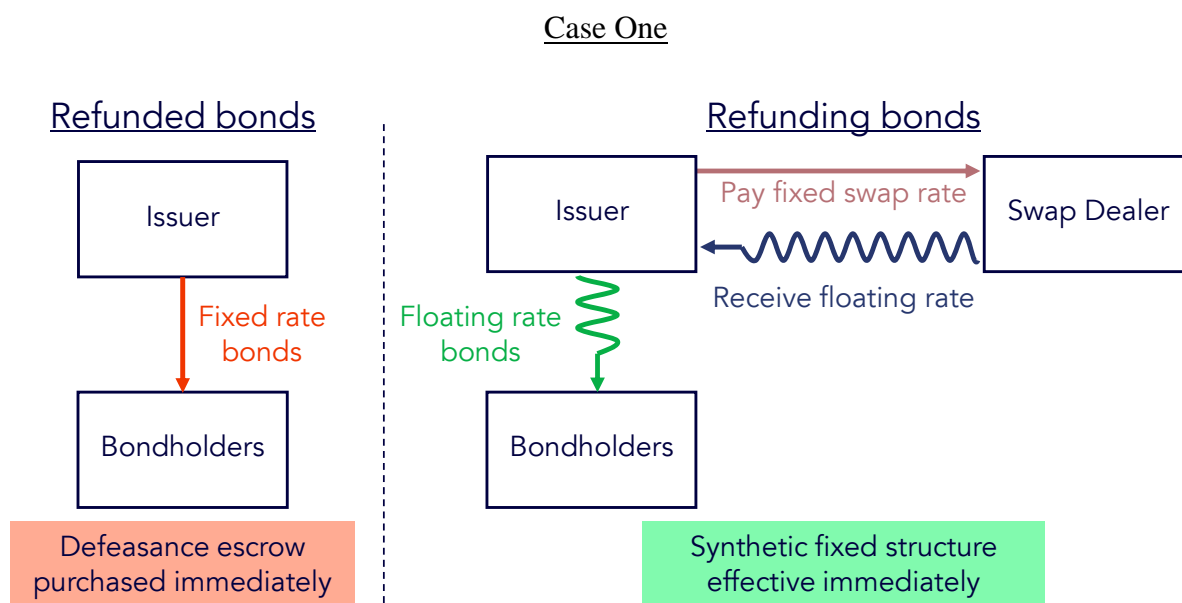


Structuring the Right Synthetic Advance Refunding

When tax-exempt issuers advance refund outstanding fixed rate bonds it is important to thoroughly analyze and understand the economics of the refunding bond issue. In some cases, issuers waste millions of dollar in savings and absorb risks for no economic benefit. We look here at two ways to advance refund fixed rate bonds using synthetic fixed rate debt.

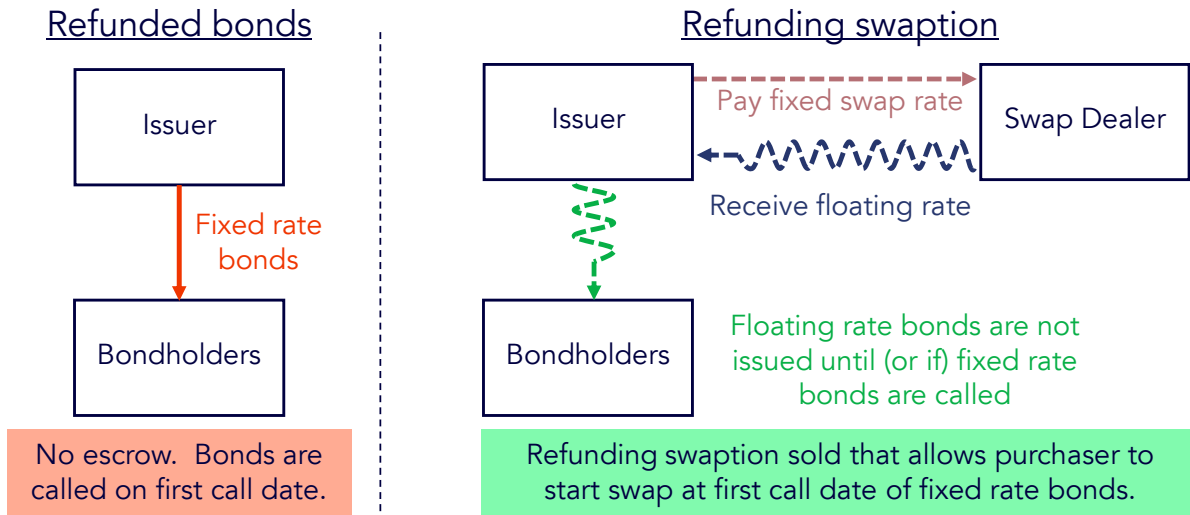
In the first case, existing fixed rate bonds are advance refunded using synthetic fixed rate debt, consisting of variable rate bonds and a fixed payer swap. The synthetic structure is immediately put in place and an escrow is purchased to defease the existing fixed rate bonds as shown in the diagram below.



