BANK POLICY INSTITUTE

FDIC Investment Yield Projection

Bill Nelson | August 11, 2022

On July 12, 2022, we published a note that redid the FDIC's recently published projections of the ratio of reserves to insured deposits with two changes to the FDIC's assumptions: (1) We assumed that deposits would remain unchanged rather than grow in the near term. (2) We assumed that the FDIC would earn 2.5 percent on its investment portfolio rather than zero. With those changes, the reserve ratio was forecast rise to its statutory requirement by the middle of next year, four to 12 years earlier than the FDIC's projection.

In that note, we did not prepare a projection of the yield on the FDIC's portfolio; we just asserted:

> For conservatism and simplicity, we assume that, starting in the current quarter (2022Q3) the sum of the interest yield and capital gains on the FDIC's portfolio will be 2½ percent…although an assumption of 3 percent is probably closer to the correct level implied by market prices over the medium term.

This note, by contrast, presents a projection of the investment yield of the FDIC's portfolio based on recent market quotes and confirms our previous logic. In particular, using a simple rule for the FDIC's investment strategy and the term structure of interest rates as of July 1, 2022, the FDIC's portfolio is expected to yield about 2.9 percent going forward.

Portfolio

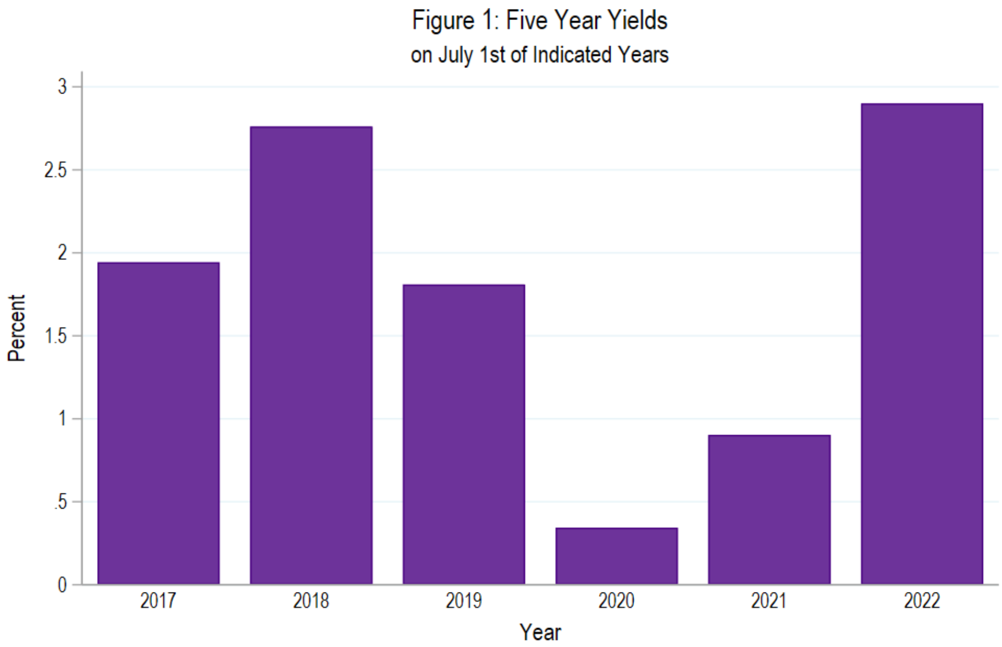
The FDIC does not provide the public detailed information on the securities it owns. The FDIC's Corporate Investment Policy (available here), indicates the Corporation invests in Treasury securities provided by the Treasury to government agencies. The FDIC's annual report (available here) indicates that the securities have maturities of up to five years with about half of the portfolio having maturities of one year or less. The FDIC marks its securities to market.

To roughly replicate these characteristics, we assume that the FDIC has purchased \$100 in five-year Treasury notes and \$300 in one-year bills each year on July 1. At any given time, such a portfolio would have \$400 in securities with maturities of one year or less and \$400 in securities with maturities of two to five years. The precise dollar level of the assumed purchases is immaterial to the projection since the total return would be the same regardless of the size of the portfolio.[1]

[1] If the FDIC were to provide more information on the composition of their portfolio, the projection reported below could be made more precise.

