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**Methodology for the Evaluation of Charter School Debt**

In this document HR Ratings details our methodology for the evaluation of the credit quality of U.S. charter schools (independently operated institutions subsidized by state governments). Our methodology is principally based on the issuer's historic, current and projected financial statements as well as on student enrollment, insofar as the latter is the primary revenue driver. Also of crucial importance is the level of risk arising from the possibility of losing its license to operate as a charter and more generally the political risk associated with this asset class.

HR Ratings' credit risk analysis reflects our view of the issuer's ability and willingness to make interest and principal payments promptly and in full. Our ratings do not reflect expected recoveries in the event of default, nor do they incorporate views about non-credit factors that may impact the trading price of the issuer's bonds or their liquidity.

Our credit rating of these entities makes use of the financial model in our Corporate Debt Credit Risk Evaluation Methodology, taking into account the adjustments required by the peculiarities associated with this asset class and in accordance with that set forth in this document. This methodology evaluates the credit quality of an entity and its debt whose normal servicing is not given any "structured preference" relative to other forms of debt. However, the final credit ratings of specific debt obligations linked to the underlying entity rating (UER) may be adjusted based on preferences that it might enjoy in situations of distress.

- The rating process consists of two basic components. First, the determination of an Initial Rating (IR), which is quantitatively derived, based on the results of a base and stress case forecast scenario. Second, a qualitative process that may make multi-notch adjustments to the results of the IR by taking into account various qualitative factors that could have an impact on an entity's credit risk.
- For each scenario and for each forecast time period four key metrics will be calculated: 1) debt service coverage ratio (*DSCR*), 2) debt service coverage ratio including cash (*DSCRC*), 3) the number of years required to pay the debt, or the years of payment ratio (*YPR*) and 4) the marketable assets to liability coverage ratio (*MALC*).
- The core concept used to measure the first three metrics is Free Cash Flow (*FCF*), which differs from Operating Cash Flow by its incorporation of the concept of maintenance capital expenditures.
- The weights determined for each metric and year within the forecast period will not vary from one school to another. However, the metrics themselves may have different weights relative to each other, although these differences will be maintained for each year in the forecast period. Furthermore, the relative importance of each year within the forecast period will also remain unchanged across all entities within an asset class.

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Although Charter School debt is rated using important concepts of our corporate methodology, we regard it as a subset of our public finance asset class. This is due to the fact that the source of payment is ultimately derived from tax revenues, which is a distinguishing characteristic of the public finance asset class.

### Basic Concepts and Definitions

In this document HR Ratings details the adjustment of our Corporate Debt Credit Risk Evaluation methodology to the peculiarities of U.S. charter school debt. Our methodology is principally based on the evaluation of the issuer's historic, current and projected financial statements as well as student enrollment, which generally is the primary revenue driver. Extremely important is our evaluation of the risks associated with the retention of the charter license when outstanding debt exists.

HR Ratings' credit risk analysis reflects our view of the issuer's ability and willingness to make interest and principal payments promptly and in full. Our ratings do not reflect expected recoveries in the event of default, nor do they incorporate views about non-credit factors that may impact the trading price of the issuer's bonds or their liquidity.

This methodology will grant an Underlying Entity Rating (UER), similar to what is defined in our Corporate Debt Credit Risk Evaluation methodology. The Charter Schools UER takes into account the adjustments required by the particularities associated with this asset class and as discussed in this document. This methodology focuses on the forecasting of cash flows under base and stress case scenarios and the resulting ability to meet debt servicing obligations, largely as reflected in key metrics such as debt service coverage ratios (DSCR) and years of debt relative to free cash flow. This generally involves the degree of stress that an entity can support relative to a base case scenario and at the same time continue as a going concern.

In our analysis of a Charter School UER we need to be able to assume that the entity is a "going concern" (implying that it will be able to maintain its operations over time), as reflected in its financial viability. In the case of a charter school we look to the possibility of making a similar conclusion. However, we must also examine the nature of the school's regulatory regime to evaluate possible risks such as the maintenance of required academic performance levels; hence, its ability to operate and thereby pay its debt.