In the second case, existing fixed rate bonds are synthetically advance refunded by selling a fixed payer swaption. The fixed rate bonds remain outstanding until their call date, when the fixed payer swap underlying the swaption becomes effective.¹

¹ While there is a probability that the swap will not be called into effect, the probability that it will be called is greater than 50% since there are interest savings available (intrinsic value).

Case Two



While both cases take advantage of a fall in long-term interest rates, in the first case, the issuer wastes the time value of the call option embedded in the fixed rate bonds and absorbs the risks that come with synthetic fixed rate debt, such as basis risk, until the original bonds can be called. In the second case, the issuer gets paid for the time value of the option and does not take on the risks that come with a synthetic structure until the outstanding bonds are called.

The economic benefit from an advance refunding, irrespectively of how it is transacted, does not come until the original bonds can be called at or close to par. The fact that the first case offers lower interest payments while a refunding escrow is outstanding does not have an economic benefit since the dollar cost of purchasing the escrow is more than the par amount refunded. There is no economic benefit to the issuer for the time the escrow is in effect since the earnings on the escrow are limited to the lesser of a) the new bond yield in accordance with IRS regulations or b) what is available in the marketplace.

The two cases will be illustrated using an actual advance refunding where an escrow to defease fixed rate bonds was purchased and variable rate bonds were issued and synthetically fixed with an interest rate swap. This will be contrasted with a hypothetical case where the refunding should have been transacted using swaptions instead.²

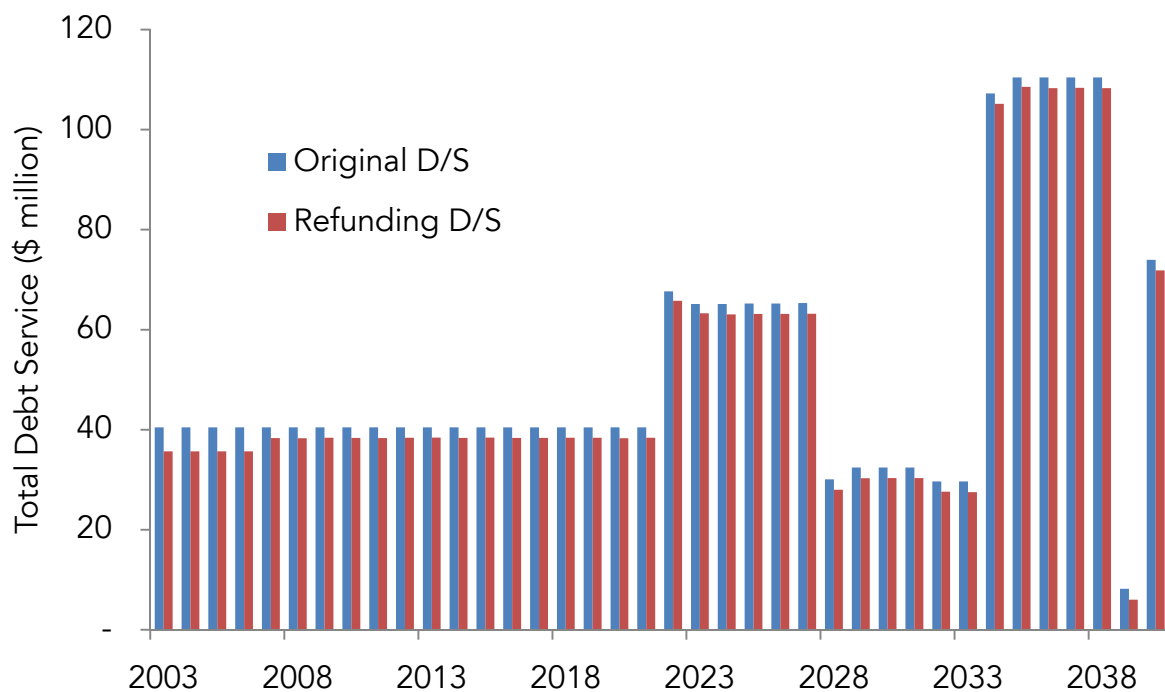
Consider Jefferson County, Alabama (“JeffCo”). Beginning in 2002, the County began a series of synthetic advance refundings to replace outstanding fixed rate debt with synthetic fixed rate debt. While the refundings have been criticized on a number of grounds, our focus is on the structure selected for the synthetic advance refunding.

