Benefit-Cost Impact of Wifia Loan Program Extended Term Modifications

Discussion Outline

December 12, 2019

1. Overview

This discussion outline summarizes several benefit-cost impacts of extending three structural features of the Wifia Loan Program statute (USC 33 Chapter 52) to borrowers, the Program and the federal government. (*see Appendix A for specific language examples*).

Extended Term Modifications

- Explicit scope for **10-year construction programs** with flexibility to substitute and amend Eligible Costs during that period, pursuant to an overall long-term goal.
- Extend debt service deferral period from 5 years to **10 years**, pursuant to a long-term plan.
- Extend final maturity date from 35 years to **50 years** after completion, pursuant to a long-term plan.

The impact of Extended Term Modifications is evaluated here in the context of a $100 million long-lived, non-optional basic system rehabilitation project (e.g. pipe replacement or major CSO project) being done by a typical large Wifia borrower (Aa3/AA- rated public water system borrower with efficient access to the tax-exempt bond market).

Summary

- **Current BCA** (pages 2-4): A benefit-cost evaluation of a Wifia loan under current statute. This involves a comparison of the tax-exempt bond financing that the borrower would have done without Wifia to an optimized financing with a similar profile that includes a Wifia loan tranche. Page 4 summarizes the impact of a current-law Wifia financing on the borrower, the Program and federal economics.

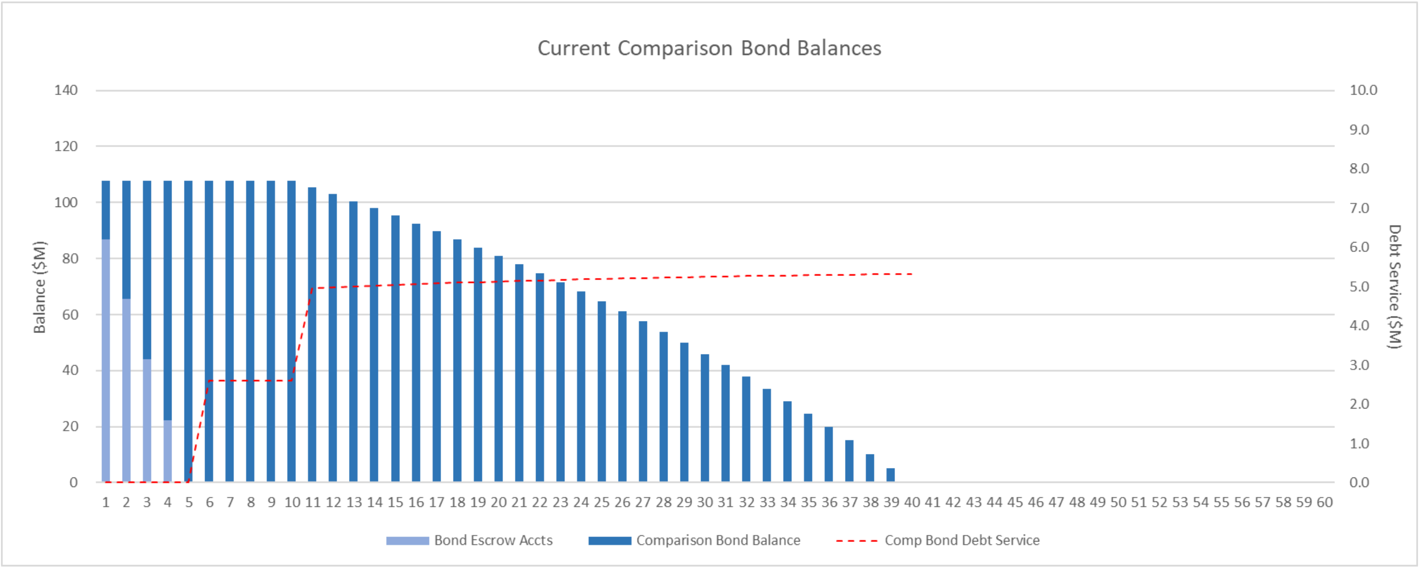
- **Extended BCA** (pages 5-7): The same benefit-cost analysis but including Extended Term Modifications. Page 7 summarizes the comparison of an Extended Term Wifia financing to comparable extended term bond financing and the net overall change from current law.

