Refunding Your Agency's Obligations

CDIAC
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Presentation Overview

I. Refunding Terminology
II. Economic and Legal Defeasance
III. Current and Advance Refundings
IV. Types of Refundings
V. Benefits of Refunding
VI. Refunding Saving Structures
VII. Factors to Consider in Undertaking a Refunding
VIII. Other Refunding Issues

Refunding Terminology

- A **refunding** is the issuance of new debt obligations made to pay all or a portion of the principal, interest or redemption price on a prior bond issue
  - Similar in nature to refinancing a home mortgage loan

- The proceeds of the refunding bonds are held in escrow, either in cash or in the form of fixed income investments (Treasuries, Agencies, etc.)

- **Defeasance requirements** include the principal, interest and redemption premium (if any) of the refunded bonds
  - This could be payments due on a single date or payments due over a series of time / years

Refunding Terminology

Types of Refunding

- A **refunding to maturity** occurs when these requirements are calculated to the maturity date of the prior bonds
  - This establishes an **escrow to maturity**
  - From an investor's standpoint, prior bond issue remains in place and investor continues to receive principal and interest payments as scheduled to maturity
  - From an issuer's standpoint, the escrow now pays the prior bonds' scheduled principal and interest payments until final maturity

- A **refunding to call** occurs when these requirements are calculated to an earlier date, usually the first call date
  - This establishes an **escrow to call**
  - From an investor's standpoint, prior bond issue remains in place only until call date and investor only receives principal and interest payments until then
  - From an issuer's perspective, the escrow pays the prior bonds' scheduled principal and interest payments until the call date

Economic and Legal Defeasance

- If the defeasance requirements of the refunded bonds are fully met by the refunding bonds, they are considered **economically defeased**

- If the lien on the assets/revenues pledged to pay debt service on the refunded bonds is released, they are considered **legally defeased** and no longer outstanding
  - Legal defeasance is generally defined by governing bond documents
  - If legally defeased, investors no longer have a claim on issuer's resources to make payments; sole security is the defeasance escrow

- Although most refundings constitute legal defeasances, it is possible to effect an economic defeasance without a legal defeasance

- Eligible defeasance securities are typically defined in the governing bond documents
  - Usually are limited to US Government Securities but may also include US Agency Securities, certain US Municipal Securities, and occasionally even Corporate Securities
  - Investors focus on definition of defeasance securities and charge extra yield if definition is too permissive

Current and Advance Refundings

- If only a portion of the outstanding bonds are refunded, it is a **partial refunding**, as opposed to a **full refunding**
- **Current refunding**
  - Occurs when the proceeds of the refunding bonds are fully expended within 90 days
  - Escrow < 90 days; refunding delivery date is within 90 days of prior bonds call date
  - Escrow is not yield restricted and is exempt from rebate under 6-month spending exception
  - Allows for easy refundings of fixed rate debt with variable rate debt
- A **forward refunding** is a form of current refunding
  - Refunding bonds sold today and interest rate locked in, but refunding bonds do not close until 90 days prior to call date
  - Meets definition of current refunding, but still locks in rates for bonds whose call date is greater than 90 days away
  - Yield on forward refunding bonds is higher than normal delivery bonds because of the uncertainty of interest rates during the delay period

Current and Advance Refundings

- **Advance refunding**
  - Escrow > 90 days; refunding delivery date is more than 90 days from prior bonds call date
  - Escrow yield is restricted to .001% above refunding bond yield
    - Any arbitrage must be rebated
    - Exception if escrow is 100% invested in non-AMT tax-exempt securities
    - Yield restriction makes it difficult (but not impossible) to refund fixed rate debt with variable rate debt
  - State and Local Government Series securities (SLGs) used to determine yield restrictions
    - Rates set to a maximum of .05% below Treasury security
    - SLGs are highly flexible non-marketable Treasury securities purchasable only by US municipalities for use in defeasance escrows
    - Payment / maturity dates of SLGs are more customizable for issues than normal US Treasuries found in the secondary market

Current and Advance Refundings

- Federal tax law considerations related to tax-exempt bonds
  - No limit to number of current refundings funded by tax-exempt bonds
  - New Money bonds issued after 1/1/86 may be advance refunded once
  - New Money bonds issued prior to 1/1/86 may be advance refunded twice
  - Bonds refunded prior to 3/14/86 may be advance refunded once more
  - Private activity bonds cannot be advance refunded
  - Taxable refundings of tax-exempt or taxable debt are not limited
- These laws prevent issuers from having more than two bond issues in the market for the same project, and therefore holding twice as much tax-exempt debt
  - Reduces supply of tax-exempt debt and therefore the amount of tax-exempt income claimed by investors

