordinate C bondholders (Source: http://emma.msrb.org/EP530403-EP413962-EP811373.pdf)

The Series 2001 bonds were issued to finance the acquisition and improvement of Crossroads Apartments, a 292-unit multifamily rental property located in Fort Worth. The Senior Series 2001 A was insured by MBIA .

By July 2003, the project had begun to experience financial difficulties. The local affordable housing market had weakened, primarily due to competition from luxury housing complexes and low interest rates that encouraged prospective tenants to buy instead of rent, and the project's utilities cost also rose unexpectedly. By June 2004, project revenues were insufficient to meet debt service requirements, and the trustee tapped and nearly depleted the subordinate debt service reserve fund to make the scheduled debt service payment. The reserve fund was insufficient to make the full principal and interest payments due to subordinate bondholders on December 31, 2004, whereupon the Subordinate Series 2001 C bonds defaulted.

On April 6, 2011, the trustee posted Crossroads Apartment for sale by foreclosure. The project was sold and final distributions were made to the holders of the Senior Bonds from the foreclosure sale proceeds and funds drawn from the MBIA bond insurance policy. There was no distribution to Subordinate Series 2001 C bondholders, who experienced 0% recovery.

41) Legacy at Anderson Project, SC

» CUSIP: 837036

» Default Date: February 1, 2005

» Obligor: Legacy at Anderson

» Issuer: South Carolina Jobs-Economic Development Authority

» Defaulted Bonds: South Carolina Jobs Economic Development Authority Multifamily Housing Revenue Bonds, Series 2002A and Series 2002B; $8,950,000 of debt affected

» Cause of Default: Unanticipated withdrawal of USDA Section 538 loan guaranty and decision by bond trustee not to use the Debt Service Reserve Fund to cover shortfalls.

» Recovery: Initial Distribution on October 6, 2006: Series 2002A 86%—89%; Series 2002B: 89% (Source: Trustee notice to bondholders).

The bonds were issued to finance the acquisition and construction of a 102-unit senior housing facility in Anderson County, South Carolina. The security for the bonds was primarily provided by a mortgage loan guaranty from the United States Department of Agriculture Rural Development under its Section 538 Program, which provided for both the construction loan and the permanent loan. However, the USDA found that the project did not meet the necessary conditions to secure the permanent loan; the USDA's, interpretation of the regulations was that the permanent loan was not in force and could not be drawn upon to cover shortfalls in the project's mortgage. While the lender challenged the USDA's interpretation of Section 538, the trustee decided that all monies—including those in the debt service reserve funds—would be retained to serve what in the trustee's perception was the best long-term interest of the bondholders. As a result, the February 1, 2005 debt service was not made. The property was subsequently sold, and on October 6, 2006, the trustee made a distribution of $8,000,000 to bondholders using proceeds from the sale. The distribution provided Series 2002A bondholders with recovery rates ranging from 85.8% to 89.3% of principal and interest outstanding. Series 2002B bondholders recovered 88.8% of principal and interest outstanding.

42) Park at Wells Branch Apartments, TX

- CUSIP: 894386HK0
- Default Date: June 1, 2005
- Obligor: Park at Wells Branch Apartments
- Issuer: Travis County Housing Finance Corporation
- Defaulted Bonds: Multifamily Housing Revenue Bonds Junior Series 2002C; $1.33 million of debt affected
- Cause of Default: Weakening of rental market.
- Recovery: Pending.

The Park at Wells Branch is a 304-unit apartment complex comprising of 18 separate buildings located in the north Austin metropolitan area in Travis County, Texas. The property had begun experiencing financial difficulties in 2003 with a softening of the local rental market; from 2000 to 2003, Austin experienced an oversupply of new multifamily developments, with completions outpacing net absorption. The Park's occupancy rates fell during that time to a low of 80%, at which point the property offered substantial concessions to tenants. By the end of 2007 the occupancy levels had returned to 97% but the reduction in rental revenues caused the property's financial performance to deteriorate. Insufficient revenues forced the project to tap the debt reserve fund to service the Junior Series 2002C debt in 2004, and the project defaulted on the debt service payments due June 1, 2005.

After this initial event of default, bondholders were paid in August, but the subsequent interest payment due in December 2005 was not made until June of 2007. Debt service payments on the Junior Series remain sporadic and are either late or missed entirely. Senior debt, however, continues to be paid, with a fully funded debt reserve fund.

The Senior Series 2002A bonds are insured by National Public Finance Guarantee (formerly MBIA). CHC, the owner of the property, has contributed substantial amounts to the property to fund working capital and debt service requirements, and has been making such contributions since 2003. However, recent fund balances provided to Moody's by the Trustee show that the Series 2002 C junior debt service reserve fund has been depleted.

43) Ashton Place and Woodstock Apartments, TX

- CUSIP: 88271FA
- Default Date: August 1, 2005
- Obligor: Ashton Place & Woodstock Apartments Project
- Issuer: Texas State Affordable Housing Corp.
- Defaulted Bonds: $8.66 million of Senior Series 2001 A, $1.02 million of Subordinate Series 2001 Series C, and $1.02 million of junior Series 2001 D; $10.7 million of total debt outstanding prior to distribution to bondholders on June 25, 2009
- Cause of Default: Low occupancy rates, rehabilitation work, poor financial performance
- Recovery: Estimated by Moody's at 85.5% for senior bonds, under 2% for subordinate bonds and 0% for junior bonds based the results of foreclosure and final distribution reports. (Source: September 2009 Moody's report).

The bonds are secured by two cross-collateralized projects, Woodstock Apartments and Ashton Place Apartments, located in Fort Worth and Galveston, respectively. The financial performance of both apartment complexes in this transaction had been poor preceding the default, with low occupancy rates in particular at the Woodstock Apartments. The high vacancies pushed management to reduce rental rates in an effort to become more competitive with other projects in the area, but this only strained revenues further ultimately triggering the default in 2004 the reserve accounts were depleted .

The two projects securing the bonds were sold in September 2008 at foreclosure sale for $2,500,000 and $1,000,000, respectively. The Trustee also received insurance proceeds related to damage at the Ashton Place Apartments of $4,367,325 and $54,143 in refunds of unearned insurance premiums. In the Revised Notice of Final Distributions, the Trustee reported a final distribution of $816,774 attributable to the principal balance for the Series A bonds, and $16,551 attributable to the principal balance for the Series C bonds. In December 2008 and March 2009, the Trustee made two distributions to the Series A bondholders totaling approximately $6,589,318 of outstanding principal.

Moody's estimates the following recovery on the outstanding principal balances: approximately 85.5% for the Series A bondholders, less than two percent recovery for the Series C bondholders, and no recovery for the Series D bondholders.

44 & 45) River Falls Project, CO

- CUSIP: 051558A
- Default Date: January 1, 2006
- Obligor: River Falls Project (Senior Series A, Subordinate Series C)
- Issuer: Aurora Housing Authority
- Defaulted Bonds: Senior Series 1999A, $17.1 million of debt affected; Subordinate Series 1999C, $2.045 million of debt affected
- Cause of Default: Slowdown in market for rental properties compounded by trustee decision to retain reserve funds.
- Recovery: Project sold, all bonds redeemed at 100% plus interest in May 2007.

On January 1, 2006, the River Falls Project went into default following a trustee decision to retain reserve funds preventing full debt service payments on the Subordinate Series 1999 C bonds. The project was performing poorly, however. The Senior Series 1999 A bonds subsequently went into default as well before the May 2007 redemption following sale of the property.

The River Falls Project was a 511-unit apartment complex east of downtown Denver housing both low income and market rate tenants. The project exhibited weakening debt service coverage from declining total revenues and increased operating expenses between 2005 and 2006. Despite having sufficient coverage in the debt reserve fund to make the January 1, 2006 payment, the trustee elected not to tap the reserve fund for payment to bondholders, instead choosing to preserve these monies to cover costs and expenses associated with an anticipated inevitable default. On April 17, 2006 the trustee made a partial payment to bondholders, utilizing the revenues received from the borrower and investment income received after the January 1 payment was due. On July 1, 2006 the Project again defaulted on the Subordinate Series C bond debt service payments; in addition, it appears that the debt service reserve fund was tapped to pay interest on the Senior Series A bonds, while the mandatory sinking fund payment for the Senior bonds was deferred. No principal was due bondholders for either series before 2009 for the Senior Series A and 2029 for the Subordinate Series C, but both series were subject to semiannual mandatory sinking fund redemptions. By the spring of 2007, before the sale of the Project, the Senior Series A bonds were in default as to interest.

