



Capital Optimization Briefing: Basics to Basel III

2011 Southwest Treasury Expo
Association for Financial Professionals of Arizona
June 16, 2011
Phoenix, Arizona

Orlando B. Hanselman
Education Programs Director
Fiserv Risk & Compliance

Learning Objectives

- Explore risk-adjusted return on capital (RAROC)
 - Concepts
 - Definitions
 - Regulatory environment
- Understand how to assign capital to determine risk-based pricing, profitability & capital adequacy
- Explore modifying risk exposure to ensure optimized balance between risk tolerances & return expectations
- Identify “right-sizing” capital strategies



Purposes of Capital

“Good solid capital is the cushion that banks fall back on when facing the unexpected or weathering financial storms.”

**FDIC October 6, 2005 Press Release:
“FDIC Board Approves Start of
Rulemaking Process on Basel 1-A.”**



Purposes of Capital

Absorb unanticipated losses in excess of reserves

Support growth

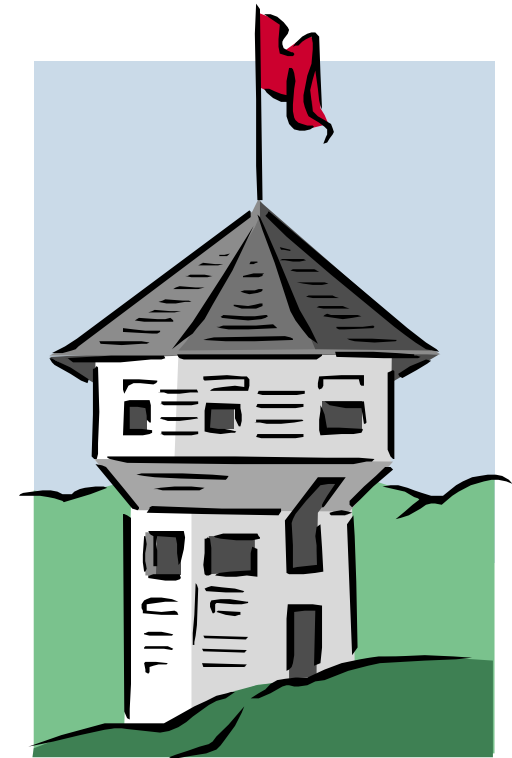
Evaluate performance

Allocate resources

Meet regulatory requirements

Conform with **Basel Accords** &

Dodd-Frank Act



Purposes of Capital

Capital is required to protect against unexpected losses over a business cycle



Regulatory Convergence

US regulators required by

Dodd-Frank Act

to adopt

Basel III Liquidity & Capital Standards.

Forces convergence between internationally active and other “too-big-to-fail” banks.

Likely also to force convergence & compliance between Basel and non-Basel covered FI.

Current Regulator Capital View

Heightened review of capital analysis & forecasting

Reviewing reasonableness of assumptions used in assessing capital needs

Evaluating capital stress testing to ensure a wide range of possible events are identified

Encouraging broader use of stress testing & scenario analysis

Source: Speech by Vice Chairman Donald L. Kohn, Board of Governors of the Federal Reserve, “Risk Management & Its Implications for Systemic Risk”, June 19, 2008

Basel II Accords

Basel II published June 2006

- Ensures risk sensitivity of capital allocations
- Separates & requires quantification for credit & operational risks
- Better aligns economic capital & regulatory capital

Three pillars established:

- Minimum capital requirements for credit, market & operational risks
- Regulatory oversight framework
- Market discipline by increasing disclosure requirements & reporting transparency

Basel 1-A Formulation

Mitigate material distortions in capital requirements between large & small institutions that may arise from Basel II

Create appropriate incentives for banks

FDIC October 6, 2005 Press Release: “FDIC Board Approves Start of Rulemaking Process on Basel 1-A.”

Basel 1-A Formulation

Promote safe & sound banking practices with prudent capital levels

Maintain balance between risk sensitivity & operational feasibility

Avoid undue regulatory burden

FDIC October 6, 2005 Press Release: “FDIC Board Approves Start of Rulemaking Process on Basel 1-A.”