The first section of this document offers a general description of charter schools, their basic characteristics and the credit risks this type of institution typically faces. The following section will thoroughly describe how HR Ratings will determine the Quantitative Rating.

Lastly, in the final section we will discuss the different qualitative aspects that the methodology considers noting the manner in which way these will affect the quantitative rating granted.

### General Description

According to the National Alliance for Public Charter Schools (NAPCS), over 2.5 million students are enrolled in nearly 6,440 charter schools around the United States for the 2013-14- academic year (AY). This stands in contrast to

AY 2000-01, in which charter schools accounted for only 459 thousand students, less than 20% of the current head count.

Charter schools, regarded as public schools, are allowed to implement their own policies, methods and curriculum, hence offering alternatives to traditional public schools, facilitating experimentation and permitting greater parental involvement and choice. As a result, as their growth in enrollments suggests, charters have been successful in attracting students.

Despite their greater flexibility and independence, charter schools are public in nature as they receive between 70% and 90% of their funding from the state. In fact, these schools operate under contract with the state and thus need to fulfill these contractual obligations within a predetermined time frame, risking revocation of the charter license should they fail to comply with said obligations.

Proponents of charter schools consider them to be among the top- performing institutions in the United States, at least in relative terms given the socioeconomic background of their student bodies. Charter schools can also generally be set up more quickly than a traditional public school, depending on the legislation of each states. They are open to all students, do not charge tuition, and generally do not have any special entrance requirements.

By the 2012-13 academic year, there were only eight states in the United States. remaining without legislation permitting them to operate this type of schools, while in states such as Arizona, California, Colorado, Florida, Louisiana, Michigan, New York, Ohio and Texas charter schools have thrived for the past decade. Their success comes despite the challenges posed by legislative oversight and funding limitations. States provide a predetermined stipend for each student enrolled in government subsidized charter schools. Charters may also obtain revenue from donations or some extracurricular activities, these, however will usually represent a small amount compared to state funding.

Charter schools face tough competition, not just from traditional public schools (which may be better funded), but also from private schools and other charters. Because most of their funding depends on the number of students enrolled, generating demand is essential for financial viability. Usually, academic performance drives demand, so the charters with longer waiting lists are often those that are more likely to perform well vs. local public schools.

Academic performance not only drives demand, it is also the primary factor leading to charter license revocation. Given their experimental nature one would expect that charter schools will continue to emphasize curricular innovation and meeting individual student needs. As the number of charter schools increases we expect that competition for students will probably intensify. According to the NAPCS, during the 2012-13 academic year, 206 charter schools closed, while 642 opened the following year, a 3 to 1 ratio. Startup charters tend to replicate existing and proven models, further intensifying competition.

Additional challenges for underperforming charter schools come with new academic performance standards imposed by each state, as well as enrollment caps. This challenge has to be understood within the context that charters receive significantly less funding per student than traditional public schools. This usually means that charters cannot offer certain services to students that traditional public schools can, such as transportation or better facilities. Of course there is the possibility that students who do not migrate to charters might present more challenges to teachers thus requiring more generous funding. Further risks include aggressive expansion plans that can compromise their financial stability and socioeconomic stress or unfavorable demographic trends that could harm enrollment levels, increasing competition among the schools in the area.

As demand for charters schools grow, so too the need to accommodate more students. Management teams and boards of directors are becoming more sophisticated in order to adapt not only to state legislation but also to increased student demand. As revenue sources remain limited, charter schools have turned to the debt market in order to improve their services by providing better facilities to properly serve this increasing demand.

Independently of the isolation of the revenue source, charter schools' credit quality is threatened by other factors, mainly: state funding cuts or delays and constant fluctuations on enrollment levels, which remain as the main source of income. Limited expertise from the management team will be reflected in the financial statements, severely hindering the issuer's financial flexibility. The accumulation of cash is particularly relevant as it serves as protection from any unexpected event. In contrast, ambitious and rapid expansion of capacity financed through debt may create financial vulnerabilities in the future under stress scenarios. For its part, academic performance not only has an important role in determining demand but it also serves as the entity's best defense against charter revocation, as most states condition charters to the attainment of a required academic level and to an acceptable financial performance.

