



What Are “Cinderella Bonds”?

John Franklin | September 2020

When it comes to bond issues, options, timing and understanding are everything.

In 2017, when congress lowered the federal corporate tax rate, the federal government looked for ways to offset the resulting lower tax revenue. One proposal sought to eliminate the ability of 501(c)(3) organizations, including nonprofit hospitals and senior living communities, to issue tax-exempt bonds. Thankfully, that proposal did not make it into law. However, the elimination of advance refundings did. This was the practice of issuing tax-exempt bonds to refinance outstanding bonds before the first optional redemption date, referred to as an “advance refunding.” This advance refunding technique created two sets of bonds that remained outstanding until the first optional redemption date, thereby doubling the federal government’s tax subsidy during that period. To eliminate that extra subsidy, Congress eliminated advance refundings.

The elimination of advance refundings has created less flexibility for the nonprofit borrower with high interest rate bonds, who wants to take advantage of lower rates. In response, the bond market has created several solutions to counter the elimination of advance refundings. One of those products is a Cinderella Bond.

Very similar to traditional advance refundings, Cinderella Bonds may provide a technique to take advantage of lower interest rates to refinance debt that currently is not allowed to be redeemed or paid off. Analyzing and exploring a Cinderella Bond structure relies on complicated mathematical computations and sophisticated financial concepts that need to be understood. Executing this financing option can have long-term implications ... and costs well into the future.

So, let’s start the conversation.



EXPERIENCE & TRUST

The world of senior living, senior care, and healthcare are in a constant state of change. That’s why – over the past 30 years – organizations have turned to John Franklin for guidance and advice they can trust. As a writer and speaker, John continues to research and write about subjects he considers important to the senior living industry.

www.pearlcreekadvisors.com

What are “Cinderella Bonds”?

Understanding Various Refinancing Techniques

The first thing to remember about “Cinderella Bonds” is that they are advance refunding bonds with a twist. Therefore, to understand “Cinderella Bonds” and why they have been created, we must first understand how various bond refundings or “Refundings” work, including advance refundings. When interest rates in the market become low, compared to the interest rates on existing debt, many municipalities and 501(c)(3) organizations will look at refinancing their existing tax-exempt debt. Like a home mortgage, if interest rates get low enough relative to the interest rates on existing bonds, those bonds become “refunding” candidates. However, unlike home mortgages, which can be refinanced at any time without a penalty, fixed interest rate tax-exempt bond transactions are usually sold with a “no call” feature that precludes the borrower – a 501(c)(3) life plan community or hospital – from refinancing the debt for a certain number of years, with the typical lockout period lasting 10 years. This lockout period protects investors from having their bonds (their investment) taken away from them, at least for a portion of the loan. The date after which the bonds can be refinanced is referred to as the “optional redemption date” or the “**call date**” and, once that date occurs, the bonds are then “callable.”

Once bonds are callable they can be refinanced on or after the call date. This is known as a “**current refunding**” because the bonds can be currently refinanced at any time. The mechanics of a current refunding are straightforward. A borrower issues new bonds through a conduit issuer with the proceeds used to pay off the old bonds when the new bond transaction closes, just like the mechanics of refinancing a home mortgage.

An “**advance refunding**” is a financing technique that allows a borrower to obtain the benefit of lower interest rates when the existing or outstanding bonds are not currently callable. It is referred to as an advance refunding because the bonds that are not callable are being *refinanced* or *refunded in advance* of the call date. Under the Internal Revenue Code, an advance refunding is a refunding that occurs more than 90 days prior to the call date, or optional redemption date. ***One important element of an advance refunding is that tax-exempt bonds may be issued to advance refund an outstanding bond issue only once.*** Therefore, an advance refunding may prevent a borrower from realizing potentially higher savings from a current refunding in the future. For this reason, advance refundings and Cinderella Bonds – because they are very similar to advance refundings – should be implemented only when significant savings are realized. Savings parameters and targets are discussed in this paper.

An advance refunding allows a borrower to benefit from lower interest rates before an existing bond call date.