Basel III Purposes

- Provides global regulatory standards for liquidity & capital
- Establishes higher requirements for capital & quality of capital
 - **Introduces leverage ratio as capital back-stop**
- Requires greater balance sheet liquidity & quality of funding
 - **Introduces “Liquidity Coverage Ratio” (LCR) for short-term**
 - **Creates “Net Stable Funding Ratio” (NSFR) for long-term**
- Enhances risk identification & coverage
- Re-enforces stress testing imperative for risk identification & determination of capital adequacy

Common Basel III Capital Myths

- Compliance costs exaggerated
- Shareholders will require less return on equity due to greater bank safety
- Increased bank safety will result in reduced funding costs
- More capital will result in higher lending spreads

The Tragedy

**Maintains myth that
one size fits all
capital standards
make sense.**

Post Crisis Capital Reforms Impact

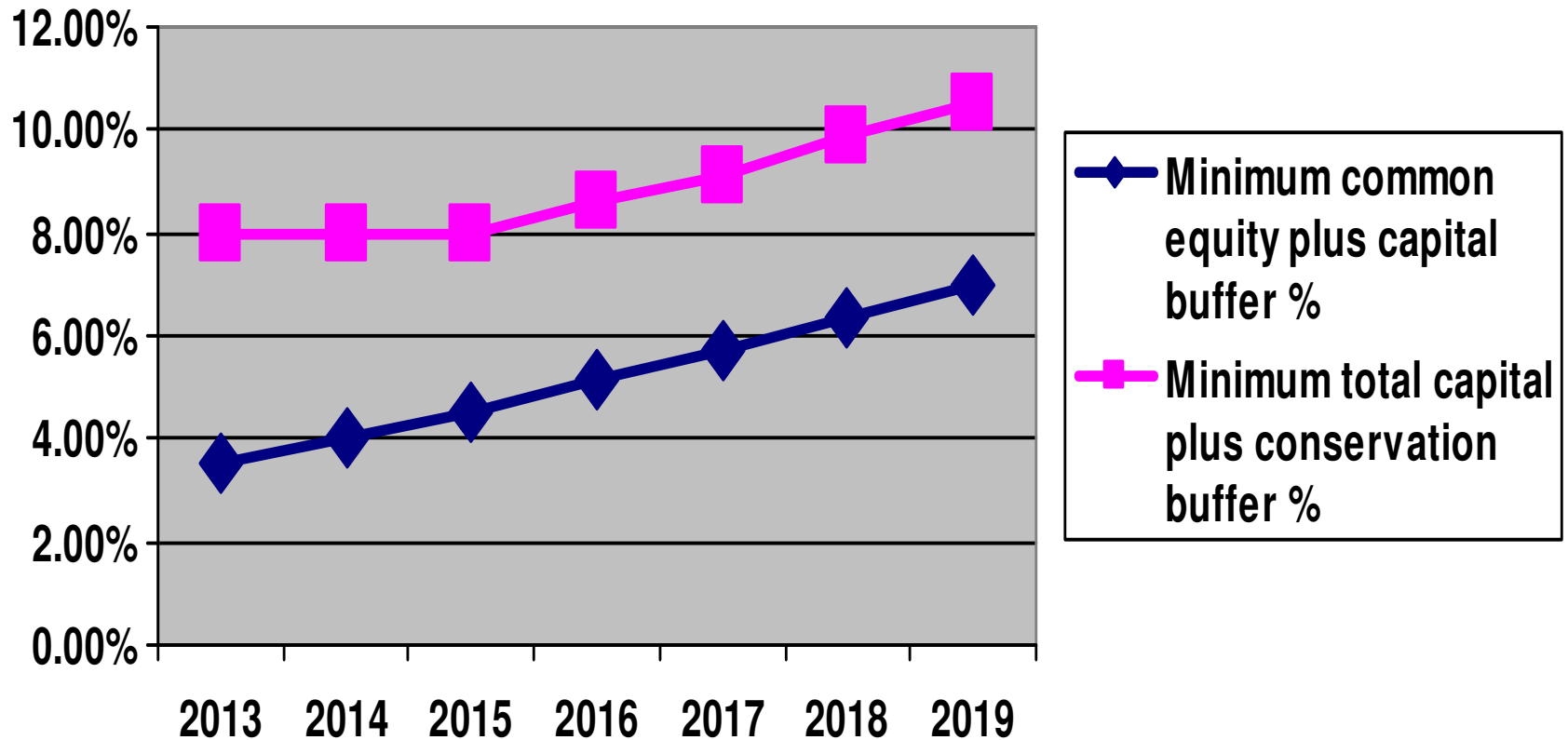
“The world’s banking industry faces **massive upheaval** as post-crisis reforms start to bite. They may make it only **a little safer** but **much less profitable...Bigger capital cushions** will make the system somewhat safer, but they may also **reduce** banks’ **profitability** by **as much as a third**. In addition, they may **push up borrowing costs** and **slow economic growth**.”