Types of Refundings

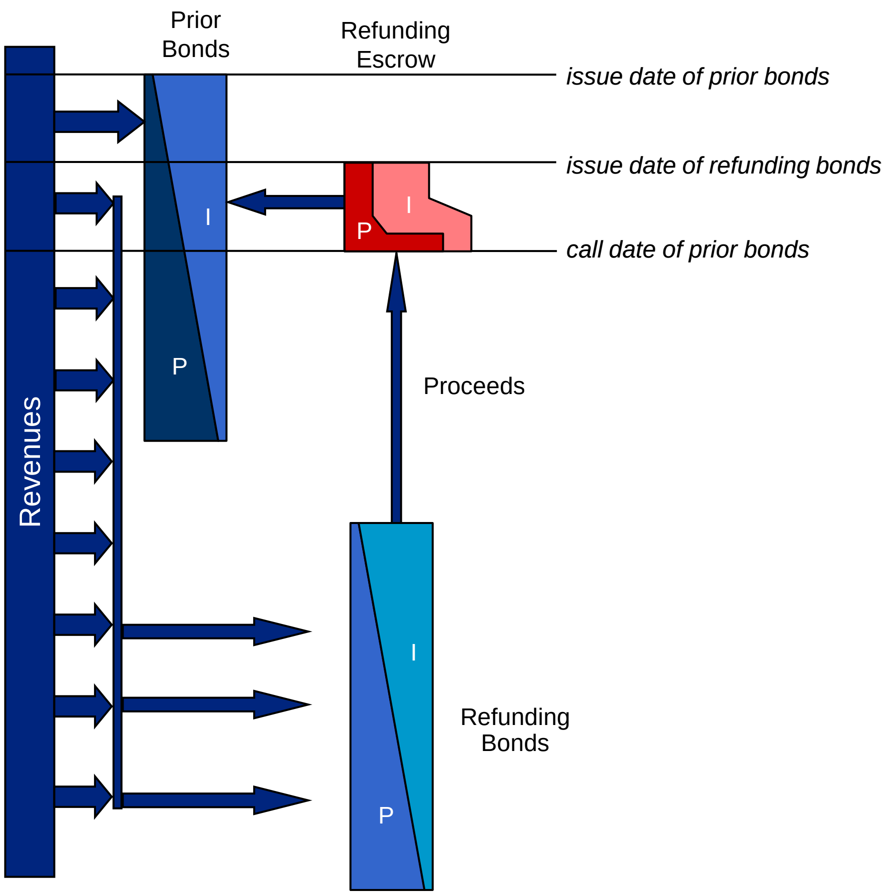
Net Cash Defeasance

- Defeasance requirements of the prior bonds are paid with refunding bond proceeds from the refunding bonds issuance date to the call date / maturity date of the prior bonds

- Once the refunding is completed, the revenues pledged / available to pay debt service on the refunded bonds are free to pay debt service on the refunding bonds