The Mechanics of an Advance Refunding

For illustration purposes, let's assume that bonds were issued in 2015 with an interest rate of 6%. Let's also assume that the call date (again, the first date the bonds can be paid off or retired) is January 1, 2025. Let's continue to assume that the interest rate on these bonds would be 4% if they were being issued today. We normally would have to wait until the call date of January 1, 2025, to refinance the debt. However, to take advantage of the lower interest rates, we can issue new bonds (2020 bonds), the proceeds of which are used to purchase other securities, usually taxable government securities, which are deposited into an "escrow account." The escrow account is structured so that the principal and interest earned on the securities are sufficient to pay all principal, interest and call premium, if any, on the existing bonds up to and including the call date. The 2015 bonds, which have now been advance refunded, are now secured by the escrow that has been set up to pay interest and principal until January 1, 2025, at which time they will be completely paid off. This is known as a "defeasance," which means that the bonds that were advance refunded are no longer the responsibility of the borrower.

Understanding the Concept of Arbitrage

In general, the "yield" on the taxable government securities purchased to defease the existing bonds cannot exceed the "yield" on the new bonds being issued to advance refund the old bonds. Such a practice would be known as earning a "positive arbitrage," which is not allowed by the IRS under its arbitrage regulations.

As stated earlier, bond proceeds from the new bonds are used to purchase government securities for the escrow account. When high interest rate bonds are **advance refunded** with low interest rate bonds, the amount of securities required for the escrow account will be greater than the amount of outstanding bonds being refunded because the portfolio of government securities will earn a lower interest rate than the rate on the bonds being defeased. An example will illustrate the math. If the old or existing bonds carry an interest rate of 6% and the refunding bonds have a 4% interest rate, then the yield on the escrow may be no higher than 4%. To match the interest costs of 6% on the old bonds with 4% earnings on the escrow to defease that debt, the difference in cash flow must be derived through more principal in the escrow. This is also known as "negative arbitrage."

As a result, *the amount of the new bond issue must be larger than the bond issue being refinanced*, unless certain creative financing methods are employed (e.g. high premium bonds – addressed later). This negative arbitrage can eliminate all or a substantial portion of the savings.



How Advance Refundings Morphed Into “Cinderella Bonds”

In 2017, when congress lowered the federal corporate tax rate, it looked for ways to offset the resulting lower tax revenue. One proposal sought to eliminate the ability of 501(c)(3) organizations, including nonprofit hospitals and senior living communities, to issue tax-exempt bonds. Thankfully, that proposal did not make it into law. However, the elimination of advance refundings did. Tax-exempt bonds are basically a tax-subsidy by the federal government. The more tax-exempt bonds outstanding, the more subsidy the federal government is providing. As explained earlier, when tax-exempt refunding bonds are issued to refund outstanding bonds that are not currently callable, those bonds that were “advance refunded” actually remain outstanding until the call date. As a result, two sets of bonds remain outstanding for the same issue until the call date, thereby doubling the federal government’s tax subsidy. To eliminate that extra subsidy, Congress eliminated advance refundings.

To aid borrowers who still want to take advantage of lower rates, the bond market has adapted and created several products and solutions in response to the elimination of advance refundings. One of those products is a Cinderella Bond.

A Cinderella Bond is very similar to an advance refunding bond. The only difference is that under a Cinderella structure, the bonds used to refinance or refund the existing bonds are taxable until the call date of the old bonds. On that call date, the taxable refunding bonds automatically become tax-exempt. Using the previous advance refunding example, let’s assume that bonds were issued in 2015 with an interest rate of 6%. Let’s also assume that the call date (again, the first date the bonds can be paid off or retired) is January 1, 2025. Let’s assume that the tax-exempt interest rate on the new bonds would be 4% if they were being issued today. However, because of the elimination of advance refundings, we normally would have to wait until the call date of 2025 to refinance the debt. So, to take advantage of the lower interest rates, we can now issue new bonds that carry a 5-year taxable rate of 4.5%, which would automatically convert to a 4% tax-exempt rate on the call date of January 1, 2025.

Congress eliminated advance refundings to avoid a doubling of the federal government’s tax subsidy.

Under a Cinderella Bond structure, a borrower is still advance refunding existing bonds, but because the refunding bonds are taxable until the call date, there are no longer two sets of tax-exempt bonds outstanding until the call date, thereby, avoiding a doubling of the federal government’s tax subsidy. Therefore, it is allowed.