Negotiations commenced for the sale of the project in fall 2006. Upon completion of the sale in May 2007 all Series of outstanding bonds were redeemed at 100% plus accrued interest.

46) Legacy at Lehigh Project, FL

- CUSIP: 52349K
- Default Date: June 1, 2006
- Obligor: Lee County Industrial Development Authority
- Issuer: Lee County Industrial Development Authority
- Defaulted Bonds: Mortgage Revenue Bonds, Senior Series 2003A and Taxable Senior Bonds Series 2003B: $8.12 million of debt affected
- Cause of Default: Inability to meet occupancy goals, and effective withdrawal of loan guaranty.
- Recovery: 100% recovery of principal and accrued interest.

The Legacy at Lehigh project is another example of a default that was associated with an unfulfilled USDA guarantee.

The Legacy multifamily housing project was financed through a United States Department of Agriculture program that guaranteed both the construction loan and the permanent financing, though the latter would not take effect until the project achieved 90% occupancy for 90 days. Indeed, after successful completion of 24 month construction phase, the Legacy project was able to achieve no better than an 88% occupancy. The project consequently operated at a loss and began tapping the debt reserve fund to make the June 1, 2005 debt service payment, drawing it down to 28% of the required reserve amount. Without the loan guarantee, and after continuing to operate at a loss and with nearly fully depleted debt reserve funds, the project made only a partial interest payment on June 1, 2006.

The project was subsequently sold through foreclosure in Lee County Florida to Canyon Creek. The trustee distributed the proceeds to all of the Senior Bondholders and Series 2003A and 2003B bondholders received 100% of their principal as well as accrued interest.

47) Cameron Crossing Project I and II, SC

- CUSIP: 396081A
- Default Date: June 1, 2006
- Obligor: Greenville Housing Finance LLC
- Issuer: Greenville Housing Finance LLC
- Defaulted Bonds: Taxable Mortgage Backed Revenue Bonds, Series 2003A; $14.36 million of debt affected
- Cause of Default: Inability to meet occupancy goals, and effective withdrawal of loan guaranty.
- Recovery: 85% of principal for senior bondholders, 0% recovery for subordinate bondholders.

The Cameron Crossing Project is a third example of a housing development that defaulted when its USDA loan guarantee went unfulfilled because of an inability to meet occupancy thresholds.

The Series 2003 bonds were issued to finance the acquisition and construction of the Cameron Crossing I and II projects, respectively 134-unit and 64-unit components of a multifamily rental housing community located in Greenville County, South Carolina. The bonds were issued with a Section 538 guarantee by the United States Department of Agriculture in the form of a combined construction and permanent loan guarantee. The permanent guarantee was conditioned upon achieving 90% occupancy for at least 90 consecutive days post-construction, or alternatively if an escrow had been established within specified terms. The project construction phase was completed successfully but Cameron Crossing was unable to reach the 90% occupancy level (24% as of June 2005, 75% as of June 2006) required for the USDA guarantee. The project operated at a loss, and began drawing down on the debt service reserve fund to pay interest and principal payments through 2005. By 2006 only 10% of the required reserve amount remained. Without the guarantee, no debt service payment was made on June 1, 2006, thereby triggering the default. The project was sold through foreclosure on November 6, 2006 to the lender, Allied Mortgage Capital Corporation. The lender and the trustee transferred title and the remaining trust funds to the Senior bondholders who, in exchange, tendered $12 million in Series 2003A bonds to the trustee for cancellation. This amount represented 85% of outstanding principal on the Senior bonds. No funds were available to pay the Subordinate Bondholders of the Series 2003 B and Series 2003 C.

48) Canterbury/3 Fountains/River Falls/Puckett Place, TX

» CUSIP: 698487A

» Default Date: September 1, 2006

» Obligor: Canterbury/3Fountains/RiverFalls/PuckettPl

» Issuer: Panhandle Regional Housing Finance Corporation

» Defaulted Bonds: Multi-Family Housing Revenue Bonds; $24.16 million of debt affected

» Cause of Default: Softening rental market and increased competition resulting in a decline in occupancy and net income.

» Recovery: Pending, ongoing bankruptcy proceedings.

The Series 2000 bonds were largely secured by revenue from four multi-family rental properties located in Amarillo Texas: Canterbury, Three Fountains, River Falls, and Puckett Place Apartments. A softening in the rental market combined with increased competition from neighboring developments offering superior amenities caused a decline in occupancy at all four apartment complexes. In order to remain competitive, the project reduced rents and increased concessions, which resulted in net income substantially lower than had been forecast. The March 1, 2006 debt payment could only be made with the help of the debt service reserve fund, which dropped the 2006 debt service coverage ratio down to 0.64x, compared to 1.26x in 2005. The reserve fund balance was insufficient to fully cover the September 1 debt service payments, causing a default.

Since the event of default, the projects have generated sporadic interest payments, but no principal payment since March 1, 2006. In 2007 the trustee halted use of reserves to pay debt service in order to apply funds to conserve and maintain the projects.

The owner, American Housing Foundation, made contributions to the property in 2008 to bring the interest payments current, but following that the payment defaults continued. As of March 2010, the trustee indicated that they were using the remaining debt service reserves to pay the management fees and workout expenses, and make capital improvements. The owner remains in bankruptcy proceedings pending recovery of the local market.

49) Forum Health, OH

- CUSIP: 560060
- Default Date: September 2006 (forbearance agreement)
- Obligor: Forum Health
- Issuer: Mahoning County
- Defaulted Bonds: Revenue Bonds series 2002A; $24.16 million of debt affected
- Cause of Default: Operating losses from competition and economic weakness.
- Recovery: Redeemed at full principal amount plus accrued interest (Source: Moody's reports).

Forum Health triggered a technical default on its revenue bonds when it filed for bankruptcy protection on March 16, 2009, though default can be deemed to have occurred as early as September 2006, when the first of several forbearance agreements with creditors was signed.

The bankruptcy climaxed a multi-year struggle with cost controls, labor negotiations with a heavily (75%) unionized workforce, and declines in admissions and outpatient procedures that reflected competition from non-unionized hospitals as well as declining population and wealth in its Youngstown service area. Although Forum did not miss a debt service payment while in bankruptcy, it had negotiated a series of forbearance agreements with its banks and bond insurer from late 2006. While these agreements likely helped to postpone bankruptcy, they also hindered operating flexibility by requiring the transfer of more cash to reserves. The multiple forbearance agreements eventually coalesced into a single master agreement; in the days preceding the bankruptcy filing, when Forum's unrestricted liquidity had dwindled to 17 days cash on hand, there was approximately triple this amount in the master forbearance agreement debt reserves.

On June 3, 2011, Moody's withdrew the Ca bond ratings for Forum Health. The rating withdrawal follows the purchase of Forum Health by Community Health Systems and the redemption of the bonds. The bonds were redeemed at the full principal amount plus accrued interest.

50) Jefferson Commons at the Ballpark, TX

- CUSIP: 882793
- Default Date: January 1, 2007.
- Obligor: Jefferson Commons at the Ballpark
- Issuer: Texas Student Housing Authority
- Defaulted Bonds: Student Housing Revenue Bonds Senior Series 2001A, Junior Series 2001B; $31.9 million of debt affected
- Cause of Default: Decrease in rents due to competition.
- Recovery: Unknown at this time. Final losses have not been established as project is still active and has not entered into foreclosure proceedings.

The Series 2001 bonds are secured by and were issued to purchase a newly built 282-unit/768-bed student housing rental property located in Austin, Texas. The senior bonds were insured through a policy provided by National Public Finance Guaranty (formerly MBIA Corp.). The property houses mostly freshman and sophomore students who attend the University of Texas at Austin, but is otherwise legally and financially unaffiliated with the University. The project's occupancy rate was 97% at the time of purchase, but this fell to 79% in 2003 as a result of a softening of the submarket in Austin. This softening led to rent decreases and concessions in order to stay competitive with new student housing offerings and conventional rental properties in the submarket. With revenues and cash levels now substantially lower than at the time of underwriting, the junior debt service reserve fund was tapped on July 1, 2005 to make payments for the Junior Series. The project continued to utilize reserve funds to pay Junior Series debt service until the junior reserves were depleted, and on January 1, 2007, the project defaulted on the interest payment due. The project began tapping reserves to pay for the Senior Series debt service on January 1, 2007; the senior reserve was depleted by the time of the January 1, 2009 debt payment, and at this point deficiencies in Senior Series debt service began to be covered by the bond insurance policy. As of September 2011, payments to senior bondholders continue to be made from a combination of project revenues and claims on the senior bonds insurance policy.