- The refunded bonds are now secured with the net funded escrow receipts

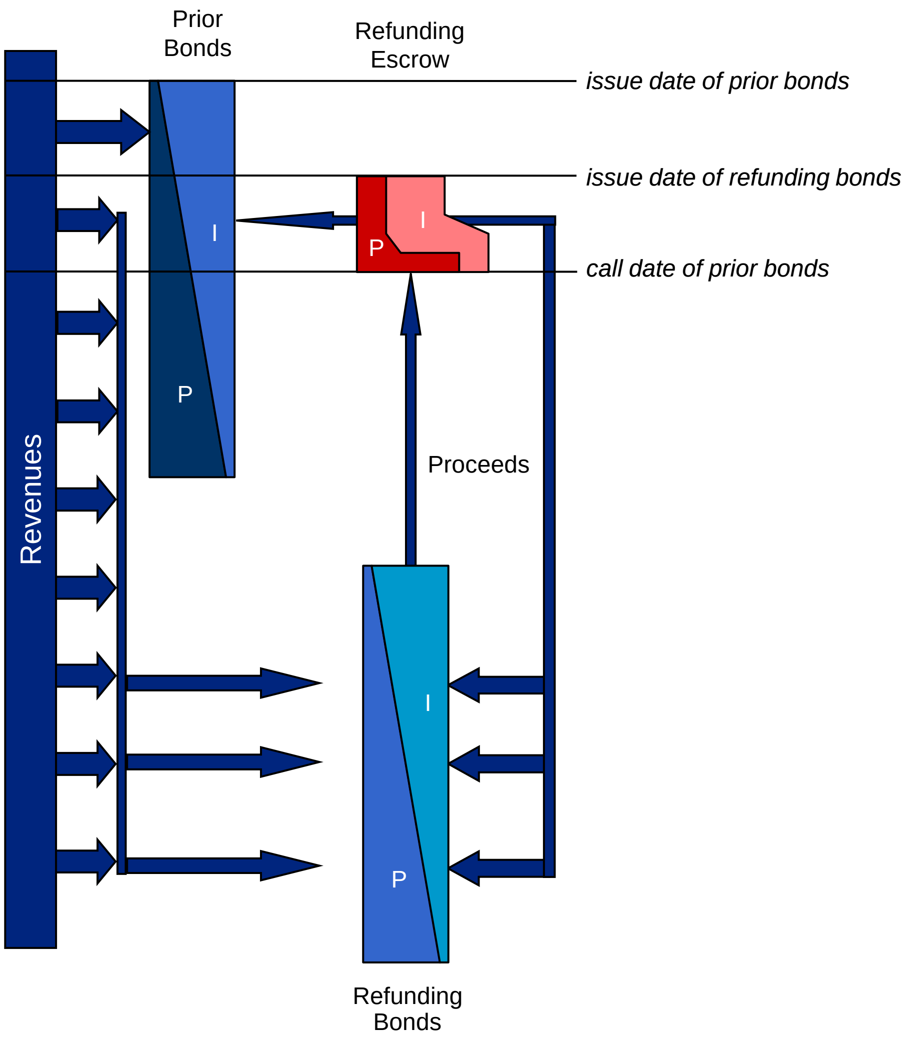
❖ This type constitutes the bulk of all refundings



Types of Refundings

Full Cash Defeasance

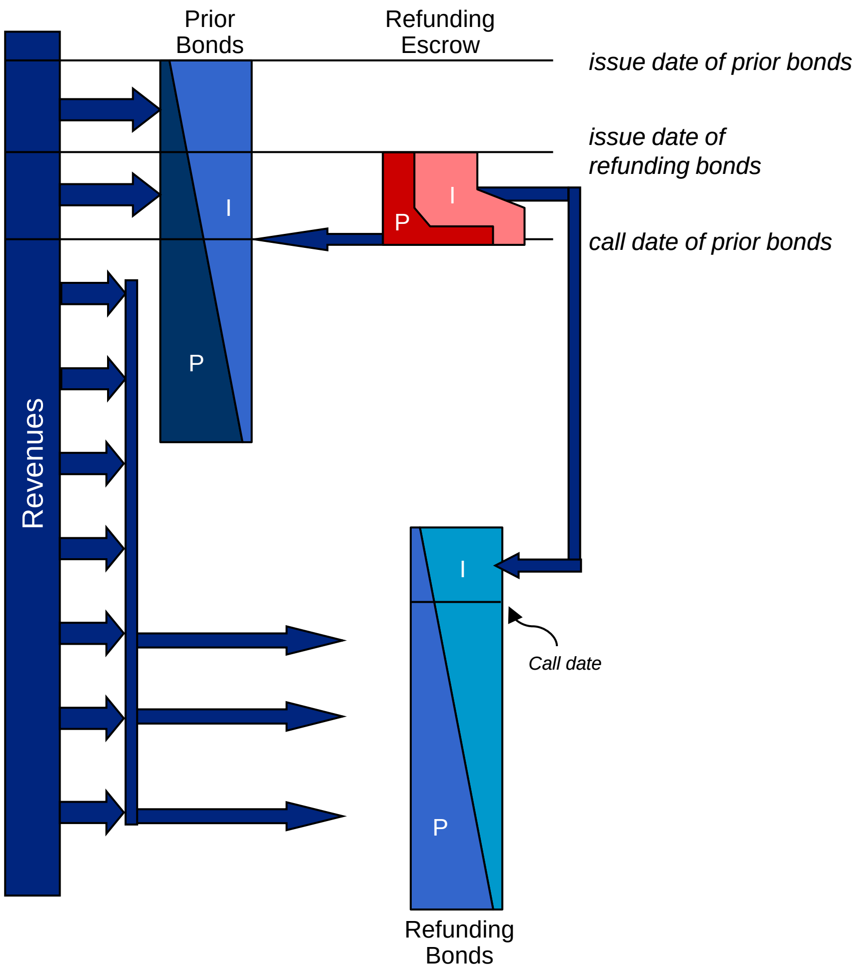
- The defeasance requirements of the prior bonds are paid with refunding bond proceeds, but earnings on the escrow investments cannot be considered in sizing the escrow deposit
- Both the revenues pledged to pay debt service on the refunded bonds and the escrow investment earnings are used to pay debt service on the refunding bonds
- Allows the issuer to capture the benefit of the refunding, despite the requirement that the defeasance be completed on a full cash basis
- This type was typically required by bond resolutions written before 1977, and are now relatively archaic



