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# 2022 CHARTER SCHOOL BOND SECTOR DEFAULT STUDY
# DEFAULT[1] AND LOSS RATES CONTINUE TO DECLINE

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With the close of 2022, the tax-exempt charter school bond sector has now been active for 25 years—a full-fledged municipal bond sector with nearly 2,300 transactions issued to date. To be sure, annual charter school sector issuance is still pint-sized when compared to the overall public finance market, at roughly 1% of $384 billion of total issuance in 2022. Given this two-and-a-half-decade history, however, there is a significant track record of repayment performance available to analyze—and from which to derive conclusions.

Analysis of the almost 2,300[2] tax-exempt[3] bond issues—representing more than $41 billion, that have financed charter school facilities through December 31, 2022, shows mostly good news and stronger results than a similar study done in 2017. These improved metrics include lower default rates measured on both transaction number and volume, higher recovery rates, lower loss rates, along with an expanding list of borrowers who have turned things around by becoming current on past due payments. Moreover, as the overall sector continues to mature, many of its established borrowers have scaled, i.e., expanded their revenue base, balance sheets, and enrollment (with the largest charter networks enrolling over 50,000 students) and have in place more sophisticated governance, resulting in stronger credits. What's more, both Standard & Poor's and Moody's have stable outlooks on the sector for 2023. These trends bode well for the future of the sector.

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[1] *A default for this analysis is defined as any transaction whose borrower, as of December 31, 2022, missed a principal or interest payment—in whole or in part—to investors pursuant to a debt service schedule agreed to at the time of issuance. Thus, transactions where a forbearance agreement was entered into prior to a missed payment is still considered a monetary default for analytical purposes, even if it doesn't meet the legal definition.*

[2] *For analytical purposes, the 2,264 transactions grow to 2,298 due to the existence of 33 separate issuances (including one with three tranches) with distinct security features, including senior subordinate tranches, credit-enhanced, non-credit-enhanced, which are often rated differently or may have one tranche rated and another non-rated.*

[3] *Fully taxable transactions are excluded from this analysis.*

| Charter School Bond Default Rates Through 12/31/2022 | | | | | | |
|---|---|---|---|---|---|---|
| | Number of Issues[2] | | | Original Par in $Millions | | |
| Rating Category[1] | Defaults | Total | Rate | Defaults | Total | Rate |
| Investment Grade Rating (Credit Enhanced) | 3 | 289 | 1.0% | $19.3 | $7,142.7 | 0.3% |
| Investment Grade Rating (Non-Credit-Enhanced) | 12 | 350 | 3.4% | $162.6 | $7,510.3 | 2.2% |
| Subtotal Investment Grade | 15 | 639 | 2.3% | $181.9 | $14,653.0 | 1.2% |
| Non-Investment Grade Rating | 12 | 323 | 3.7% | $155.3 | $6,806.3 | 2.3% |
| Rated Issues | 27 | 962 | 2.8% | $337.2 | $21,459.3 | 1.6% |
| Unrated Issues | 72 | 1336 | 5.4% | $802.5 | $19,584 | 4.1% |
| **Total** | **99** | **2298** | **4.3%** | **$1,139.7** | **$41,043.7** | **2.8%** |

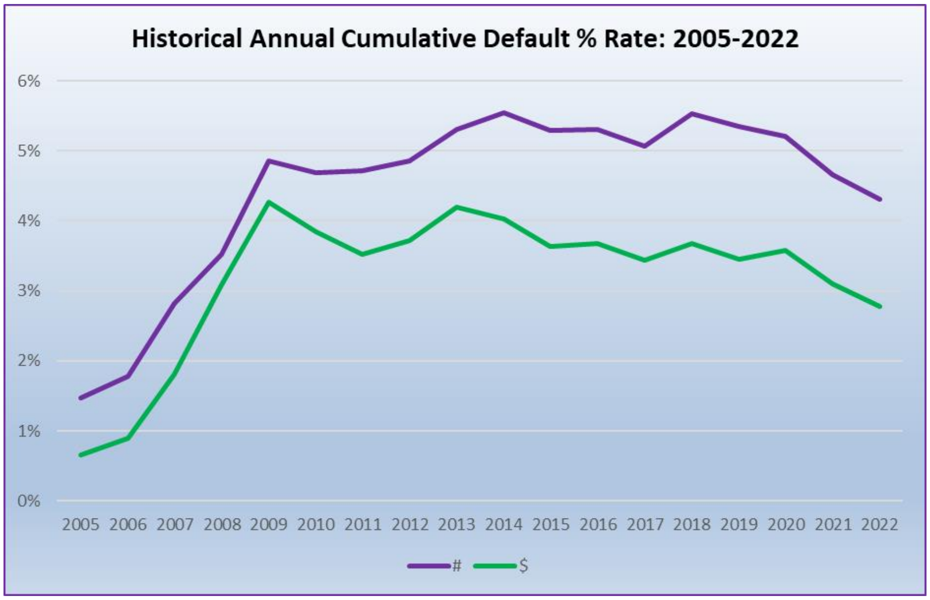
[1] Certain issues have a rated and unrated series
[2] Rating at issuance

Default and Loss Highlights

This report reviews both defaults and losses on bonds issued from the first bond issuance in 1998 through the end of 2022. Key highlights include:

- 94 charter schools (or their affiliates), representing 99 transactions, or 4.3% of the entire portfolio of 2,298 transactions, have experienced a monetary default in which borrowers failed to make full and timely debt service payments promised at the time of issuance. This default rate, based on transaction number, represents a decline from its highest reported level of 5.5% in 2014.
- Just over $1.1 billion of bonds have defaulted to date, representing an overall default rate of 2.8% of total volume.
- These metrics have modestly declined each of the past four years when the default rate at the end of calendar year 2019 was 5.5% based on the number of transactions and 3.7% based on volume.
- The overall loss rate for bonds whose default process has been completed was 0.9% through 2022 measured by dollar volume. This compares favorably to the 2.5% loss rate experienced a decade ago.
- The vast majority of defaults occurred with single site schools rather than larger networks.
- Certain states, such as Texas, have high median recovery rates (where each of its five defaults have seen 100% recovery), while other states such as Michigan have low recovery rates. Michigan's 22 defaults resulted in a median recovery rate of only 37.3%.
- Given Michigan's unique charter school history, its default record is an outlier when compared to other states. Indeed, if Michigan issuance and defaults were excluded from this analysis, the sector default rate would decline materially from 4.3% to 3.5%.

The chart below shows the historical default rates at the end of each year since 2005, the first year a charter school default was recognized.