Since the initial default on the uninsured Junior Series in 2007, no further Junior debt service payments have been made and the trustee has set an expectation that bondholders will not receive payments for the foreseeable future. While the bond insurance provider continues to make advances to enable full payment of principal and interest on the Senior Series, it is unclear whether the property will file for bankruptcy or be taken over by the insurance company in the near future.

51) Tampa Home Mortgage Series 1983 A, FL

» CUSIP: 875157BF5

» Default Date: April 1, 2007.

» Obligor: Tampa Home Mortgage Series 1983 A

» Issuer: City of Tampa

» Defaulted Bonds: Home Mortgage Revenue Bonds, Series 1983 A; $2,735,000 of debt affected.

» Cause of Default: Mortgage delinquencies and bond structural issues.

» Recovery: Unknown at this time. The project has not foreclosed and bondholders continue to receive partial payment from the project's excess revenues, which are currently less than full debt service due on the bonds.

Tampa's Series 1983 Home Mortgage Revenue Bonds were used to purchase single family mortgage loans along with a small percentage of home improvement loans. The bonds, which were secured by the pledged mortgage loan revenues and debt service reserves, primarily comprised serial and term bonds, but about 8% of principal consisted of call-protected multiplier bonds, similar in structure to a zero coupon instrument. However, the multiplier bonds had an accretion rate that was 0.40% higher than the mortgage rate, which worsened the program's financial deterioration on top of the serious mortgage delinquencies that began to occur in the mid 1990s.

The bonds consequently began to undergo a series of sharp rating downgrades beginning in 1995. In 1998, the bonds were downgraded to Caa1 when the program-asset-to-debt ratio ("PADR") fell below 100%, with a subsequent downgrade to Caa3 in 2005 when the PADR fell to 68%. To date, the trustee has issued three notices of default. The first, in 2006, was a technical default when the trustee needed to tap the debt service reserve fund in order to make the required interest payment. The second notice was the first monetary default, which occurred on April 1, 2007. On January 1, 2012 the trustee released a third notice stating that the bonds continue to be in default.

In 2009, when the bonds were downgraded to C, the PADR had further declined to 49%. As of June 30, 2010, the program had approximately $832,278 in assets and $1,698,249 in liabilities. Ultimate recovery is unknown at this time as bondholders continue to get paid, though less than the full amount of debt service.

52) Sankofa Shule Charter School

» CUSIP: 80104PAA9, 80104PAB7

» Default Date: December 1, 2007

» Obligor: Sankofa Shule (A Michigan Public School Academy)

» Issuer: Sankofa Shule (A Michigan Public School Academy)

» Defaulted Bonds: Full Term Certificates of Participation, Series 2000 - $2.45 million outstanding

» Cause of Default: Low enrollment rates, reduction in state aid and history of mismanagement

» Recovery: Pending—building remains for sale

» Recovery: 77.65% of scheduled debt service has not been paid

The school's certificates of participation were secured by a pledge of 20% of Sankofa's state aid.

Sankofa Shule was a public school academy that operated as a charter school authorized by Central Michigan University Board of Trustees. The school's certificates of participation were secured by a pledge of 20% of Sankofa's state aid.

Sankofa began operating in fiscal 1996, offering an African-centered, college preparation curriculum to students in grade kindergarten to four. Shortly after its debt issuance, Sankofa began to suffer mismanagement and weak financial performance. In 2006, the school did not meet its enrollment targets, and state aid was subsequently cut. The school's authorizing charter was not renewed and the school closed in June 2007. On December 1, 2007, Sankofa Shule failed to make its debt service payment. Since then, the receiver has listed the property with a real estate agent; however, there has been a limited number of showings due to the economic downturn and difficult conditions in Michigan. As of the end of 2011, the trustee has enough funds to maintain the security and condition of the building, but the drain on funds is steady and future maintenance is unclear.

53) Nob Hill Apartments, TX

» CUSIP: 088379S

» Default Date: December 1, 2007

» Obligor: Nob Hill Apartments

» Issuer: Bexar County Housing Finance Corporation

» Defaulted Bonds: Multifamily Housing Revenue Refunding Bonds, Series 2001A; Subordinate Series 2001B; $15.7 million of debt affected over both series

» Cause of Default: Low occupancy, rise in operational costs

» Recovery: Pending

The Nob Hill Apartments Project, a 368-unit multi-family rental property, is located approximately eight miles north of the San Antonio, Texas central business district. The property began experiencing financial difficulties in 2005 when operating expenses began to outpace revenue growth, causing a decrease in debt service coverage. Both financial performance and occupancy deteriorated significantly over the next few years due to the severing of a relationship with Catholic Charities, an organization that placed families in the facility, as well as an increase in tenants who became delinquent in rent. Maintenance expenses also rose with an increase in turnover, and occupancy hit a low of 72% in May of 2007. The trustee did not tap the debt service reserve fund to cover the December 1, 2007 interest payment, thus triggering the interest payment default.

Since this initial event of default, the trustee has not paid any interest payments on the subordinate series of bonds. The trustee transferred $750,000 from the debt service reserve fund to a repair and replacement fund in order to make substantial repairs to the facility. On June 1, 2011, Nob Hill defaulted on the principal for their senior series bonds.

The project manager for Nob Hill has changed and is now United Apartments Group. Recovery is pending.

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54) North Oakland Medical Center, MI

» CUSIP: 732557A

» Default Date: February 1, 2008

» Obligor: North Oakland Medical Center

» Issuer: Pontiac Hospital Finance Authority

» Defaulted Bonds: Series 1993; $38 million of debt affected

» Cause of Default: Operating losses, competition, and a decline in liquidity

» Recovery: Approximately 10.5% par equivalent (Source: http://emma.msrb.org/EP530356-EP413922-EP811335.pdf)

Located in Pontiac, Michigan, North Oakland Medical Center (NOMC) served an economically weak area that was also oversupplied with acute medical care, given two other competing hospitals. NOMC's patient volumes suffered a multiyear decline, which proved to be a trend that was both unsustainable and irreversible. The hospital's financial operations expenses were further strained by management turnover, which created unexpected costs both for severance obligations and staff replacement. NOMC experienced several years of operating losses and negative cash flow culminating in a sharp decline in unrestricted cash and investments. A new and experienced senior management team was brought in during the 2007 fiscal year but was unable to improve the financial situation substantially, leading to the February 2008 default on the Series 1993 bonds.

NOMC filed for Chapter 11 bankruptcy protection on August 26, 2008, and the rating was subsequently withdrawn. NOMC's assets were sold in November 2008 for approximately $6 million. The bonds were not secured by any collateral interest in the assets that were included in the bankruptcy sale. However, NOMC distributed $3.771 million to bondholders from the proceeds of the sale and other trustee-held funds in November 2008. NOMC continued to liquidate its remaining assets since that time, and a final distribution of $217,7742 was made to bondholders in April 2011, for a total distribution of $3,998,742.

55 & 56) Jefferson (County of), AL

» CUSIP: 472682

» Default Dates: Sewer Warrants, April 1, 2008; General Obligations, September 15, 2008;

» Obligor: Jefferson (County of) Sewer Enterprise, Jefferson (County of);

» Issuer: Jefferson (County of) AL

» Defaulted Bonds: Sewer Revenue and General Obligation; $3.47 billion of debt affected

» Cause of Default: Excessive debt load caused by court-mandated capital improvements to a regional sewer system, compounded by a large liquidity shortfall.

» Recovery: Pending.

The Jefferson County debacle had a long gestation period and is still unfolding, but has already resulted in both the largest municipal default and the largest municipal bankruptcy in U.S. history. The problem was rooted in a longstanding series of failures to bring an aging regional sewerage system up to environmental standards which, in the late 1990s, resulted in a Federal court mandate to make the required capital improvements. In trying to comply, the County assumed a debt load that ultimately proved unaffordable; the debt structure included swaps and variable rate instruments that were intended to moderate debt service but which ultimately led to an enormous liquidity problem as financial counterparties began weakening in 2008. Much of the debt is held by large banks and bond insurers.

Jefferson County's debt and financial position had been under stress for some time, but things came to a head on April 1, 2008, when the County failed to make a principal payment on sewer warrant bank bonds held by liquidity providers, thereby triggering the initial default. On September 15, 2008, Jefferson County failed to make a principal payment on General Obligation bank bonds held by liquidity providers constituting an event of default under the Trust Indenture and the Liquidity Facility.

