

The Economic Cost of WIFIA's Current Loan Portfolio

Part 1: FCRA Credit Subsidy Cost Interest Rate Re-estimates

Version 1.1

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Overview

The US EPA's Water Infrastructure Finance and Innovation Act (WIFIA) Loan Program has been operational since 2017. Although the Program was closely modelled on a US DOT project finance loan program, WIFIA has primarily lent to highly rated public water systems that are financing basic infrastructure projects. These systems can typically borrow in the tax-exempt municipal bond market at rates near or even below the US Treasury (UST) rate offered by WIFIA, but a WIFIA loan includes several non-market features that are valuable for financing long-term capital projects.

The most important of these non-market features is the ability to draw down a WIFIA loan commitment during construction at the UST rate fixed at closing for the full-term financing. The drawdown schedule is flexible and can be completely delayed until one year after construction completion. In effect, this is a costless interest rate call option on a long-term, fixed-rate loan.

Due to highly rated borrowers' interest in this feature, and the quality of their applications, WIFIA has been able to originate and execute a \$9.03 billion portfolio of 44 loan commitments to date. Unusually for a federal infrastructure loan program, this portfolio has extremely low credit and project risk characteristics.

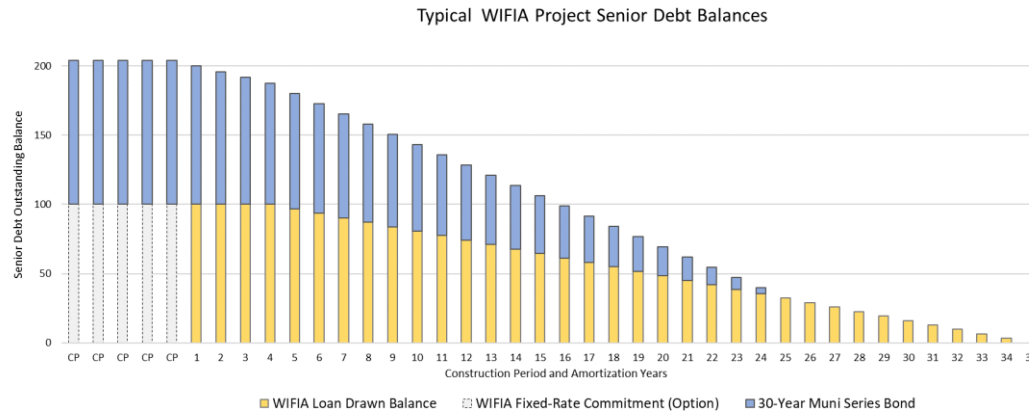
However, the portfolio appears to have significant exposure to interest rate risk through the loans' interest rate option feature.

This presentation outlines the nature and potential cost of the current portfolio's interest rate exposure:

1. How the call option is utilized in a typical WIFIA loan for financing a long-term infrastructure project.
2. FCRA Credit Subsidy Cost accounting for interest rate re-estimates when the loan is drawn.
3. The sensitivity of typical WIFIA loan re-estimate cost to rising UST rates.
4. Current portfolio commitment volume and corresponding execution rates .
5. Historical and projected 20YR UST rates.
6. Potential increases in portfolio Credit Subsidy Cost due to interest rate re-estimates in the current and a rising rates environment.

Various conclusions and implications are included on the final page. Note that this presentation and related analyses are based solely on public and widely available information, but all specific analyses, estimates and conclusions herein are exclusively those of InRecap LLC.