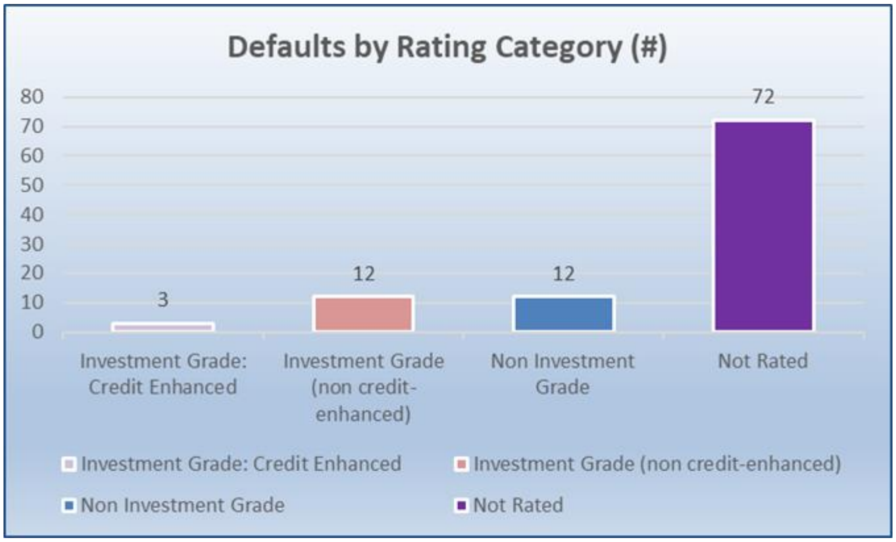



With very limited issuance in the sector's early years, i.e., there were only 217 transactions from 1998-2004, there was also no reported defaults until 2005 when four defaults were documented from issuance year cohorts 2001 (1), 2002 (2), and 2003 (1). Default activity accelerated thereafter, peaking in 2014 at 5.5% based on the number of transactions and has trended down since then, except for 2018 when 14 transactions went south and sent the default percentage back up to the same level of 5.5%. Since then, there have been four years of decline.

The continued improvement trend can be traced, in large part, to materially improved underwriting standards from many hard lessons learned for sector participants. In addition, the spike in issuance in recent years along with what were historically low rates have also helped keep default rates trending lower.

**Defaults by Rating Category**

More good news is that despite some high-profile rating misses (remember Fulton Science Academy[4]? or Friends of Jersey City Community Charter School[5]?), the rating agency record is generally good and getting better. Indeed, in late 2022, Moody's announced it reorganized the way it conducts its credit analysis of charter school transactions. Rather than assigning them to analysts in its various local government regional groups, it established a dedicated charter school team where deep expertise can be developed. Specialized rating agency teams for this sector is the norm, i.e., the way S&P assigns its ratings, and the way Fitch did so when it was active in the sector. This Moody's change was welcomed by investors and perhaps long overdue as it was urged by various sector participants but not implemented back in 2016 when the rating agency re-entered the sector after a multi-year hiatus.




With lessons learned in hand, rating agencies and their respective sector criteria are continuing to evolve and improve. As a result of improving standards, there is a clear distinction in default rates between transactions that were assigned a rating at issuance (either investment grade or non-investment grade), and those that accessed the market on an unrated basis. Excluding the three rated credit-enhanced transactions where the borrower missed payments and whose ratings do not reflect the credit of the legal borrower, there were 24 rated transactions, representing 25% of defaults, where the obligor did not meet full and timely payment. This contrasts with 72 unrated defaulted transactions or 75% of defaults. The overall default rate for rated transactions (total rated transactions that defaulted/total rated transactions) was 2.8% at the end of 2022 based on deal count and only 1.6% based on volume.

[4] *The Fulton Science Academy (GA) transaction ($18,930,000) closed in November 2011 to finance a middle school and high school; the following month, the authorizer, the Fulton County School Board, voted against the charter renewal of the middle school. In response, Fitch downgraded the rating from "BBB" to "BB-". In December 2012, the authorizer denied the renewal of the high school. The bonds defaulted with a recovery rate of 82.4%.*

[5] *While these bonds never defaulted, the Friends of Jersey City Community Charter School (NJ) transaction ($10,225,000) closed in October 2016 and was one of Moody's first ratings when it reentered the charter school market that year. Despite the authorizer having placed the school on academic probation, along with the use of a portion of bond proceeds for working capital due to constrained liquidity, Moody's assigned an investment grade rating of "Baa3" to the transaction; eight months later, in July 2017, Moody's downgraded the rating three notches to "Ba3"—its level as of 12/31/2022. Debt service has remained current through this same date. (In January 2023, Moody's upgraded the bonds to Ba2.)*

Analysing the rated defaults based on initial rating categories, there is an equal number (12) of defaulted transactions with initial investment grade ratings and those with initial ratings below investment grade. Reflecting tougher rating criteria for investment grade ratings, two notable observations: 1) it has been more than 10 years since a transaction[6] was issued with an initial investment grade rating where the borrower has since defaulted on its agreed upon financial obligations[7]; and 2) of the 13 transactions that were issued and defaulted since the end of 2016, none was rated.

The story changes dramatically for the unrated universe of charter school bonds. To date, defaults from unrated charter school transactions represent 72.7% of all defaults. And as would be expected, the 72 defaults for unrated issues represent a significantly higher default rate than those that were rated. For unrated issues, defaults totaled 5.4% measured by number of issues—down from 8.2% at the end of 2016 as noted in the last in-depth sector default report—and 4.1% measured by par originated—also down significantly from 2016 when it stood at 6.6%.

**Defaults by Year of Issuance**

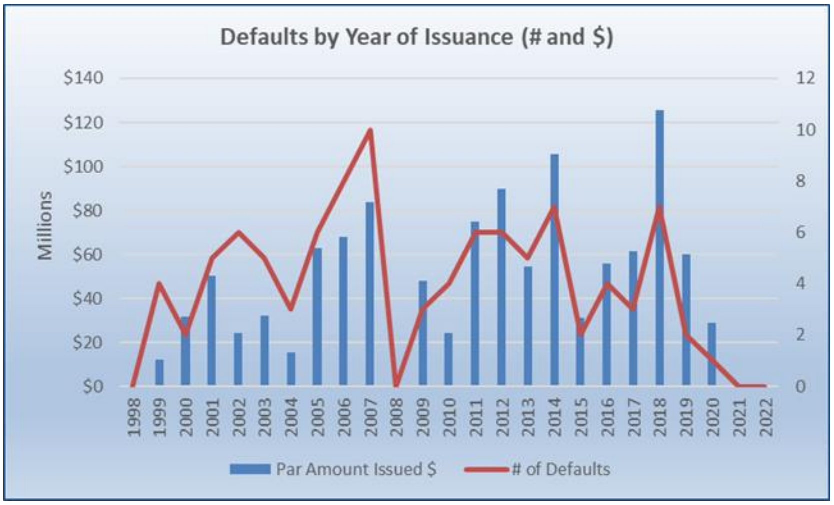
Since 1998 (the first year of sector issuance) through 2022, an average of four charter school transactions have defaulted from each annual cohort—up from 2.7 in 2016. Only four of these 25 issuance years saw zero defaults:

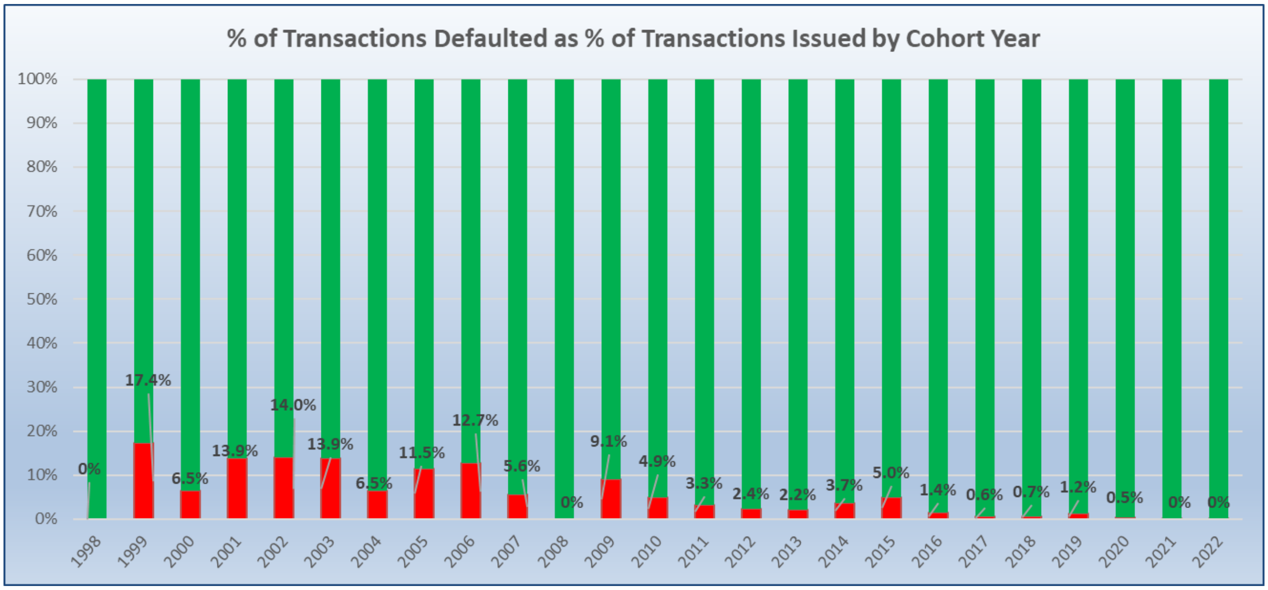
- 1998: the inaugural charter school bond issuance year only saw six transactions come to market.
- 2008: during the credit crisis, a time characterized by "investors' flight to quality" resulting in an extraordinary 44% dip in sector issuance relative to 2007; and
- 2021 and 2022: the most recent years of issuance when a default so soon after the closing of the bonds would be highly unlikely.

[6] *The Architecture and Design Charter High School in Pennsylvania was issued for $8.54 million (dated 3/21/2013) and rated "BBB-" by S&P. Financial issues and the loss of its charter prompted a series of downgrades starting in 2016, to as low as "CCC" in 2019, before eventually closing after which the collateral property was sold with a 100% recovery rate.*

[7] *Since the end of 2022, the Pointe Educational Services (AZ) bonds issued in 2015 for $18,130,000 and initially rated "BBB-" by S&P defaulted due to declining enrollment and discontinued operations. The bonds were restructured with significant changes to debt service schedule and a new school/obligor occupying the facility.*

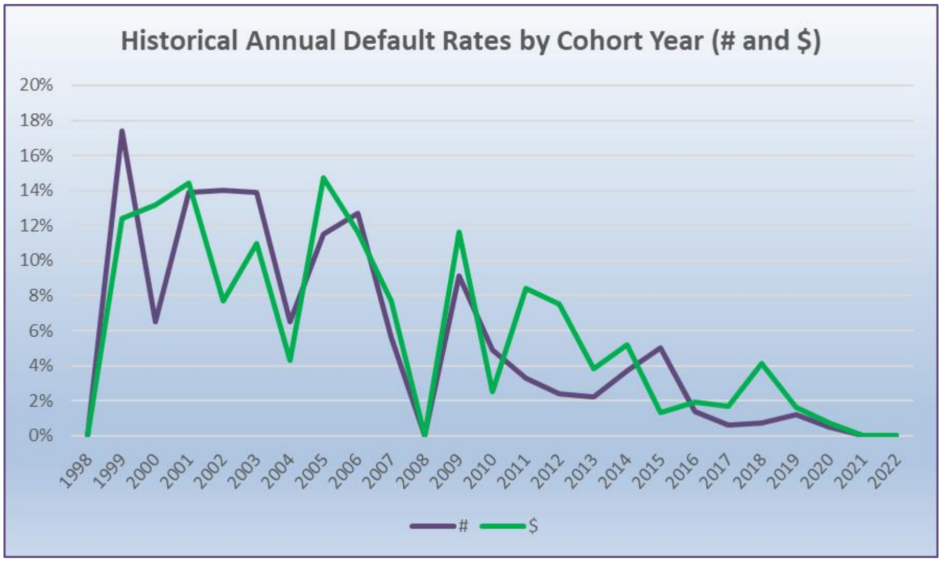
The annual cohort year with the highest number of defaulted transactions was 2007 where 10 out of 89 borrowers missed payments, representing $83.7 million of original par. On a par basis, 2018 had the greatest dollar amount default, $125.7 million, representing seven defaults, three of which were large loans of at least $25 million, including two New York City transactions where the general contractor went bankrupt, and the construction of the new schools were scrapped. Finally, on a percentage basis, the cohort year with the highest percentage of defaulted transactions was 1999—the second year of sector issuance where underwriting standards were a work in progress—where 4 out of 23 borrowers failed to meet scheduled debt service. These four transactions totaled only $12.25 million but represented 17.4% of deals issued that year.




A quick glance at the charts above and below shows relatively low annual default rates over the past five years. One contributing factor to this clear declining trend is that total sector issuance has been highly concentrated during this period with roughly half of all historical volume issued within this window. It is important to note, however, that based on the 99 reported defaults, the median duration between bond issuance and default was only four years.

