Long-term asset strategy performance in a rising rate climate

Mutual Advisory Committee meeting
April 28, 2015
Overview

- Our concern: first rate increase cycle in almost ten years—how will OCC-supervised institutions perform?
  - Current state of balance sheets (long-term assets and non-maturity deposits)
  - Are some institutions likely to face performance headwinds as rates rise?

- Although this rate increase cycle likely to be unique, can look to historical rate cycles for some insights
  - 1994 rate “shock” and well-telegraphed, steady cycle in 2004-06

- For banks with a long-term asset strategy, how did they perform versus peers in these two cycles?
Community institutions seem more exposed to rising interest rates than in the past FDIC-insured institutions.

Long-term assets

- State savings banks with assets < $10 billion (thrift proxy)
- Commercial banks with assets < $10 billion
- Commercial banks with assets > $10 billion

Non-maturity deposits

- Thrifts with assets < $10 billion

Source: Integrated Banking Information System (OCC)

Annual data as of December 31. Long-term assets are securities and loans with remaining maturity or next repricing interval of five years or more (data not reported by TFR filers). Non-maturity deposits include transaction, MMDA, and other savings accounts.
Some OCC-supervised community institutions have strategy emphasizing long-term assets
National banks and federal thrifts

Median long-term assets (% of assets)

<table>
<thead>
<tr>
<th>Category</th>
<th>High LTA*</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Banks &gt; $10 B</td>
<td>26</td>
<td>75</td>
</tr>
<tr>
<td>National Banks &lt; $10 B</td>
<td>51</td>
<td>68</td>
</tr>
<tr>
<td>Stock Thrifts &lt; $10 B</td>
<td>69</td>
<td>47</td>
</tr>
<tr>
<td>Mutual Thrifts &lt; $10 B</td>
<td>73</td>
<td>44</td>
</tr>
</tbody>
</table>

Median non-maturity deposits (% of liabilities)

<table>
<thead>
<tr>
<th>Category</th>
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<tr>
<td>National Banks &lt; $10 B</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Stock Thrifts &lt; $10 B</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>Mutual Thrifts &lt; $10 B</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Integrated Banking Information System (OCC)

* High LTA (long-term asset) = institutions in top quartile of long-term assets as % of total assets (banks > 42% of assets; thrifts > 59%). Long-term assets are securities and loans with remaining maturity or next repricing interval of five years or more. Non-maturity deposits include transaction, MMDA, and other savings accounts. Data as of December 31, 2014.
Small bank long-term asset strategy emphasizes long duration securities
National banks and federal thrifts

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Median Total Loans (% of assets)</th>
<th>Median Long-Term Securities (% of assets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Banks ≥ $10 B</td>
<td>[63]</td>
<td>[12]</td>
</tr>
<tr>
<td>255 High LTA*</td>
<td>[50]</td>
<td>[29]</td>
</tr>
<tr>
<td>765 other</td>
<td>[61]</td>
<td>[9]</td>
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<tr>
<td>National Banks &lt; $10 B</td>
<td>[50]</td>
<td>[29]</td>
</tr>
<tr>
<td>Stock Thrifts &lt; $10 B</td>
<td>[64]</td>
<td>[7]</td>
</tr>
<tr>
<td>57 High LTA*</td>
<td>[64]</td>
<td>[19]</td>
</tr>
<tr>
<td>205 other</td>
<td>[68]</td>
<td>[7]</td>
</tr>
<tr>
<td>Mutual Thrifts &lt; $10 B</td>
<td>[69]</td>
<td>[12]</td>
</tr>
<tr>
<td>52 High LTA*</td>
<td>[69]</td>
<td>[12]</td>
</tr>
<tr>
<td>122 other</td>
<td>[67]</td>
<td>[5]</td>
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</tbody>
</table>

Source: Integrated Banking Information System (OCC)

* High LTA (long-term asset) = institutions in top quartile of long-term assets as % of total assets (banks ≥ 42% of assets; thrifts ≥ 59%). Long-term assets are securities and loans with remaining maturity or next repricing interval of five years or more. Non-maturity deposits include transaction, MMDA, and other savings accounts. Data as of December 31, 2014.
Markets and Fed still differ on path and timing of increase in short-term rates

Fed funds rate forecasts and futures

- December '14 FOMC median forecast
- March '15 FOMC median forecast
- Euro-dollar futures
- Fed funds futures

Sources: Bloomberg futures as of London open April 21, 2015; Federal Open Market Committee Projections
Two different rate increase cycles offer potential to study long-term asset strategy implications

Fed funds target rate, as of month end (%)

+300 basis point “shock”

Well-telegraphed and steady rate increase cycle

Source: Haver Analytics
In past, banks with high long-term asset holdings saw lagging yields and revenues as rates rose. FDIC-insured commercial banks with assets < $10 billion

Median asset yields (% of earning assets)

Median funding costs (% of int. bear liabs)

Pre-provision net revenue (median yr/yr % chg.)