Earlier in 2008, downgrades of XL Capital and FGIC in the context of the larger U.S. financial crisis, and who together insured over 90% of the county's sewer debt, led to a series of failed remarketings of the County's variable rate demand sewer debt, all of which was eventually put back to the liquidity providers. In addition, a series of failed auctions on the county's auction rate securities led to higher interest rates paid on these securities. Between the accelerated principal repayment of the $567 million in variable rate demand sewer debt held by liquidity providers, and declines in the index on swap agreements relative to the penalty interest rates on variable and auction rate securities, the County's debt service cash flow requirements increased dramatically. In addition, the downgrade of the county's sewer debt to below Baa2 created a termination event under the swap agreements, further compounding the demands on the sewer system's cash flows, since counterparties had the right to terminate the swaps unless the County posted collateral (estimated at $184 million) or obtained insurance. In fact, the County officially notified swap counterparties on March 4, 2008 that it did not intend to post collateral or provide insurance for its obligations under the swap agreements, though it did enter into forbearance agreements with its liquidity and swap counterparties, who waived their rights to demand accelerated payments while negotiations continued. The county's General Obligation variable rate demand bonds were also put back to liquidity providers and the county failed to make accelerated payments on these bonds on September 15, constituting an event of default under the documents related to those bonds. During that same month, the Trustee and the bond insurers filed suit in federal court requesting that a receiver be appointed to manage the sewer system, including raising rates to meet ongoing obligations; the judge subsequently ruled that the federal government does not have the jurisdiction to influence rate-setting for a local public utility. Negotiations between all parties continued without solution, despite involvement of the state government, and eventually, the forbearance agreements lapsed without further extensions.

In November 2009, after the SEC settled securities fraud charges brought against JP Morgan, lead architect of the Jefferson County debt portfolio, the county sued JP Morgan, two former JP Morgan officials, and several other organizations and individuals involved in Jefferson County's bond financing of the previous decade. In July 2011, the county submitted a settlement proposal that asked creditors to take a $1.3 billion haircut while agreeing to sewer rate increases of 7.8% annually for three years, followed by 3% hikes each year. Creditors responded with a counteroffer agreeing to forgive $1 billion of the debt while seeking 8% rate increases each year for five years.

In November 2011 Jefferson County filed for Chapter 9 bankruptcy protection. It is currently unknown if negotiations with liquidity providers, insurers and the trustee continue.

57) Fullerton Village at DePaul University, IL

- CUSIP: 45202QA
- Default Date: December 1, 2008
- Obligor: Fullerton Village at DePaul University
- Issuer: Illinois Finance Authority
- Defaulted Bonds: Senior Series 2004 A and Subordinate Series 2004B; $72.23 million of debt affected
- Cause of Default: Low occupancy levels led to revenues insufficient for debt service.
- Recovery: Unknown at this time. The project has not foreclosed and bondholders continue to receive partial payment from the project's excess revenues, which are currently less than full debt service due on the bonds.

Fullerton Village at DePaul University defaulted on their 2004 A and B bonds when the project failed to make interest payments on December 1, 2008.

This student housing development suffered low occupancy levels attributable at least in part to the project architecture. The design--loft-style apartments with concrete floors and high ceilings--was unconventional for student housing, and apparently created very noisy living quarters. The senior property manager was replaced with an affiliate of the project developer (who is the sole bondholder of the unrated Series 2004 C debt) but low occupancy levels persisted. As a result of the drop in occupancy from 87% in Spring 2007 to 52% in Fall 2007, the project tapped debt service reserve funds on both the Senior and Subordinate bonds to make debt service payments on June 1, 2008. On October 24, 2008, the trustee issued a notice to bondholders stating that debt service reserve funds would not be used to make debt service until such time as revenues would be adequate to replenish any draws. This decision was overturned by the majority of bondholders, who were subsequently paid out of the debt service reserve fund, thus drawing it down to below required levels. The debt service reserve funds were subsequently fully depleted such that the project defaulted on December 1, 2008 on both the A and B Series. At current occupancy levels, the project is able to cover operating costs but is not able to make full debt service payments or replenish the debt service fund.

Since June 1, 2011, the Senior Series 2004A and the Subordinate Series 2004B Bonds remain in default. Project revenues, which include rental income from student residents as well as the retail spaces, have not been sufficient to meet debt service payments. Pro forma budget projects that debt service coverage will be 0.76 times for the Senior Bonds and 0.61 times for the Subordinate Bonds for the fiscal year ending in 2010.

58) St. Louis Industrial Development Authority (St. Louis Convention Center Headquarters Hotel Project), MO

» CUSIP: 790906A, 79164T

» Default Date: December 15, 2008

» Obligor: St. Louis Industrial Development Authority

» Issuer: St. Louis Industrial Development Authority

» Defaulted Bonds: Series 2000A; $98 million of debt affected

» Cause of Default: Oversupply of new or renovated hotels, decline in convention spending by businesses.

» Recovery: Pending.

Since opening in 2003 the financial and operating performance of the $277 million Convention Center Headquarters Hotel has been significantly weaker than originally forecasted. Although the project generated enough revenue to cover operating expenses, revenues were not been sufficient to cover debt service and to fully fund the furniture and fixtures account. The hotel's financial performance has continued to decline due to the broader economic downturn, the consequent slowdown in convention center bookings sales nationally, and the oversupply of new or recently renovated hotels in the project area. The demand for hotel services was further weakened by the demise of the TWA hub at Lambert-St. Louis International Airport and American Airlines' subsequent, significant reduction in air service to St. Louis. In January 2009 the Series 2000A bondholders initiated foreclosure proceedings.

On February 9, 2009 the hotel was auctioned off to the trustee, UMB Bank, for $98 million. Although the bondholders have taken over ownership, the hotel continues to operate under the management of Renaissance Hotel Management Company. There is reportedly some improvement in operations, tough not enough to begin remedying the default.

59) City of Harrisburg, PA

» CUSIP: 41473E

» Default Date: June 1, 2009 failure to honor debt service on Resource Recovery bonds; no monetary default

» Obligor: Harrisburg (City of)

» Issuer: Harrisburg Authority

» Defaulted Bonds: 1998 Series A, 2002 Series A-B, 2003 Series A-F, and 2007 Series C-D Guaranteed Resource Recovery Facility Bonds and Notes; $262 million of debt affected

» Cause of Default: Enterprise risk and consequent city failure to honor guarantee; no monetary default.

» Recovery: Pending.

The City of Harrisburg's September 2010 announcement in that it would miss an upcoming $3.3 million payment on general obligation bonds was well-publicized but was only a more visible symptom of its long-running financial problems. Fifteen months earlier, on June 1, 2009, the City failed to honor its debt service guarantee obligations on incinerator debt issued by the Harrisburg Authority; the City had been making guarantee payments since June 2007, although the 2008 guarantee was paid using the proceeds of city-guaranteed working capital notes issued in 2007. The City subsequently missed more guarantee payments in 2009 and 2010, as well as swap payment s on its guaranteed incinerator debt, leading up to the nonpayment on its direct general obligation bonds in September 2010.

None of these actions resulted in monetary default, with the incinerator debt service covered by a combination of reserve funds, Dauphin County guarantee payments, and bond insurance. Similarly, the general obligation non-payment was covered by the State's accelerated, emergency payment of state aid.

The incinerator debacle in and of itself was perhaps a typical story of enterprise risk, which the City unwisely chose to guarantee. The Harrisburg Authority began issuing bonds for the incinerator upgrade and retrofit in 2003, but by 2007 the project was experiencing construction delays and cost overruns. To reverse the system's deficit operations, which had already led to the draws on the City guarantee, the Harrisburg Authority sought a sharp $100/ton increase in tipping fees on Dauphin County haulers; this went into arbitration, and in 2009 was scaled back to less than $2/ton, prompting efforts to sell or lease the project.

The focus on the troubled incinerator project has tended to obscure the fact that Harrisburg's own credit situation had deteriorated steadily since about 2007, when its financial reporting began to be seriously delinquent. The state's October 2010 rescue comprised three state grants for fire protection and pension assistance worth a totaling $3.6 million that had been scheduled for later in the year. The state also gave Harrisburg $350,000 in grants and a $500,000 loan to hire a financial consultant to develop options for financial recovery. These included the sale and lease of assets such as parking garages and meters, along with the sale of the incinerator and negotiating a workout of its financing. In December 2010, Harrisburg entered Act 47, the state's program for distressed municipalities, and now operated under a state-appointed coordinator who has proposed a fiscal recovery plan that recommended selling off the incinerator and leasing parking authority assets. This plan, and subsequent versions modified and presented to the city council by the mayor, were rejected. Without any plan in place to address the city's financial troubles, Harrisburg city filed for bankruptcy on October 12, 2011, despite newly passed legislation that prohibited Pennsylvania cities in distress from filing for bankruptcy. In the following month, the bankruptcy court ruled that the city's bankruptcy petition was invalid; the judge also denied the city's appeal. Currently, Harrisburg's operations remain under the supervision of a state-appointed receiver, who has developed a for recovery but has yet to take any action.