1. WIFIA Loan Fixed-Rate Commitment as Interest Rate Call Option



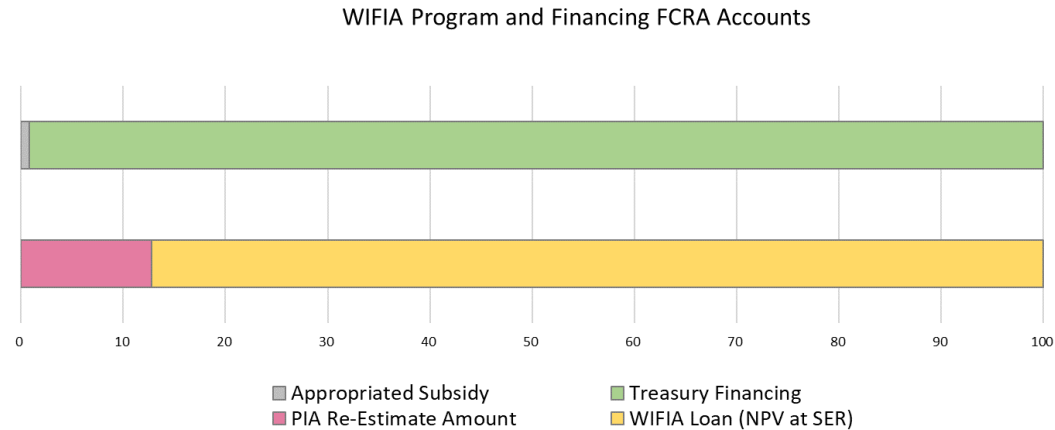
In the absence of the WIFIA alternative, highly rated public water systems will typically finance their long-term capital projects by issuing tax-exempt water revenue series bonds. In order to hedge interest rate exposure during long construction periods, the full amount of the bonds is issued at project inception, with escrowed funds used for construction draws. This will incur negative arbitrage cost.

With a WIFIA loan, a borrower can replace 49% of the bond financing. A WIFIA loan is in effect a privately placed long-term single fixed-rate financing, optionally drawable during construction or as permanent financing post-completion. The single rate is fixed at loan execution at the UST rate corresponding to loan weighted average life (WAL). The permanent financing has a maximum term of 35 years; typical WIFIA loan WAL is 20-25 years.

For highly rated borrowers with access to short-term financing alternatives (tax-exempt CP, for example), it is usually most efficient to use the WIFIA loan's fixed rate commitment during construction as an interest rate call option on the permanent financing. Cost savings will usually be maximized by latest possible exercise (absent other factors) and the US government is a riskless counterparty.

Since UST and highly rated tax-exempt bond yield curves are usually close, and the other features of a WIFIA loan are not fundamentally different than a bond, WIFIA's costless interest rate option is the primary value of a WIFIA loan. At a minimum, negative arbitrage cost is avoided. Further value may be realized through WIFIA's current practice of loan 're-execution', which resets the UST rate if rates have fallen significantly, as they did from 2018/2019 to 2020.