Despite state approval, municipalities may oppose charter schools. Thus political risk must take into consideration opposition at the state, municipal and community levels. Generally, states have the authority to grant or revoke charters, but in some states municipalities exercise these functions.

### Quantitative Analysis

In order to determine a quantitative UER for a Charter School, HR Ratings applies a similar analysis to its Corporate Debt Credit Risk Evaluation methodology, which includes specific profitability ratios and determines if the future cash flow generation will be able to cover at least operating expenses and debt service.

The multi-year forecasts that form the core of the quantitative Charter School UER process incorporates full financial statements: income or financial activities statements, balance sheets and cash flow statements. For the first two metrics the key variables are free cash flow (*FCF*) and debt service (*DS*). The

concept of *FCF* and its measurement require some detailed analysis, as well as the metric utilized that are shown below:

$$DSCR = \frac{FCF}{DS} \quad (1)$$

$$DSCRC = \frac{FCF + \text{Available Cash}}{DS} \quad (2)$$

$$YPR = \frac{\text{Net Debt}}{FCF} \quad (3)$$

$$MALC = \frac{\text{Marketable Assets}}{\text{Liabilities}} \quad (4)$$

Figure 1 below offers a hypothetical example of how these metrics are calculated once all the relevant information has been incorporated into the model. The example demonstrates how the metrics are derived for a single year. How HR Ratings performs its dynamic analysis will be described in the next section.

Figure 1: Metrics for a Hypothetical Charter School

Operating Cash Flow	Interest Income	Maintenance Capital Expenditure	Free Cash Flow
\$9,852,183	\$49,144	\$2,789,652	\$7,111,675

Free Cash Flow	Interest Payment	Principal Amortization	Debt Service	Debt Service Coverage Ratio (DSCR)
\$7,111,675	\$3,465,874	\$1,986,325	\$5,452,199	1.30

Free Cash Flow	Available Cash	Free Cash Flow plus Available Cash	Debt Service	DSCR with Available Cash
\$7,111,675	\$2,987,523	\$10,099,198	\$5,452,199	1.85

Net Debt	Free Cash Flow	Years of Payment Ratio (YPR)	Marketable Assets	Total Liabilities	MALC
\$37,452,369	\$7,111,675	5.27	\$22,569,874	\$21,487,985	1.05

Source: HR Ratings, hypothetical case

The process of determining the Quantitative UER involves the evaluation of two sets of values for a base and a stress case scenario for a Charter School. For each scenario, the number of values is equal to the product of the number of metrics and the number of time periods over which metric values are determined. This evaluation requires that each measured metric value be normalized. The normalized value describes a relative position within the relevant asset class; hence, the measured value for every metric in its normalized form will have a value between zero and one.

This range of normalized values is equivalent to the range of credit rating letter grades from the HR Ratings' scale. This concept is shown below:

$$\begin{aligned} z &= \text{A specific letter rating in HR Ratings' scale} \\ 1 &= \text{HR AAA} \\ 0 &= \text{HR C-} \\ \text{Where: } 1 \text{ and } 0 &\text{ are possible values of } z \end{aligned}$$

The basis for the conversion of a measured metric value into a normalized metric value and the conversion of a normalized value into a letter credit rating will be the same for every Charter School.

The methodology makes it possible to conceptualize a metric value in terms of a partial credit rating. The Quantitative UER itself is the weighted total value of the set of normalized metric values. The normalization process makes it possible to give the desired weight to each value within the set and derive the sum total.

Each year and each metric within a given asset class is awarded a specific weight, while each scenario is given its own relative weight. The weight assigned to a particular year declines the further out it is on the forecast time horizon, as expression (5) below shows:

$$\xi_0 \geq \xi_1 \geq \dots \geq \xi_i \geq \dots \geq \xi_n \quad (5)$$

Where:  $\xi_t$  stands for the weight of year  $t$ , with  $t = 0, 1, 2, \dots, i, \dots, n$ .

The weights described in this section will remain the same for both the base case scenario and the stress case scenario; the differences and similarities of both scenarios will be discussed later.

