Example: Bank profitability

Goal/Measurement #2

Goal:	$ 1 billion net income
Measurement:	Net income (obvious!)
Problem:	It's possible to achieve the income goal while hurting the bank (ie, by taking large risks without adequate compensation or by trading current for future income).

SBCM *Adding Shareholder Value*

Example: Bank profitability

Goal/Measurement #3

Goal:	10% (or whatever) increase in stock price
Measurement:	Stock price (obvious!)
Problem:	While the stock price is a much better measure of the true health of the bank than net income, the bank has no direct control over the stock market.

Example: Bank profitability

Goal/Measurement #4

Goal:	10% (or whatever) increase in calculated shareholder value
Measurement:	Shareholder value
Problem:	This is the "best" alternative. The challenge is to create the correct calculation of shareholder value.

RAROC and SVA *

Risk-adjusted return on capital:

$$RAROC = \frac{\text{Revenue} - \text{Expenses} - \text{Expected Loss}}{\text{Capital}}$$

for entire portfolio OR individual obligor

Shareholder value:

$$SVA = \text{Capital} * (\text{RAROC} - \text{Cost of Capital})$$

* (without taxes !)

When does it make sense to hedge ?

- The (change in) SVA must be positive !

$$\text{Default Swap Premium} < (1-\rho)\ \text{Default Probability} * \text{Hurdle Rate} * \frac{\Delta\,\text{Capital}}{\Delta\,\text{LGD}}$$

Senior/unsecured recovery

"Cost of capital" prescribed by management

Slope of the earlier graphs !!

When does it make sense to add exposure ? (Could be default swap or new business)

- The (change in) SVA must be positive !

$$\text{Default Swap Premium} < (1-\rho)\ \text{Default Probability} * \text{Hurdle Rate} * \frac{\Delta\,\text{Capital}}{\Delta\,\text{LGD}}$$

Senior/unsecured recovery

"Cost of capital" prescribed by management

Slope of the earlier graphs !!

Large Exposure, Low Risk Borrower

- Current LGD: > $ 200 MM
- Default probability: 0.11% pa
- Current RAROC: 5.3 %

- Hedge 10% with 24 bps pa default swap:
  New RAROC: 5.6 % SVA: $ 34,500
- Add 10% exposure with 20 bps pa def swap:
  New RAROC: 5.0 % SVA: - $ 56,500

View 1:
"Relationships are the core of banking"

- The only purpose of making loans and providing commitments is to build (profitable) relationships ... "bundling"

- Taking credit risk in "non-relationship" form is not what bankers do

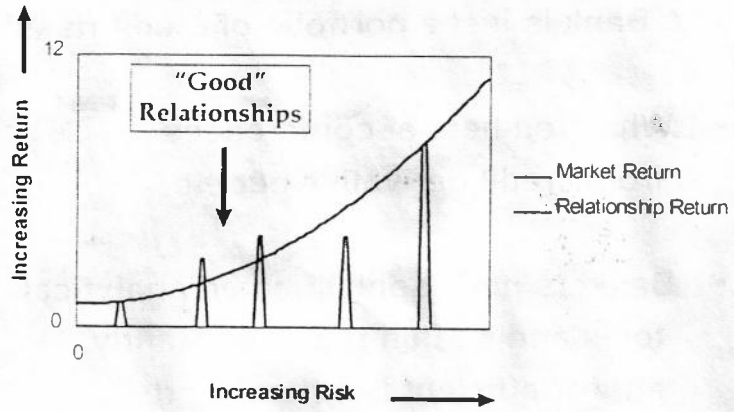
View 2:
"A Bank is just a portfolio of credit risks"

- **What you hear at conferences from credit derivative people**
- **Bankers need sophisticated analytical tools and should think constantly about "efficient frontiers" and marginal Sharpe ratios**

"Reconciliation: need relationships AND portfolio mindset"

- **The value of the relationship must be quantified and the banker must demonstrate above-market return**
- **Banks must manage the credit risk they incur in their relationship lending. This management requires "non-relationship" credit products.**

Return vs Risk of Five Bank Relationships



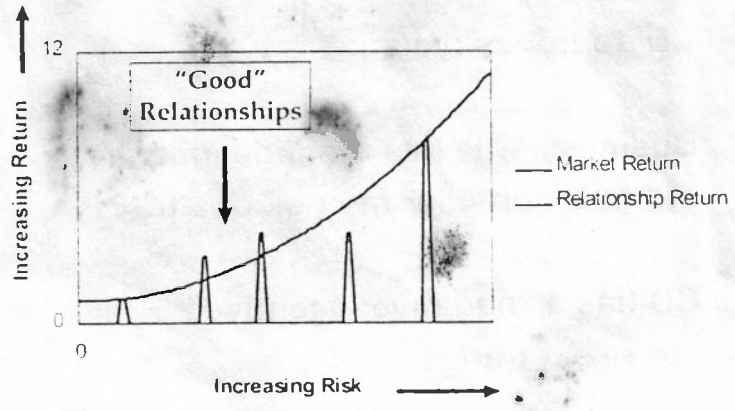
The Essence of Banking !

- Leverage marketing relationships to achieve above-market returns
- Above-market return comes from "other business" arising from loans
- Return must be above-market to justify the Bank's existence ... the shareholders can earn market returns directly

Credit Paradox

- Ideally, would like to take credit risk only in "good relationships"
- Problem: there are not enough such relationships to form a diversified portfolio .... will inevitably become over-concentrated

Return vs Risk of Five Bank Relationships



(I like this picture .... so I'm showing it again.)

Two Key Observations/Opinions

- No position is too risky as long as the yield is sufficient. The bigger "risk" is not being paid enough. (Example: I would lend $100 to a borrower with 10% default probability if I'm paid $25.)
- Portfolio diversification is critical to managing the risk incurred in relationship lending.

Role of the Credit Department

- CD approves (yes/no)
- Business side has too little incentive to take consider the risk of a trade
- CD has a "negative incentive" to reject trades

Throw out the old model !!

- CD no longer has approval authority
  ... business side must earn "market return"
- CD will perform credit hedging (direct reduction of exposure on some names as well as portfolio diversification) with credit derivatives

Better Incentives !

SBCM *Ultimate Business Model*

Throw out the old model !!

- CD charges the business unit for the credit risk it incurs
- New model: marketers and traders (aka "hedgers") in a capital markets group

Example:
Bank extends facility to Circus Circus

- Pricing is 150 bps pa; Market level is 200; "other business" will be profitable; CD charges 200 bps pa for the risk

- CD will hedge exposure if it does not "like" Circus Circus credit ... can even go short

> CD manages the portfolio to accommodate the relationship business

"New World" Advantages

- Business freedom with the clear and explicit requirement to earn the market return (with all expenses considered)

- Credit analyst job more rewarding ... with more (extreme!) market orientation

> Both sides have more responsibility, challenge, and accountability .... no longer "two sides"

- Risk-Adjusted Return on Capital
- BIS Regulatory Rules
- Adding Shareholder Value
- Next Generation Bank Business Model