Types of Refundings

Cross-Over Refunding

- Refunding bond proceeds pay interest on new refunding bonds through the call date of prior bonds, then "cross over" to pay bond principal and premium
- Once the prior bonds are redeemed, the pledged revenues are redirected to secure the debt service on the refunding bonds
- An escrow is not created to offset the interest requirements on the prior bonds, and therefore DOES NOT constitute a legal or economic defeasance
- This type is primarily used to mitigate negative arbitrage in the refunding escrow by extending the average life (and therefore increasing the interest rate) of the defeasance escrow



Benefits of Refunding

1. Interest Rate Savings (High to Low Refunding)

- If the prior bonds are callable, and if interest rates decrease between the issuance of the prior bonds and the refunding bonds, then the issuer may be able to capture debt service savings
  - Similar in mechanism to refinancing a huge mortgage from a high interest rate to a lower interest rate

Considerations

- Old coupons vs. new yields
- Length of time between call and maturity dates of prior bonds
- Term of escrow
- Arbitrage yield vs. escrow yield
- Issuance costs

Measuring Savings

- Gross Debt Service Savings = Refunded Debt Service – Refunding Debt Service
- NPV Debt Service Savings= NPV Refunded Debt Service – NPV Refunding Debt Service
  - Cash flows discounted at the same rate to the same date
  - Cash flows typically discounted at the arbitrage yield of refunding bonds

Benefits of Refunding

Refunding Screen

Description		Dates	Issue Amount	Issue Price	Call Provisions		Yields			Refunding Escrow			
Series	Component	Maturity	Par Amount	Coupon	Date	Price	Bond	Arbitrage	Escrow	Escrow Cost	Arbitrage	PV	% of Par
Series 1992 Improvement	Term 2015	7/2/2014	$1,635,000	6.000%	1/2/2014	100.0%	0.381%	n.a.	0.250%	1,683,699.41	(110.91)	37,307.33	2.282%
Series 1992 Improvement	Term 2015	7/2/2015	$1,730,000	6.000%	1/2/2014	100.0%	0.731%	n.a.	0.250%	1,781,529.04	(117.35)	126,299.94	7.301%
Series 2008A	Serial	9/1/2017	$265,000	4.000%	9/1/2016	102.0%	1.561%	1.561%	0.640%	297,094.21	(7,028.45)	(7,367.86)	(2.780%)
Series 2008A	Serial	9/1/2018	$820,000	4.100%	9/1/2016	102.0%	2.021%	2.021%	0.640%	921,746.99	(32,420.43)	(20,689.53)	(2.523%)
Series 2008A	Serial	9/1/2019	$2,905,000	4.200%	9/1/2016	102.0%	2.441%	2.441%	0.640%	3,274,089.49	(149,003.76)	(80,563.96)	(2.773%)
Series 2008A	Serial	9/1/2020	$3,060,000	4.350%	9/1/2016	102.0%	2.821%	2.821%	0.640%	3,462,421.82	(189,366.34)	(98,851.49)	(3.230%)
Series 2008A	Serial	9/1/2021	$3,230,000	4.500%	9/1/2016	102.0%	3.191%	3.191%	0.640%	3,669,175.41	(232,958.28)	(131,033.62)	(4.057%)
Series 2008A	Serial	9/1/2022	$3,015,000	5.250%	9/1/2016	102.0%	3.441%	3.441%	0.640%	3,492,134.97	(240,539.62)	(44,255.29)	(1.468%)
Series 2008A	Serial	9/1/2023	$4,920,000	5.250%	9/1/2016	102.0%	3.641%	3.641%	0.640%	5,698,608.32	(419,257.49)	(95,111.19)	(1.933%)
Series 2008A	Serial	9/1/2024	$5,210,000	5.250%	9/1/2016	102.0%	3.821%	3.821%	0.640%	6,034,501.90	(469,280.78)	(176,468.45)	(3.387%)
Series 2008A	Serial	9/1/2025	$5,500,000	5.250%	9/1/2016	102.0%	4.000%	4.001%	0.640%	6,370,395.48	(521,985.08)	(265,636.47)	(4.830%)
Series 2008A	Serial	9/1/2026	$5,800,000	5.250%	9/1/2016	102.0%	4.170%	4.170%	0.640%	6,717,871.59	(576,784.64)	(357,646.84)	(6.166%)
Series 2008A	Serial	9/1/2027	$6,120,000	5.250%	9/1/2016	102.0%	4.320%	4.320%	0.640%	7,088,512.78	(632,992.84)	(447,491.54)	(7.312%)
Series 2008A	Serial	9/1/2028	$6,450,000	5.000%	9/1/2016	102.0%	4.440%	4.440%	0.640%	7,422,821.39	(685,013.18)	(656,626.08)	(10.180%)

