Analyzing and Issuing Refunding Bonds

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May 24, 2016
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Government Finance Officers Association of the United States and Canada
Refunding Basics & Terminology

- **Optional Redemption** *(call feature)*
  - Issuer’s right (but not the obligation) to pre-pay all or part of a bond before its maturity

- **Refunding Escrow**
  - Trust account to hold collateral (investments) to pay old bonds until their call date
  - Funding is irrevocable; sufficiency opinion (verification report) traditionally required

- **Advance Refunding**
  - Proceeds outstanding longer than 90 days
  - Investments are yield restricted

- **Current Refunding**
  - Proceeds outstanding 90 days or less
  - Investments might not be yield restricted (of limited value with short duration)

- **Legal Defeasance**
  - Issuer’s obligation to the refunded bonds discharged with permissible investments
  - Usually direct obligations or directly guaranteed agencies (SLGs; Treasuries; certain agencies)

- **Economic Defeasance**
  - Refunded bonds remain a contingent obligation of the issuer
  - Investments may be higher yielding and introduce performance risk.
Refunding Basics & Terminology (Continued)

• **Reasons to Refund Bonds** (or otherwise discharge obligations)
  • Opportunity for Economic savings
  • Reshape debt service (relief, extending, smoothing, restructuring, additional debt capacity)
  • Change-of-use (loss of federal tax exemption) through sale or privatization
  • Change-of-control (revenue enterprise no longer run by a government entity)
  • Obsolete bond covenants (eliminate reserve funds, release a lien position)

• **Refunding savings** – calculation and interpretation
  • Future Value Savings (difference of debt service, irrespective of timing shift)
  • Historically easy to produce savings by shortening life of the refunding
  • Present Value accounts for timing of new debt service versus old debt service
  • Appropriate discount rate to use ("Bond Yield", TIC, All-In yield, opportunity yield)
  • “PV Percent” – based on refunding or refunded principal? (policy question)

• **Refunding efficiency**
  • Achievable savings after negative arbitrage, versus theoretical savings (bond yield constrained)
  • Breakeven test – market movement equivalent of yield curve sliding and shorter escrow period
Types of call features (Issuer’s option)

- **Par Calls**
  - Explicit Time and Price; continuous thereafter (American style)
  - Premium Callable; attractive to investors; avoid market discount treatment
  - What is “kick spread”, how does it affect refunding savings?
  - History of the inverse numeric call (and the low back-end coupon trick)

- **Make-whole Calls**
  - Buying the bond back “at market” to remaining maturity, plus a premium
  - Index eligibility for taxable issues
  - Computing value “as if now a pre-refunded bond” to avoid advance refunding lockouts
  - ARRA/BABs injured subsidy (54AA) adjustments

- **Sidebar – Award metrics in competitive sales**
  - Lowest True Interest Cost to Maturity
  - Lower coupons lose less “Yield to maturity” or “kick spread” to the TIC award.
  - Preponderance of 4% coupons coming from competitive sales
Tax Concepts (Continued)

• Basic Rules
  • One advance refunding allowed in the “allocated life” of any bond maturity issued
  • Calculation of bond yield reflects the nature of premium callable bonds
  • Weighted average maturity (WAM)
  • Contributing accumulated debt service levy
  • Bonds must be called on the first available call date

• Allowable escrow yield
  • Allowable yield for Premium Callable bonds; Inclusion of Bond Insurance
  • Negative arbitrage; things the market did when rates were higher and flatter

• Refunding Amortization
  • Foot-print test; savings taken early, middle or late in the life of the issue
  • Federal and State Law compliance safe-harbors
  • Scoop-and-toss considerations
  • Multipurpose rules
Refunding Policies

- **Minimum savings criteria**
  - Early 1990’s the practice was to advance refund the entire original bond series
  - Minimum refunding efficiency (cost of low escrow yield; negative arbitrage)
  - Policy for realizing debt service savings (early, middle, late)
  - Opportunity cost – Market Runoff Test (basis points the market can rise before a current call)
  - Opportunity cost – How much more present value if the market goes down another 25 basis points

- **Callable Refunding Bonds**
  - Short calls (5 year); normal calls (10-year); non-call
  - Premium Callable; Trade-off between future call value versus PV Savings now

- **Accepting new risks to create refunding savings**
  - Use of non-defeasance eligible investments to increase escrow yields (and therefore savings)
  - Interest rate resets that did not similarly exist in the bonds being refunded

- **Preserving future financial flexibility**
  - Tax-exempt refundable and extendable principal has value
  - Can it make sense to leave bonds (with savings) un-refunded in anticipation of a future restructure?
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New research looks at which refunding criteria maximize PV savings

- Create future market scenarios of all relevant markets (above)
- Calculate PV savings in each scenario
- If refunding criteria met, present value savings to today
- Sum results \( \Rightarrow \text{Expected PV (EPV) Savings} \)
We also searched for and *found* an optimal refunding.
Performance of Alternative Relative to Various Policies
Average over Data from 1/65 - 4/13

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1. PV Savings Minimum of 0.25%

2. Delta criterion
   - Reduce yields by 25bps, PV savings increases by less than $X\%$
Examples
Investment of Bond Proceeds

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Develop an understanding of the risks inherent in investing bond proceeds and incorporate steps into investment strategies for each fund to minimize these risks

• Credit Risk (Safety)
• Market Risk (Liquidity)
• Opportunity Risk (Yield)
Investment Policy/Plan

– Investment policy defines permitted investments to reduce credit risk
– Good cash flow estimates identify when funds need to be available
  • Periodically update to reduce market risk
– Weight given toward preservation of principal first, liquidity second & yield last
GFOA Concerns with MSRB Rule G-42

- Unclear how rule is supposed to work

- Rule prohibits broker dealers from providing investment advice

- Do underwriters and broker dealers stop providing advice?

- Where will issuers get investment advice?
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