2. FCRA Credit Subsidy Cost and Interest Rate Re-estimates

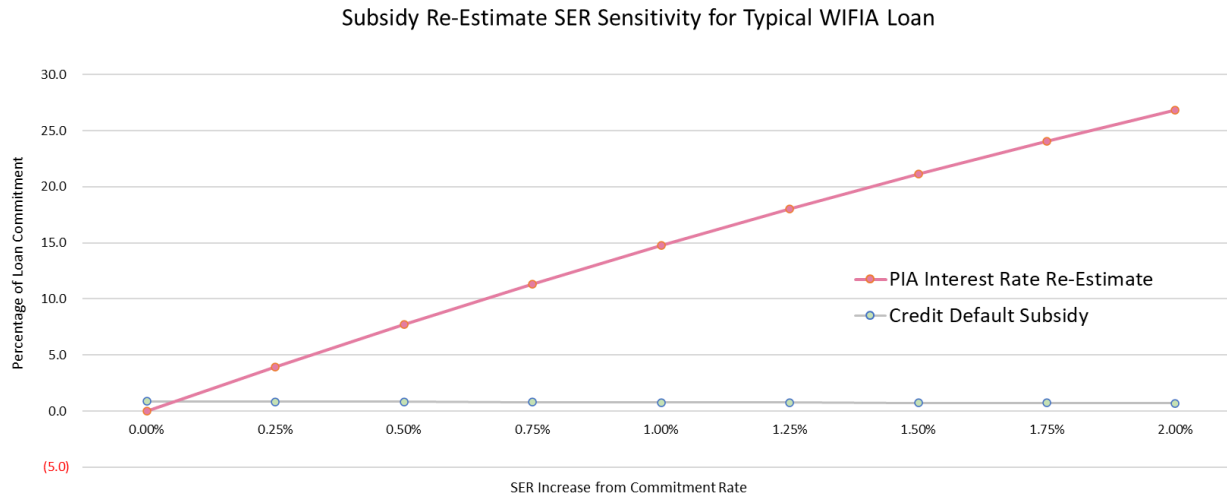


Required taxpayer appropriation and budgeting for federal credit programs are determined under FCRA accounting. In contrast to cash-based accounting more generally used by the government, FCRA determines the cost of a loan based on the calculation of the present value (PV) of related cash inflows and outflows, using a discount rate derived from applicable US Treasury zero curves (the single effective rate, or SER). This is the FCRA Credit Subsidy Cost.

WIFIA loan drawdowns are funded by credit subsidy appropriations (primarily for expected credit losses, typically about 0.75% for highly rated borrowers) and intra-governmental borrowing from Treasury at the SER. At loan commitment execution, the PV of scheduled WIFIA loan debt service at the SER is about equal to expected loan funding (since a UST rate set on loan WAL is close to UST zero curve SER). But if UST rates rise between execution and draw, the loan PV will fall. The increase in Credit Subsidy Cost for such interest rate re-estimates is not covered by additional appropriation. Instead, it is recorded in an off-budget sub-account, Permanent Indefinite Authority (PIA).

The PIA sub-account is a practical budgeting device. But interest rate re-estimates do represent an economic cost. The amount is a current estimate of the future government resources required to cover the shortfall between the WIFIA loan's debt service and the repayment of Treasury funding. These resources must be sourced from additional federal taxes or by cuts in other federal spending.

3. FCRA Subsidy Cost Sensitivity to Rising Interest Rates



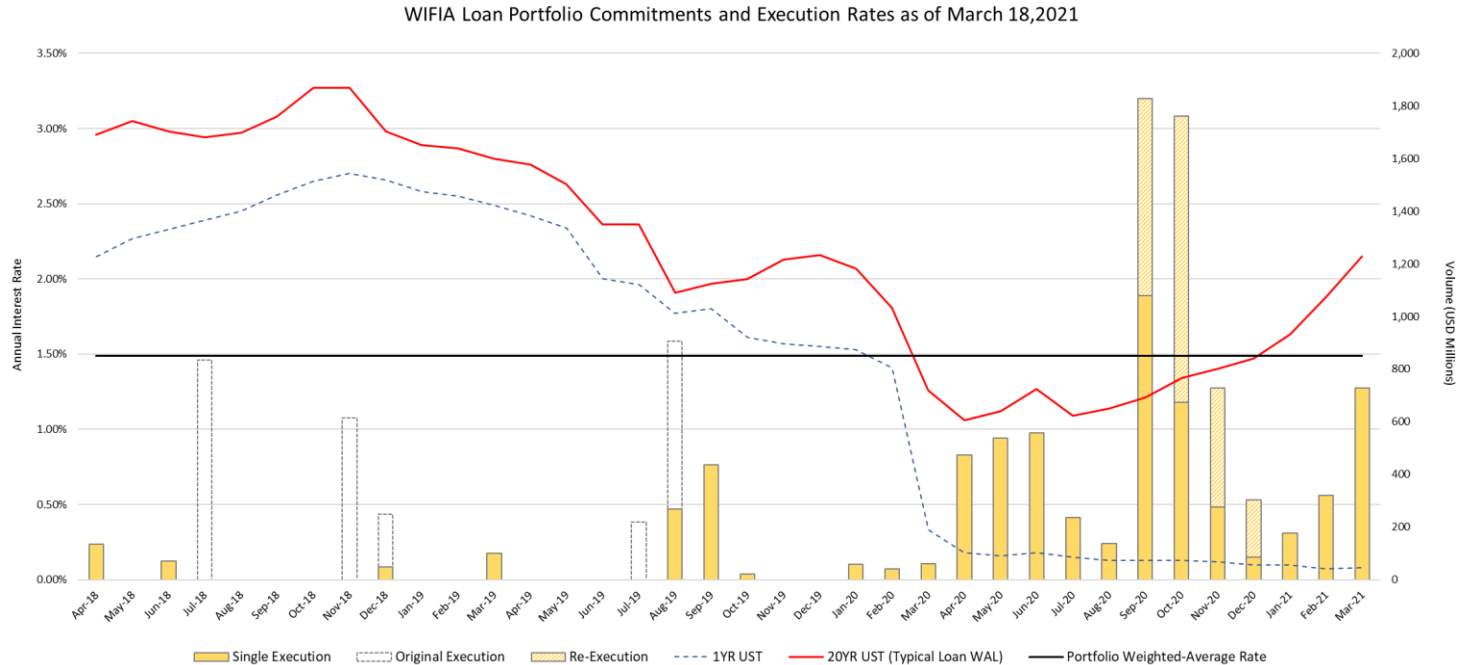
The cost of an interest rate call option in a typical WIFIA loan will be very sensitive to interest rate changes. This is fundamentally due to the long duration of the permanent financing (20 to 25-year WAL, 35-year term) and the low absolute level of current interest rates.