Factors Impacting Savings

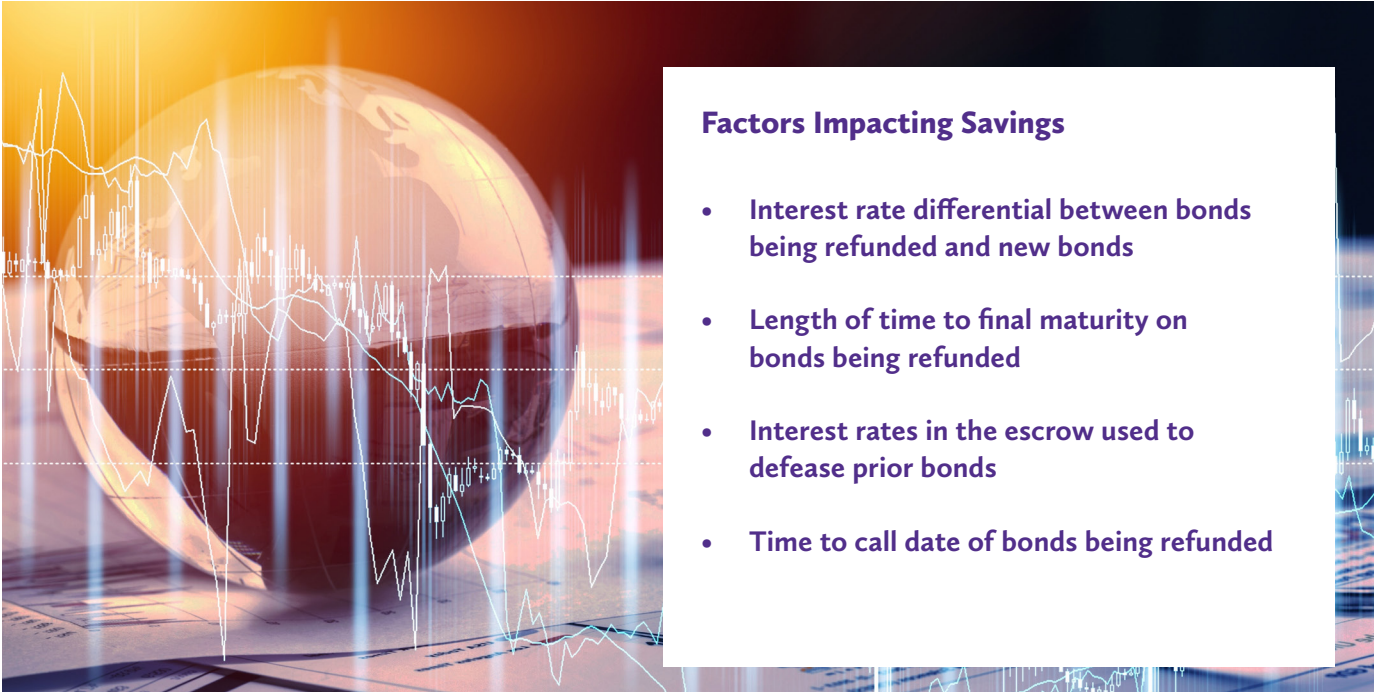
Savings on Cinderella refundings are impacted by several factors. As already discussed, the interest rate differential between the old bonds and the new bonds is the biggest factor impacting savings. Almost as important is the amount of time remaining to final maturity. The longer the amount of time to final maturity, the greater the savings

In determining whether to pursue a Cinderella Refunding, a sensitivity analysis should be performed.

because the interest rate differential or savings is being recognized over a longer period. In addition, the interest rates or yields that can be obtained on the escrow used to defease the old bonds will impact savings. A lower yield on the escrow creates more negative arbitrage, lowering savings. Finally, the length of time to the call date impacts savings. The longer the period to the call date, the longer the escrow remains outstanding, creating more negative arbitrage.

In other words, a borrower is willing to absorb the negative arbitrage in the escrow to defease the old bonds in order to lock in savings for the life of the loan and is willing to do so to avoid risking fixed interest rates that will be higher when the existing bonds are callable. Waiting until the bonds are actually callable and can be paid off is a more efficient time to execute the refinancing. This is true because it eliminates the need for an escrow to pay debt service on the debt being refinanced until the call date and the associated negative arbitrage. Therefore, if one waits until the call date, a borrower only borrows enough to pay off the bonds and eliminates the need of borrowing more.

