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Alternatives to Advance Refundings

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Federal Tax Reform Overview – Impact on Overall Municipal Bond Market



Private Activity Bonds

- Private Activity Bonds were not impacted by the tax reform
- There is no change to PAB rules, so the three-year carry-forward rule and other rules governing PABs remain in place

AMT

- Retained the individual AMT; the exemption amount will be raised from \$84,500 under current law (married filing jointly) to \$109,400; the exemption amount phase-out will increase to \$1,000,000
- The corporate AMT was repealed

Corporate Tax Rate

- Corporate tax rate revised from 35% down to 21%
- This will likely result in weaker demand for tax-exempt debt from banks and insurance companies

State & Local Tax Deduction

- The law retains the ability for individuals to deduct state and local property and income taxes up to a combined aggregate of \$10,000 per year (married filing jointly)

Tax Credit Bonds

- New tax credit bonds cannot be issued anymore
- Federal tax credits for issued and outstanding tax credit bonds are not affected

Gas Prepay

- Suppliers who report on an accrual basis in prepaid gas deals closing after 2017 will be immediately taxed on prepayments from municipal issuers
 - Change not likely to affect financial service firms that supply gas or electricity

Stadium Bonds

- The authority to issue governmental tax-exempt bonds to finance professional sports stadiums and arenas was not impacted by the tax reform

Advance Refundings

- The authority to issue tax-exempt advance refunding bonds expired on December 31, 2017
- There is no transition relief

The President signed the Tax Cuts and Jobs Act into law on December 22, 2017



Locking-In Current Market Savings In Light of Tax Reform

	PUBLIC MARKET SOLUTIONS			BANK MARKET SOLUTIONS			DERIVATIVE HEDGING SOLUTIONS			
	Taxable Bonds	Forward Delivery Bonds	Cinderella Bonds	Taxable Bonds	Forward Delivery Bonds	Cinderella Bonds	MMD Rate Lock	U.S. Treasury Rate Lock	Forward Starting Swap	Swaption
Type of Refunding	Advance	Current	Advance	Advance	Current	Advance	Current	Current	Current	Current
Liquidity Risk	No	No	No	No	No	No	No	No	Maybe	Maybe
Market Access Risk	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Forward Premium	No	Yes	Yes	No	Yes	Yes	-	-	Yes	Yes
Execution Period Prior to Call	Unlimited	1 year	Unlimited	Unlimited	1+ years	Unlimited	1 year	1 year	Unlimited	Unlimited
Cash Settled	-	-	-	-	-	-	Yes	Yes	Optional	No
Upfront Cash Received	-	-	-	-	-	-	No	No	No	Yes
Counterparty Risk	-	-	-	No	Yes	No	Yes	Yes	Yes	Yes
Basis Risk ⁽¹⁾	-	-	-	-	-	-	No	Maybe	Maybe	Maybe
Tax Risk	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Credit Risk ⁽²⁾	No	No	No	Maybe	Maybe	Maybe	Yes	Yes	Maybe	Maybe
Index Risk	-	-	-	-	Yes	-	No	No	Yes	Yes
Market/Investor Base	Deep/ Proven	Sufficient/ Proven	Thin/ Unproven	Deep	Deep	Deep	Thin (<\$25mm)	Deep (\$100+mm)	Deep (\$100+mm)	Deep (\$100+mm)

(1) Risk that movement on swap rates differs from movement on underlying borrowing rates.

(2) For derivative hedging solutions, risk that Issuer's credit changes by swap execution date; for bank market solutions, risk that Issuer's credit changes while bank owns the bonds.



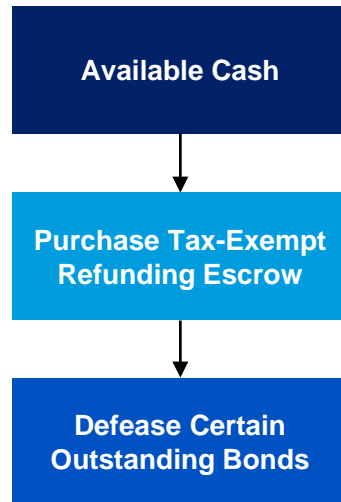
Description of Advance Refunding Alternatives

