Southeast Bankers Outreach Forum

IRR in a Protracted Low Rate Environment

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The opinions expressed are those of the presenter and are not those of the Federal Reserve Bank of Atlanta, the Federal Reserve System, or its Board of Governors.

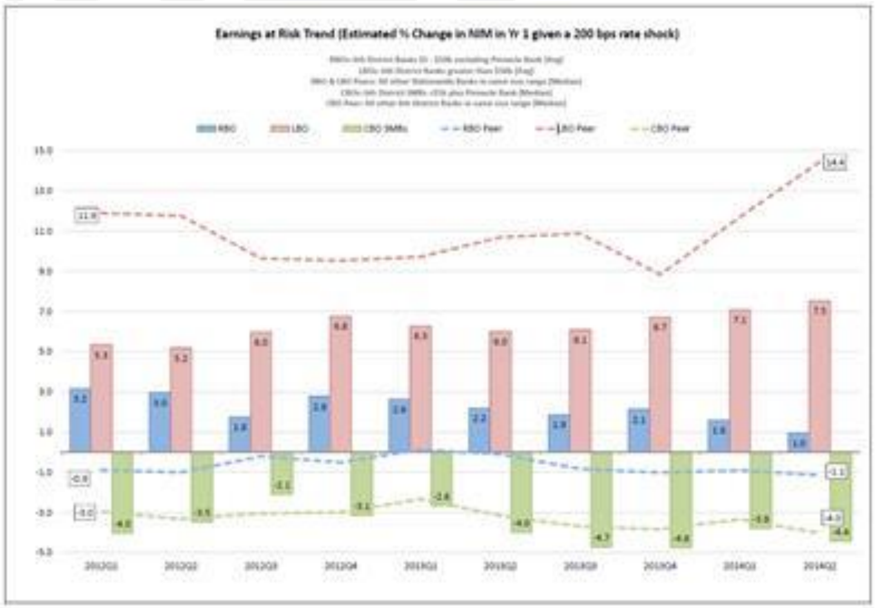
FEDERAL RESERVE BANK *of* ATLANTA

RISK DISCUSSION

- A continued low rate environment will further pressure earnings and NIM as loans and securities continue to reinvest at lower rates.
- Risk appetite may increase in the form of longer duration or optionality to offset lower earnings.
- A faster than expected economic recovery and a spike in interest rates will reduce earnings and economic value.
- Nonmaturity deposits in this environment may be more volatile and rate sensitive than currently modeled causing larger declines than expected.

CURRENT EXPOSURE

Short-Term (EaR)



Long-Term (EVE)

Results derived from 06/30/2014 FRB Focus Report. Not representative of bank modeled positions.

MODEL RISK?

Question: What if deposit assumptions used by banks in measuring IRR don't hold true?

This question was raised and discussed at the second quarter 2013 Risk Council meeting.

Possible Outcome: Understating the impact of rising rates to the board of directors and senior management may lead to poor strategic decisions.

In the current environment this is a safety and soundness concern.

Supervisory Action: In response to this concern the Risk Council requested additional analysis on this topic.

Examiners leveraged available bank information to sensitivity test key deposit assumptions to better understand the impact of deposit assumptions on a sample of banks in the Sixth District.

KEY LIMITATIONS OF ANALYSIS

Deposit behavior is one of the most complex variables to simulate and can have a significant impact on the IRR and funding risk profile of an institution. With interest rates at historical lows and low cost deposits at historical highs, it is plausible that current trends may be reversed if interest rates rise. This analysis is not intended to project future trends, but it should provide perspective on possible risks that may arise.