If one had a crystal ball and knew that fixed interest rates would be as low on the call date of the existing debt as the date the Cinderella Refunding is executed, one would wait until the call date to refinance. Therefore, in determining whether to pursue a Cinderella Refunding, a sensitivity analysis should be performed to show how much interest rates would need to increase one year from now or on the call date of the old bonds (a current refunding) to create the same present value savings of performing a Cinderella refunding today.



Factors Impacting Savings

- **Interest rate differential between bonds being refunded and new bonds**
- **Length of time to final maturity on bonds being refunded**
- **Interest rates in the escrow used to defease prior bonds**
- **Time to call date of bonds being refunded**

Measuring Savings and Justifying a Cinderella Refunding

It is sometimes difficult to determine whether the savings justify pursuing a Cinderella Refunding. There are three ways to determine whether a Cinderella Bond should be pursued. They include **Net Present Value** analysis, calculating the **Payback Period**, and measuring **Actual Dollars Saved**.

Present Value Analysis — Savings can be measured in terms of “present value dollars.” The Internal Revenue Code of 1986 recognizes only present value dollars as the means of testing the savings on refundings. Like financiers, the IRS recognizes the “time value of money.” For example, consider an outstanding issue in the principal amount of \$50 million with future interest payments totaling an additional \$40 million over 25 years, creating \$90 million in cash outflow over the 25 years. Assuming the borrower had \$50 million in cash to pay all the principal today, it would not have to pay any future interest. Measured in true dollars, it would appear as if the borrower saved \$40 million. However, this is a distortion because the borrower is foregoing the possible earnings on that \$50 million in cash over the next 25 years.

Pearl Creek Advisors advocates an additional data point in the analysis.

If, instead of redeeming or paying off the bonds, the borrower invested the \$50 million of cash at taxable rates, it may be possible that the interest earnings could total \$45 million over 25 years, which would more than offset the total future interest costs of \$40 million on the bonds. This would be known as earning **positive arbitrage**. Therefore, paying off debt early may not be the best decision if one can earn a higher rate of return on cash and investments than the cost of the debt. The opposite is also true. If you earn a lower rate of return on cash and investments than the cost of debt, you might borrow less and contribute additional cash into the refinancing to create higher savings. Hence, present value analysis takes into account alternative uses of cash. By applying different interest rates, it is possible to measure what a dollar today will be worth in the future (future value) or what a dollar obtained in the future is worth today (present value).

The amount of present value savings that should be derived from a refunding is debatable. However, most securities professionals would concur that savings from a refunding are significant if the net present value savings equal or exceed 3% of the amount of bonds being refunded. (Since the savings are spread over the life of the bond issue, present value analysis provides a method of computing the savings as if they were realized today.) Although 3% is the industry standard, *Pearl Creek Advisors* and other industry participants believe the net present value savings should be at least 5% of the amount of bonds being refinanced to justify pursuing an advance refunding or Cinderella Refunding.

Payback Analysis — The second test to determine whether a Cinderella Bond is worth pursuing is using the **Payback Period** to calculate “**net adjusted cash flow savings**.” The easiest way to understand this concept is to ask the question, how long does it take me to recapture the cost to complete the Cinderella Refunding? Like refinancing

Armed with this additional data point, the borrower has a relatively straightforward way of incorporating greater probability into the overall analysis.

a home mortgage, refinancing comes with other costs (including negative arbitrage in Cinderella Refundings).

Because Homeowners usually incur a larger mortgage as a result of the refinancing, most homeowners want to know how long it takes to get the new mortgage amount down to where the old mortgage would have been if the refinancing had not occurred. If the homeowner believes that the house will be sold before that date, pursuing the refinancing is not worth it. This is the concept of “Payback Analysis.”

In addition to calculating the cash flow savings each year, net adjusted cash flow savings adjusts accumulated savings by calculating the amount of debt that would have been outstanding at the end of each year without a Cinderella Refunding and comparing it to the amount of debt outstanding as a result of a completed Cinderella Refunding.