The sensitivity will be reflected in FCRA Credit Subsidy Cost re-estimates. The above chart shows how the Credit Subsidy Cost as a percentage of loan commitment will change as the SER rises for a typical WIFIA loan commitment (WAL 20 years, 35-year term) that is fully funded in a single drawdown shortly after construction completion.

Each 0.10% rise will add about 1.5% to subsidy cost through an interest rate re-estimate. At a 1.00% rise, the Credit Subsidy Cost will be about 15% of loan commitment. This is much higher than the Credit Subsidy Cost appropriated for a typical WIFIA loan, which is less than 0.75%, due to the loan's high credit quality and statutory UST execution pricing.

The single drawdown (option exercise) intensifies the sensitivity relative to drawdowns determined by construction schedule because (1) the time between loan commitment execution and drawdown is maximized, allowing greater opportunity for UST rate change and (2) the re-estimate applies to the full commitment without any averaging effect from prior partial drawdowns.

4. Current WIFIA Loan Portfolio Profile

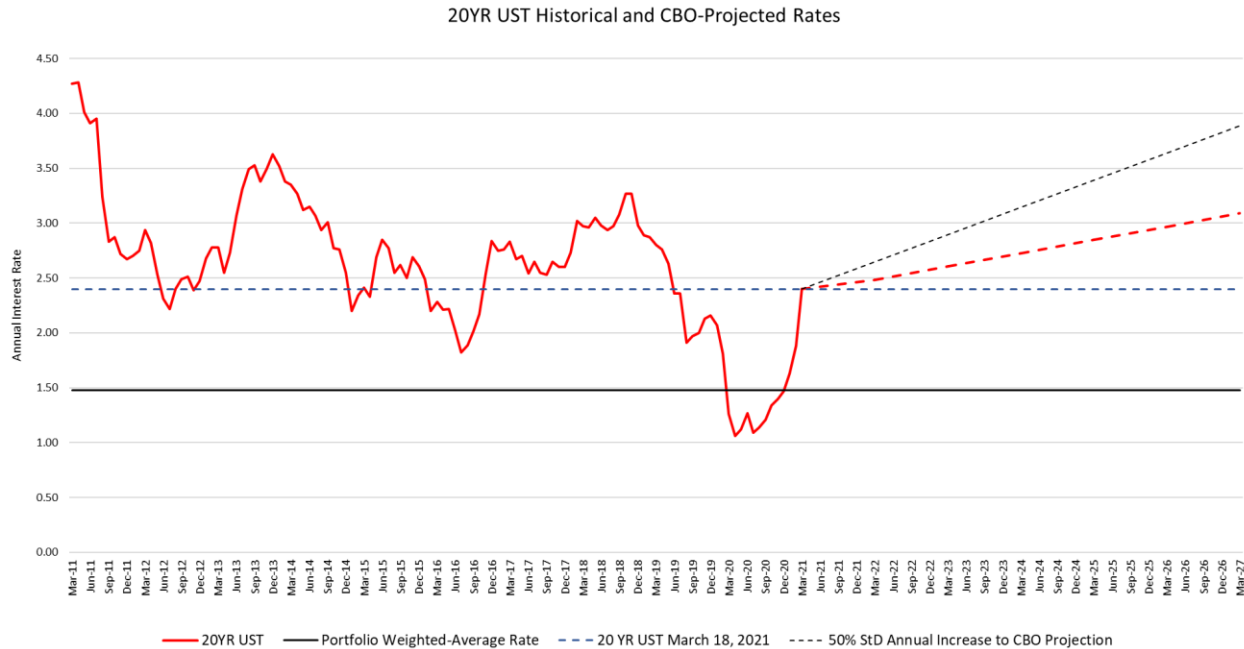


As of March 18, 2021, WIFIA’s portfolio of executed loan commitments was comprised of 44 loans totaling \$9.03 billion. 87% of portfolio volume was executed or re-executed in the last twelve months, during all-time interest rate lows.

Assuming a typical WIFIA loan weighted-average life of 20 years, the approximate loan execution rate in a particular month would be tracked by 20YR UST rates. The weighted average execution rate for the portfolio is 1.49%.

There is little public information on loan drawdowns to date. However, since (1) the projects are relatively early in the construction phase and (2) short-term rates since February 2020 are low relative to long-term rates (prompting borrowers to use short-term finance instead of WIFIA loan draws), it is likely that the current portfolio is 90% undrawn (about \$8.1 billion of undrawn loan commitment).

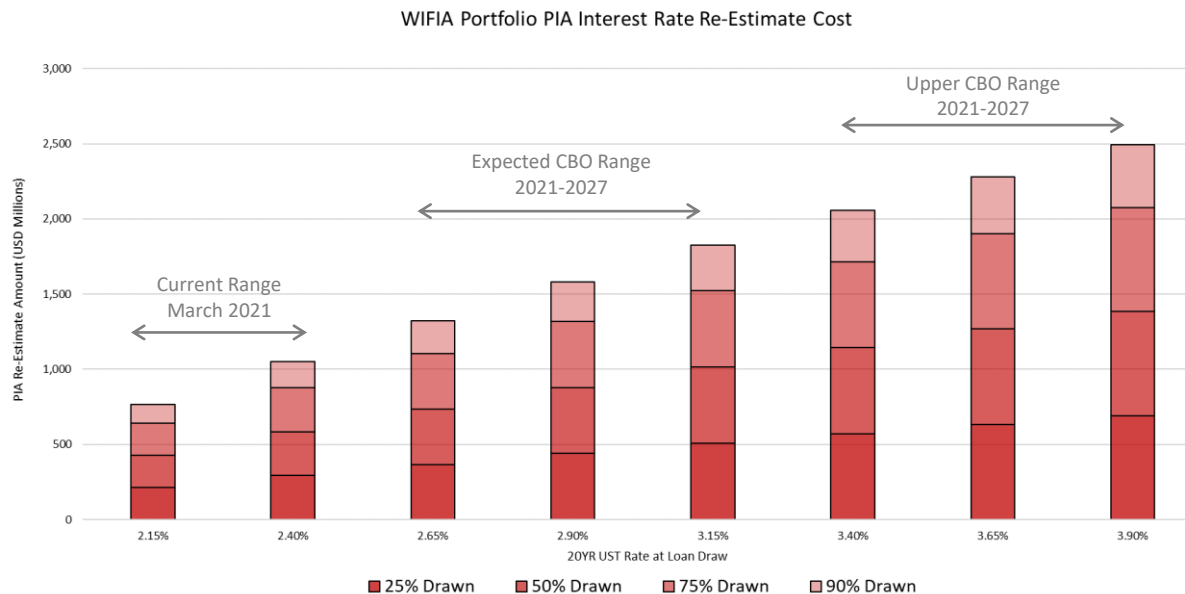
5. Historical and Projected 20YR US Treasury Rates