Some key limitations in this analysis are:

- **Rate shocks are simulated at parallel levels across the term structure, so non-parallel shifts will not be fully captured.**
- **The isolation of these 3 key assumptions, while valuable, will not fully capture real world behavior when rates do rise and deposits begin to react.**
- **Other assumptions related to deposit behavior not highlighted in this analysis may have a significant impact on a bank's IRR profile.**

DEPOSIT ASSUMPTIONS THAT IMPACT IRR MEASUREMENTS

- Deposit assumptions have a significant impact on IRR measurements
  - Changes in assumptions can directionally change the results of an IRR analysis
- The current environment may provide misleading data for banks if data trends are not properly analyzed
- Key deposit assumptions are identified below:

Assumption	Definition
Beta	Relative repricing rate assumed for deposits versus a benchmark rate in IRR scenarios
Account Balance	Projected balances assumed over a stated time horizon
Deposit Mix	Relationship between fixed vs. floating interest bearing accounts

SIXTH DISTRICT IRR ANALYSIS

Examine the impact of changes to key deposit assumptions on reported Earnings at Risk (EaR) measurements for a sample of institutions in the Sixth District.

- **This was accomplished by sensitivity testing the following:**

  Betas: Increase institution's assumed repricing rate on nonmaturity interest bearing deposits by 20%

  Deposit Mix: Reallocate the mix of total domestic deposits back to 2000-2008 period of Time/Non-maturity Deposits

  Account Balance: Project impact of a 10% decline in noninterest bearing deposits

IRR ANALYSIS: RESULTS

This analysis focused on 3 plausible stress scenarios in an attempt to highlight potential exposure if internal assumptions do not adequately capture their impact.

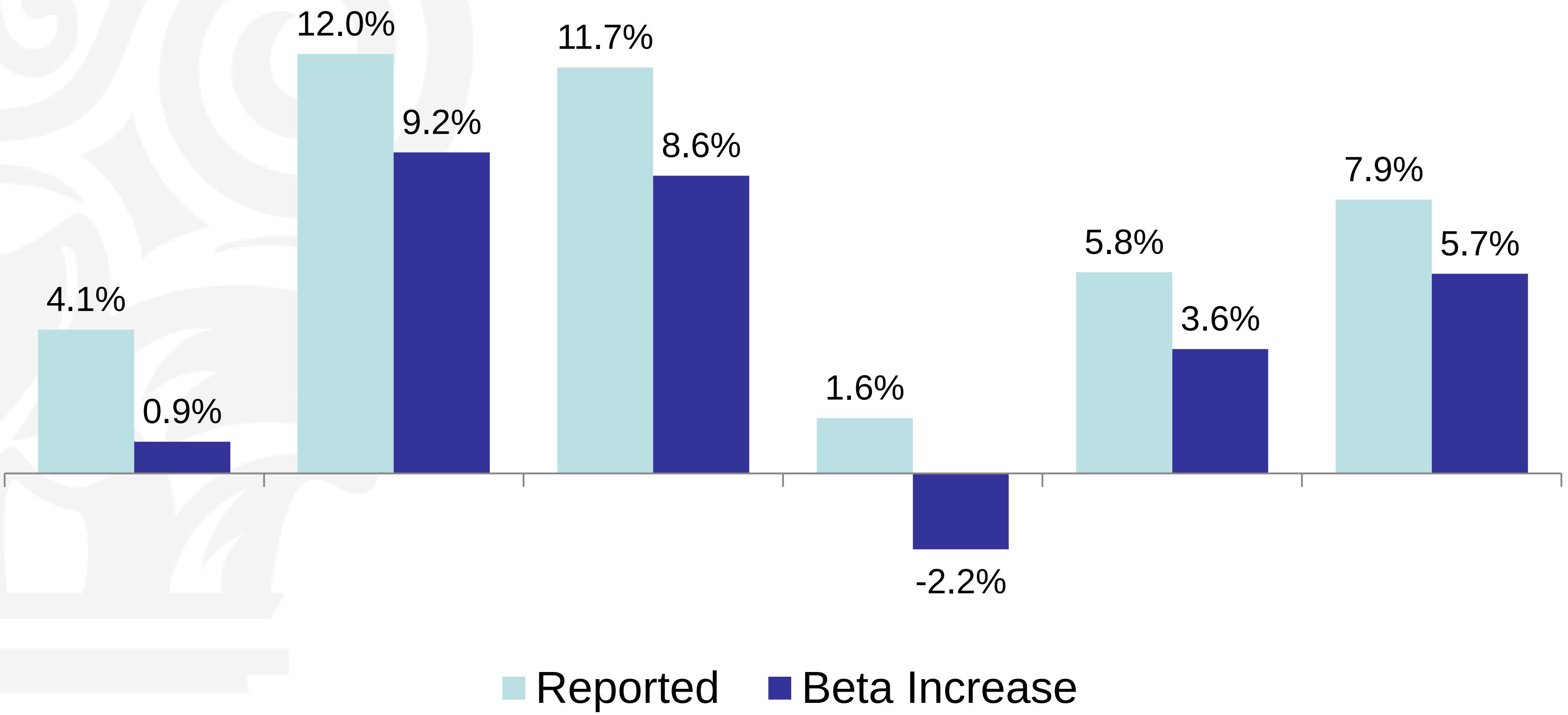
- **Under a 200bp parallel upward shock simulation, a re-allocation of deposit mix to pre-crisis historical levels had the most significant negative impact on the IRR profile of the group**
  - **Most banks' exposure would switch to a liability sensitive profile for EaR**