- **Tax-Exempt Current Refunding** – wait until 90 days prior to the call date of the outstanding bonds to issue the new debt
 - Could produce highest level of savings
 - Interest Rate Risk
- **Taxable Advance Refunding** – issue taxable bonds to fund a defeasance escrow
 - Current long term taxable levels are within 5 year tax-exempt historical range
 - Taxable bonds may be refunded with tax-exempt bonds after the call date
 - Proven structure that does not have tax issues and is low risk
- **Forward Delivery Bonds** – sell bonds in advance of the call date of the refunded bonds and close the issuance within 90 days of the redemption
 - Familiar structure with upfront or future benefits
 - Challenge – limited forward period (and/or expensive premiums)
- **Cinderella Bonds** – issue taxable bonds that convert to tax-exempt bonds in the future upon the call date of the refunded bonds
 - Relatively simple structure
 - Challenges – limited precedent, possible tax issues and limited buyer base
- **Tenders** – Purchase bonds from prior bondholders and finance with current refunding debt
 - Familiar and well-tested technique
 - Challenges – complex/difficult execution which rarely achieve 100% success rate

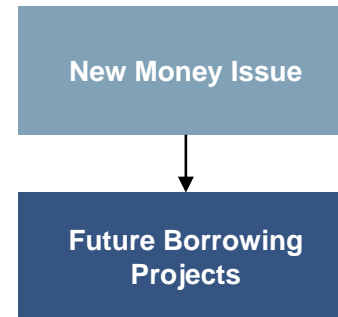
Defeasance and New Money Alternative



TODAY: Cash Defeasance



LATER: New Money issue



- **Cash Optimization Strategy** – can achieve tax-exempt advance refunding results with a cash defeasance and new money issue
 - Issuer uses available cash to purchase an escrow to defeasance certain callable outstanding bonds
 - Issuer then issues a tax-exempt new money issue to fund projects; new debt service can be structured similarly to the prior debt service (if desired)
 - In the aggregate, this strategy allows an Issuer to achieve tax-exempt advance refunding results
 - Bond Counsel needs to opine on this structure and the possible need to separate the cash defeasance from the new money issue



Considerations Unique to Alternative Refunding Methods

- ✓ Bond resolution limitations
- ✓ State law limitations
- ✓ Additional costs
- ✓ Private use limitations
- ✓ Tax law change risk
- ✓ Bank risk

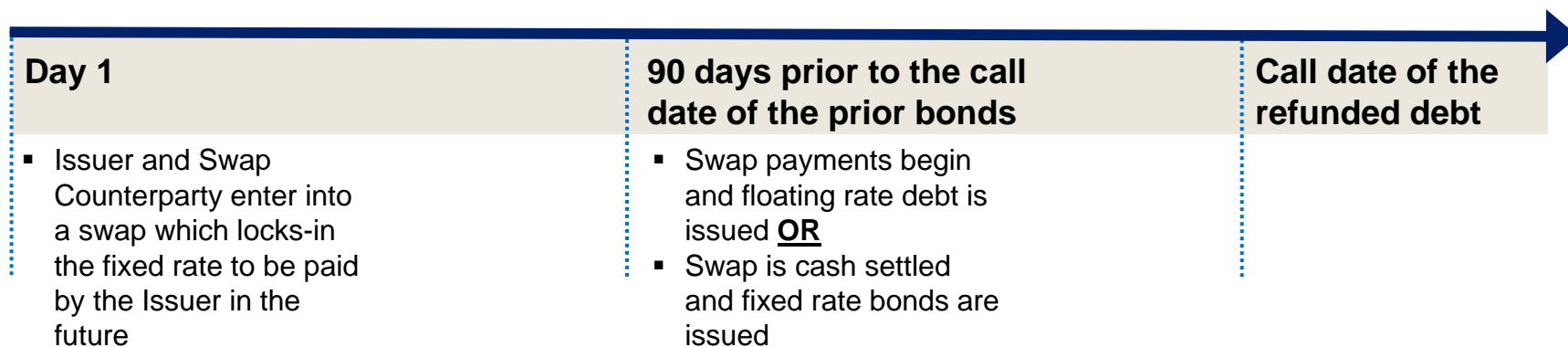


Description of Derivative Alternatives

- **Rate Locks** – enter into a transaction today to lock in current interest rates
 - U.S. Treasury rate locks provide interest rate protection based on an ascertainable index
 - MMD rate locks provide interest rate protection more in line with movements in the tax-exempt yield curve
- **Forward Starting Swaps** – enter into a swap today which begins to cash flow at a future date
- **Swaptions** – pay an upfront amount today in order to have the option to enter into a swap at some point in the future