Equation (6) below shows, in formal algebraic terms, the process in determining the rating for a specific year (metric weighted basis), according to the normalized values for the metrics described in equations (1) through (4):

$$R_t = \alpha(DSCR_t^N) + \beta(DSCRC_t^N) + \gamma(YPR_t^N) + \delta(MALC_t^N) \quad (6)$$

Where:

$R_t$ : Represents the rating for the year  $t$ , when  $t = 1, 2, 3, \dots, N$ .

$DSCR_t^N$ : Represents the normalized value for the  $DSCR$  metric in year  $t$ .

$\alpha$ : Represents the weight for the  $DSCR$ , this value remains constant for every  $t$ .

$DSCRC_t^N$ : Represents the normalized value for the cash infused  $DSCR$  in year  $t$ .

$\beta$ : Represents the weight for the cash infused  $DSCR$ , this value remains constant for every  $t$ .

$YPR_t^N$ : Represents the normalized value for the years of payment ratio in year  $t$ .

$\gamma$ : Represents the weight for the  $YPR$ , this value remains constant for every  $t$ .

$MALC_t^N$ : Represents the normalized value for the marketable assets to liabilities coverage in year  $t$ .

$\delta$ : Represents the weight for the marketable assets to liabilities coverage, this value remains constant for every  $t$ .

Equation (7) below shows the formal process in determining the rating for a specific metric (giving differential weights to each time period), according to the normalized values found in equation (6) and the year's weights found in equation (5):

$$R_m = \sum_{t=0}^n \xi_t (m_t^N) \quad (7)$$

Where:

$R_m$ : Represents the rating for the metric  $m$  across time.

$m_t^N$ : Represents the normalized value of the metric  $m$  for the year  $t$ , where  $m \in \{DSCR, DSCRC, YPR, MALC\}$ .

$\xi_t$ : Represents the weight for the year  $t$ , this value holds for every  $m$ .

### Time Frames and Scenario Descriptions

Ideally, this methodology assumes the existence of five years of historical data to serve as the basis for making projections. However, in the absence of such history, the analysis committee will decide whether, within the context of each Charter School, the information available is minimally acceptable in order to proceed with a UER. In intermediate cases (less than five years and more than minimally acceptable) adjustments to the quantitative UER may be made in order to incorporate the increased credit risk arising from the absence of historical information. This adjustment is made in the qualitative component of the rating process. The adjustment may also be made when the analysis committee determines that the quality of the information is insufficient.

The base case scenario represents HR Ratings' estimate of the most likely evolution over time of the entity's financial position. It considers guidance provided by an issuer's management team, but in no way does it necessarily incorporate that guidance as given. The stress case scenario assumes a less favorable mix of assumptions relative to those utilized in the base case scenario.

To the greatest degree possible, the stress case assumptions are determined in relationship to the base case assumptions (e.g., x% reduction in the growth rate of student enrollment) and are standardized for all schools. The stress case scenario may also incorporate different assumptions, unique to a specific entity; for example, the stress case may consider less favorable outcomes such as less attendance rates than expected, or a significant increase in debt burden after embarking on a sizeable project that could severely affect an entity's financial position.

The base case scenario should have a larger weight as it has a greater probability of occurrence than does the stress case scenario. Based on this, HR Ratings gives a 70.0% weight to the base case scenario and 30.0% to the stress case scenario. The same weights hold for every charter school that is rated by HR Ratings. Also, the weights for every year and every metric will hold for both the base case scenario and the stress case scenario for all the charter schools that are rated by HR Ratings.

### The Determination of the Quantitative UER

Equation (7) displays how HR Ratings determines the rating for a specific metric for either a base or stress case scenario. The following equation (8) shows how the rating is determined for the whole scenario:

$$\text{Scenario Rating} = \sum_{t=0}^n \xi_t (R_t) \quad (8)$$

The above formula sums the product of each metric and its respective weight for each year in the forecast period. Once this process has been completed for both the base and stress case scenarios, the IR can be determined by considering each scenario's weight, as equation (9) illustrates:

$$\text{Quantitative UCR} = \sum_i \varphi^i \left[ \sum_{t=0}^n \xi_t (R_t^i) \right] \quad (9)$$

Equation 9 merely builds on equation 8 incorporating more than one scenario,

Where:

$R_t^i$ : Represents the rating for the scenario  $i$  for year  $t$  where  $i = \{\text{Base scenario}, \text{stress scenario}\}$ .