Benefits of Refunding

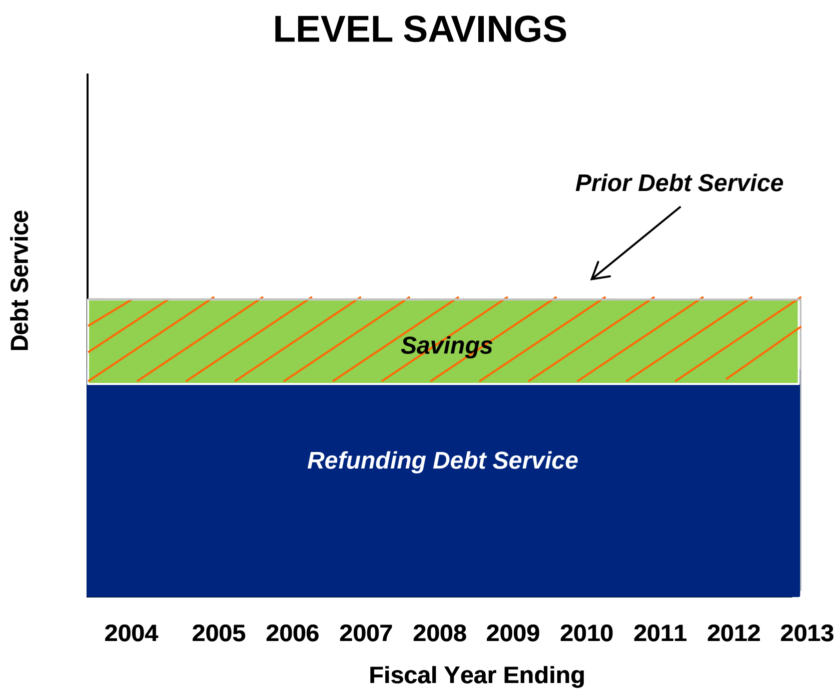
2. Defeasance (Low to High Refunding)

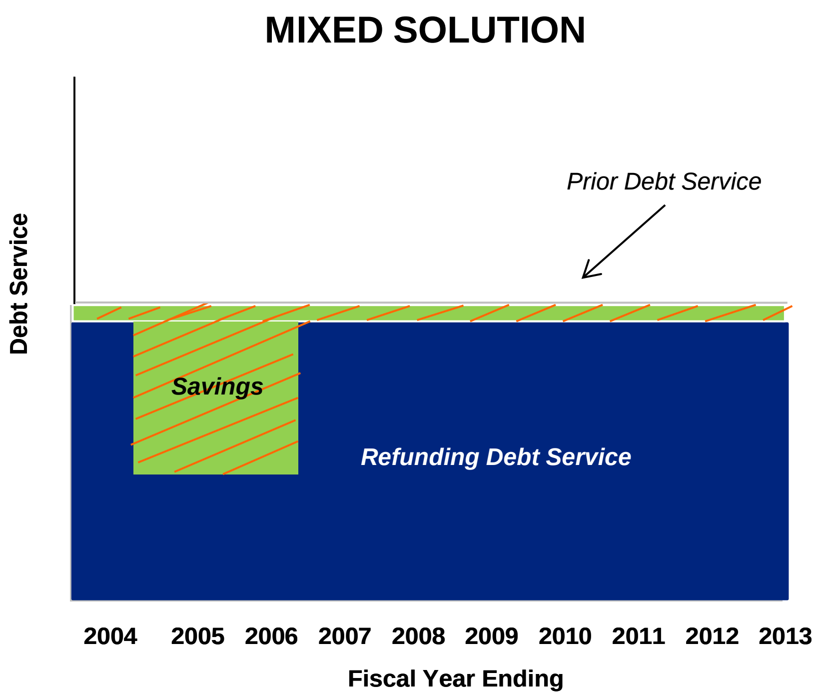
- Refunding bonds may be issued to defease prior debt and release the issuer from onerous, outdated or burdensome covenants
- May be completed as a high-to-low refunding to the call date of prior series (if savings are produced) or as a low-to-high refunding to maturity (if savings cannot be produced)
  - Low to high will not create any debt service savings, but refunding proceeds can be invested at a higher rate
    - Assuming escrow earns at arbitrage yield, only loss is therefore costs of issuance and underwriter's discount