Over these past 25 years, the median annual default rate by cohort year was 3.7% based on the number of transactions and 4.3% based on par amount issued. During the early years of the sector, the default percentage was almost always higher based on the number of transactions rather than par amount. After the first decade of issuance, that trend reversed itself and the monetary default percentage exceeded the transaction percentage.




Since 2019, however, these rates have closely aligned. Indeed, the median issue size of a defaulted transaction in the first 12 years of the sector was $6.225 million with only three transactions totaling $25 million or more. In contrast, the median issue size of a defaulted transaction over the past 13 years has more than doubled to $12.7 million with 10 transactions that met or pierced the $25 million benchmark.

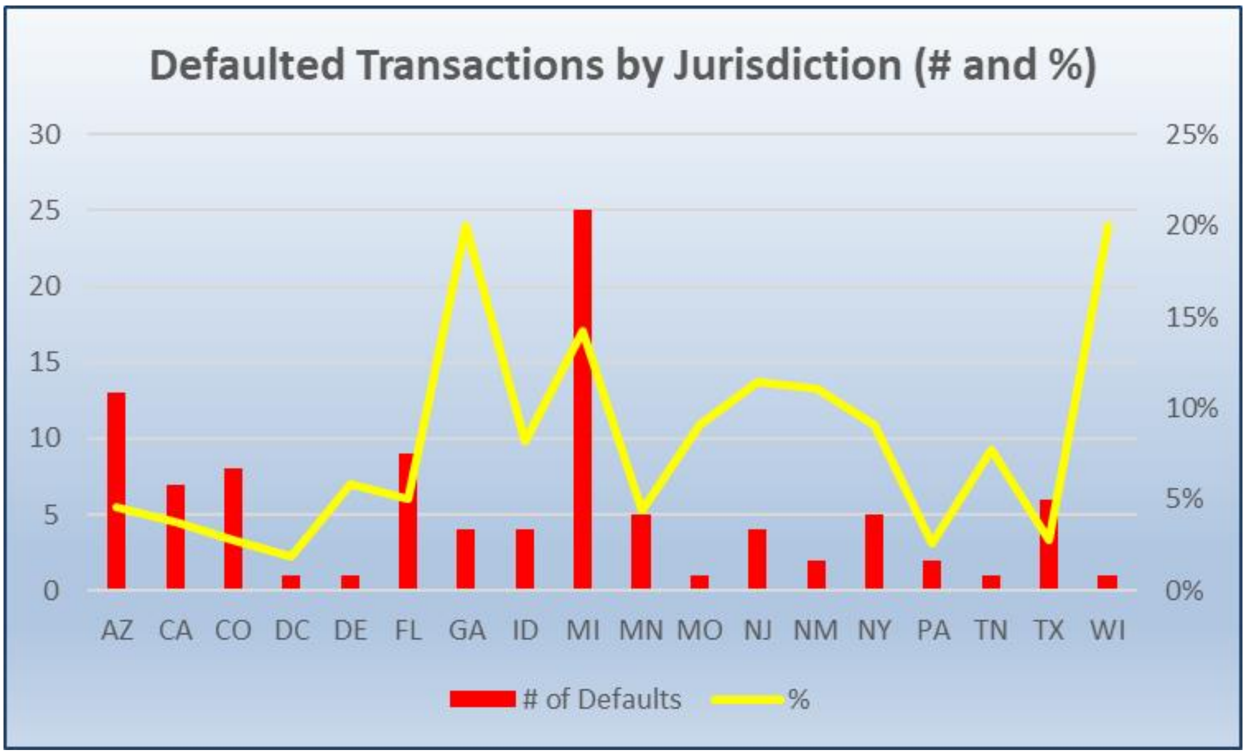
**Defaults by State**

Analyzing the differences in repayment performance based on the location of the charter school, it is clear some states over perform while others have experienced much higher-than-average default rates. Much of these differences can be attributed to individual charter school statutory context and oversight framework, including the strength of authorizers.

Charter school bonds have been issued in 34 different states and the District of Columbia with the number of transactions, and the resulting default statistics, for each jurisdiction varying widely. For example, just six states—Colorado, Arizona, Texas, California, Florida, and Michigan—account for 55% of all charter school bond issues through December 31, 2022. Given this difference in issuance activity, as well as the variation in charter school laws and operating environments in each of these states, it is instructive to see which states have higher incidences of defaults.

As the accompanying chart shows, Michigan had by far the greatest number of defaults at 25, followed by Arizona with 13, Florida with 9, and Colorado with 8, California with 7, and Texas with 6. Minnesota and New York had 5 apiece while Georgia, Idaho, and New Jersey had 4, and New Mexico and Pennsylvania had two each. Another five jurisdictions had only a single default; these include: Delaware, the District of Columbia, Missouri, Tennessee, and Wisconsin. (Note: default state is based on location of charter school and not the location of the issuer, if different.)

Of course, these numbers don't tell the entire story. Despite Minnesota and New York having the same number of defaults (5), their default percentages greatly vary as Minnesota charter school issues total 114 while New York stands well below that figure at 55 transactions, resulting in default rates of 4.4% and 9.1%, respectively. Similarly, Georgia, Idaho, and New Jersey all have four defaults, however, their defaults rates vary significantly with Georgia (4 of 20 transactions defaulted) and Wisconsin (1 of 5 transactions defaulted) each at the highest at 20.0%, New Jersey at 11.4% (4 of 35 transactions), and Idaho at 8% (4 of 49 transactions defaulted).




Given the number of defaults versus the number of transactions issued, it is Michigan that has the worst track record of all 35 jurisdictions. Of the 176 transactions issued by Michigan charter schools as of December 31, 2022, 25 of these transactions have experienced a monetary default. This high number of defaults represent more than a quarter of all defaulted charter school bonds—a major contributing factor to the dramatic fall off in Michigan charter school issuance over the past few years. A number of factors contribute to Michigan's poor repayment performance including:

- Michigan's charter schools are primarily small, stand-alone schools that are more vulnerable to small changes in enrollment or per pupil funding.

- Michigan's economic downturn in 2007-2009 resulted in reduced education funding that many schools could not overcome.
- A generally laissez-faire regulatory environment (think Betsy DeVos) that includes the highest percentage (70% according to the National Education Policy Center of the University of Colorado[8]) of schools operated by for-profit management companies—no other state comes close.
- A highly decentralized authorizer system with few considered highly capable.
- Many of the State's charter schools have accessed the tax-exempt bond market directly, thus bypassing a conduit issuer, public hearing, and eliminating an important layer of due diligence;
- A statutory cap of 20% of per pupil funding that can be used for debt service; and
- Very early charter school bond sector issuance was highly concentrated in Michigan schools — when underwriting standards had not evolved into today's more discerning standards. Indeed, 26% of Michigan school transactions were issued prior to 2003; 55% were issued prior to 2008, and 75% of Michigan charter school deals were issued prior to 2015.