- **Future Portfolio Impact** (page 8): Extended Term Modifications impacts are scaled-up to estimated $8 billion portfolio.

- **Appendix A: Potential amendment language.**

- **Appendix B: Short discussion of tax-exempt bond displacement policy aspects.**

2. Current Comparison Bond Financing

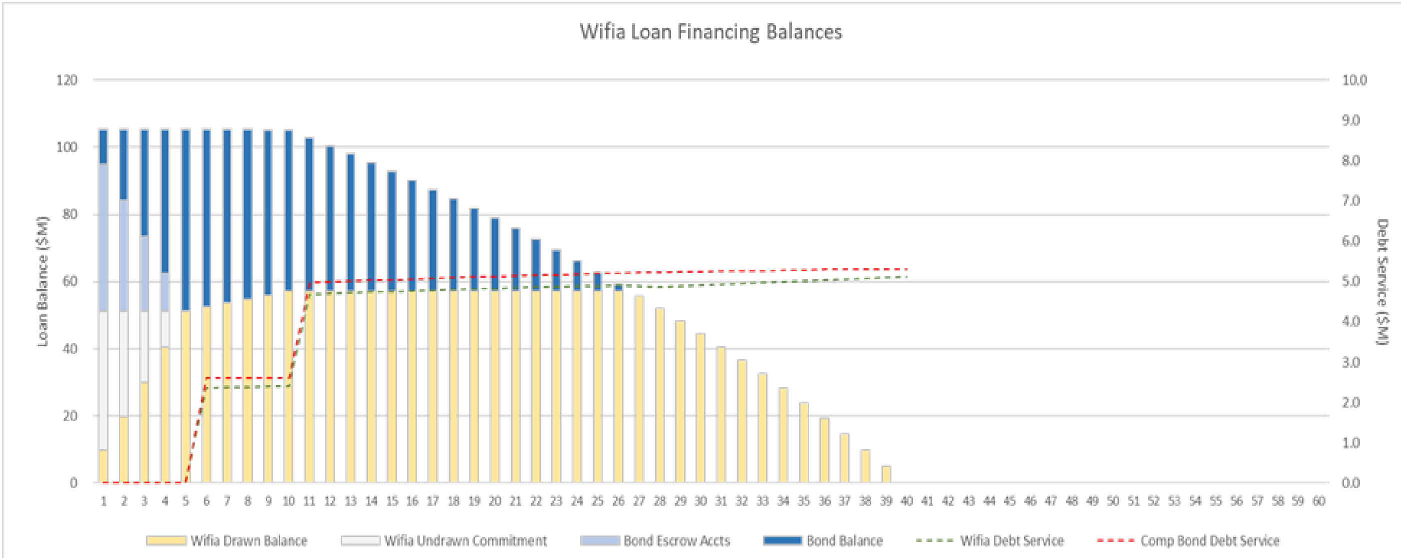


The benefits of a Wifia loan are evaluated in comparison to the borrower's most efficient alternatives. In this analysis, the alternative will be a $100 million tax-exempt bond series, rated Aa3/AA-, with a structure that reflects current Wifia features: a 5-year construction and capitalized interest period, 5-year interest-only debt service and 30-year level payment amortization phase. Rates as of 09-Dec-2019: Bloomberg BVAL Curve and US Treasury SLGS.

- To avoid interest rate risk, the full amount is issued at outset and proceeds deposited in standard SLGS escrow accounts. This incurs negative arbitrage (due to yield restrictions and positively-sloped yield curve) that may discourage longer-term construction programs.

- The tax-exempt bond market's primary depth is up to 30 years. Series in years 31-40 will face a relatively illiquid market and higher yields.

3. Current Wifia Financing



The Wifia financing alternative would be generally structured around the same principal amortization pattern as the Comparison Bond but with specific current Wifia features.

- The Wifia construction rate-lock eliminates negative arbitrage on 49% of the financing.
- Non-pro-rata amortization (the Program calls this 'sculpting') allows the bond portion be repaid first and faster – keeping the bond series within the 30-year market while the long-tenor principal of the Wifia portion benefits from US Treasury 'flat forward' pricing.
- Wifia debt service deferral is also rate-locked and may be used to further enhance sculpting.