Forward Starting Swap Example



Once the forward starting swap is entered into, the Issuer is protected from changes in interest rates



SMUD's Experience

- The Problem:

- In 2016 SMUD has \$200 million of debt callable in Aug 2018 that couldn't be advance refunded

- The Plan:

- Execute a forward starting swap in June 2016
 - SMUD Pays 1.14%
 - SMUD receives 67% of 1 month Libor
 - Termination options included
- Issue variable rate debt in July 2018 for a current refunding
 - Variable rate debt would be structured to cost 67% of libor
 - SMUD's net cost would be 1.14% plus LOC or credit spread

- Result:

- Structure was successful in locking in June 2016 rates
- Ended up terminating swap and issuing fixed rate debt



Considerations Unique to Derivative Alternatives

- ✓ Bond resolution limitations
- ✓ Counterparty risk
- ✓ Tax law change risk
- ✓ Credit risk
- ✓ Basis risk
- ✓ Headline risk



Planning Ahead; How to Provide Flexibility in new Bond Issuances

Short Calls at Par

- Optional redemption date is structured shorter than traditional 10-year window
 - Accelerates an Issuer's ability to currently refund the bonds in the future for potential savings
 - Also allows for potential restructuring of bonds at future date at lower cost due to a shorter escrow
- Upfront cost of a short call can be expensive – this cost must be weighed against future refunding/restructuring flexibility

Short Calls at Premium

- Call structure utilizes premium redemption price that ultimately drops to 100% in the future (for example, the call price could be 103% of par in 8 years, 102% of par in 9 years, and 100% in 10 years)
 - The premium structure has the effect of reducing the upfront cost to an Issuer as compared to a comparable shorter par call
 - Depending on the ultimate pricing of the bonds (i.e., whether they are premium or par-ish bonds, the cost of incorporating a premium call could be close to zero)
 - Given the premium to par, however, a premium call would likely be more costly to execute in the future

Tax-Exempt Make-Whole Call Option

- Typically structured in addition to a traditional 10-year par call – prior to the 10-year par call option, bonds can be redeemed at the greater of par or a make-whole price to call using a discount rate of MMD Flat or at a discount/premium to MMD
- Equivalent to an advance refunding using AAA-rated municipal bonds rather than U.S. Treasuries in escrow
 - Assuming AAA Municipal rates are lower than UST as they are now, the potential savings using today's rates is similar to an advance refunding but with more negative arbitrage



Planning Ahead; How to Provide Flexibility in new Bond Issuances

Variable Rate Demand Bonds

- VRDBs require the use of a bank liquidity or credit facility to pay for any bonds tendered by investors
 - Credit facility give investors comfort that their tender will be funded
 - VRDBs trade based on ratings of bank credit facility
- Callable at par at any time, VRDBs maximize call flexibility
 - No additional cost for incorporating call feature, as it is market standard
- Additional cost paid to remarketing agent for periodic remarketing of VRDBs to investors

Commercial Paper

- Similar to VRDBs, Commercial Paper is callable at par at any given time
- Also typically requires bank / credit support
 - Certain highly-rated issuers with a substantial liquid cash position can structure program without any third-party liquidity (self-liquidity program), but this can administratively be more burdensome to the issuer



Planning Ahead; How to Provide Flexibility in new Bond Issuances

Floating Rate Notes (“FRNs”)

- Priced as a spread to an index (either SIFMA or LIBOR)
 - Initial term of 2-5 years during which time only changes to the underlying index can impact the rate paid on the FRNs
 - Credit spread is sold to investors
- Can be structured with either a hard or soft put
 - Hard put is lower in cost, but failure to fund the tender results in an event of default
 - Soft put is higher in cost, but failure to fund the tender results in a penalty rate, rather than a default
- Typically structured with a 6-month par call feature
- Subject to remarketing/refinancing risk at end of initial period

Put Bonds

- Structured at a fixed interest rate for 2-5 years with a mandatory tender at the end of the initial fixed rate period
 - Can be structured with either a hard or soft put
- Typically structured with a 6-month par call feature
- Takes advantage of lower, short-term interest rates while locking-in cost of funds during initial tenor
- Subject to remarketing/refinancing risk at end of initial period