On October 25, 2002, JeffCo purchased an escrow for \$825.9 million to defease \$724.6 million in par amount of bonds. The difference of \$100.4 million is a result of the call premium

² An example of an implementation would be the University of South Alabama, which sold swaptions structured as Case Two in early 2008.

on the fixed rate bonds (\$5.9 million in present value) and the net cost of interest (\$94.5 million) between what was available or allowed for the escrow to earn and the interest cost on the defeased fixed rate bonds until those bonds can be called. The advance refunding was structured as described in the next paragraph.

JeffCo issued \$839.5 million of variable rate bonds, paid \$13.6 million in insurance and issuance expenses, purchased an escrow for \$825.9 million, and entered into a swap where the county paid a fixed rate of and received 67% of 1M LIBOR.³ While the new refunding bonds provided lower debt service, as shown in the picture below, when compared to a more efficient synthetic structure, it absorbed basis risk early and missed out on \$22.3 million in savings. The structure that was implemented, and which is the same as Case One above, takes on the risks of a synthetic fixed rate when there is no compensation for doing so.



The bonds that were refunded were not callable until 2007, 2009, and 2011, respectively. Had the county sold fixed payer swaptions, it would have borrowed \$107.7 million less, received \$69.7 million cash upfront and not taken on the synthetic fixed rate risks until the fixed rate bonds were called. This type of synthetic advance refunding capitalizes on the embedded call option in the fixed rate bonds, receives the present value savings upfront in cash, and does not take on risks of synthetic structures until it is necessary to do so.

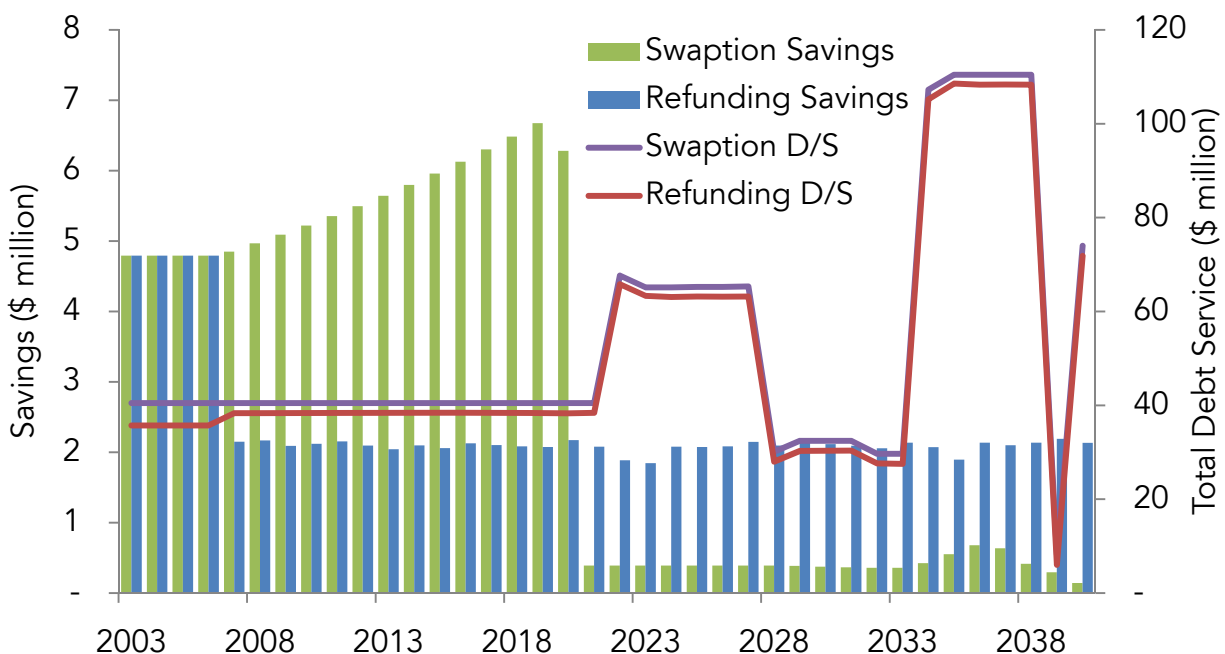
When a synthetic advance refunding is transacted using a swaption, the issuer often intends to keep the old debt service in place and receive the present value of the savings upfront rather than as a lower coupon on the new debt. Further, by effectively selling the embedded call