Of note, if Michigan is excluded from the overall total number of issuances and the total number of defaults, the sector's overall default rate would decline materially from 4.3% to 3.5%.

In contrast, states with charter school issuance but zero reported defaults as of 12/31/22 include Arkansas, Connecticut, Hawaii, Illinois Indiana, Louisiana, Massachusetts, Maryland, North Carolina, Nevada, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, Utah, and Washington. Of note is the State of Utah with 121 transactions through December 31, 2022, representing over $1.5 billion of original par, is without a single reported default as of the same date.

Bottom line—although the key to getting charter school bonds repaid on time and in full is choosing a portfolio of fundamentally strong schools—particularly ones that academically outperform surrounding schools, the overall regulatory environment of the state in which the school is located can play a significant part in determining its long-term success.

**Most Prevalent Reasons for Charter School Bond Defaults**

2022 was the 25th year of charter school bond issuance with almost 2,300 tax-exempt transactions executed, totaling more than $41 billion of par. As with most new bond sectors, underwriting standards have evolved and improved over time—perhaps more so with charter schools than other areas of public finance. Long gone are the days when market disclosure data focused on factors that were not particularly helpful in evaluating charter school risk (tax collection rates and top 10 employers, anyone?). Simultaneously, the same official statements were often silent on critical information such as academic results and authorizer details. Today, most investment banks and their counsel do a significantly better

[8] https://nepc.colorado.edu/blog/network-demands

job highlighting the appropriate credit factors necessary to assess each charter school obligor in their respective offering statements.

In analyzing the 99 defaulted transactions by 94 different charter school organizations, the primary causes for an obligor's inability to make scheduled debt service payments were identified as:

- subpar academic results;
- financial stress;
- lower than expected enrollment;
- governance; and
- other

Oftentimes, these reasons are very much related, i.e., where poor academics result in weakening demand and enrollment which then translates into lower revenue and financial stress. There are also indirect factors that can have an impact on a charter school's ability to meet full and timely debt service payments that include:

- weak state regulatory environment;
- inadequate underwriting standards – particularly in the early years; and
- thin or non-existent charter school credit experience by the broker/dealer underwriting the transaction.

The tables on the following pages show the primary and secondary reasons that contributed to each charter school default. Data for these tables were derived from sources that include trustee statements, authorizer reports, and state education department summaries. Because most defaults are caused by more than one factor, we have designated a single primary factor (P) for each transaction based on the focus of the publicly available data. The table also includes, where applicable, one or more secondary default reasons (S).

Due to the sector's evolving underwriting standards—particularly since 2012, we have separated the transactions into two groups in order to determine whether there is any evident of change regarding reasons for charter school defaults. The first group includes those transactions issued prior to 2013 while the second group is composed of those issues executed over the past decade, i.e., 2013 and later.

The first chart, with defaulted transactions issued prior to 2013, comprises 68 transactions. The most prevalent primary reason for this early default group was subpar academic performance representing 29 of the issues. For another nine obligors, poor academics was a secondary default reason. This category was noted as the primary or secondary cause of more than half of all defaults in this group—well more than any other factor.

The next most prevalent reason for default for this group was financial stress (17 primary and 20 secondary). Under enrolment was the reason for 18 transactions (11 primary and 7 secondary while governance was the primary reason for 7 defaults and secondary reason for another 12 transactions. The final reason, Other, was cited as the primary reason for 4 transactions and a secondary reason for two more. In two cases (Renaissance in Colorado and New Beginnings Academy in Michigan), the defaults were so old that no reason was evident. In other cases, the reason was unique such as Mainland Preparatory Academy in Texas where the school tendered its charter after the occurrence of a weather-related catastrophic event, and the resulting delayed insurance pay out. *Note, multiple defaults by the same organization are highlighted by a distinct cell pattern.*