- **A decline of 10% in noninterest bearing deposits had a significant negative impact on the IRR profile of the group**
  - **Half of the banks' exposures would switch to a liability sensitive profile**
  - **On average the net change to the reported exposure ranged from (-7%) to (-9%)**

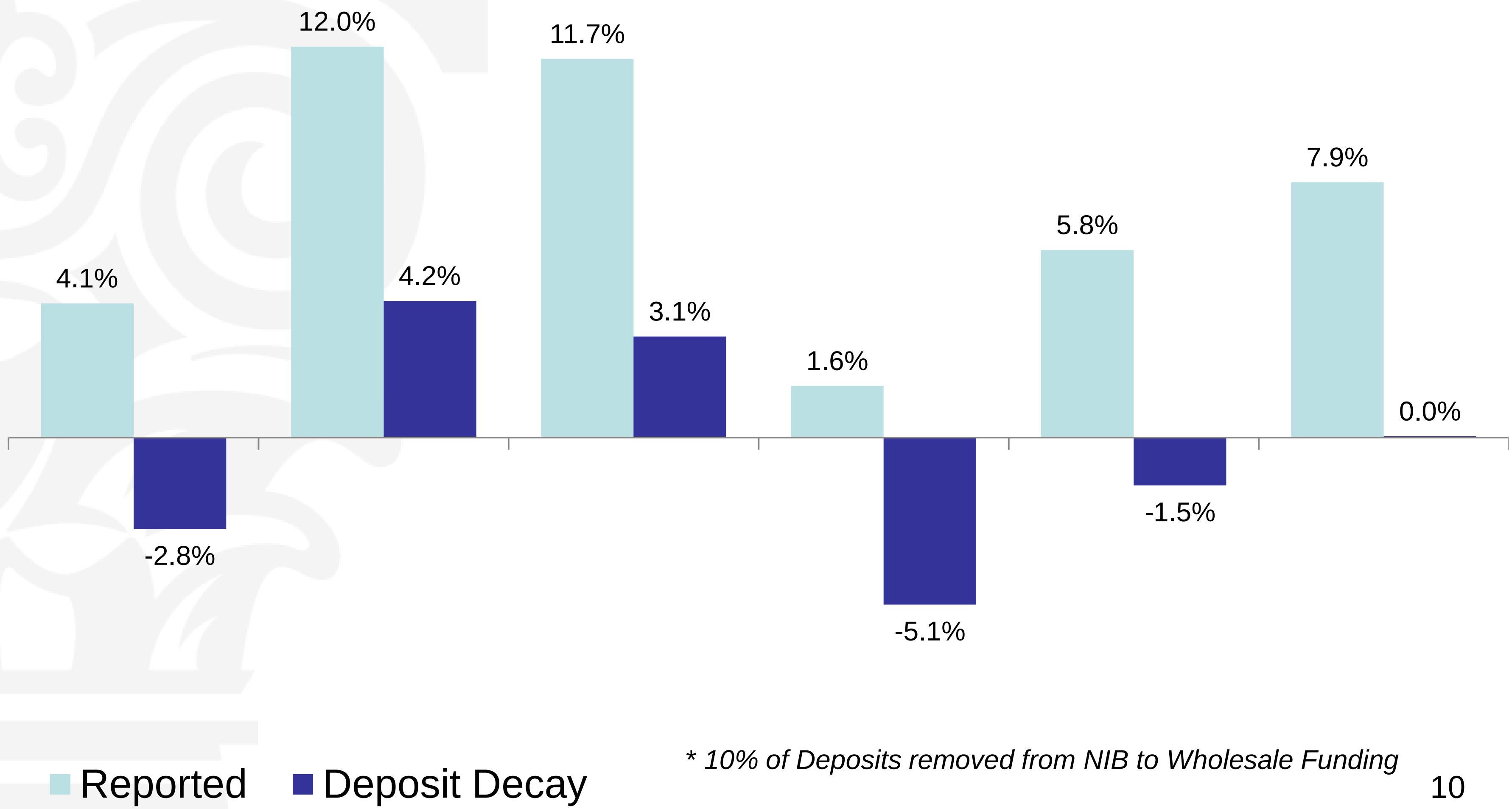
- **Increasing the assumed re-pricing rate on non-maturity interest bearing deposits by 20% had the least impact on the bank's IRR profile**
  - **The impact is relatively consistent across all firms with a decline in the reported asset sensitivity of -2% to -4%**