Source: Integrated Banking Information System (OCC)

* High LTA (long-term asset) = institutions in top quartile of long-term assets as % of total assets, or 1,748 banks in 1994 and 1,363 in 2004 after these filters applied: data exclude commercial banks with noncurrent loans/loans >3%, those under 3 years old, or ag, credit card, and trust specialists. (Ag specialists hold 25% or more of total loans in ag production or ag RE.) Pre-provision net revenue (PPNR) is net interest income + noninterest income less noninterest expense.
Savings banks (proxy for thrifts) with long-term asset strategy saw similar patterns as rates rose. FDIC-insured savings banks with assets < $10 billion

Median asset yields (% of earning assets)

Median funding costs (% of int. bear liabs)

Pre-provision net revenue (median yr/yr % chg.)

Source: Integrated Banking Information System (OCC)

* High LTA (long-term asset) = institutions in top quartile of long-term assets as % of total, or 113 savings banks in 1994 and 110 in 2004 after these filters applied: data exclude savings banks with noncurrent loans/loans >3%, those under 3 years old, or ag, credit card, and trust specialists. (Ag specialists hold 25% or more of total loans in ag production or ag RE.) Pre-provision net revenue (PPNR) is net interest income + noninterest income less noninterest expense.
Stock thrifts with highest OTS-model risk from +300 bps rate shock saw similar results in past
Federal stock thrifts with assets < $10 billion

Median asset yields (% of earning assets)

Median funding costs (% of int. bear liabs)

Pre-provision net revenue (median yr/yr % chg.)

* High IRR = thrifts in top quartile of negative reaction to a +300 bps rate shock according to OTS interest rate risk model in use at the time. Only includes thrifts filing schedule CMR, which excludes most thrifts <$300 million and with RBC >12% for 2 consecutive quarters. Analysis also removed thrifts with noncurrent loans/loans >3% and those under 3 years old. Pre-provision net revenue (PPNR) is net interest income + noninterest income less noninterest expense.

Source: Integrated Banking Information System (OCC); TFR; OTS Interest Rate Risk Model

Filtered sample sizes:

<table>
<thead>
<tr>
<th>Year</th>
<th>High IRR* filing CMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>75</td>
</tr>
<tr>
<td>2004</td>
<td>51</td>
</tr>
</tbody>
</table>

1994 to 1997 average

2004 to 2007 average
...as did similarly-situated mutual institutions
Federal mutual thrifts with assets < $10 billion

Median asset yields (% of earning assets)
- High IRR* 1994-97
- Other 1994-97
- High IRR* 2004-07
- Other 2004-07

Median funding costs (% of int. bear liabs)

Pre-provision net revenue (median yr/yr % chg.)
- High IRR*
- Other

Filtered sample sizes:
- High IRR* filing CMR
  - 1994 34 54
  - 2004 36 39

Source: Integrated Banking Information System (OCC); TFR; OTS Interest Rate Risk Model
* High IRR = thrifts in top quartile of negative reaction to a +300 bps rate shock according to OTS interest rate risk model in use at the time. Only includes thrifts filing schedule CMR, which excludes most thrifts <$300 million and with RBC >12% for 2 consecutive quarters. Analysis also removed thrifts with noncurrent loans/loans >3% and those under 3 years old. Pre-provision net revenue (PPNR) is net interest income + noninterest income less noninterest expense.
Takeaways

- Rate increase cycle likely to be gradual, but effects of sustained low-rate period could be a complication
  - Risk of atypical repricing of nonmaturity deposits
  - Risk of atypical extension of asset durations

- Rising interest rate climate could add additional challenges for banks with a long-term asset focus
  - As durations extend and asset yields lag, amidst rising funding costs