60) Lower Bucks Hospital

» CUSIP: 515741BW5 and 515741BX3

» Default Date: December 15, 2009

» Obligor: Lower Bucks Hospital

» Issuer: Langhorne Manor Higher Education and Health Authority

» Defaulted Bonds: Series 1992 Bonds; $25 million of debt affected

» Cause of Default: Operating losses, cuts in state aid, patient admission declines.

» Recovery: Pending.

Lower Bucks Hospital struggled with growing operating losses since the late 1990's due to extreme market pressures, including lower reimbursement rates and sharp competition. In 2002, the hospital dissolved its relationship with Temple University, although a tenuous relationship to Temple University Health System remained. The hospital continued to experience several years of significant patient volume declines because of its very competitive market. In recent years, key physician specialists have left the market or aligned with other providers because of high medical liability costs in the Philadelphia area, which caused patients to shift to ambulatory or competing inpatient facilities. The hospital grew increasingly dependent on state funding for profitability, which has steadily dropped from $4.3 million in 2008 to $1 million in 2010 reflecting the state's own fiscal pressures. In 2009, Lower Bucks applied for "distressed status" designation by the Pension Benefit Guaranty Corporation.

Lower Bucks Hospital missed a debt service payment on December 15, 2009 and filed for bankruptcy on January 13, 2010, listing assets of $46.1 million and liabilities of $74.4 million. As of May 31, 2011, there was $7.8 million in unrestricted cash providing 32% cash-to-debt ratio. On July 8, 2011, Lower Bucks Hospital, Lower Bucks Health Enterprises, Inc., and Advanced Primary Care Physicians filed a joint Chapter 11 plan of reorganization.

61) Nevada Department of Business and Industry—Las Vegas Monorail Project

» CUSIP: 25457VA

» Default Date: January 13, 2010.

» Obligor: Las Vegas Monorail Corporation

» Issuer: Nevada Department of Business and Industry

» Defaulted Bonds: Series 2000 Revenue bonds; ; $439 million of bonds affected

» Cause of Default: Mechanical problems, shutdown of operations, and below forecasted ridership and revenues.

» Recovery: Pending.

The Series 2000 bonds were issued by the Nevada Department of Business and Industry for the construction of a 4.2 mile monorail corridor on the east side of the Las Vegas Strip that would connect hotels, tourist attractions, and the convention center. The bonds were secured by net revenues of the monorail system, and were insured by Ambac. The project faltered from the beginning, with passenger service delayed by over a year, with a series of severe mechanical and electrical problems causing periodic shutdowns of the system in 2004 and 2005. As important, ridership and revenues significantly underperformed initial projections. The project was further hurt by reduced advertising revenue and simple competition from existing transportation alternatives. The monorail continued to deplete its reserves until Ambac, the bond insurance provider, fronted $16 million to the Trustee in late 2009 to be applied towards the January 2010 debt service obligations. The project filed for bankruptcy protection in mid-January 2010. The filing was disputed by Ambac, which has filed a motion to dismiss the Chapter 11 filing in the belief that LVMC is a municipal entity that is not eligible to file for bankruptcy protection. Ambac itself filed for bankruptcy shortly after Las Vegas Monorail Project, bringing the insurance policy under bankruptcy protection as well.

The Las Vegas Monorail Corporation has yet to emerge from bankruptcy protection. According to the latest bankruptcy plan (source: Las Vegas Sun, November 16, 2011) top-tier bondholders owed about $500 million will see their debt replaced by $44.5 million in new debt, while second-tier bondholders owed some $207 million would receive nothing.

62) The Waters at Northern Hills Apartment , TX

» CUSIP: 088379

» Default Date: February 1, 2010.

» Obligor: Waters at Northern Hills Apartment (The)

» Issuer: Bexar County Housing Finance Corporation

» Defaulted Bonds: Multifamily Housing Revenue Bonds Subordinate Series 2001C ($0.21 million); Senior Series 2001A ($11.4 million) have not defaulted so far.

» Cause of Default: Weak occupancy.

» Recovery: Unknown for the defaulted subordinate bonds at this time.

The bonds are secured by the revenue from the 304-unit Waters at Northern Hills Apartments, a 1982 vintage multi-family rental property located in San Antonio, approximately nine miles north of the central business district with good access to the city's principal traffic arteries. Despite a nominally good location, the project has suffered poor occupancy levels, as well as operating expenses that have been higher than that projected in the initial underwriting. Although occupancy rates rose by 4 percentage points to 79% in 2010, they remain significantly below the submarket rate of 93.5%.

On February 1, 2010, the Subordinate 2001 C debt service reserve was fully depleted, and no additional 2001 Series C debt service payments have been made since. There is currently no default on the Senior Series 2001A, but the senior debt service reserve fund is almost depleted. The project's manager/owner is currently appealing The Waters' loss of tax exemption status with Bexar County, which involves an accrued tax liability of $1.2 million, and additional amounts likely in the future. The Senior bonds are insured by National Public Finance Guarantee (formerly MBIA Corp).

63) Honey Creek Apartments, TX

» CUSIP: 088379QR6

» Default Date: April 1, 2010.

» Obligor: Honey Creek Apartments

» Issuer: Bexar County Housing Finance Corporation

» Defaulted Bonds: Bexar County Housing Finance Corporation's (Honey Creek/Austin Point Apartments) Multifamily Housing Revenue Bonds Subordinate Series 2000C; $1.210 million affected. Senior Series 2000A ($11.365 million) have not defaulted

» Cause of Default: Low occupancy.

» Recovery: Unknown at this time. While the Series 2000A bondholders continue to get paid and benefit from a still-healthy debt service reserve fund, the subordinate Series 2000 C bonds are in default.

Like The Waters at North Hills project, Honey Creek is located approximately 10 miles north of the San Antonio central business district with good vehicular access. Also built in 1982, this garden style apartment complex was and is composed of 40 two-story buildings. The bonds are limited obligations secured solely by the revenues, receipts and security pledged in the trust indenture.

The occupancy rate, although stabilizing, is low at 90-92% as of 2010, which put the project into financial stress sufficient to affect subordinate bond debt service. The debt service on the Subordinate Series 2000C bonds has not been paid since April 1, 2010, while the 2000A senior Series debt service is being paid from project revenues and the senior reserve remains fully funded. The senior bonds are insured by MBIA Corporation and reinsured by National Public Finance Guarantee Corporation.

64) AOH - Golf Villas, Rivermill, Village Square Apartments, FL

» CUSIP: 14052T

» Default Date: Default June 1, 2010 on Subordinate Series; Monetary default June 1, 2011 on Senior Series following reserve fund draw on December 1, 2010.

» Obligor: American Opportunity for Housing - Golf Villas, Rivermill, Village Square Apartments

» Issuer: Capital Trust Agency

» Defaulted Bonds: Senior Series 2003A, Taxable Senior Series 2003B and Subordinate Series 2003C; $15 million of debt affected

» Cause of Default: Low occupancy rates, rehabilitation work, poor financial performance.

» Recovery: Unknown at this time. The bonds are secured by the revenues and mortgages from three cross-collateralized properties--Golf Villas, Rivermill and Village Square Apartments--as well as funds and investments pledged to the trustee pursuant to the bond indenture. The trustee has drawn on the reserve and not making payments to bond holders.

In recent years, all three housing projects have had difficulty maintaining a sustainable occupancy rate, with The Golf Villas, Rivermill and Village Square projects reporting physical occupancy of 75%, 86% and 91% respectively as of 2010. Previously, in 2005, revenues at Rivermill had been weak because of rehabilitation work that was performed on the property. With recent poor occupancy rates across all three projects, revenues available to pay for debt services decreased to the point where the American Opportunity for Housing (AOH) failed to make monthly payments in connection with the June 1, 2010 and December 1, 2010 debt service payments on the Subordinate and Junior Subordinated bonds (not rated), resulting in a default on these bonds. However, AOH provided financial assistant payments with respect to the Senior bonds to avert a default on June 1, 2010. Subsequently, they stopped this financial support but the Trustee did have sufficient funds for the December 1, 2010 debt service payment due on the Senior Bonds.