Source: “Chained but untamed”, [The Economist](#)
Special Report International Banking, May 14, 2011.

Basel III Business Model Implications

1. Shorter asset durations.
2. **Greater asset interest rate sensitivity.**
3. Funding duration extension.
4. **Preference for longer-term funding.**
5. Move from “negative” to “positive” interest rate risk gaps.
6. **Demand for more core deposit funding.**
7. Higher core deposit funding costs.
8. **Higher loan rates as liquidity premiums build into FTP & pricing.**
9. Reduced NIMs & Returns on Equity (ROE).
10. **More demand for Common Equity.**
11. Higher Cost of Equity (COE).
12. **Less likelihood that ROE will exceed COE. Value destruction.**

Basel III Increasing Capital Standards



Estimated Capital Shortfalls Cross All Sizes

	> than \$50 Billion	\$5 Billion to \$50 Billion	\$1 Billion to \$5 Billion	\$500 Million to \$1 Billion	< than \$500 Million
% Passing Minimum Common Equity Plus Conservation Buffer	61.5%	79.5%	70.3%	73.8%	93.6%
% Passing Minimum Common Equity Plus Capital Buffer	87.2%	94.0%	87.3%	87.7%	97.2%

Source: “Community Banks Short on Basel III Tier 1 Common Equity”, [Bank Safety & Soundness Advisor](#), May 9, 2011.

More Common Equity Demanded

\$1 Trillion

Minimum

By

2019

Source: “Results of the comprehensive quantitative impact study”, Basel Committee on Banking Supervision, December 2010. Amounts reported in study were in Euros which have been recomputed to dollars. Sample 263 international banks only.

More Capital Required

- Standard & Poor's analyzed 75 of world's biggest banks
 - Estimate **\$763 billion** of additional capital needed to meet new minimums
- McKinsey's analysis suggests American banks will have to raise **\$870 billion** of capital