3. Restructuring

- Often involves the deferral or extension of the prior debt, producing (at least) short-term debt service relief
- May or may not generate present value savings, and therefore may be a refunding to call or to maturity

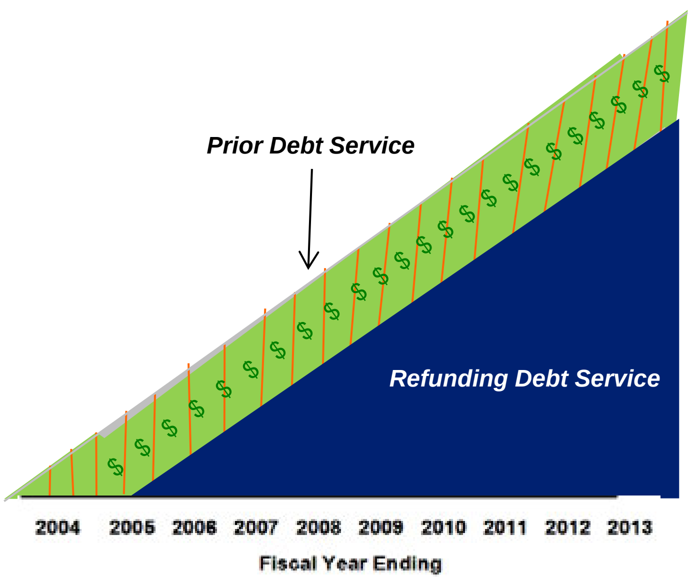
Refunding Saving Structures



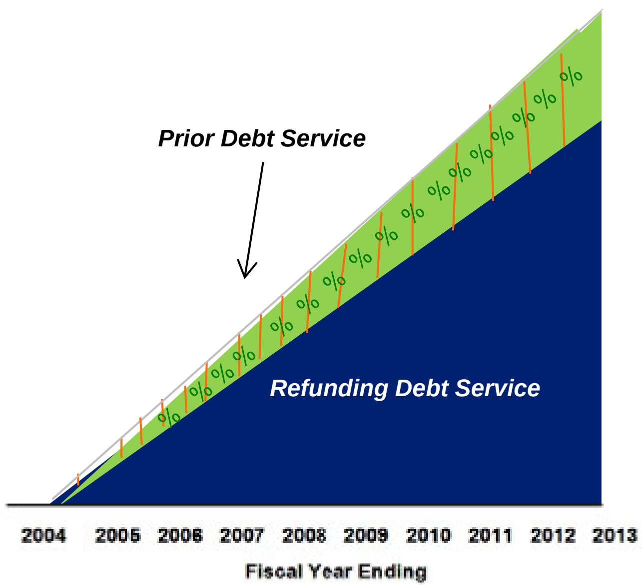


Refunding Saving Structures

UNIFORM SAVINGS

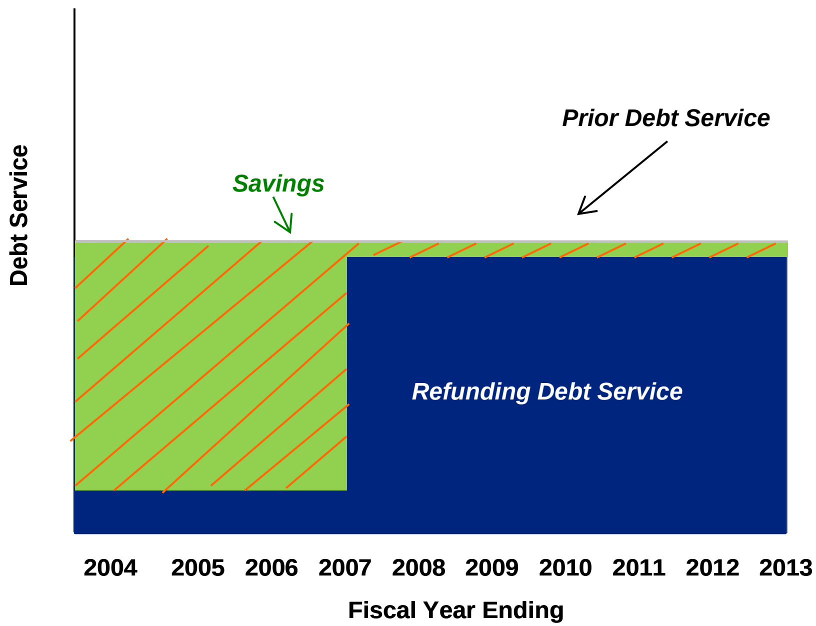


PROPORTIONAL SAVINGS

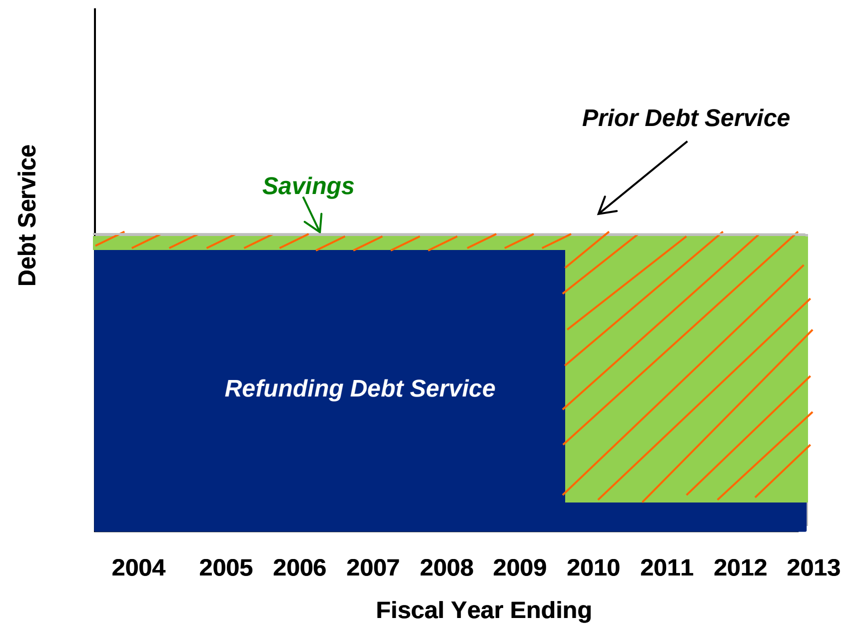


Refunding Saving Structures

ACCELERATED SAVINGS



DEFERRED SAVINGS



Sample Refunding Result – Fixed to Fixed

(dollar amounts in 000s)

Fiscal Year Ending	Refunded 2003B Fixed Rate Bonds				2013 Refunding Bonds		Cash Flow Savings	Present Value Savings
	Principal	Fixed Rate	Interest	Debt Service	Fixed Rate	Allocated Debt Service		