Interest rates

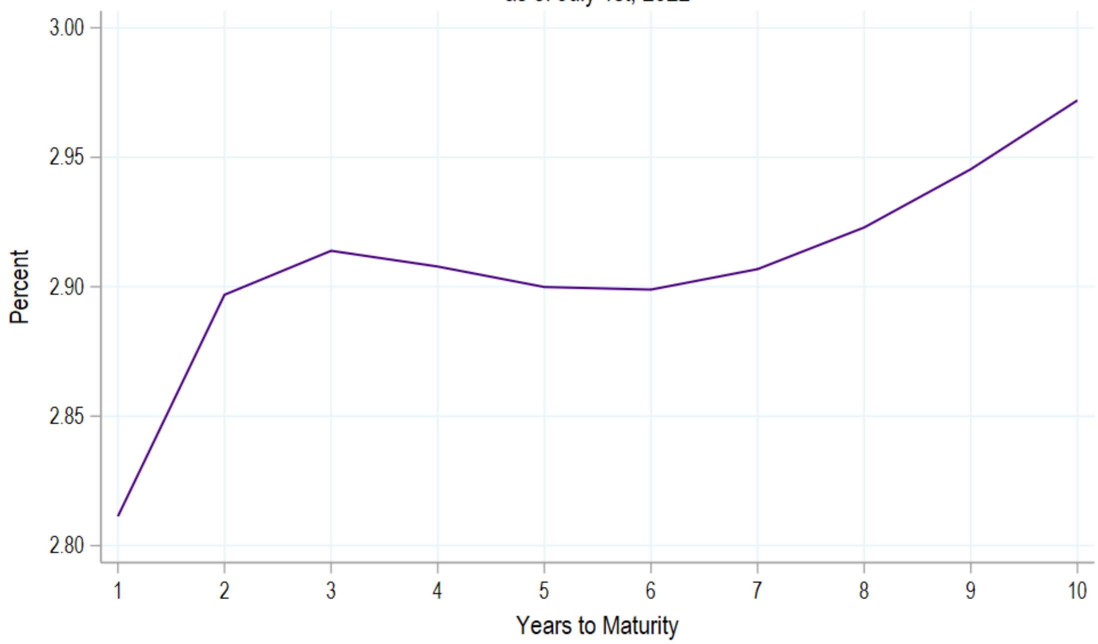
Interest rate data is taken from the Gurkaynak, Sack, and Swanson yield curve and forward rate database (available here). As can be seen in figure 1, the yield on the five-year notes that we assume the FDIC has been purchasing has varied considerably in recent years, reaching historic lows in 2020 and remaining low in 2021.



As shown in figure 2, beyond one year, the Treasury yield curve on July 1, 2022, was very flat at about 2.9 percent, indicating a market outlook that interest rates would average about that level in the future. We use the yield curve data to calculate expected Treasury interest rates for each July 1 out to 2027. To do so, we make the simplifying assumptions that each coupon rate is the average of the future one-year rates expected over the term of the security and that term premiums are zero.[2]

[2] The Federal Reserve itself produces two estimates of the term premium: (a) Federal Reserve Board estimates using the methodology of Kim and Wright (2005), and (b) Federal Reserve Bank of New York estimates using the methodology developed by Adrian, Crump, and Moench (2013). Both methods indicate term premiums are about zero currently.