| Dated Date | State | School | Par Amount at Issuance | Subpar Academic Results | Financial Stress | Under Enrollment | Governance | Other |
|---|---|---|---|---|---|---|---|---|
| 8/1/1999 | MI | Capitol Area Academy | $3,280,000 | P | S | | | |
| 9/29/1999 | CO | Renaissance School | $3,690,000 | | | | | P |
| 10/1/1999 | MI | Center Academy | $3,960,000 | P | | | | |
| 12/1/1999 | MN | Village School of Northfield | $1,320,000 | P | | | | |
| 3/1/2000 | AZ | Arizona Charter School Pool | $28,965,000 | | | | | P |
| 6/1/2000 | MI | Sankofa Shule | $2,555,000 | S | S | P | | |
| 5/16/2001 | MI | Detroit Academy of Arts & Sciences | $30,900,000 | S | S | P | | |
| 6/1/2001 | MI | Sauk Trail Academy (Hillsdale Prep) | $2,480,000 | P | | S | | |
| 8/1/2001 | MI | Concord Academy, Antrim (a/k/a Concord Montessori & Community School) | $2,810,000 | P | | | S | |
| 8/17/2001 | AZ | Life School College Preparatory (f/k/a Franklin Arts Academy) | $12,000,000 | S | | | P | |
| 10/1/2001 | MI | Discovery Elementary School | $1,820,000 | | | P | | |
| 1/1/2002 | NY | Central New York School for Math and Science | $6,600,000 | P | | | | |
| 1/16/2002 | DC | Washington Very Special Arts School for Arts in Learning Public Charter School | $4,600,000 | | S | | P | |
| 2/1/2002 | MI | New Beginnings Academy | $2,395,000 | P | | | S | |
| 2/1/2002 | TX | West Houston Charter Alliance (Katy Creative Arts) | $2,830,000 | | | P | | |
| 6/1/2002 | ID | Nampa Classical Academy | $2,485,000 | | P | | | S |
| 6/15/2002 | TX | Mainland Preparatory Academy | $5,455,000 | | S | | | P |
| 8/26/2003 | AZ | Phoenix Advantage Charter School | $10,970,000 | | P | | | |
| 10/22/2003 | CO | Pioneer Charter School | $4,990,000 | | P | | | |
| 11/1/2003 | CO | Leadership Preparatory Academy | $2,120,000 | | | | P | |
| 12/1/2003 | MI | Kalamazoo Advantage Academy | $5,555,000 | P | | S | | |
| 12/3/2003 | CO | Denver Arts & Technology Academy (now Cesar Chavez Academy Denver) | $8,415,000 | P | S | | | |
| 2/1/2004 | AZ | Desert Technology Schools, Inc. | $3,585,000 | S | | P | | |
| 4/1/2004 | MI | Gaudior Academy | $3,075,000 | P | | | | |
| 12/1/2004 | MN | Agricultural and Food Sciences Academy (AFSA) | $8,900,000 | | | P | | |
| 5/1/2005 | NY | New Covenant Charter School | $16,605,000 | P | | | | |
| 7/1/2005 | MN | Minnesota Business Academy | $6,580,000 | S | | P | | |
| 7/21/2005 | PA | Leadership Learning Partners | $10,700,000 | P | S | | | |
| 9/1/2005 | AZ | Premier Charter High School, Air Academy Charter High School | $10,895,000 | S | P | S | S | |
| 10/1/2005 | MI | Marshall Academy | $4,230,000 | | P | | | |
| 12/6/2005 | MI | Plymouth Educational Center Charter School | $13,850,000 | | P | | S | |
| 1/15/2006 | NM | Academy for Technology and the Classics | $6,735,000 | S | P | | S | |
| 1/25/2006 | MN | Seed Daycare (Harvest Preparatory Charter School, Inc.) | $7,000,000 | | P | | | |
| 2/1/2006 | MI | Grattan Academy | $3,800,000 | | P | | | |
| 4/3/2006 | FL | Patriot Charter School | $21,100,000 | P | S | S | | |
| 9/28/2006 | FL | Palm Bay Academy Charter School | $5,920,000 | P | S | | | |
| 11/1/2006 | MI | Dr. Charles Drew Academy | $6,190,000 | P | | | | |
| 12/1/2006 | MI | Crescent Academy | $7,090,000 | | | | P | |
| 12/11/2006 | CO | Brighton Charter School (now Eagle Ridge) | $10,195,000 | S | | | P | |
| 1/1/2007 | MO | Derrick Thomas Academy | $10,615,000 | S | | | P | |
| 3/8/2007 | ID | Hidden Springs Charter School | $5,805,000 | | P | | | |
| 4/18/2007 | CO | Challenges, Choices and Images Literacy and Technology Center | $18,430,000 | P | S | | S | |
| 4/24/2007 | WI | Academy of Learning and Leadership, Inc. | $8,650,000 | P | | | | |
| 7/31/2007 | CO | Northeast Academy Charter School | $5,210,000 | P | | | S | |
| 9/26/2007 | MI | Muskegon Academy | $3,210,000 | P | S | S | | |
| 9/27/2007 | FL | Palm Bay Academy Charter School | $6,260,000 | P | S | | | |
| 9/27/2007 | MI | Bradford Academy | $17,300,000 | P | S | | | |
| 11/20/2007 | MI | Nataki Talibah Schoolhouse of Detroit | $6,415,000 | | | P | | |
| 12/28/2007 | MI | Macomb Academy | $1,800,000 | | S | P | | |
| 2/15/2009 | TX | Raul Yzaguirree Schoool for Success (Tejano Center for Community Concern) | $25,200,000 | | P | | S | |
| 3/10/2009 | ID | North Star Charter School | $11,775,000 | | P | S | | |
| 6/3/2009 | MI | Bradford Academy | $10,720,000 | P | S | | | |
| 4/13/2010 | AZ | Cambridge Academy East | $8,445,000 | | S | P | | |
| 5/20/2010 | NJ | Friends of Central Jersey Arts Charter School | $8,200,000 | P | S | | | |
| 6/30/2010 | AZ | Destiny Community (now Hillcrest) | $4,000,000 | | P | | | S |
| 8/31/2010 | DE | Delaware College Preparatory Academy | $3,610,000 | | P | | | |
| 5/10/2011 | GA | Kennesaw Charter School | $17,450,000 | P | S | S | S | |
| 5/27/2011 | TX | Focus Learning | $9,460,000 | P | | | | |
| 8/4/2011 | NJ | Ace Alliance (Adelaide L. Sanford Charter School) | $8,270,000 | P | | | S | |
| 8/9/2011 | MI | Voyager Academy | $17,935,000 | | P | | S | |
| 9/8/2011 | AZ | Fountain Hills | $2,800,000 | | P | | | |
| 11/3/2011 | GA | Fulton Science Academy | $18,930,000 | | S | | P | |
| 1/19/2012 | MI | Michigan Technical Academy | $16,130,000 | P | | | | |
| 3/29/2012 | NY | Brighter Choice Middle Schools | $15,140,000 | P | | | | |
| 6/29/2012 | FL | Charter Schools of Boynton Beach, Inc. | $9,000,000 | P | | | | |
| 6/9/2012 | FL | Learning Center of Georgia (International Academy of Smyrna) | $15,760,000 | P | | | | |
| 10/4/2012 | CA | Tri Valley Learning | $27,500,000 | | S | P | S | |
| 11/21/2012 | CA | Albert Einstein Academy for Letters, Arts, and Sciences | $6,395,000 | | P | | S | |
| | | Pre 2013 Primary Reason for Default | | 30 | 17 | 11 | 7 | 4 |
| | | Pre 2013 Secondary Reason(s) for Default | | 9 | 20 | 7 | 13 | 2 |
| | | Pre 2013 Total | | 39 | 37 | 18 | 20 | 6 |

The chart below shows the 31 defaults associated with debt issued between January 1, 2013, and December 31, 2022. As with the much larger pre-2013 group, the most prevalent primary default reason in this second group was subpar academic performance with 10 transactions sharing that factor. Interestingly, this reason was only noted as a secondary default reason for one other obligor. A similar number of transactions had financial stress as its primary default factor (with 7 others as a secondary factor) with enrollment, governance, and other factors well behind.