The overall effect is to lower future debt service requirements, though the basic payment pattern is unchanged.

4. Current Comparison Bond and Current Wifia Financing: BCA Metrics

	Current		
Borrower	**Comparison Bond**	**Wifia Financing**	**Bond:Wifia Difference**
Present Value of Debt Service	95.0	89.3	5.7
Approximate Financing Rate	2.47%	2.24%	0.24%
10-Yr Utilization Bond Capacity	107.7	52.3	55.4
Program			
FCRA Credit Reserve (%)	-	0.719%	0.719%
FCRA Credit Reserve ($000)	-	412	412
FCRA Multipler (PV Benefit:FCRA)	-	14	14
Federal Economics			
Tax Expenditure (10-Yr Undisc)	8.0	3.6	4.5
Tax Expenditure (PV Full Term)	15.5	5.1	10.4

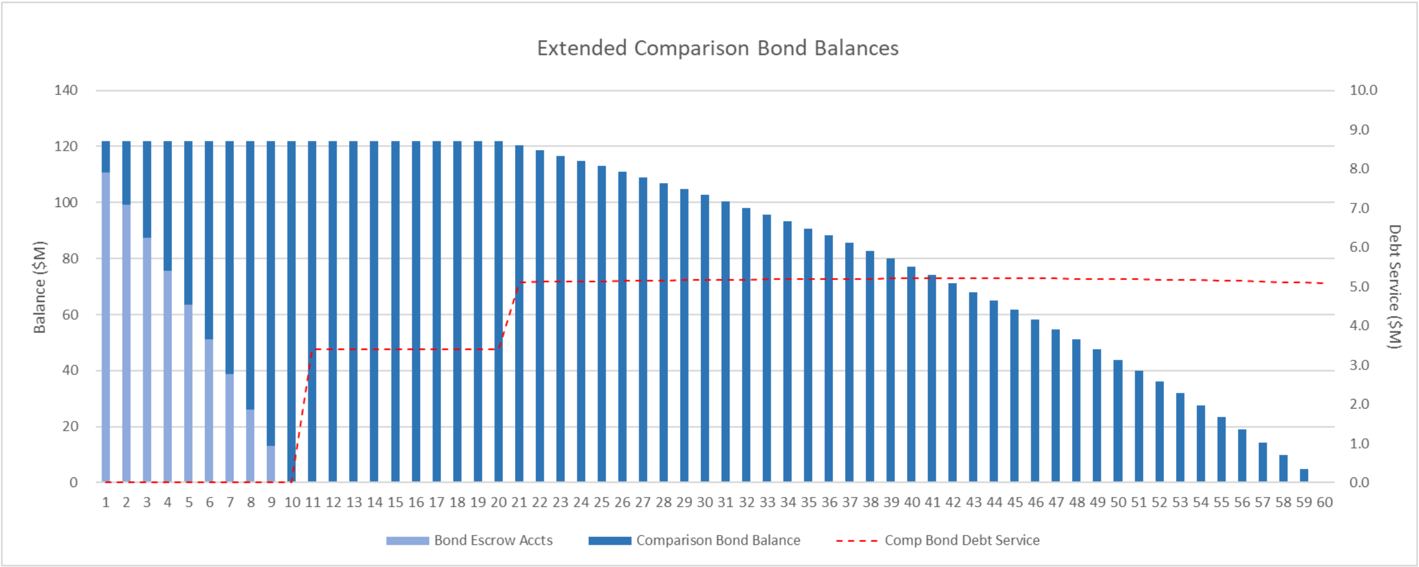
The Current Comparison Bond and Wifia Financing alternative are modelled and compared.

- The most important metric is the difference in the present value of debt service (e.g. as evaluated by sophisticated tax-exempt issuers for advance refunding decisions). The Wifia financing is 5.7% lower in terms of project cost than the Comparison Bond. This metric is currently the main driver of most Wifia transactions.

- The Wifia Program will allocate appropriated credit loss reserve funds of approximately 0.7% of the financing, or $412K for the $100 million project. For policy purposes, this should be viewed against the PV benefit received by the borrower as a 'FCRA Multiplier' – in this case, each federal tax dollar delivers $14 of policy-directed benefit

- From a federal economic perspective, the Wifia financing *reduces* the amount of tax-exempt debt issued for this non-optional project. This increases 10-year undiscounted revenue (e.g. scoring budget) by 4.5% of project cost and the present value of full financing term by 10.4% (*see Appendix B for a discussion on policy implications of tax-exempt debt displacement*).