$\varphi^i$ : Represents the weight for each case scenario, which may vary but any change will be applied similarly across each entity rated.

Although each year has its own weight, it will remain the same in both scenarios; the qualitative component permits rewarding or penalizing the final



rating by incorporating the trends observed over time in the evolution of the relevant metrics.

### Qualitative Analysis

Charter schools face risks that cannot be properly incorporated within the quantitative model. Some factors are not under the direct control of the entity and will not be reflected in the financial statements. For example changes in the regulatory environment (positive or negative), changes in the level of funding beyond the risk parameters incorporated in the stress scenario, changes in student characteristics that make it more difficult or less to maintain past academic levels. These risks include the revocation of the charter. These factors may alter the Quantitative Rating by more than one notch in either direction, and will only be incorporated if the Analysis Committee so determines.

This section emphasizes these factors by dividing them into three categories, which are as follows:

- Management and Future Debt Instrument Issuance
- Demand Factors
- State Regulation and Legislation

We will then show how these considerations may determine the Final Rating.

#### Management and Future Debt Issuance

Charter schools usually begin with a project established by a few founders, but as success comes in and student head count increases, more sophisticated management is required. HR Ratings will determine the strength and diversity of the management team and the board of directors by analyzing each member's experience and field of expertise.

A higher rating typically implies that the division of labor within the management team is clearly defined. We would expect to see some members with specific areas of expertise, such as administrative, fiscal and academic. Some charter schools may opt to contract an external financial management organization to perform that function. In these cases we will determine the experience of the organizations and whether said contract provides a cost-effective alternative. If a school outsources other specialized services, we will apply the same procedures as defined here for financial management.

With the increase in student enrollment, charter schools face the need for better and larger facilities. New debt issuance is the only means available for some schools to finance the investment needed for such infrastructure projects, thus increasing potential risk.

Capable management is necessary, insofar as the investment via debt will now require not only debt servicing costs but also higher maintenance expenses.

Larger student enrollment is also necessary to defray the higher costs with the attendant risk that quality may decline thus risking charter revocation.

Expansion may also require the addition of new grade levels increasing the complexity of the services provided. New teachers need to be contracted and facilities accommodated for more students, while sustaining the academic level. For this reason HR Ratings will also evaluate the experience of the teaching staff as well as their past accomplishments.

### **Demand Factors**

#### **Demographic Trends and Competition**

Student demand, and ultimately enrollment, is a key element in the evaluation of a charter's credit quality. Most of the charter school's funding depends on the student headcount, as state funding transfers are calculated on a per student basis. HR Ratings will closely analyze the demographic profile in the charter school's market to determine if there is a demand for the service provided. This is why it is very important to determine the service area (or the total available school age population) to which the school philosophy is suited. The area determination will also consider transportation services available in the area of the facilities. A better-connected school will usually have a larger student body. Of course, economy of scale factors will be incorporated into the analysis as some smaller schools may easily operate with fewer students, while larger schools might require a greater enrollment to cover their fixed costs.

As for demographic factors, HR Ratings will conduct a study of historical data and make a future projection of such population dynamics as: the age distribution, growth trends or housing and services projects, and migration trends.

These factors will be reflected in each school's enrollment trends. A stable or growing trend, with good retention rates, will typically imply suitable population dynamic for the targeted area. We expect the charter school to have historic data for every year since operations began, as well as a reasonable projection for future enrollment that permits meeting its debt service obligations. HR ratings will not necessarily utilize these projections in the development of its base case scenario but will take them into consideration as an additional analytical tool. HR Ratings will also want to see a complete history of the charter's academic performance indicators.