| Dated Date | State | School | Par Amount at Issuance | Subpar Academic Results | Financial Stress | Under Enrollment | Governance | Other |
|---|---|---|---|---|---|---|---|---|
| 2/28/2013 | NJ | Lady Liberty Academy | $10,010,000 | P | | | | |
| 3/6/2013 | MI | Detroit West Preparatory Academy | $5,875,000 | P | S | | | |
| 3/8/2013 | MI | Allen Academy | $17,250,000 | P | S | | | |
| 3/21/2013 | PA | Architecture & Design Charter High School | $8,540,000 | P | S | | S | S |
| 5/30/2013 | AZ | Starshine Academy | $12,700,000 | P | S | | | |
| 3/1/2014 | CO | Ability Connection (Vanguard Classical) | $32,365,000 | | | | | P |
| 6/26/2014 | FL | Palm Beach Maritime | $24,640,000 | | | | | |
| 7/28/2014 | MI | Detroit Service Learning Academy | $6,075,000 | | | | | P |
| 9/12/2014 | GA | Ivy Preparatory Academy | $13,785,000 | | P | | | |
| 10/15/2014 | AZ | Destiny Community/now Hillcrest | $10,500,000 | | P | | | S |
| 12/18/2014 | AZ | PLC Arts Academy | $4,205,000 | | | P | | |
| 12/24/2014 | AZ | Desert View Academy | $13,775,000 | | P | | | |
| 5/8/2015 | CA | Livermore Valley Charter High School (Tri Valley Learning/Independence Support) | $25,540,000 | | S | P | S | |
| 7/15/2015 | CA | Children of Promise Charter School | $5,415,000 | | P | | S | |
| 4/8/2016 | MN | Stride Academy | $16,690,000 | P | | | | |
| 4/15/2016 | AZ | Park View | $7,620,000 | | P | | | S |
| 4/26/2016 | NM | Alice King Community School | $6,855,000 | | P | | | |
| 12/15/2016 | FL | Aspira | $24,700,000 | P | S | | S | |
| 3/21/2017 | CA | Guidance Charter School | $29,580,000 | P | | | | |
| 5/11/2017 | ID | Village Charter School | $5,080,000 | | P | | | |
| 11/16/2017 | TN | Knowledge Academies | $26,860,000 | S | P | | S | |
| 2/9/2018 | CA | Epiphany Prep School | $5,500,000 | P | | | | |
| 6/11/2018 | CA | Ivy Academia | $25,000,000 | | | P | | |
| 9/6/2018 | NY | Friends of Hebrew Public | $36,010,000 | | | | | P |
| 9/12/2018 | NJ | University Heights Charter School | $14,720,000 | P | | S | | |
| 10/30/2018 | NY | American Dream | $26,745,000 | | | | | P |
| 11/29/2018 | FL | Championship Academy of Distinction (Davie) | $8,910,000 | | S | P | | S |
| 12/20/2018 | FL | Championship Academy of Distinction of West Broward | $8,800,000 | | P | | | |
| 6/1/2019 | TX | SSS Education Foundation - Pioneer Technology & Arts Academy | $53,000,000 | | P | | | |
| 6/28/2019 | FL | Athenian Acacdemy | $7,200,000 | | | P | | |
| 3/10/2020 | TX | SSS Education Foundation - Pioneer Technology & Arts Academy | $28,700,000 | | P | | | |
| | | Post 2012 Primary Reason for Default | | 10 | 10 | 5 | 0 | 4 |
| | | Post 2012 Secondary Reason(s) for Default | | 1 | 7 | 1 | 5 | 4 |
| | | Post 2012 Total | | 11 | 17 | 6 | 5 | 8 |

While poor academics continue to be a likely reason for bond default, a review of the two default groups shows an interesting trend. For the first group from 1998 through 2012, 55.9% of transactions were tied to poor academics with a still high, but much lower metric, 35.5%, for the second group of defaulted transactions issued between 2013 through 2022. Indeed, the most recent defaults that have occurred have seen varied reasons for defaults. For example, two transactions where new facilities were constructed went sideways due to the bankruptcy of the general contractor.

This trend is likely due in large part to market participants—particularly experienced bankers and investors—placing a much greater emphasis on high quality academics. Moreover, charter school authorizers are also focusing on this critical factor and have implemented higher academic standards for new charter applications as well as subsequent renewals.

Market participants are also emphasizing quality governance which may explain the reduction in the percentage of transactions citing this reason as a contributing default factor. Specifically, there was a decline from 27.9% of all defaults for those issued prior to 2013 compared to 16.1% of those defaulted transactions issued after 2012. Once again, authorizers are taking this component much more seriously than just a few years ago as is the case for most charter school investors.

As the charter school sector continues to mature, EFF expects these trends to solidify, resulting in a lower percentage of defaults caused by poor academics or weak governance. Conversely, we expect to see a higher default percentage due to lower than expected enrollment numbers and the concomitant weakening of financial position. Moreover, while EFF believes the sector's much improved underwriting standards will translate into more favorable default rates in the future, it will likely take a few more years before these metrics are materially lower than current default rates.

**Default Rates by Underwriting Firms**

While investment banks are certainly not responsible for charter schools failing to meet their debt service obligations, there are vast differences in the performance of charter school bonds based on which firm underwrote or placed the bonds. While many of the defaulted transactions issued in the early days of the sector—and executed by a much more limited number of firms—can be attributable to the generally weak underwriting standards that prevailed back then, there appears to be a high correlation between firms with thin charter school experience and the percentage of bonds that go bad.

Underwriters and placement agents play the critical role of bringing charter school borrowers and investors together as part of the complex tax-exempt bond issuance process. While investor appetite ultimately determines which transactions get executed, underwriting firms—and their senior investment bankers—are the gatekeepers to the bond market. One of the first phases of shepherding these deals to the closing table is the assessment by the underwriter/placement agent of the borrower's general creditworthiness.

Over the past 25 years, a total of 95 underwriting firms have acted as sole or lead underwriter or placement agent on charter school transactions. That number is reduced to 77 by consolidating those firms that have merged and/or changed their names.

Of these 77 firms, 10 have default rates at or above 10%. The table to the right shows those firms that either 1) have had at least one default as lead underwriter or placement agent that occurred within five years of issuance or 2) have executed at least 50 transactions, regardless of whether any have defaulted.

| Investment Bank[1] | # of Total Deals Defaulted Within 5 Years | # of Deals Executed | % |
|---|---|---|---|
| Ziegler | 0 | 95 | 0.0% |
| PNC | 0 | 54 | 0.0% |
| Stifel/Merchant | 1 | 84 | 1.2% |
| RBC/Dain Rauscher | 3 | 227 | 1.3% |
| Baird | 3 | 219 | 1.4% |
| Truist/BB&T | 4 | 198 | 2.0% |
| D.A. Davidson/Kirkpatrick Pettis | 10 | 315 | 3.2% |
| Piper Sandler/Jaffray | 8 | 189 | 4.2% |
| Fifth Third | 1 | 19 | 5.3% |
| Colliers/Dougherty | 5 | 81 | 6.2% |
| Oppenheimer | 1 | 14 | 7.1% |
| Miller Johnson/John J. Kinard | 4 | 54 | 7.4% |
| H.J. Sims | 4 | 46 | 8.7% |
| BofA | 1 | 9 | 11.1% |
| Lawson | 3 | 20 | 15.0% |
| Westhoff | 1 | 6 | 16.7% |
| Gates Capital | 2 | 10 | 20.0% |
| Jefferies/DEPFA/First Albany | 1 | 5 | 20.0% |
| Alamo Capital | 1 | 3 | 33.3% |
| R. Seelaus | 3 | 6 | 50.0% |
| Loofburrow | 1 | 2 | 50.0% |
| Powell Capital | 2 | 2 | 100.0% |
| Hapoalim | 1 | 1 | 100.0% |