PROJECTED IMPACT OF INCREASING REPRICING SENSITIVITY

Sample of Results

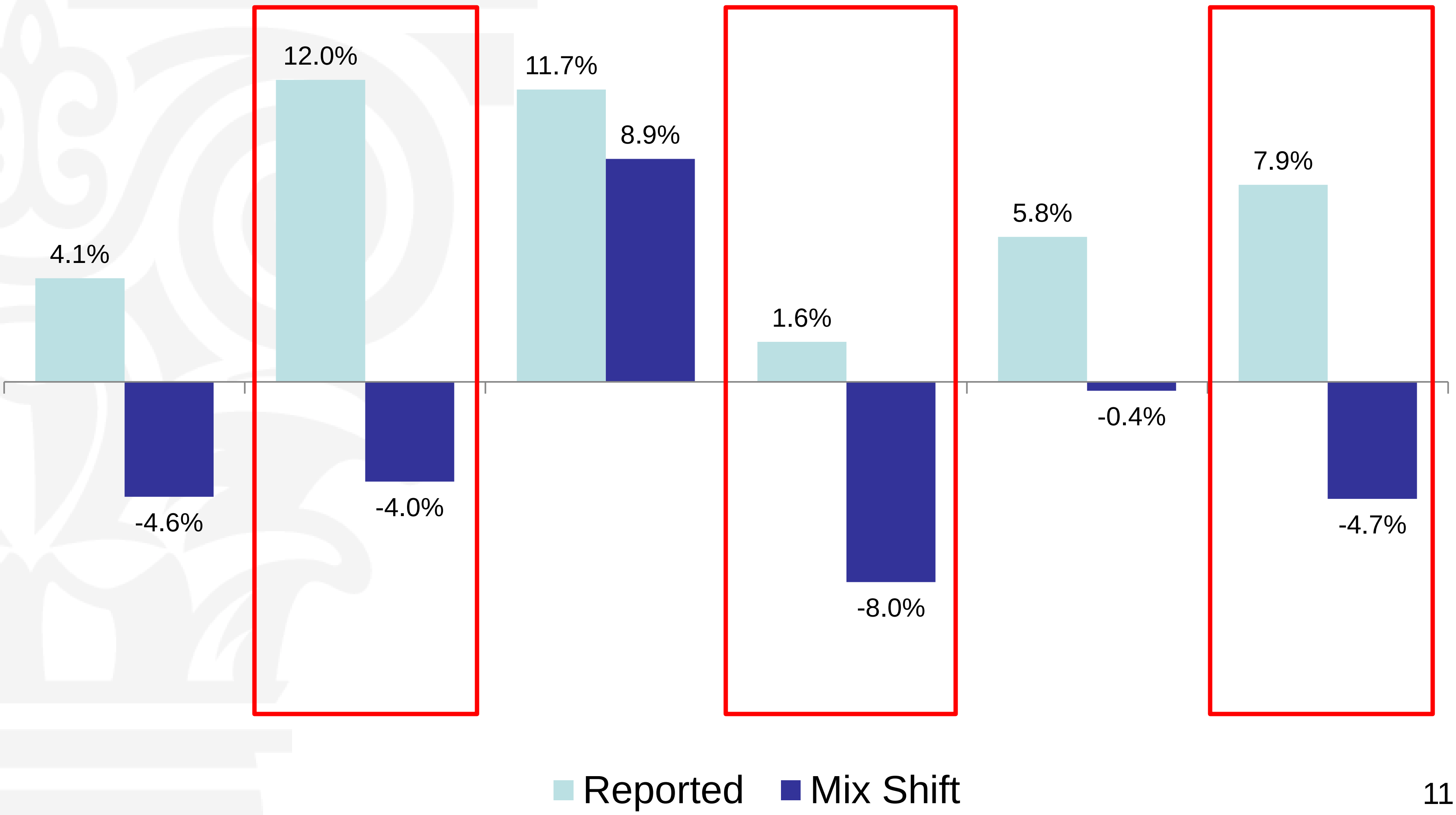


DEPOSIT DECAY OF 10%
REPLACED WITH WHOLESALE FUNDING



** 10% of Deposits removed from NIB to Wholesale Funding*

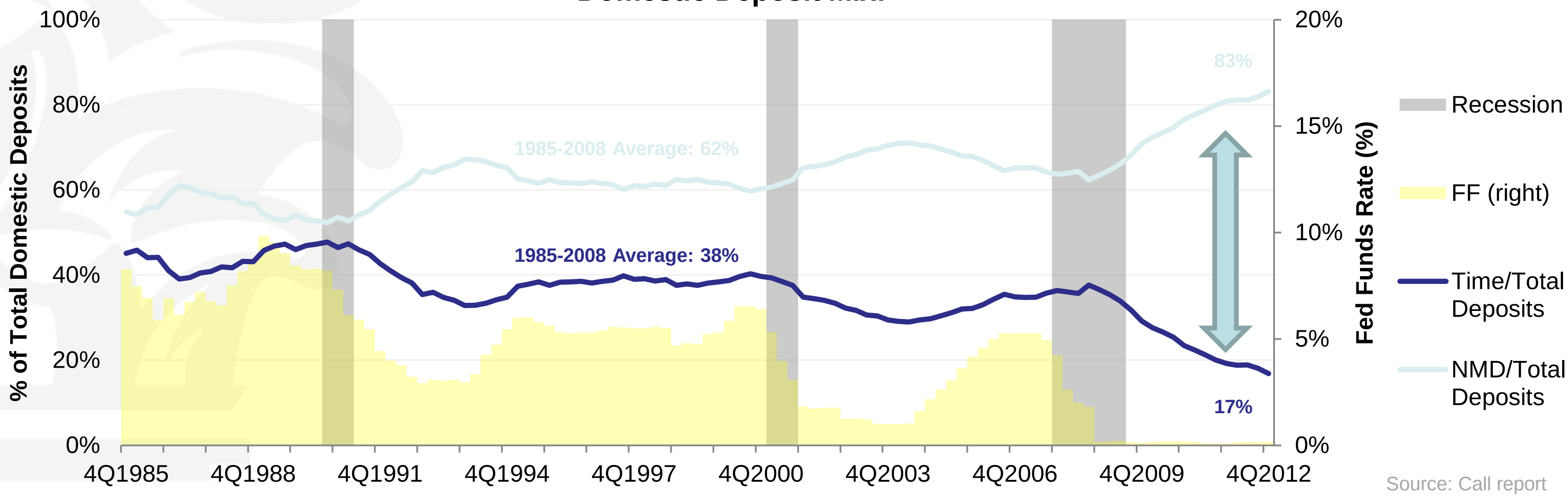
SENSITIVITY OF DEPOSIT MIX CHANGE



WHY THE CONCERN? CURRENT CONDITIONS

- **Using aggregate industry data:**
  - **All portfolios have seen significant growth in deposits as a percentage of total liabilities.**
  - **Historical high level of concentration in non-maturity deposits vs. time.**
  - **The Fed Funds Rate, a primary index used to price bank deposits is (and has been) at record lows since 2008**