³ \$298.8 million were issued as auction rate securities and \$540.7 million were issued as variable rate demand notes. Both types of securities were expected to have rates reset close to the SIFMA Index.

option in the fixed rate bonds, the issuer receives the time value of the call option in addition to the interest savings.

If JeffCo had sold fixed payer swaptions mimicking the call options embedded in the refunded bonds, the estimated cash proceeds would have been \$69.7 million. The County would have actually sold three separate swaptions since three series of fixed rate bonds were partially advance refunded. The swaps underlying the swaptions would have been structured to receive 67% of 1M LIBOR, just as in the case of the swaps actually executed, and an appropriate spread for ongoing liquidity and remarketing fees would have been reserved.⁴ The cost of issuing new bonds and paying for insurance would be included as an exercise fee in the swaptions. Importantly, the swaptions would not be exercisable until the original bonds were callable. As a result, the County would not have been exposed to basis risk when there was still an escrow in place and the borrowing necessary to replace the old bonds would have been limited to original par plus call premium, or \$731.8 million versus the \$839.5 million of new par that was issued.⁵

The chart below shows the refunding savings achieved by JeffCo in the actual transaction (“Refunding Savings” and “Refunding D/S”) as well as those available had the advance refunding been transacted using swaptions (“Swaption Savings” and “Swaption D/S”) instead.⁶ Although the savings from a swaption is usually received upfront, it is here shown as a draw from a cash balance over time. The difference in present value between “Refunding Savings” and “Swaption Savings” was \$22.3 million on October 25, 2002.



⁴ Since the County elected to take on the basis risk between 67% of 1M LIBOR and the SIFMA Index, the refunding swaptions would have included this basis risk as well.

⁵ It should be noted, however, that under the swaption, the County would have incurred the risk that issuance costs at time of exercise might be higher than anticipated and that the County might not have market access.

⁶ The rate paid on the variable rate replacement bonds is expected to equal the floating rate received on the swaps (67% of 1M LIBOR) during the life of the transactions.

The expected debt service shown here assumes that the swaptions are exercised and the underlying swaps become effective. Since there is a probability that the swaptions will not be exercised, that case must also be evaluated. However, since the savings are received upfront, if the swaptions are not exercised, the old debt service on the fixed rate bonds remains in place and it would be the same as “Swaption D/S.” The savings would actually be slightly more than \$22.3 million if the swaptions are not exercised since there would be no need to pay for the call premium on the fixed rate bonds.

Apart from the foregone additional savings of \$22.3 million, had this type of structure been used to transact the advance refunding, the County would have been exposed to basis risk on only \$180.7 million of variable rate debt versus \$846.9 million when the bond insurers were downgraded in the spring of 2008. This was because a synthetic structure was implemented before it was actually necessary to do so. Not until 2011 would JeffCo be fully exposed to a synthetic structure and then on \$731.8 million versus \$821.3 million as it is today. It is the extreme basis cost that the County suffered during 2008, as a result of downgrades to its insurers, which brought it to the brink of bankruptcy as of this writing.

An important feature of derivatives is that they can be tailor-made to fit an issuer’s particular objective. Leaving money on the table and absorbing unnecessary risks should therefore not be an alternative. Whenever an issuer contemplates transacting an advance refunding it is important to analyze and understand both the risks and economics of any plausible alternatives. Having an outside swap adviser analyzing the benefits and risks of alternatives and negotiating on behalf of the issuer is usually worth the cost.

C. Johan Grahs
August 12, 2008