[1] On list due to 1) an average default rate above the sector average of 4.3%; or 2) firm has executed more than 50 deals

The table also includes the total number of tax-exempt charter school transactions executed for each firm and the percentage of these deals that have experienced a monetary default within five years. We have deliberately excluded defaults that occurred more than five years beyond bond issuance as any signs of future default would be extremely difficult to discern. After all, there is an enormous difference between the $2,395,000 New Beginnings (MI), Series 2002 underwritten by Miller Johnson that defaulted 16 years post issuance and the $18,930,000 Fulton Science Academy (GA), Series 2012 underwritten by Merchant

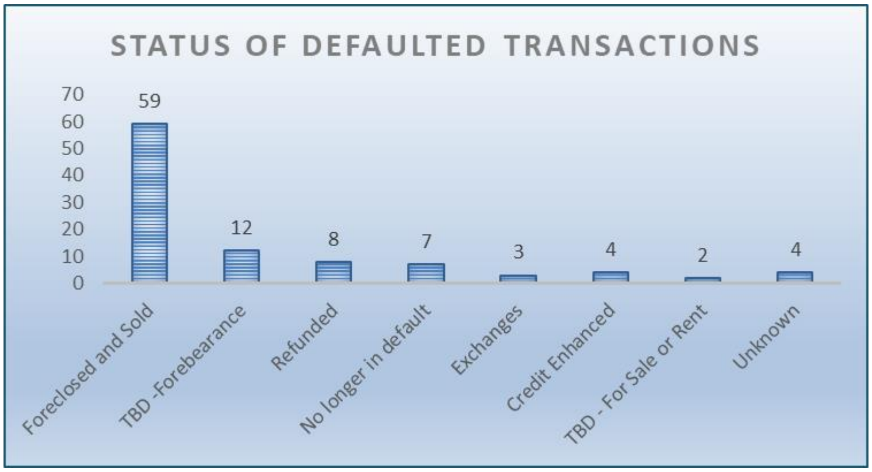
Capital (now Stifel) whose authorizer announced it would not renew its middle school charter just 50 days following bond issuance.

The good news is that most of the firms with very high percentage of defaulted bonds are no longer active in the sector and many have completed closed shop. Today's leading charter school bankers are extremely knowledgeable in the sector due to many years of experience underwriting hundreds of charter school bonds. Indeed, there are a handful of firms with extraordinarily low percentages of underwritten bonds that eventually defaulted. As of December 31, 2022, these include Baird with a total of 219 transactions and 3 defaulted bonds within five years, or 1.4%, RBC/Dain Raucher at 227 total transactions and three defaults, or 1.3%, and Stifel/Merchant Capital with 84 transactions and 1 underwritten bond that subsequently defaulted. Two firms stand out that have executed more than 50 transactions through 2022 with zero monetary defaults as of the same date, i.e., Ziegler with 95 transactions and PNC with 54 transactions. While these percentages could change for any or all these firms, it still represents a particularly strong track record.

### Recovery Rates

Based on an analysis of each reported default, the charter school sector has a very wide range in recovery rates investors have received upon final disposition of defaulted bonds. Of the 94 obligors that have defaulted on 99 charter school tax-exempt bond transactions, the outcomes of these credits have been mixed with 14 still not yet finalized.

As of December 31, 2022, and excluding the four rated credit-enhanced transactions (only three were publicly rated), the most prevalent (59 transactions) final disposition is the sale of the collateral buildings to a third party—often for substantially less than outstanding par. As of the same date, the status of other defaulted transactions includes ongoing forbearance agreements (12 cases), refundings—all with 100% recovery rate of 100% (8 transactions), facility being rented out by a new charter school (2 cases) and in seven instances, full repayment by the obligor of all missed payments.




In three other cases, investors exchanged the old bonds for a new series of bonds. In two of these circumstances, the bonds were exchanged and backed by a new obligor charter school, while one transaction, the remaining bonds were exchanged for bonds with the same obligor. These bond exchanges generally result in significantly higher recovery rates than a direct sale to a third party. Indeed, in two of the three exchanges, recovery rates were 100% with the third at 62.1%. Finally, there are four transactions for which there is insufficient information to determine their status.

More good news: overall recovery to bondholders as a percentage of bonds outstanding has been trending upwards. To date, facilities pledged to 59 transactions have been foreclosed on and sold, with ultimate bondholder total recovery ranging from a low of 2.8% ($2,555,000 of Series 2000 for Sankofa Shule, Michigan) to a high of 100% for 10 distinct property sales, with a median of 62.3%. This median is up substantially from the 42.9% reported in 2016. Moreover, the current median increases to 69.1% if you combine the 59 foreclosure property sales with the refundings, bond exchanges, and those obligors which were able to overcome the default and make all debt service payments current again. *Note: Recovery is based on the total dollars received post default despite how each trustee allocated such proceeds.*

The chart below shows the wide range of recovery rates for all 78 resolved unenhanced bond defaults for 74 obligors that have been resolved and have sufficient information to garner recovery rates, including foreclosure/sale, bond exchanges, refundings, and the repayment of all outstanding past due amounts.

Final payment resolution is still pending on another 14 obligors. In two cases, the original schools that accessed the bond market have closed; however, the facilities that were financed and represent the collateral for bondholders are now occupied by substitute schools with rents covering all or a portion of the scheduled debt service obligations. The remaining 12 pending transactions are in forbearance in which they have altered the school's repayment schedule in the hopes that the school's cash flows will improve to the point where principal and interest payments can resume in full.

In the final seven transactions, the school has repaid all past due payments and is no longer considered in default. In certain cases, these schools emerged from a forbearance agreement.

**Future Default Rate Expectations**

It's clear that default rates have trended materially lower as the sector matures. But have the sector's improved underwriting standards really made a difference in the more recent annual default rate trends? And if so, should we expect improvement to continue?

To isolate the older transactions that likely would not get sold in today's market (or in the future) given higher underwriting standards, we re-analyzed the sector, but this time limited the transactions to the last 10 years. Using this more recent portfolio which represents more than 80% of all issues, default rates decline considerably to 2.1% based on number of issuances and 1.6% based on par mount issued. These results should bode well for default rates over the long-term. Of course, these metrics are likely somewhat understated as the most recent transactions are less likely to default given the scrutiny associated with a bond transaction by bankers, rating agencies, and investors.

While no one has definitive insight into the future payment performance of charter school transactions, default and loss ratios as of December 31, 2022, indicate the continuing maturity of this bond sector. EFF will continue to track default and loss rates to see how much of an effect the current challenges facing charter schools, including substantially higher interest rates, inflation, cessation of federal COVID-related grants, and enrollment losses in some areas, have on these key metrics.