Under most yield curve conditions, the 20YR UST rate will be very close to the FCRA SER for a typical WIFIA loan with a 35-year term and 20-year WAL. Hence, projected 20YR UST rates can serve as a proxy for future SER rates used in Credit Subsidy Cost re-estimates when WIFIA loans are 90% drawn, most likely over the next six years.

- The 20YR UST for March 18, 2021 is 2.36% Interpolating from the most recent CBO interest rate projections for the 10YR and 30YR, the 20YR UST will be about 3.1% by March 2027.
- If rates consistently rise during this period by 50% of historical annual single standard deviation, the 20YR UST may be about 3.9% by March 2027.

6. Portfolio Re-estimate Cost in Rising Rate Environment



The factors outlined in the previous sections indicate that WIFIA’s current portfolio is highly exposed to rising interest rates. The portfolio will almost certainly incur significant interest re-estimate costs in the next 5-10 years.

- Current 20YR UST rates are about 0.75% higher than the portfolio’s weighted average interest rate of 1.50%. If the remaining undrawn commitments were drawn at the SER equivalent, the credit subsidy cost will be about \$950 million, or about 10% of portfolio loan volume.
- If rates rise in accordance with CBO projections over the next six years, the cost may be about \$1.5 billion, depending on the timing of drawdown.
- If rates rise higher than CBO projections, but within historical norms and standard deviations, the cost could exceed \$2 billion, or over 20% of portfolio loan volume.

Conclusions

WIFIA's current portfolio appears to be highly exposed to rising rates. While some exposure to rate change is always a feature of fixed-rate loan portfolios, the combination of several factors made the potential cost of interest re-estimates especially significant and concentrated in this case:

- An unexpected applicant pool of highly rated public water systems that have the sophistication and the financial resources to utilize the WIFIA loan fixed-rate commitment as an interest rate call option.
- The decision by WIFIA to allow loan re-executions and reset lower commitment rates. This was deemed necessary to encourage highly rated borrowers to eventually draw the loan, which they might not have done otherwise due to their cost-effective, at-market bond alternatives. Lower-rated borrowers (project financings, for example) would have had fewer alternatives, making a re-execution less necessary.
- Most importantly, the volume of loan commitment executions and re-executions during a period of all-time interest rate lows. The timing of infrastructure loan execution is largely determined by multiple non-financial factors, but the re-executions were prompted and perhaps accelerated by unusually low long-term rates.

Going forward, there are several implications to consider:

- The current portfolio's exposure to interest rate re-estimates will only be mitigated by a significant fall in interest rates from current levels, which appears unlikely. It will not be mitigated by future loan additions if (as is likely) WIFIA continues to lend to highly rated public water systems on current terms. Such borrowers will only draw a WIFIA loan if its cost is close to or lower than their bond alternatives, the rate on which is highly correlated to the UST curve. Significant downward re-estimates (which lower the Credit Subsidy Cost) are therefore not likely, regardless of interest rate trends.
- The cost of re-estimates shows up in a relatively technical PIA sub-account. But the significant scale of aggregate re-estimates will become increasingly visible as the current portfolio and even new loans (to a lesser extent) appear to be continually 'ratcheting' re-estimates upward as they are drawn.
- The scale of potential cost, relative to actual appropriated funding, may be problematic in view of apparent Congressional intent that WIFIA loans priced at UST WAL should cover their Treasury funding cost. A widespread perception about the WIFIA Program is that taxpayers are only at risk for loan defaults, which will be very rare in a highly rated portfolio. This may require clarification.