6/30/2014	$ 1,185	4.30%	$ 1,225	$ 2,410	-	$ 521	$ 1,890	$ 1,882
6/30/2015	1,300	4.90%	1,168	2,468	1.89%	2,895	(427)	(410)
6/30/2016	1,435	4.90%	1,101	2,536	2.14%	2,647	(111)	(104)
6/30/2017	1,570	4.90%	1,027	2,597	2.69%	2,643	(46)	(42)
6/30/2018	1,715	4.90%	947	2,662	3.30%	2,647	14	10
6/30/2019	1,865	4.90%	859	2,724	3.70%	2,645	79	61
6/30/2020	2,025	5.40%	759	2,784	4.13%	2,638	146	110
6/30/2021	2,205	5.40%	644	2,849	4.43%	2,639	210	153
6/30/2022	2,395	5.40%	520	2,915	4.80%	2,639	276	192
6/30/2023	2,595	5.40%	385	2,980	4.95%	2,644	337	225
6/30/2024	2,810	5.40%	239	3,049	5.10%	2,644	406	259
6/30/2025	3,030	5.40%	82	3,112	5.30%	2,643	469	287
Aggregate	**$ 24,130**	**5.18%**	**$ 8,956**	**$ 33,086**	**3.97%**	**$ 29,845**	**$ 3,241**	**$ 2,625**
							Less City's Debt Service Contribution	**$ (1,810)**
							Net Present Value Savings	**$ 814**