5. Extended Term Comparison Bond

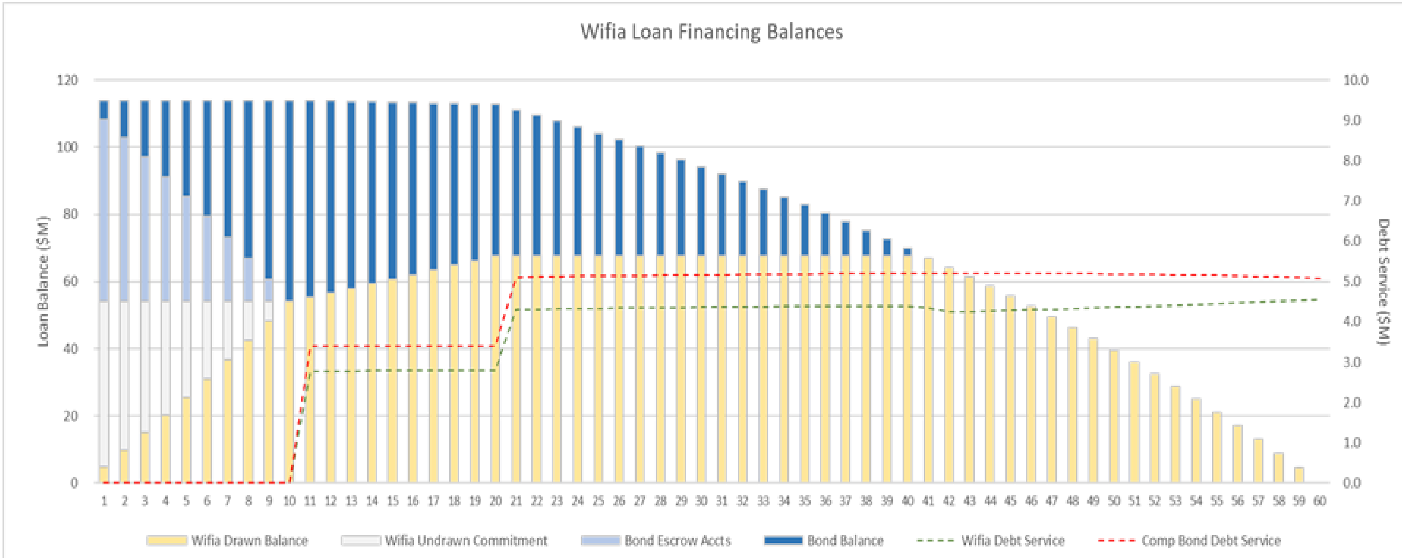


The analysis of Wifia Extended Terms uses the same comparison methodology. The Extended Term Comparison Bond will reflect the extended terms proposed for Wifia: 10-year construction and capitalized interest, 10-year interest-only phase and 50-year amortization.

- This Comparison Bond is realistically placeable for a large, highly-rated water system – but it is very unusual and likely will be prohibitively expensive.
- Ten years of negative arbitrage is significant. In addition, such a long period of capitalized interest will require high initial issuance (over $120 million), increasing utilization the borrower’s bond market capacity for non-capital expenditure.
- Most of the Comparison Bond series will extend out beyond the 30-year market, with about half placed in years 40-60. This is an extremely illiquid market segment – a single large placement may significantly increase pricing.

InRecap

6. Extended Term Wifia Financing



An Extended Wifia Financing may significantly improve the cost-effectiveness and practicality of a very long-term financing for major system rehabilitation projects.

- Only 51% of the financing will incur negative arbitrage due to Wifia's 10-year rate lock. This may be adequate interest rate risk mitigation for the borrower to consider delayed issue of the bond portion in order to preserve bond market capacity.

- Wifia's sculpting feature dramatically improves the placement metrics of the bond portion of the financing – now most of the bond series are within the 30-year market and none extend beyond 42 years. For the Wifia loan, years 40-60 can still be priced at Treasury flat-forward, increasing the effectiveness of this feature.