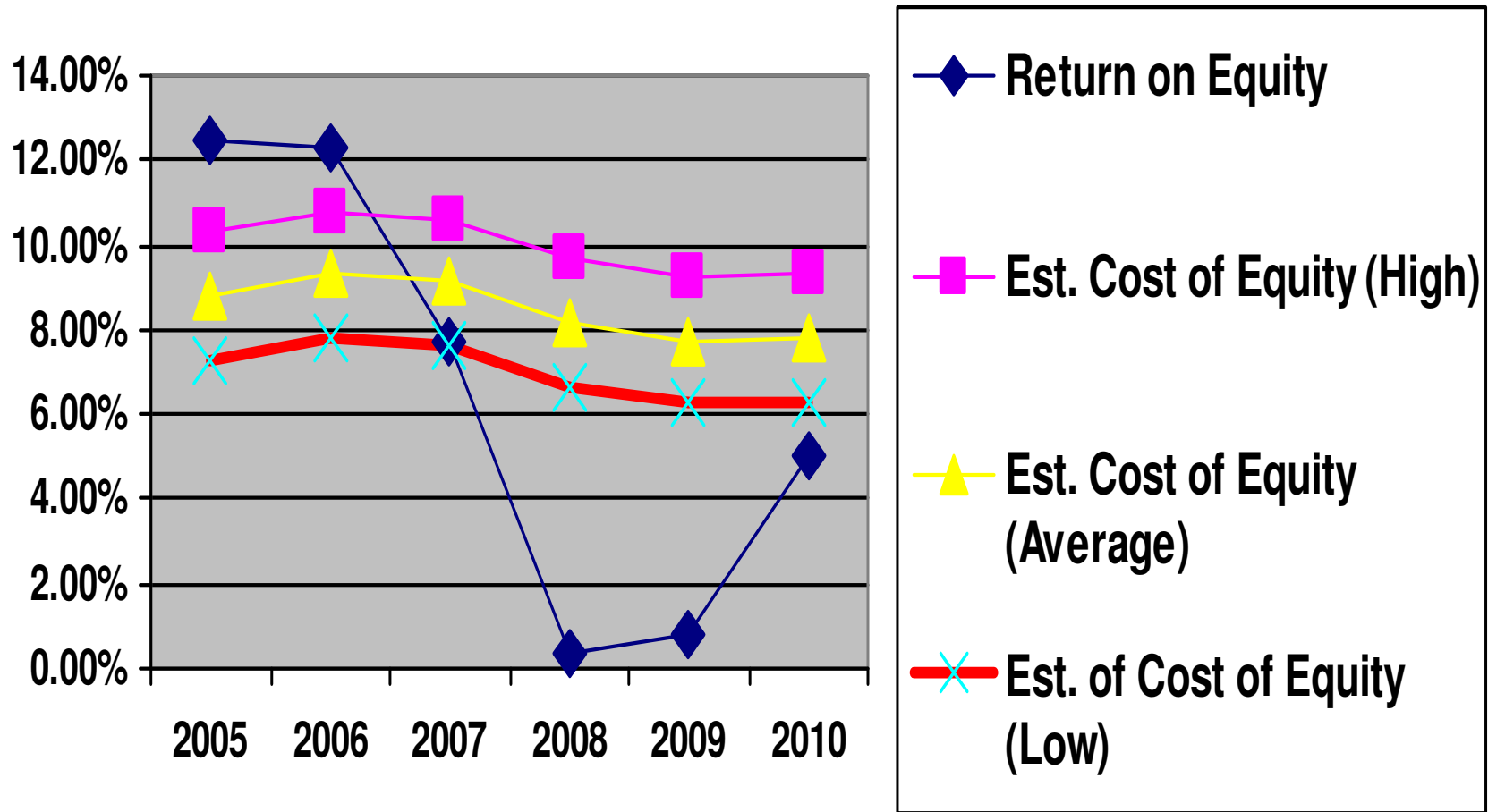
Source: "How Much is Enough", [The Economist](#)
Special Report International Banking, May 14, 2011.

Capital Costs to Increase

- **30 years of progressively cheaper capital nearing end**
- **Global economy soon to contend with too little capital**
- **Need to adapt to capital scarcity & greater cost of capital**

Source: “The era of cheap capital draws to a close”, Richard Dobbs & Michael Spence, McKinsey Quarterly Review, February 2011.

Value Destruction: Cost of Capital Not Covered



(Source of ROE data: “FDIC Quarterly Banking Profile”, FDIC, Third Quarter 2010. Source of 10 year US Treasury rates, upon which estimated cost of equity are based, from Forecastchart.com.)

Economic Capital Penetration

83% of institutions calculate economic capital

53% use economic capital to support strategic decisions

45% of boards periodically review capital allocation results

Source: “Global Risk Management Survey”, Sixth Edition, Deloitte, Summer 2009.

With numerous choices facing banks, all performance complexities must be reduced to:



**Risk & return
insights
for more
informed
business
decisions**

Reasons to Assign Capital

“Basel II represents a sea change in how banks determine minimum required capital, intended to better align regulatory capital with inherent risks & banks’ internal economic capital.”

Source: Federal Reserve Board Governor Susan Schmidt Bies, “Community Banks—A Regulatory Update”, June 7, 2005.



fiserv.

Reasons to Assign Capital

Measure performance & allocate resources

Recognize that different businesses have different risk mix & risk levels

Identify sources of overall risk-adjusted return on capital

Provide linkage to strategic directions

Reasons to Assign Capital

Analyze capital requirements at individual unit, product, line of business & customer levels

Explain existing capital levels to regulators

Model pro-forma future capital needs & determine business strategies and investments

Capital Assignment

Judgmental art that continues to evolve

Regulations define capital minimums

Management & board must engage in
comprehensive risk tolerance & loss history dialogue

