# EXAMPLE BALANCE SHEET HEDGING - CREDIT UNIONS

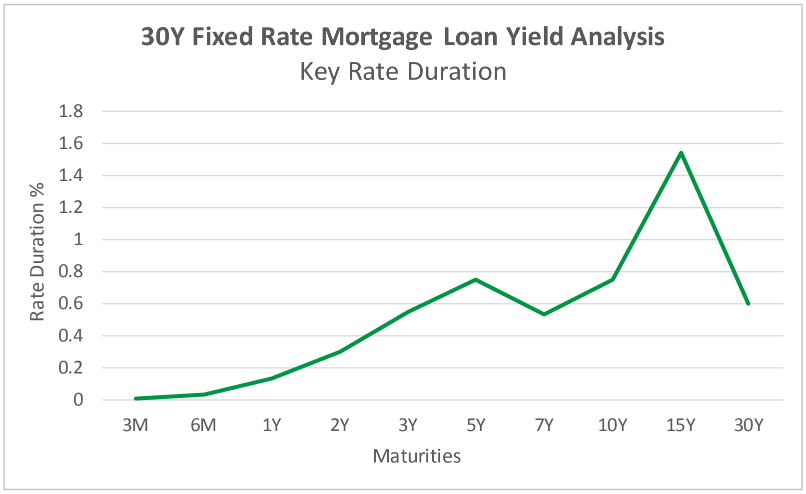
## Background

ABC Credit Union originates fixed rate mortage loans (the "loans" or "loan portfolio") to keep up with customer demand. The loans offer attractive returns relative to available investment options. The Option Adjusted Spread (OAS) of ABC Credit Union's loan portfolio is 100 basis points (bps), which compares favorably to alternative investments such as current coupon Fannie Mae Mortgage-backed Securities (around 20 bps) and callable bonds of similar duration (around 15 bps). As a result, ABC Credit Union chooses to hold its loans for investment.

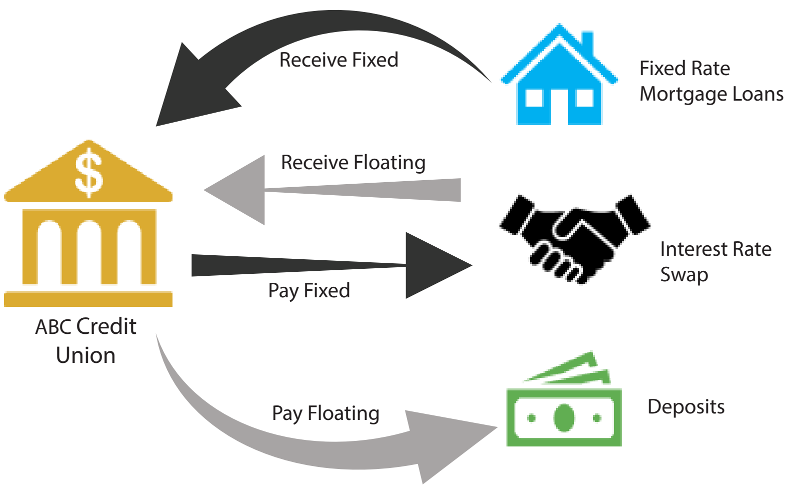
## The Problem

As time passes, interest rate risk increases for ABC Credit Union. Short-term funding sources such as money market accounts and deposits make it challenging to portfolio more loans. Rising interest rates will increase funding costs, squeeze net interest margin and decrease the value of the loans. ABC Credit Union analyzes the key rate duration[1] of its loan portfolio and finds the following results shown in the graph to the right.

ABC Credit Union identifies that duration risk is highest between the 5 and 15-year points on the yield curve. What can ABC Credit Union do to mitigate interest rate risk and reduce its duration exposure?