Figure 2: Treasury Yield Curve
as of July 1st, 2022



Investment Yield

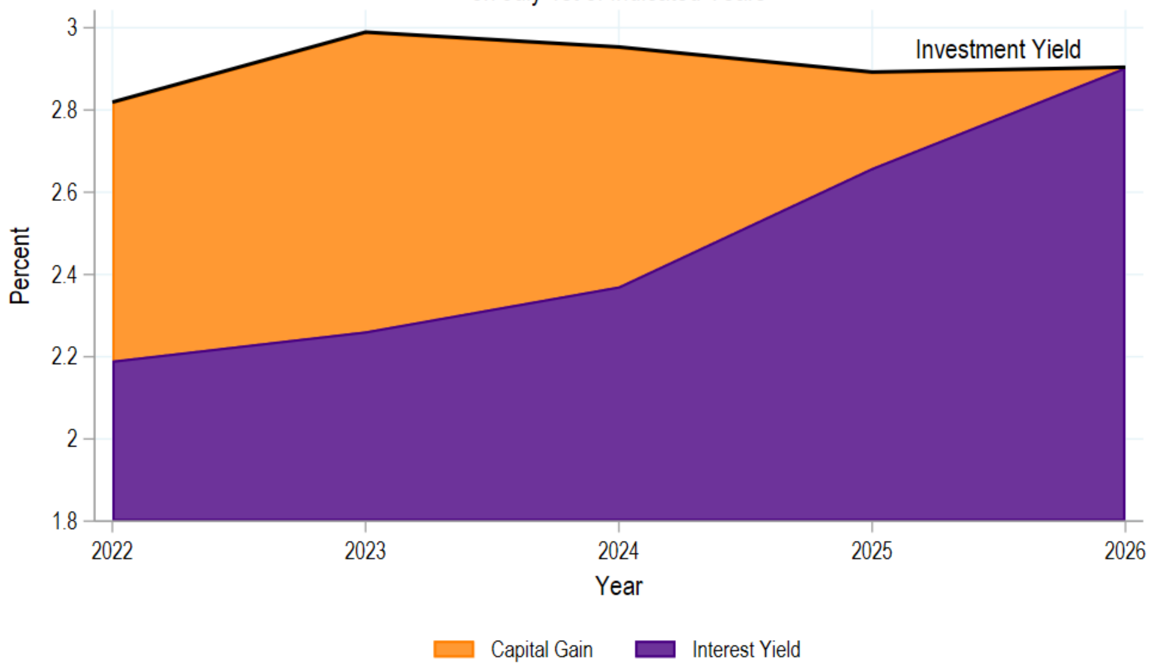
Using these data and assumptions, we calculate the projected interest income and dollar capital gain or loss on the FDIC portfolio each year. The interest income is calculated as the sum of the yield on each security when issued times its par value. The dollar capital gain or loss is the sum of the dollar change in the market value of each of the security in the portfolio. For example, on July 1, 2023, the five-year note issued on July 1, 2021 will have a remaining maturity of three years, so its price depends upon the five-year yield in 2023 (which determines its coupon) and the three-year yield expected in 2023 (where we derive the expected yield using the yield curve on July 1, 2022). One year later, in 2024, the security will have a remaining maturity of two years and its value will depend on the five-year yield in 2021 and the two-year yield in 2024. The dollar capital gain or loss equals the change in price.

We project the yield over one-year periods starting on July 1 and based on the outlook for rates as of July 1, 2022 simply because July 1 is the first day of the second half of the year and July 1, 2022 is relatively recent. The projections are for annual rather than quarterly intervals for simplicity because the Gurkaynak, Sack, and Swanson data include Treasury yields with annual maturities, not part-year maturities. That is, the data include the two-year rate and the three-year rate but not the 2¼-year rate.

Figure 3 reports the interest yield and capital gain on the portfolio expected in each year. The interest yield is interest income divided by the value of the portfolio at the beginning of the period and the capital gain is defined similarly. In the near term, the interest return is held down by the low-yielding securities purchased in 2020 and

2021, but the portfolio experiences capital gains as the values of those securities rise toward par and then eventually the securities mature. By the end of the projection, expected capital gains and losses are zero.

Figure 3: Projected Investmentment yield and its Components on the FDIC's Portfolios
on July 1st of Indicated Years



The total investment yield on the portfolio is the sum of the interest yield and the capital gain. As shown in the exhibit, the expected yield is 2.9 percent over the next five years.

Conclusion

Our judgment that the investment yield on the FDIC's portfolio should be expected to be between 2.5 and 3 percent going by the market outlook is appropriate. Although not the point of this note, when we assume the investment yield will be 2.9 percent rather than 2.5 percent, the projected date when the reserve ratio reaches 1.35 percent moves from 2022Q3 to 2022Q2 as opposed to the FDIC's projections of 2025Q4 or 2034Q3, depending on assumptions.

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