- The 10-year deferral further enhances scope for sculpting. Annual debt service is significantly reduced.

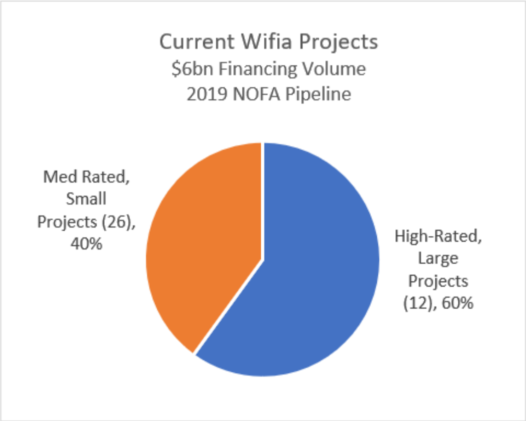
7. Overall Extended Term Modification Impacts

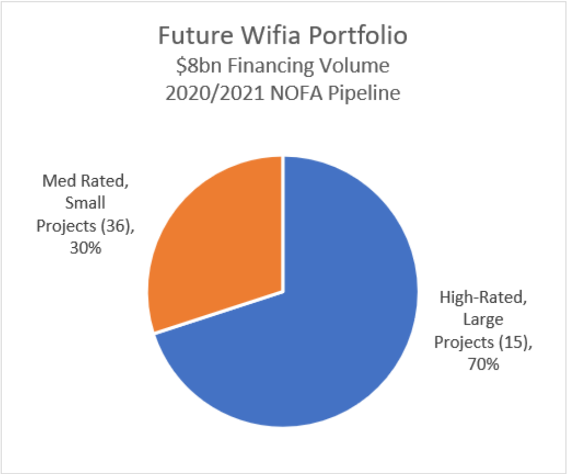
	Current			Extended			Change
Borrower	**Comparison Bond**	**Wifia Financing**	**Bond:Wifia Difference**	**Comparison Bond**	**Wifia Financing**	**Bond:Wifia Difference**	**Current:Extended Difference**
Present Value of Debt Service	95.0	89.3	5.7	102.4	85.9	16.5	10.7
Approximate Financing Rate	2.47%	2.24%	0.24%	2.82%	2.37%	0.45%	0.21%
10-Yr Utilization Bond Capacity	107.7	52.3	55.4	122.0	59.7	62.4	7.0
Program							
FCRA Credit Reserve (%)	-	0.719%	0.719%	-	0.835%	0.835%	0.12%
FCRA Credit Reserve ($000)	-	412	412	-	566	566	154
FCRA Multipler (PV Benefit:FCRA)	-	14	14	-	29	29	15
Federal Economics							
Tax Expenditure (10-Yr Undisc)	8.0	3.6	4.5	10.1	4.4	5.7	1.2
Tax Expenditure (PV Full Term)	15.5	5.1	10.4	27.1	8.7	18.5	8.0

The overall impact of the Extended Term Modifications in comparison to current terms can now be estimated.

- There is significant improvement in the most important borrower metric, the present value of debt service, which is decreased by nearly 17% of project cost, or almost triple the decrease available under current terms.
- In contrast, for the Wifia Program, use of FCRA credit subsidy appropriation increases only slightly, from 0.7% to 0.8% of project cost. This is due the mathematical effect of discounting very long-term Expected Losses, but also reflects the low-risk reality of long-lived water infrastructure for large communities. With major PV debt service benefit increase, the FCRA Multiplier rises to 29 times.
- Federal revenue increase from reduced tax expenditure improves slightly on a 10-year undiscounted basis but is nearly doubled on a present value economic basis.

8. Wifia Program Portfolio-Wide Estimates





Extended Term Portfolio

$millions	
Borrowers	15
Average Project Size	762
Total Project Size	11,429
Wifia Volume	5,600
PV Debt Service Benefit	1,880
FCRA Cost	65
FCRA Multipler	29X
Federal Revenue (Budget)	648
Federal Revenue (PV Full)	2,110

Using the impact metrics from the foregoing $100 million project case, Wifia Program portfolio-wide impact from Extended Term Modifications can be roughly estimated.