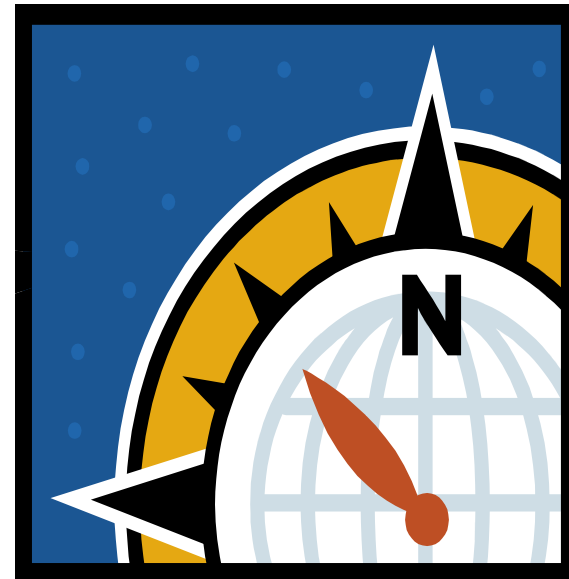
RAROC: The One True Metric

RAROC: most encompassing performance indicator

RAROC: only metric that considers full risk & return strategic business equation

RAROC suitable to assess:

- **Organization**
- **Business Units**
- **Products**
- **Customer Segments & Customers**



RAROC

Calculated as:

$$\frac{\text{Reported earnings or total return}}{\text{Risk-Adjusted Capital}}$$

Earnings best determined using sound FTP & cost allocation processes

Risk-adjusted capital requires rational capital assignment process & proven risk analytics

Presented for total company, business units, products & customer segments

Assignment Methods

Regulatory requirements

Historic loss
performance

Peer group comparison

Subjective assessments



Senior Management Evaluation

Senior managers perform subjective internal risk analysis:
What economic capital should be used as buffer against risks:

- **Credit**
- **Rate**
- **Liquidity**
- **Market**
- **Operational**

Compile & analyze results

Suggest relative evaluation
framework methodology



Establishing Framework

Risk Ratings

Low		Medium		High
1	2	3	4	5

Capital Assignment

Balance Sheet Businesses --				
0%	4%	8%	12%	16%

Subjective Risk Assessment

Credit Rate Liquidity Market Operation

Weighting Factors 40% 25% 15% 10% 10%

Deposits		3	3		3
Consumer Loans	3	3	3	3	2
Res. Mortgages	2	5	2	4	3
Commercial Loans	5	2	4	3	2
Commercial REM	5	4	3	5	2
Treasury	1	5	1	3	3

Subjective Capital Assignment

	<u>Weighted Total</u>	<u>Ratio</u>	<u>Basis</u>
Deposits	1.5	2.00%	Liabilities
Consumer Loans	2.9	7.60%	Assets
Res. Mortgages	3.05	8.20%	Assets
Commercial Loans	3.6	10.40%	Assets
Commercial REM	4.15	12.60%	Assets
Treasury	2.4	5.60%	Assets

Unit Capital Performance

	<u>Operating Income</u>	<u>Cap. Alloc</u>	<u>Basis</u>	<u>Capital Assigned</u>	<u>Pretax ROC</u>
Deposits	126M	2.0%	360MM	7.20MM	21.0%
Consumer Loans	66M	7.6%	72MM	5.51MM	14.4%
Res. Mortgages	44M	8.2%	70MM	5.71MM	9.24%
Commercial Loans	195M	10.4%	156MM	16.22MM	14.4%
Commercial REM	55M	12.6%	42MM	5.32MM	12.4%
Treasury	45M	5.6%	90MM	5.04MM	10.7%

Customer Balances

Avg. Daily Balance	Loans	Deposits	Totals
Deposits		300,000	
Consumer Loans	20,000		
Res. Mortg.	100,000		
Commercial	500,000		
Commercial REM	1,500,000		
Net Funds			1,820,000
Capital Required			256,720

Customer Income

Income Statement	Loans	Deposits	Totals
Interest Income	193,000		
Cost Funds Used	127,200		
Credit Funds Provided		18,000	
Interest Expense		15,000	
Net Interest Income	65,800	3,000	68,800

Customer Income--continued

Net interest income	68,800
Provision for loan losses	15,000
Service charge income	4,500
Variable operating expenses	5,200
Fixed operating expenses	2,800
Cost of capital @ 12%	30,806
Pre-tax contribution	19,494
Risk-adjusted return on capital	7.59%

Capital Assignment Keys

Quality participative dialogue

Sound reasoning & rationale

Comprehensive documentation

Learning from history & experience



Capital Excesses / Shortfalls

Sum of capital assignments to business units or products

will probably not equal
actual organizational capital

**Under capitalized --
cull low ROC businesses**

**Over capitalized --
leverage opportunities**

Reconciliation of Required Economic Capital to Total Capital

Economic capital: assigned valuation based upon quantifiable & subjective risk analysis

Total capital: accounting number

What is significance of difference between two values?