Pearl Creek Advisors advocates this approach as an additional data point in the analysis because, in reality, the present value approach ignores probability. In other words, the present value approach makes a basic assumption that the new debt will not be retired early and will remain outstanding to its maturity date or that the interest rate on the new debt remains the same until final maturity. History has proven otherwise. Most fixed rate tax-exempt bond issues are refinanced before the maturity date for many reasons. In addition, if one uses bank financing to complete a Cinderella Refunding, the interest rate on the bank debt will likely be renegotiated before final maturity.

For that reason, *Pearl Creek Advisors* also calculates the “**payback date**” and believes the payback date should be equal to or shorter than the call date on the new bonds because the call date is the first date on which the new bonds could be retired. Borrowers may be willing to absorb the added debt burden of an advance refunding or Cinderella Refunding because they believe that fixed interest rates are so low at the time of the refunding that the lower interest rates will offset the additional or higher principal payments on the new debt over the life of the loan.

The Payback Analysis converts that concept into a calculation to determine how much time it would take cash flow savings to recapture or pay back the additional debt associated with Cinderella Refunding. Armed with this additional analysis, the borrower has a relatively straightforward way of incorporating greater probability into the overall analysis. If the borrower does not reach the payback date by the time the call date arrives, there is a greater chance that the new bonds might be refinanced before the borrower gets any long-term economic benefit from doing the Cinderella Refunding in the first place.

Here’s an example of how this works. Let’s assume that the cash flow savings per year after completing a Cinderella Refunding are \$500,000 per year, but as a result of the Cinderella Refunding, the borrower now has an additional \$5 million of debt on its balance sheet at closing. However, because of the lower interest rate on the



new bonds, the new debt amortizes \$2 million more principal than the old debt over the first six years. Therefore, at the end of six years, the difference in principal outstanding is only \$3 million. Using our equation of accumulated cash flow savings + old debt balance – new debt balance = net adjusted cash flow savings, we get (6 years x \$500,000) – (\$3,000,000) = \$0, which means the payback period is six years, which is shorter than the typical 10-year call period. Thus, the borrower will have achieved economic benefit before the new bonds can be refinanced.

Actual Dollars Saved – Sometimes, borrowers may pursue a refunding for reasons other than present value savings and may decide to ignore the payback analysis. Although rarely pursued if sufficient present value savings or a reasonable payback period is not achieved, a borrower may pursue a refunding if the annual cash flow savings are large enough to create needed debt capacity or create enough immediate cash flow savings to eliminate financial distress. Although creating additional debt capacity may be an additional benefit, a Cinderella Refunding should meet the first two criteria before being pursued.

An Exotic Structure

As we now know from our previous discussion, a Cinderella Bond is just another type of Advance Refunding. And although a Cinderella Bond sounds exotic, the mechanics of executing a Cinderella Refunding are similar to executing an Advance Refunding – with the only difference being that until the call date on the old debt, the interest rate mode on the Cinderella Bonds must be taxable. On that call date, the interest rate mode then becomes tax-exempt. And because the mechanics are similar on an advance refunding and a Cinderella Refunding, the savings analysis is similar. Therefore, the following true case study on a questionable advance refunding is relevant to how one should approach Cinderella Refundings with caution.

A Questionable Advance Refunding – A True Story

In 1998, a nonprofit entity had the opportunity to pursue an advance refunding to refinance its 1994 bonds that had a balance of \$51 million remaining, carrying a 9% interest rate. However, because the 1994 bonds were not callable until November 2004, a six and half year escrow was required to pay debt service on the existing 1994 bonds until the call date.



An organization's investment banker or financial advisor must explore all options. Decisions made today have long-term implications ... and costs.

To complete the transaction, the nonprofit entity would be required to borrow more money than the amount being refinanced because of the negative arbitrage in the escrow. A negative arbitrage would result because the escrow would be invested in securities that generate a lower yield than the interest rate on the 1994 bonds. In this case, the negative arbitrage would be \$11 million, creating an escrow requirement of \$62 million.

Therefore, approximately \$62 million of Series 1998 bonds would be required to pay off \$51 million of Series 1994 bonds, creating approximately \$11 million of additional debt on the entity's balance sheet. If the entity had pursued a fixed rate advance refunding at the time, the annual savings would have been approximately \$500,000 per year, creating a net present value savings that would have been less than 4%. More importantly, the payback period would have been almost 17 years, clearly a case where the negative arbitrage more than offset the difference in interest rates between the 1994 bonds and a new 1998 bond issue. As a result, the non-profit decided not to pursue an advance refunding with fixed rate bonds.