- Utilization of Extended Term features will be limited to large, highly-rated water systems doing major long-term projects. This type of borrower constituted approximately 30% of selected applicants (12) in the current 2019 NOFA round but their projects accounted for 60% of projected $6 billion Wifia loan volume.
- Assuming the Wifia Program is further expanded to about $8 billion in volume for a 2020 or 2021 NOFA, and that Extended Term Modifications may involve a proportionally similar numbers of borrowers (15) but encourages a higher volume of large, long-lived projects (to 70% of total), indicative metrics above may summarize a possible overall policy outcome.
- In particular, the impact on federal economics is significant in absolute terms, which may provide scope for other potential Wifia statue modifications for smaller, less credit-worthy borrowers.

Appendix A

Extended Term Modifications

Policy goals:

- Encourage American water systems to address major deferred maintenance and delayed investment as quickly and efficiently as possible.
- Extending long-term WIFIA loan features that permit moderate, steady and affordable water rate increases while ensuring prudent lending practice.
- Encourage commitment to a long-term plan that achieves sustainable full cost recovery.

Proposed modifications to USC Title 33 § Section 3908(c)(3):

(3) Deferred Payments [and Extended Construction and Repayment Periods]

(A) Authorization

(ii) In connection with a long-term plan to achieve full-cost recovery for necessary projects while implementing sustainable and affordable rate increases, the Secretary or the Administrator, as applicable, subject to subparagraph (C), may allow obligor to:

(a) implement a programmatic construction plan with a period of up to [10] years in which the schedule of Eligible Project Costs may be amended and resubmitted in accordance with achieving obligor's long-term plan objectives;

(b) for the purpose of implementing sustainable and affordable rate increases in accordance with obligor's long-term plan, allow obligor to add principal and interest to the outstanding balance for a period of up to [10] years after substantial completion of the construction program

(c) for the purpose of implementing sustainable and affordable rate increases in accordance with obligor's long-term plan, allow obligor to extend final maturity date of the secured loan for up to [50] years after the date of substantial completion of the construction program, subject to expected useful life of construction program assets.

Appendix B

Notwithstanding current JCT assumptions, most current Wifia Program loans displace tax-exempt debt, especially the larger transactions. The Extended Term Modifications will highlight this displacement and the resulting increase in federal revenue. Potential policy issues can be addressed in context of OMB Circular 129.

Guidance from OMB 129:

1. The Federal objectives to be achieved, including:
a. Whether the credit program is intended to:
i. Correct a capital market imperfection, which should be defined and quantified;
ii. Subsidize borrowers or other beneficiaries, who should be identified; and/or
iii. Encourage certain activities, which should be specified.

b. Why they cannot be achieved without Federal credit assistance, including:
i. A description of existing and potential private sources of credit by type of institution, and the availability, terms and conditions, and cost of credit to borrowers;
ii. An explanation as to whether and why these private sources of financing must be supplemented and/or subsidized;
iii. Whether any Federal credit or non-credit program exists that addresses a similar need and why it or a modification to it would not be adequate to address the need.

5. The effects on private capital markets. The review should estimate the extent to which the program substitutes directly or indirectly for private lending and analyze any elements of program design that encourage and supplement private lending activity, with the objective that private lending is displaced to the smallest degree possible by agency programs.

Factors to Consider for Wifia Loan Program:

- Highly-rated water systems have abundant and efficient access to the tax-exempt bond market, but for very long-lived assets that require financing with minimization of annual debt service, the 30-year limit on market depth is effectively an ‘imperfection’.
- Very long-term planning and affordable execution of basic system rehabilitation should be a fundamental objective of American infrastructure renewal.
- The tax-exempt bond market is efficient within 30-year terms; taxable private placements are relatively efficient for much longer tenors, but taxable spreads are higher than public water systems are used to. A Wifia financing *uniquely* combines interest rates that are close to tax-exempt bonds with a very long-term private placement structure.
- Extended Term Modifications will add to the unique structural features that are both needed by public water systems and not provided in private capital markets.
- Wifia Loan financings, especially with Extended Term Modifications, will not compete with or displace the primary 30-year tax-exempt bond market to the extent that that market is typically the ‘first-best’ solution for a capital financing. Only ‘second-best’ utilization will be displaced, strictly in accordance with borrower preference for very long-term financings.

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