## Solution: Step 1 - Macro Hedge

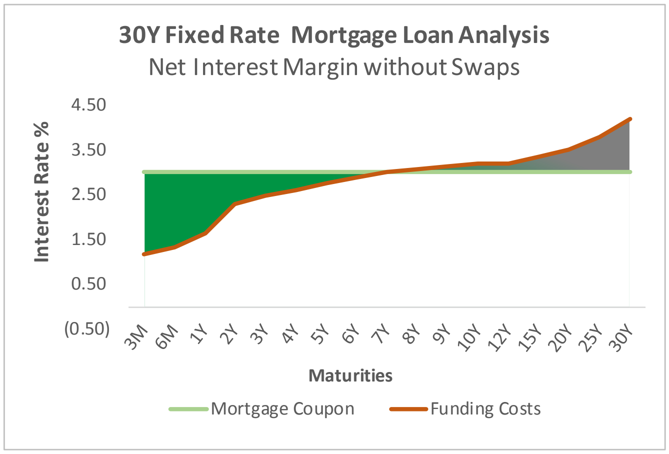


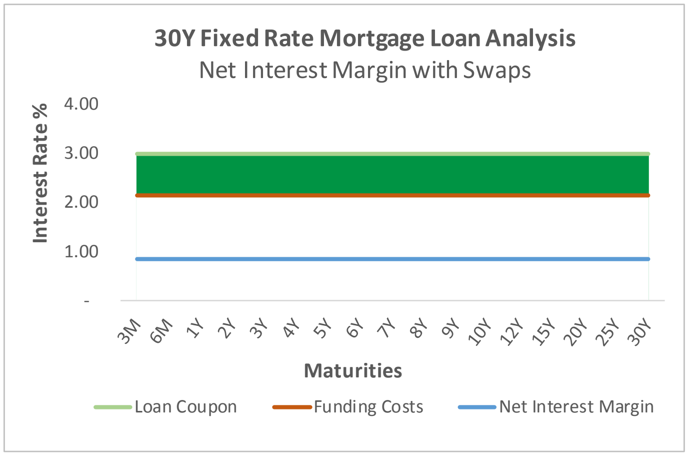

ABC Credit Union can execute pay-fixed, receive-float interest rate swaps (the "swaps") with maturities at the 5, 10 and 15-year points. The swaps help facilitate the timing of cash flows within ABC Credit Union's asset and liability management structure. The diagram to the left shows how the swaps work:

The swaps serve several purposes:

1. They synthetically extend the maturity on ABC Credit Union's short-term funding sources.
2. They lock-in funding costs on floating rate deposits, and
3. They mitigate price sensitivity on the loan portfolio.

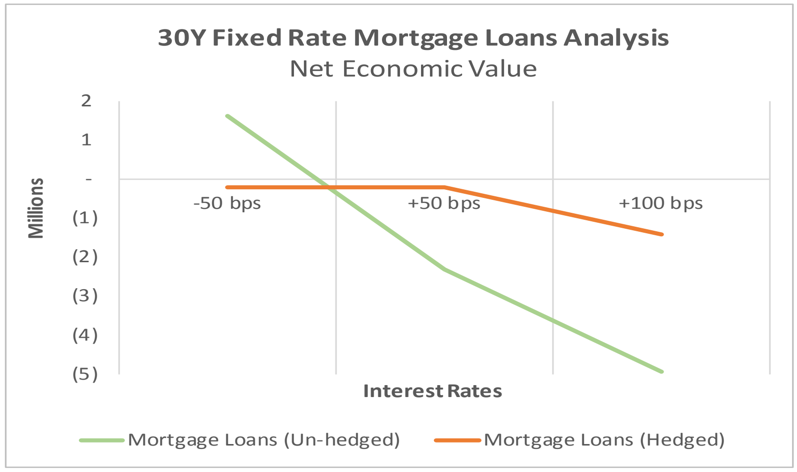
The following charts exhibit the effects of the swaps on net interest margin:



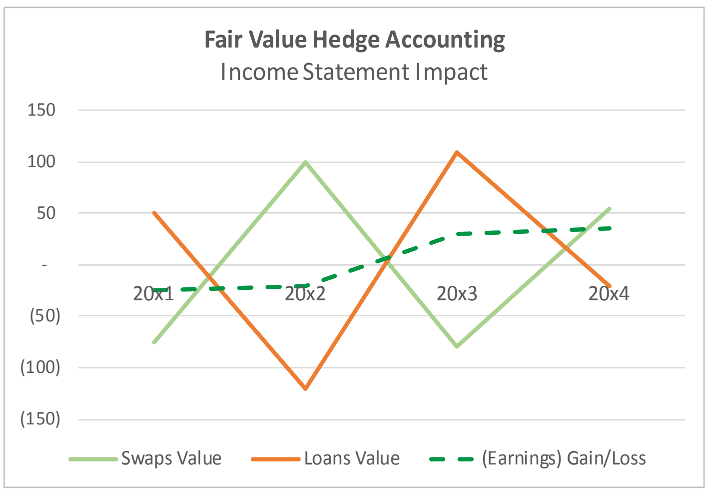

[1] Key rate duration is an interest rate risk metric that measures the price sensitivity of a debt instrument portfolio at specific maturity points along the yield curve.

The swaps also enhance the Net Economic Value (NEV)[2] of the loan portfolio. ABC Credit Union performs a scenario analysis measuring the NEV of the loan portfolio given a 50 bps decrease, 50 bps increase and 100 bps increase in interest rates. The chart to the right exhibits the impact of the swaps on NEV.

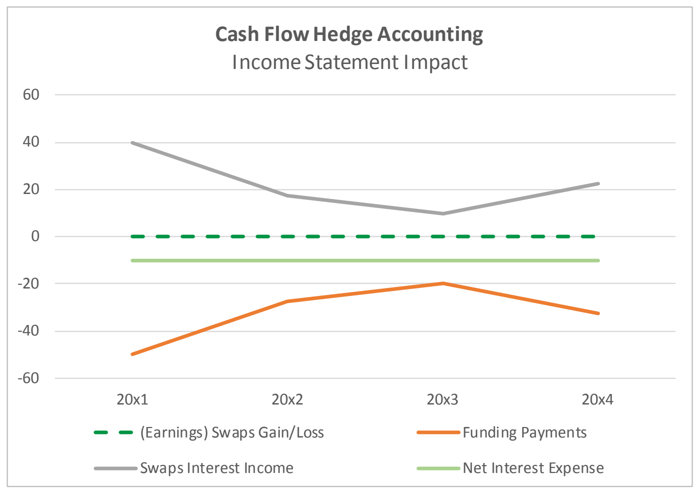



## Solution: Step 2 - Hedge Accounting

ABC Credit Union must now measure the swaps at fair value for financial reporting purposes, with the changes in gain or loss on the fair value of the swaps passing through the income statement. To mitigate potential income statement volatility from the swaps, ABC Credit Union elects to pursue preferential accounting treatment under Accounting Standards Codification ("ASC") topic 815 – hedge accounting. ASC 815 allows ABC Credit Union to qualify its swaps as an effective hedge using one of two methods: 1) a fair value hedge by designating segments of the loan portfolio as the hedged item, or 2) a cash flow hedge by designating its funding sources as the hedged item. Either method creates a positive accounting result for ABC Credit Union that effectively reduces income statement volatility caused by the swaps.




With a fair value hedge, the loan portfolio is measured at fair value alongside the swaps. The gains and losses of the swaps effectively offset the gains and losses of the loan portfolio directly on the income statement. The chart above depicts the effect of the value offset between the swaps and the loan portfolio.




With a cash flow hedge, interest payments from funding sources are measured against interest receipts from the swap. The gains and losses of the swap are held out of the income statement and pass through Other Comprehensive Income. The chart above depicts the effects of the cash flow offset between the swaps and the funding sources.

## Summary

ABC Credit Union has executed pay-fixed, receive-floating interest rate swaps. The swaps have extended the term on its funding sources, locked-in funding costs and reduced price sensitivity on ABC Credit Union's loan portfolio. Through diligent planning and communication, ABC Credit Union has successfully managed interest rate risk while minimizing earnings impacts of its hedging strategy through an effective hedge accounting program.

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[2] a cash flow calculation that takes the present value of asset cash flows and subtracts the present value of liability cash flows.