To generate apparent greater savings, a variable rate tax-exempt bank transaction was proposed by the investment banker. Because of the arbitrage regulations mentioned earlier, the IRS requires that an interest rate swap be used to fix the interest rate until the call date of the 1994 Bonds. At that point, the swap disappears and the interest rate goes back to being a variable interest rate. So let's examine what happens when a variable rate transaction is used to complete an advance refunding. As pointed out earlier, the nonprofit entity would need to borrow an additional \$11 million of debt to complete the transaction. Because the non-profit was now borrowing at a lower interest rate, the savings each year increased from \$500,000 to \$750,000 per year for 6.5 years. In effect, the non-profit borrowed \$11 million to save just under \$5 million over six and a half years.

When one considers the 1998 refunding in those terms, the result was a very expensive borrowing. The entity ended up with \$6 million of additional net debt after 6.5 years after taking into consideration the annual savings between 1998 and 2004. The entity received no benefit from 2004 going forward from the advance refunding because the interest rate from 2004 going forward was not locked in. In essence, a variable rate current refunding could have been completed in 2004 with the same potential savings without the additional net debt of \$6 million. Unlike using a fixed rate bond issue to complete the advance refunding, this advance refunding did not lower interest rates to offset the additional or higher principal payments **with lower interest payments over the life of the loan**. In this case, the savings were only locked in for 6.5 years, not over the life of the loan. Even if the savings could have been locked in until the final maturity, which they were not, the payback period would have been almost 14 years, which would have made the advance refunding questionable.

Interest rates did fall during the following 6.5 years and the variable rate bonds were refinanced in 2004, the original call date of the 1994 bonds. As a result, the advance



Comprehensive Capital
Formation Advice

John Franklin

804.539.3943

john.franklin@
pearlcreekadvisors.com

62 Olive Branch, Lake Anna,
Virginia 23024

refunding that was completed in 1998 ended up costing the borrower approximately \$6 million. Because the organization's Board did not understand the repercussions of its decision six years earlier, I wrote a white paper and completed an analysis that laid out the costs. Even with that analysis in hand, it took several meetings and over six months before the Board fully understood the inherent flaws in the advance refunding completed over six years earlier. This experience helped me realize that it takes more than a white paper and one meeting to understand the process and long-term implications of advance refundings and Cinderella Refundings due to the complicated mathematical computations involved. Therefore, it is imperative that an organization's investment banker or financial advisor bring up all costs and benefits of any financing structure contemplated and explore other alternatives because, as revealed in the above case study, decisions made today have long-term implications ... and costs.

The Use of Premium Bonds

The fixed rate tax-exempt bond market is experiencing low interest rates. As a result, **Premium Bonds** are currently popular in many fixed interest rate bond structures. The reason investors prefer this structure in the current environment is not as important as why this structure enhances the financial metrics of fixed rate Cinderella Bonds. In a more traditional or normal interest rate environment, investors prefer **Par Bonds** or **Discount Bonds**. Par bonds sell at the same price as the face value or principal outstanding. For example, \$100,000 of bonds would be sold at a price of \$100,000. As the name implies, Discount bonds are sold at a slight discount, or at a reduced price to the buyer. A buyer could spend \$95,000 to buy \$100,000 worth of bonds. When refundings are completed with either of these structures, the amount of new bonds being issued or sold to create the amount of proceeds to fund the escrow to defease the old bonds is going to be the same or more than the escrow requirement.

Remember with discount bonds, we used the example that \$100,000 of bonds would need to be sold to create only \$95,000 of bond proceeds. However, when premium bonds are issued or sold, the principal amount needed to fund the escrow requirement could be much less than the escrow requirement, not more. Why is this important? Because, if there is negative arbitrage in the escrow, the premium bond structure may create enough proceeds without significantly increasing the amount of actual debt on the balance sheet, thus making the payback period much shorter. This structure does not necessarily change the present value savings, but it does change the payback period.

As one can see, being educated on several complicated financing concepts is integral to understanding various types of financings, including Cinderella Bonds. Again, it is imperative that your investment banker or financial advisor provide the needed education so that you and your board can make informed and educated decisions.