On December 9, 2010, the trustee distributed funds from the debt service reserve fund to partially reimburse the Subordinate and Junior Subordinate bondholders for the June 1, 2010 and December 1, 2010 debt service payments, but no further payments have been made and these Series remain in default. Debt service payment on the Senior Bonds was paid out of the senior debt service reserve funds on December 1, 2010. On June 1, 2011, the Trustee did not tap the debt service reserve funds to pay interest due on the outstanding bonds, which all remain in default, and no further payments are being made under the loan agreement.

65) Whispering Palms Apartments, AZ

- CUSIP: 566823M
- Default Date: July 1, 2010.
- Obligor: Whispering Palms Apartments
- Issuer: Maricopa County Industrial Development Authority
- Defaulted Bonds: Multifamily Housing Revenue Bonds (Whispering Palms Apartments Project), Series 1999A; $5 million of debt affected.
- Cause of Default: Weak real estate market and poor operating performance.
- Recovery: Unknown; insured by National Public Finance Guarantee which is currently making bond payments.

Built in 1985, Whispering Palms Apartments is a 200 unit low-income qualified housing complex located approximately four miles west of downtown Phoenix. Serving a predominantly low- to moderate-income clientele, project rents remain below the Phoenix area average and there is fierce competition from nearby properties. The occupancy rate averaged 93% in 2010 but had reached as low as 74% in 2009. Moody's had highlighted significant weakness at the property back in 2004 when the rating was first moved below investment grade as a result of poor financial performance, weak occupancy and a court-ordered change in management.

Beginning on January 1, 2010, the project began tapping the debt service reserve fund in order to make full debt service payments and the rating was downgraded to Caa1 from B1. The debt service reserve fund was fully depleted by July 1, 2011, when the trustee began making claims under the insurance policy from National Public Finance Guarantee (formerly MBIA Corp.) to make full payment. To date, no monies have been added to replenish the debt service reserve fund and a total of $153,707.61 or 33.87% of 2011 annual debt service has been paid by National Public Finance Guarantee.

66) Pegasus Landing & Pegasus Pointe at University of Central Florida (now Knight's Circle and The Pointe at Central, respectively), FL

- CUSIP: 140427A
- Default Date: October 1, 2010.
- Obligor: Pegasus Landing & Pegasus Pointe at University of Central Florida
- Issuer: Capital Projects Finance Authority
- Defaulted Bonds: Student Housing Revenue Bonds, Senior Series 2000 F-1 and F-2 (Capital Projects Loan Program); $137 million of debt affected
- Cause of Default: Low occupancy rates resulting from water damage and mold.
- Recovery: Unknown at this time, although the projects are undergoing physical remediation and may ultimately be restored to financial health.

The bonds are limited obligations of Capital Projects Finance Authority, secured solely by rental revenue from two privatized student housing projects--Pegasus Landing and Pegasus Pointe --and various funds pledged under the indenture. The Subordinate Series 2000G were not rated or insured, while the senior bonds are insured by MBIA Corporation and reinsured by National Public Finance Guarantee Corporation.

The occupancy rate for Pegasus dropped to 66% in 2010 when the University of Central Florida began diverting students away from the projects because of water damage and mold discovered in the buildings. Given reduced rental revenue with tenant relocation, the project began tapping the debt service reserves to help pay debt service for both series beginning in October 2010. Reserves were depleted by October 2011, and a monetary default occurred on the Senior bonds though bond insurance covered the debt service payments.

However, unlike other distressed housing projects with weak submarkets, these projects still have a strong occupancy potential with the proximity of the University. Accordingly, MBIA in the spring of 2011 committed to lend the projects approximately $21 mm to cure the mold and water damage problem and restore the buildings to student tenancy. The projects have also undergone a name change to Knight's Crossing and The Pointe at Pegasus, as noted above. MBIA continues to cover the debt service on the Senior bonds while the remediation effort is completed.

67) Rutland Place Apartments, TX

» CUSIP: 052425CR4

» Default Date: November 1, 2010

» Obligor: Rutland Place Apartments

» Issuer: Austin Housing Finance Corporation

» Defaulted Bonds: Multifamily Housing Revenue Bonds, Series 1998A; $11.18 million of debt affected (parity taxable Series 1998B matured in 2005)

» Cause of Default: Low occupancy

» Recovery: Unknown at this time. The project has not foreclosed but has defaulted on certain payments. The trustee continues to make partial payments.

The Rutland Place Apartments project is a 294-unit multifamily housing development located in the North Central Austin submarket, and is comprised of 16 garden style apartment buildings (known as Rutland Place I) and 15 other apartment buildings (known as Rutland Place II). Phase I of the project was built in 1979 and Phase II was built in 1985. The property is subject to income restrictions, which limit the owner's ability to maximize rental income. The bonds are limited obligations secured solely by the revenues, receipts and security from the project.

The property has struggled with low occupancy, which was most recently at 72%. Occupancy was weakened by a fire in 2008 which affected a significant number of units, and the project is further exposed to competition from a large inventory of housing units in the local market. The property has not been able to fully cover debt service for the past six years and the reserve funds have gradually been depleted, leading to full monetary default in 2010.

Rutland Place Apartments has failed to pay principal on Series 1998A bonds since November 1, 2010, and principal and interest since May 1, 2011.

68) Boston Industrial Development Fin. Auth., MA

- CUSIP: 10088MAU9
- Default Date: Forbearance agreement, effective as of May 24, 2011
- Obligor: Boston Industrial Development Finance Authority
- Bonds: Series 2002 Senior Revenue Bonds; $41 million of debt affected
- Cause of Default: Forbearance Agreement signed to modify the terms from the original promise.
- Recovery: Pending.

The Series 2002 Bonds financed development of the Crosstown Center is a 175-room Hampton Inn and Suites hotel and a 650-space parking garage located adjacent to the Boston Medical Center in downtown Boston. The Project is approximately one mile from the City's convention center and close to Logan Airport. The bonds are secured by a pledge of net revenues generated primarily from the operation of the hotel and parking garage, as well as debt service and other reserves. Moody's rated the $35.67 million Senior Revenue Bonds but not the $7.75 million Subordinate bonds.

The project opened for business in July 2004, and despite its promising location room rentals and revenues have been consistently significantly lower than original forecast. Hotel room demand never reached original expectations due to the continued expansion of the Boston hotel supply and the broader economic slowdown.

The Cross-town Center Project defaulted effective May 24, 2011, when a forbearance agreement was signed to modify the debt service payment schedule until January 1, 2013, during which period no principal payments would be made on the Senior Bonds or the Subordinate Bonds. The first regularly scheduled payment of interest after the agreement occurred September 1, 2011, when Senior and Subordinate interest was paid from deposits to the reserve fund. Past-due principal amounts, including interest accrued during the forbearance period, are now due January 1, 2013.

69) Santa Rosa Bay Bridge Authority, FL

- CUSIP: 802576
- Default Date: July 1, 2011
- Obligor: Santa Rosa Bay Bridge Authority
- Issuer: Santa Rosa Bay Bridge Authority
- Defaulted Bonds: Series 1996 Revenue Bonds; $115.9 million of debt affected
- Cause of Default: Insufficient toll traffic revenue, well below projections; competition.
- Recovery: Pending.

The Santa Rosa Bay Bridge Authority default is another example of a transportation infrastructure financing that could not live up to utilization forecasts and revenue projections. The Authority, established in 1984, financed and oversaw construction of the 3.5-mile Garcon Point Bridge, which spans the eastern end of Pensacola Bay, connecting Garcon Point in the north to Redfish Point in the south. The bonds are secured by gross toll revenues, along with a debt service reserve fund.

The Bridge provides access to Gulf Breeze and other areas on the peninsula from areas north and east of Pensacola Bay, though the existing toll-free Pensacola Bay Bridge to the west already linked

Pensacola directly with Gulf Breeze. The Bridge opened on May 14, 1999, but from the beginning traffic forecasts proved to be overly optimistic; toll revenues were significantly less than projected, which put a strain on the authority's finances starting in the first year of operation. In addition to the Pensacola Bay Bridge, the Garcon Point Bridge faces competition from two other toll-free alternatives-- SR 8 and I-10. Local population and tourism growth is now expected to be moderate at best given regional economic and housing conditions.

The Bridge's continued poor performance caused a full depletion of the reserve and interest accounts, which were still insufficient to cover the scheduled debt service payment of $5 million on July 1, 2011. While some of the bonds issued are insured by MBIA Corporation and reinsured by National Public Finance Guarantee Corporation, the July 1 defaulted bond was not insured.