Economic Capital Results

46% of institutions had economic capital greater than regulatory capital requirements

42% reported higher regulatory capital requirements than economic capital

Source: “Global Risk Management Survey”, Sixth Edition, Deloitte, Summer 2009.

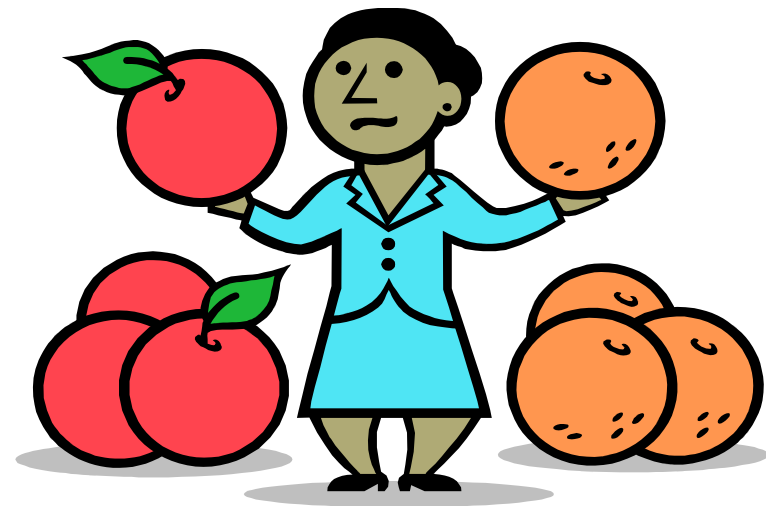
Handling the Difference

Ignore this “theoretical” variance

Re-evaluate capital assignment methods

Adjust risk levels

Modify total equity level



Reforms Altering Strategic Capital Flexibility

In America “...supervisors are scrutinising business plans and are allowing only selected banks to pay dividends or buy back their shares.”

Source: “A Dangerous Embrace”, [The Economist](#)
Special Report International Banking, May 14, 2011.

RAROC Benefits Summary

Optimize capital management & resource allocation

Unite strategic risk assumption with capital adequacy determination & measurement

Perform risk-adjusted performance analysis

- **Business unit**
- **Product line**
- **Customer segments & customers**

RAROC Benefits Summary

Price customer transactions on a risk-adjusted basis

Incent employees on risk-adjusted performance



Seven Immediate Capital Suggestions

1. Understand new & emerging capital standards.
2. Face up to the tradeoffs within these new capital standards.
3. Recognize that Cost of Equity is a real cost.
4. Implement best practices for risk assessment.
5. Start adapting to capital standards now.
6. Price loans & deposits on a risk-adjusted basis.
7. Reposition the interest rate risk gap to either neutral or slightly positive.

**Source: “Getting Ready for New Capital Standards”, Orlando B. Hanselman,
[BAI Banking Strategies](#), May 10, 2011.**

Workshop Wrap-Up

- Final questions & thoughts
- Thank-you!



The Institute

An expert faculty of experienced former financial institution executives respected as world thought leaders in contemporary education since 1980.

Tailored seminars available on-site for your financial institution.

Strategic planning & financial policy review consulting available.

For more information, please contact today's speaker:

orlando.hanselman@fiserv.com

Institute Curriculum

Asset/liability management—all aspects

Liquidity & interest rate risk analytics

Funds transfer pricing

**Strategic management & measurement of profitability
(organization, business unit, product & customer)**

Strategic planning

Marketing & pricing

Customer retention, loyalty & satisfaction management

Cost-effective achievement of organic growth

Capital assignment & RAROC

Corporate performance measurement & management

Copyright Notice

All recipients and viewers of this presentation must be advised that all materials are owned and copyrighted by Fiserv and are intended for your personal courtesy use only and should not be copied, published, used, or distributed for any other purposes.