Sample Refunding Result – Variable to Fixed

(dollar amounts in 000s)

Fiscal Year Ending	Refunded 2003A Variable Rate Bonds						2013 Refunding Bonds		Cash Flow Savings on 2003A Refunding	Present Value Savings
	Principal	Assumed Variable Rate	Support Costs	Effective Interest Rate*	Interest	Debt Service	Fixed Rate	Allocated Debt Service		
6/30/2014	$ 670	0.17%	0.95%	1.12%	$ 19	$ 689	-	$ 216	$ 473	$ 476
6/30/2015	760	2.00%	0.95%	2.95%	239	999	1.89%	1,204	(204)	(194)
6/30/2016	880	3.50%	0.95%	4.45%	409	1,289	2.14%	1,093	196	178
6/30/2017	975	3.50%	0.95%	4.45%	390	1,365	2.69%	1,095	270	234
6/30/2018	1,155	3.50%	0.95%	4.45%	351	1,506	3.30%	1,092	415	345
6/30/2019	1,205	3.50%	0.95%	4.45%	310	1,515	3.70%	1,094	421	335
6/30/2020	1,265	3.50%	0.95%	4.45%	266	1,531	4.13%	1,102	430	328
6/30/2021	1,325	3.50%	0.95%	4.45%	220	1,545	4.43%	1,100	445	325
6/30/2022	1,385	3.50%	0.95%	4.45%	172	1,557	4.80%	1,098	459	321
6/30/2023	1,455	3.50%	0.95%	4.45%	122	1,577	4.95%	1,097	480	321
6/30/2024	1,520	3.50%	0.95%	4.45%	69	1,589	5.10%	1,098	492	314
6/30/2025	1,595	3.50%	0.95%	4.45%	14	1,609	5.30%	1,098	511	312
Aggregate	**$ 14,190**	**3.26%**	**0.95%**	**4.21%**	**$ 2,582**	**$ 16,772**	**3.97%**	**$ 12,387**	**$ 4,385**	**$ 3,295**

Factors to Consider in Undertaking a Refunding

Why is a Refunding Being Contemplated?

- Interest rate savings
- Short term debt service relief / restructuring
- Bond indenture constraints

If Interest Rate Savings

- What is the level of NPV savings generated?
- What are factors driving these savings?
  - Old coupon vs. new coupon
  - Arbitrage yield vs. escrow yield (negative arbitrage)
  - Time to call date of refunded bonds
  - Interest rate outlook / volatility

Appropriate Level of NPV Savings

- Rule of Thumb Approach
- Statistical Option Valuation Model (eg. Black Scholes)
- Time to Call Date vs. Maturity Date Approach

Other Refunding Issues

RDA Successor Agency Refundings

- AB 1484 provides a mechanism to refund outstanding RDA bonds under certain circumstances
- CA Health and Safety Code Section 34177.5 authorizes successor agencies to refund outstanding bonds provided that:
  - "(i) the total interest cost to maturity on the refunding bonds… plus the principal amount of the refunding bonds… shall not exceed the total remaining interest cost to maturity on the bonds… to be refunded plus the remaining principal of the bonds… to be refunded"
  - "(ii) the principal amount of the refunding bonds or other indebtedness shall not exceed the amount required to defease the refunded bonds or other indebtedness, to establish customary debt service reserves, and to pay related costs of issuance."
- Requires Successor Agencies to use an independent Financial Advisor on refundings
- RDA refundings are subject to State Department of Finance review, which may take up to 60 days

Other Refunding Issues

Make Whole Call Provisions

- Redemption price varies according to prevailing interest rates
- Designed to "make investor whole" for losing a high coupon investment
- Typically seen in Corporate / taxable securities, as well as many BABs issues
- Difficult to extract savings from a refunding but still allows issuer to defease bonds if necessary for restructuring, bond covenants, etc.

Taxable Refundings

- Issuing taxable bonds to refund tax-exempt obligations
- Utilized to advance refund non-advance refundable debt
- Generally not restricted by tax law

Other Refunding Issues

Variable Rate Refundings

- Difficult to refund fixed rate debt with variable rate debt due to arbitrage restrictions
- Must ensure variable rate cost of funds always exceeds earnings rate of escrow

Negative Arbitrage Can Reduce NPV Savings

1. US Treasuries vs. SLGs
2. Alternative Defeasance Securities
3. Crossover Refundings
4. Float Contracts

Questions?

Refunding Your Agency's Obligations

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