Another major factor in addition to the population dynamic is the existing competition in the targeted area. Public schools, private schools and other charter schools will consume student demand; hence, HR Ratings will want to analyze enrollment trends for these institutions to better determine the threat that these represent to each other. We will also want to see academic performance indicators for competing charters. The best way by which HR Ratings could evaluate the relative performance of the charter school being rated is by means of a review of the historic enrollment data (described above) as well as a well-documented and continuously updated waiting list. The

second variable is the best indicator for comparative performance and will also indicate a school's capacity to embark on future facility expansion programs that require the issuance of new debt instruments and increased state funding. This will be necessary if there is a rapid pace of development in the area surrounding the charter schools attracting increased student populations and demand.

In order to understand the competitive environment within which these schools operate, HR Ratings will also take into consideration the financing mechanisms for traditional public schools. Although generally charter schools may receive less per student enrolled than the overall statewide public school system, there could be variations across local school districts. This could impact the relative competitiveness of individual charter schools.

Regarding funding, charter schools may have very specific advantages over traditional public schools and private schools. For example, if public schools depend upon the local municipal tax base and if that tax base deteriorates, in contrast to what might occur at the state level, the charter school might find itself at an advantage in comparison its competitors in traditional public schools. Of course, the opposite dynamic could also come in to play.

### **Academic Performance and other Services**

Charter schools often score better than comparable conventional public schools in standardized tests and may even be competitive vs. private schools, especially on a cost-benefit basis. Thus, as a result, they present themselves in the community as an educational alternative to local public and private schools. Academic performance is the strongest factor that determines demand and will distinguish one charter from another. As we noted above, a strong and consistent waiting list will typically indicate that a charter school outperforms its immediate competition.

Students and parents hold different consumption preferences, which is why academic performance will not be the only variable to consider when enrolling in a different school. Older students tend to prefer schools that have bigger facilities equipped for different activities such as arts and sports. Parents with younger children will look for schools that have their own transportation services and that offer after –hour activities or day care services. The ability to provide extracurricular activities that will complement student's abilities and curriculum can be a decisive differentiating factor for students in the process of applying for college.

Academic performance is an important factor that can affect the license renewal. Better facilities will increase maintenance cost (with greater fixed and variable costs) and other services will drive operating costs. A charter school needs to understand its limitations considering its demand and should adapt by finding and optimal operating strategy.

### State Regulation and Legislation

#### State Support

Each state in which charter schools are allowed to operate has developed its own legislation regarding the subject. As a result, each regulatory framework can be substantially different. HR Ratings accounts for these factors but still considers that certain common characteristics can benefit or greatly increase the credit risk of charter school operation.

In some states funding levels have fallen over the last few years, forcing charters to better manage their costs and forcing them to apply for an expansion in their enrollment limits. Other states may even subordinate payments to charters schools to other obligations, resulting in possible delays.

Some states have successfully implemented programs to aid charter schools with their debt obligations, such as Texas that now allows charter schools to apply for the support of the Permanent School Fund.

In addition to state legislation, we will also review local legislation and community acceptance, as these factors could affect charter revocation or reduce demand for the institution.

#### State Oversight

The legislative framework varies between states, but we will expect to see perfectly defined criteria regardless of particularities. With well-defined reporting requirements and academic expectations HR Ratings can better determine the school's performance and will face less uncertainty while evaluating the probability of sustaining the charter license or the financial support.

For a better rating we would expect the oversight role of the state to be clearly defined; one in which the state will continuously review, and if necessary, intervene in times of administrative and financial distress. We would also expect to find a detailed set of academic standards with which each charter should comply and a well-defined minimum financial performance to continue operating or even access the private investment market.

#### Charter Renewal

For most states, charter periods last between three to five years, while charter school debt issues may be for longer periods. For HR Ratings to accurately determine the charter renewal risk we will study each state's legislation in order to evaluate the clarity of the relevant criteria and the risks involved for the retention of certification.

As part of the renewal process, we will examine possible appeal procedures and the possibility to transfer the charter to different sponsors or ownership groups.

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### **Final Underlying Credit Rating**

The Quantitative UER, determined in the quantitative model, may be altered by each of the qualitative factors described above through multi-notch adjustments.