70) Charitable Leadership Foundation, NY

» CUSIP: 012440FZ1, 012440GA5, 012440GB3

» Default Date: July 1, 2011

» Obligor: Charitable Leadership Foundation

» Issuer: Albany Industrial Development Agency

» Defaulted Bonds: 2002A Civic Facility Revenue Bonds (Center for Medical Science Center); $48.2 million of debt outstanding

» Cause of Default: Weak management and bankruptcy of primary tenant.

» Recovery: Pending.

The bond-financed biomedical research facility is occupied by three tenants, one of which, Ordway Research Institute (ORI), comprising 43% of the space, has not made rental payments since July 2010. All three tenants are not-for-profit research or state-related entities. ORI is both, as it was created by Wadsworth Laboratory of the New York State Department of Health, Albany Medical Center and Charitable Leadership Foundation. Health Research Inc. (HRI), a not-for-profit corporation, leases approximately 45% of the space, and The New York State Department of Health Division of Lab Quality and Control leases the remaining 11% of space. The Wadsworth Center, a large New York State Department of Health laboratory, occupies the portion leased by HRI. The bonds are secured by a mortgage lien on the leasehold interest in the research facility, a security interest in the equipment, and a debt service reserve fund via a Citigroup guaranteed investment contract.

Following the loss of a large portion of rental income, Charitable Leadership Foundation tapped the debt reserve fund to make the January 2011 debt service payment but defaulted on July 1, 2011, when it failed to pay the scheduled principal payment due in the amount of $1.875 million. The issuer then reportedly negotiated a deferral of the final maturity payment with interest still accruing until paid, also the terms of the agreement are unknown. Aside from the project rental problems, the Foundation's credit and liquidity position had declined as a consequence of its accelerated advances to ORI, along with other illiquid loans and investments to private companies.

The default is ongoing, with the trustee reporting a $4.2 million deficiency in the debt service reserve as of January 2012; less than 30% of the interest due on January 3, 2012, was paid.

71) Southern California Logistics Airport Authority/ Victorville Economic Development Authority– Southern California Logistics Airport Project

- CUSIP: 842472D, 842472C
- Default Date: Failure to pay $535,000 in subordinate bond principal December 1, 2011; reserve fund only available for interest payments, which were made ($1.3 million)
- Obligor: Victor Valley Economic Development Authority
- Issuer: Southern California Logistics Airport Authority
- Defaulted Bonds: Subordinate Tax Allocation Revenue Bonds Series 2007, 2008A; $53.855 million of bonds affected
- Cause of Default: Loss of pledged tax increment revenues because of collapsing home values, despite a very large project area base. SCLAA's senior lien ('parity') tax increment bonds have so far not been affected. Taxable housing tax allocation bonds have a separate 'slice' of the tax increment with a much stronger debt service coverage level and have also not been affected.
- Recovery: Not yet determined. City officials report that payment may be made pending distribution of property taxes by the Victor Valley Economic Development Authority in spring 2012, but this may be a temporary respite given fundamental weakness in debt service coverage. Long term recovery ultimately depends on the restoration of assessed value in the project area region.

On December 1, 2010, the Southern California Logistics Airport Authority (SCLAA) missed a payment on its subordinate non-housing tax allocation bonds. Although the tax base area is very large, comprising some 85,000 acres, 12 sub areas, and several towns and cities, the region was hit hard by losses in housing valuation and tax increment revenues have fallen sharply, bringing the DSCR on the subordinate non-housing bonds–of which about $51 million remain outstanding–to under 1.0x.

SCLAA is a joint powers authority between the City of Victor Valley and its redevelopment agency, the Victor Valley Economic Development Authority (VEDA), and is effectively controlled by the City of Victor Valley. SCLAA was formed in 1997 to pursue redevelopment of 2,500-acre George Air Force Base, which was deactivated in 1991, and to this end had issued approximately $330 million in debt by 2008, of which about $326 million was outstanding as of FY 2010. While aspects of the redevelopment effort have proceeded well with diverse warehousing, manufacturing, and aviation tenants, other project components including a BNSF rail spur, a power plant, and 'visa investor center' designation faltered after considerable expenditure of bond funds.

The bulk of SCLAA's outstanding debt comprises senior lien or 'parity' non-housing tax increment bonds not rated by Moody's, and some $41 million outstanding taxable housing set-aside tax increment bonds rated Baa3/negative. Both of these continue to receive pledged tax increment revenues sufficient to cover debt service requirements. As of the most recent 2010 audit, the SCLAA had a deficit fund balance on the order of $101 million, equivalent to approximately 3x annual operating expenses and debt service, or roughly 5x annual debt service alone.

Appendix B: Details on Individual Short-Term Municipal Default Events

Although the focus of this study is on long-term defaults, short-term risks are, inevitably, incorporated in the performance data. Liquidity, market access and solvency are key considerations for both short-term and long-term ratings. Furthermore, short-term pressures reflect an issuer's credit profile, and Moody's adjusts its long- and short-term ratings accordingly when such information is discovered. There are three notable short-term defaults during the study period; these exclude the slight interest payment delays on Orange County notes which resulted from procedural issues, as noted in the Orange County default case study (14) in Appendix A above.

1) New York City

In November 1975, New York State enacted the Moratorium Act, which suspended for three years the right to sue the city of New York to force payment of its short-term obligations. Using the terms of this law, New York City deferred payment and thus defaulted on its notes as they came due. The financial emergency that existed in New York City in the early to mid 1970s was a result of spending that exceeded operating revenue for several years. The overspending created accumulated fund deficits and cash flow problems that could be resolved only by short-term borrowing to meet expenditures.

When banks refused to roll over the city's short-term debt, the city did not have the funds necessary to pay its obligations as they became due. To provide cash to the city while implementing a plan to return it to balanced budgets under the supervision of a state control board, the state advanced the city money, the Municipal Assistance Corporation for the City of New York (MAC) was established to issue debt on behalf of the city, the city's pension funds provided loans, and the federal government provided loans and guaranteed the city's other loans. The majority of the short-term debt was converted to long-term debt through the MAC. This allowed the city to eliminate its fund deficits by reducing debt service payments by lengthening the repayment time. These actions allowed the city to emerge from its fiscal crisis.

In the mid-1970s, the MAC scaled back the interest rate payable and extended the maturity of its debt through bondholder approved amendments. This restructuring was part of a series of actions taken to secure fiscal support from the U.S. Government. At the time, Moody's did not classify this restructuring as a bond distressed exchange default by MAC because:

» The restructuring was not undertaken to avoid default on the MAC bonds since the MAC bonds were legally separate and distinct from the City of New York and therefore not at risk to a potential bankruptcy;

» The restructuring was approved by MAC bondholders as part of a larger agreement designed to bolster and secure the finances of New York City; and

» Financial and political issues broader than payment on the MAC bonds motivated approval by the bondholders.

Under our current definition of a distressed exchange, however, the restructuring of some investors' bonds as a pre-condition for federal support would support the conclusion that the debt exchange was "distressed." We have not incorporated this default into our default statistics, however, since the definition of default, to which the ratings were then calibrated, was different at the time.

2) Cleveland, Ohio

The City of Cleveland (OH) defaulted in December 1978 on $14 million short term notes held by six local banks. The default was not cured until November 1980, following a voter-approved tax levy in 1979 and the January 1980 passage of a 'Local Fiscal Emergencies' statute that enabled state intervention including loans and financial oversight. Broadly similar to New York City's fiscal emergency, the source of the Cleveland default lay in its chronic inability to balance its operations and resulting questionable financial practices. Throughout the mid 1970s, Cleveland's general fund expenses greatly exceeded its revenues which ultimately led the city to adopt a practice of 'borrowing' restricted bond fund monies from the Water Department to meet ongoing general operating costs. While the incoming Kucinich administration (1977-79) inherited this problem, it also did not act quickly to remedy the situation. Concerns over this practice and the structural budget imbalances brought the Moody's rating from A to Baa and then Ba by mid 1978; Cleveland was unable to issue bonds nor refinance or renew outstanding notes. The rating had fallen to B by November, shortly before the default itself.

While the Cleveland default was rooted in its very poor financial management, the triggering event was bound up in a curious political flight over the fate of the city's electric system, Municipal Light, which had been in a long-running feud with its wholesale supplier, Cleveland Electric Illuminating (CEI) that ultimately resulted in antirust allegations against the latter. The former administration had planned to sell Municipal Light to CEI to resolve the suit and generate cash for Cleveland, but the Kucinich administration opposed the sale. In the context of the city's worsening financial situation and absence of market access, the banks holding the city's notes, headed by Cleveland Trust, refused to renew the notes unless the utility sale went ahead. It was subsequently reported that Cleveland Trust and CEI had interlocking directors and, with another bank, had ownership interests in CEI.