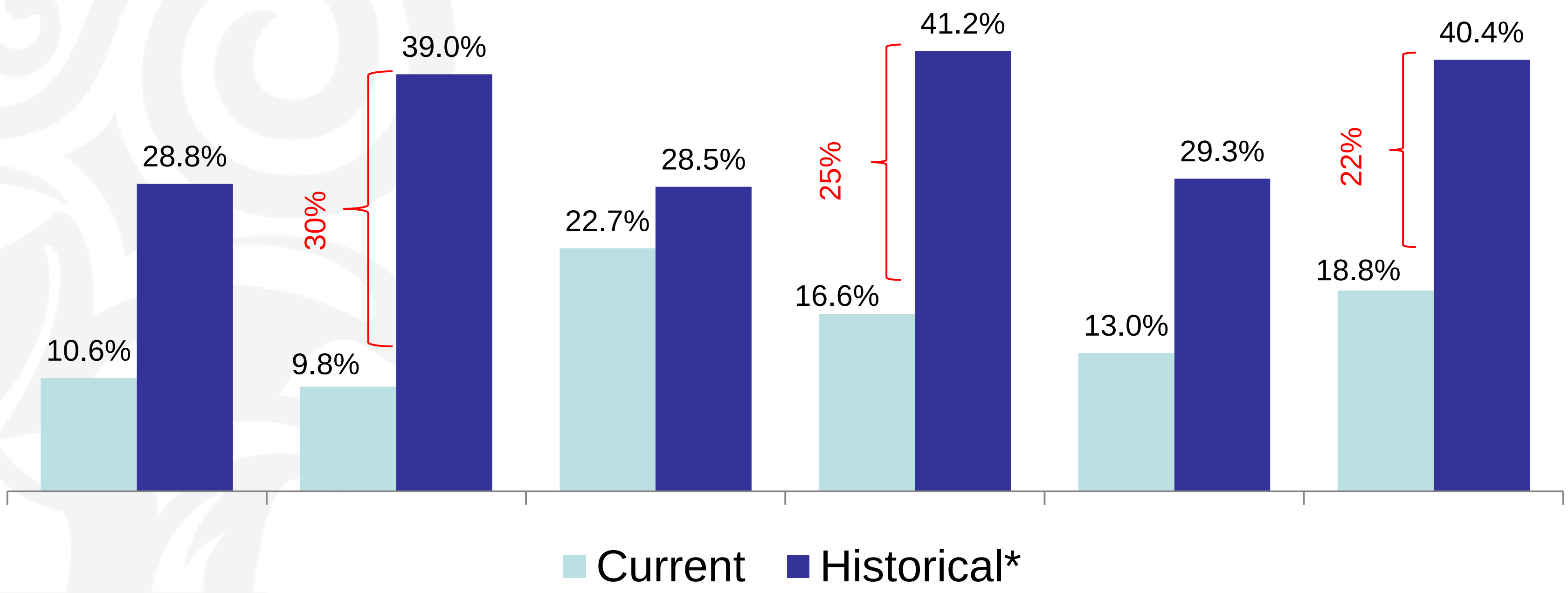
Domestic Deposit Mix:



Source: Call report

SHIFT IN DEPOSIT MIX: TIME DEPOSITS/TOTAL DEPOSITS

Most of the sample banks in the district have experienced significant declines in the % of time deposits to total deposits, ranging from 16% to 30%



**Historical Source: Call Report Data 2000 – 2008 average*

OVERALL CONCLUSIONS

- **Currently, most banks (CBO, LBO, RBO) are reporting that their earnings would benefit from rising rates (asset sensitivity). <u>However, based on the uncertainty in deposit behavior in the current environment, banks may not be as asset sensitive as their IRR profiles show.</u>**

- **Regulatory expectations are for all institutions to supplement risk measurements for IRR with sensitivity analysis on key assumptions (SR 10-1, SR 11-7, SR 12-2, SR 12-7). Sensitivity testing enables banks to fully understand the impact assumptions have on the reported metrics. As illustrated in this analysis, for many banks deposit mix, deposit balances, and deposit re-pricing betas are key assumptions.**

QUESTIONS