In a February 1979 special election, Cleveland voters approved a new half-cent income tax that began to produce new revenues., and further rejected the plan to sell Municipal Light, which still operates. The Voinovich administration came into office in November 1979 and developed a three-year refinancing plan that included $15 million in state loans under the Fiscal Emergencies statute. Cleveland was upgraded to Ba1 in August 1981, and reached Baa in early 1985.

3) City of Menasha, Wisconsin

The City of Menasha (WI) defaulted on its appropriation-backed Steam Utility Revenue BANs with the failure of a steam enterprise project that seriously compromised the city's overall debt capacity and creditworthiness. The Steam Utility had begun as a local economic development effort when Menasha Utilities' gas-fired electric generating units were idled by the dispatching utility in 2004. The plan was to divert the redundant units to industrial steam production for four surrounding paper mills; by converting the units to coal—at the time cheaper than gas—the hope was that cheaper energy would help revive the mills' fortunes and sustain their employment. The project rapidly suffered cost overruns more than triple the initial $12.6 million BANs (2005, due 9/1/2009), along with a variety of technical and environmental problems and shortfalls in actual steam sales. To keep up with project costs Menasha issued another $11.5 million in Steam BANs, $2.675 Steam Note Anticipation Notes (NANs), and $13 million privately placed Steam BANs in 2006, and $13.93 million GO Promissory Notes in 2007. By 2007, the reserve funds were being tapped to make BAN interest payments. By April, the city's advisors recommended closure of the plant to avoid further financial damage to the city, but by this time the Steam notes were rated speculative-grade, and the city's GO and GO-note ratings had also suffered. The city decided in May to close the plant by July 2009.

Appendix C: Recalibration to the Rating Global Scale, examples

The table below provides examples of how the rating histories were adjusted to reflect the recalibration of municipal ratings to the global rating scale that occurred in 2010 . The table shows both the rating before and after the recalibration process for a couple of municipal issuers, Orange County and the City of New York. The columns to the far right illustrate that in any instance the calibration process resulted in an upgrade or downgrade of the issuer: the ratings before and after the calibration resulted in the same notch differential between two given rating actions.

Obligor	Rating Date	Rating Before Re-calibration	Rating After Re-calibration
Orange County	9/8/1994	A1	Aa3
	1/6/1995	Caa2	Caa1
	5/30/1996	Ba2	Ba1
	7/1/1996	Ba2	Ba1
	12/16/1997	Baa3	Baa2
	4/21/1998	Baa3	Baa2
	9/22/1999	A1	Aa3
	11/14/2000	A1	Aa3
	1/4/2001	A1	Aa3
	4/3/2001	Aa3	Aa2
	4/4/2002	Aa3	Aa2
	9/9/2004	Aa3	Aa2
	7/19/2005	Aa3	Aa2
	9/18/2006	Aa3	Aa2
	7/24/2008	Aa3	Aa2
	5/27/2009	Aa3	Aa2
	4/16/2010	Aa2	Aa2
New York (City of)	4/11/1968	Baa1	A3
	12/18/1972	A2	A1
	10/2/1975	Ba2	Ba1
	10/29/1975	Caa2	Caa1
	5/24/1977	B2	B1
	11/19/1981	Ba1	Baa3
	11/10/1983	Baa2	Baa1
	12/17/1985	Baa1	A3
	5/31/1988	A2	A1
	2/11/1991	Baa1	A3
	5/1/1999	A3	A2
	8/8/2000	A2	A1
	4/4/2005	A1	Aa3
	7/18/2007	Aa3	Aa2
	10/23/2008	Aa3	Aa2

Appendix D: Methodology

The ratings examined in this study are those assigned to public long-term un-refunded[12] debt issued by U.S. state and local governments and for not-for-profit health care, higher education, housing, infrastructure or other not-for-profit institutions in the municipal bond market.[13]

We examine the ratings assigned to each distinct security class of debt issued across all distinct financing purposes. Multiple rating histories exist because municipalities and other obligors often issue multiple security classes of debt for multiple financing purposes, and each security class can have a distinct default probability and expected loss severity rate in the event of default and, therefore, a distinct rating. For example, the Dormitory Authority of New York sells bonds for both hospitals and universities, purposes that have different default probabilities. As these projects may experience different subsequent financial performance, the bonds backed by that performance may have different degrees of credit risk and hence different ratings.[14]

The study captures the recalibration of municipal ratings to the global rating scale, which took place between April and May 2010. Subsequent to our previous municipal default study published in February 2010, Moody's recalibrated its long-term U.S. municipal ratings to its global rating scale.[15] Prior to the recalibration, Moody's municipal ratings emphasized the ordinal ranking of credit risk within the municipal sector only and were not intended to be comparable to corporate ratings for example. A municipality rated "Aa1" was not expected to have the same credit risk profile as a corporate rated "Aa1," despite the identical symbology. The recalibration was intended to achieve such comparability, so that now a given rating symbol for different sectors and regions should have similar average credit risk relative to global peers measured over long periods of time.

When calibrated to the global rating scale, most state and local government long-term municipal ratings were increased by up to three notches.[16] We reiterate that these new rating assignments did not reflect an improvement in credit risk, but simply a rescaling of that risk, analogous to changing a temperature report from Fahrenheit to Celsius. Consequently, for the purposes of this study the recalibration is not reflected as an "upgrade" in any of the credit metrics presented below. Instead, historical ratings were adjusted to the new scale to "smooth over" the recalibration. As a result, the results presented in this study will not be directly comparable to previous research. Please see the Appendix for additional details.

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12 Refunding is a procedure whereby an issuer refinances outstanding bonds by issuing new bonds. The proceeds of the new bonds are either deposited in escrow to pay the debt service on the outstanding bonds when due or used to promptly retire the outstanding bonds. The new bonds are referred to as the "refunding bonds" or "un-refunded bonds" and the outstanding bonds being refinanced are called the "refunded bonds".

13 We exclude debt that is insured or enhanced by letters of credit if there is no underlying rating.

14 See "Glossary of Moody's Rating Performance Metrics" for a detailed discussion of how default and transition rates are calculated from rating histories.

15 For more information on the recalibration process, see "Recalibration of Moody's U.S. Municipal Ratings to its Global Rating Scale".

16 A notch is defined as a step on Moody's alphanumeric rating scale (e.g. from A2 to A1).

Appendix E: Moody's Definition of Default

Moody's definition of default includes the following events:[17]

» A missed or delayed disbursement of a contractually-obligated interest or principal payment (excluding missed payments cured within a contractually allowed grace period), as defined in credit agreements and indentures;

» A bankruptcy filing or legal receivership by the debt issuer or obligor that will likely cause a miss or delay in future contractually-obligated debt service payments;

» A distressed exchange whereby: (i) the issuer offers creditors a new or restructured debt, or a new package of securities, cash or assets, that amount to a diminished financial obligation relative to the original obligation; and (ii) the exchange has the effect of allowing the issuer to avoid a bankruptcy or payment default; or

» A change in the payment terms of a credit agreement or indenture imposed by the sovereign that results in a diminished financial obligation, such as a forced currency re-denomination (imposed by the debtor, himself, or his sovereign) or a forced change in some other aspects of the original promise, such as indexation or maturity.

This definition of default is intended to capture events that change the relationship between the debt-holder and debt issuer from the relationship which was originally contracted, and which subjects the debt-holder to an economic loss. Technical defaults (covenant violations for example) and missed payments that are cured during any applicable grace period defined by the original legal documents are not included in Moody's definition of default.

The default definition applied in this study differs from our previous municipal default studies in two ways. First, this study tracks the performance of each municipal obligor in making full and timely debt payments, irrespective of payments made by a financial guarantor. As such the study includes several cases of missed payments by the obligor, including cases when a bond insurer made whole the debt-holder. Second, the study excludes cases of municipal bankruptcy unless the bankruptcy resulted in or is expected to result in a missed debt service payment.[18] But, similar to our prior studies, we are measuring the ability and willingness of a municipality to pay bonded debts, and we do not count a municipality in default for non-payment of other liabilities such as payments to vendors, payroll to public employees, or contributions to public pension funds.

[17] For more information see "Ratings Symbols and Definitions".

[18] Compared with our previous municipal default study published in 2010, we have excluded Sierra Kings Health Care District from our list of defaults as a result of this change in the definition of default. The District filed for Chapter 9 bankruptcy protection but that filing did not affect full or timely payment of GO bonds.

» contacts continued from page 1

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