



**SUNGARD BANCWARE**

Integrated  
Risk and  
Performance  
Solutions

ALM: What we do today and what we will be  
doing in the future

[www.sungard.com/bancware](http://www.sungard.com/bancware)

## The regulatory mantra for risk management challenges banks to the following tasks relating to risk:

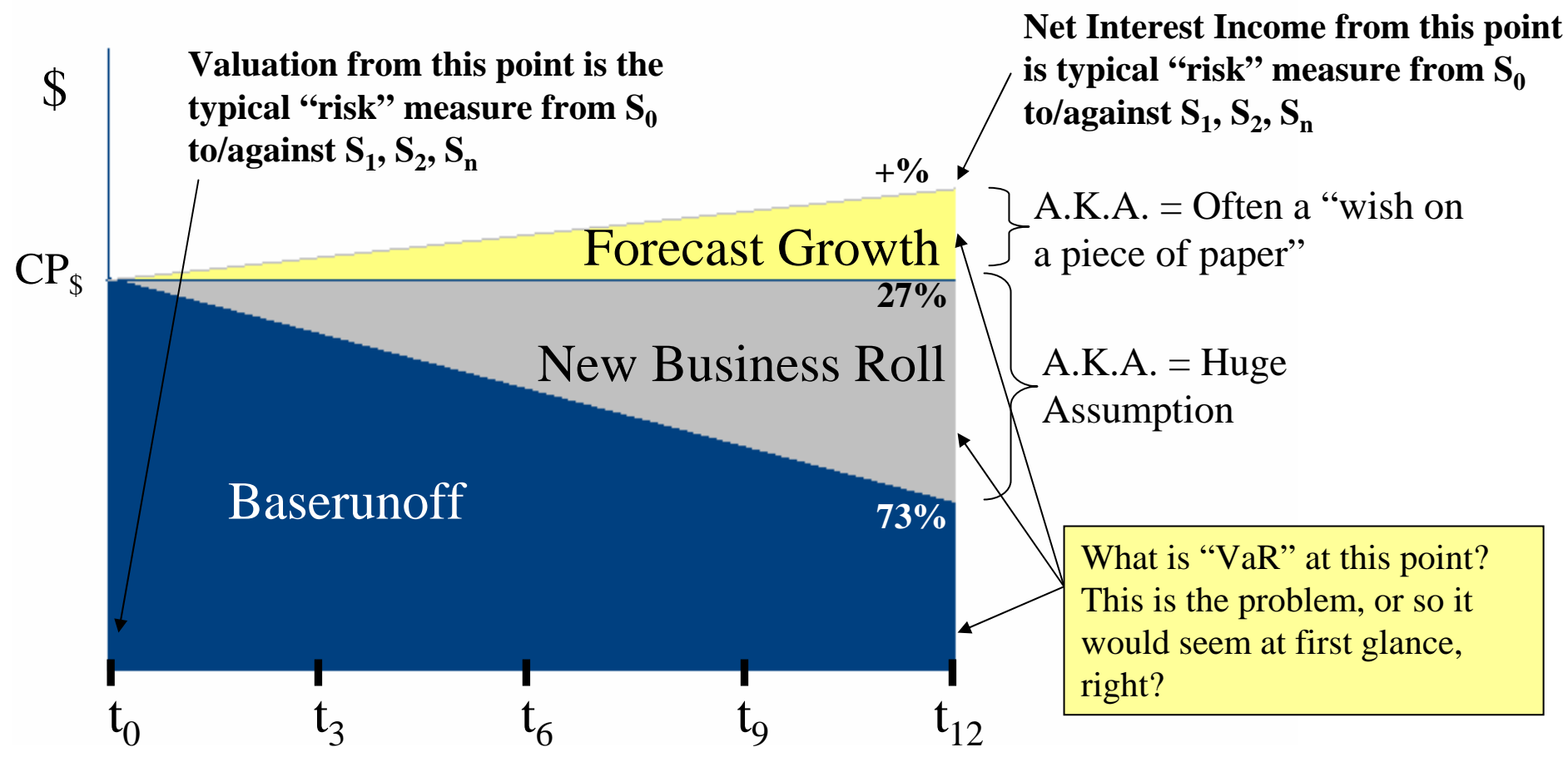
Identify	Measure	Monitor	Control
<p>Generally, this means:</p> <ul style="list-style-type: none"><li>• Self Assessments</li><li>• Internal audits</li><li>• Policies and Procedures</li><li>• Data integration</li><li>• Committees</li><li>• Other governance structures</li></ul>	<p>For ALM this means:</p> <ul style="list-style-type: none"><li>• ALM systems</li><li>• Limits on earnings and EVE</li><li>• Budget/planning</li><li>• FTP/Profitability?</li><li>• Market and price risk</li><li>• Liquidity risk</li><li>• Structural IRR</li></ul>	<p>For ALM this means:</p> <ul style="list-style-type: none"><li>• Monthly process</li><li>• Committee Meetings</li><li>• Stress testing</li><li>• Sensitivity testing</li><li>• Ad hoc strategy analysis (difficult)</li><li>• Period BOD reporting</li></ul>	<p>For ALM this means:</p> <ul style="list-style-type: none"><li>• Annual model review</li><li>• Backtesting</li><li>• Operations manual</li><li>• Assumption controls and disclosure</li><li>• Active position management?</li></ul>

- Current practice emphasizes:
  - Current year plan
  - Impact of month/month changes to forecast on net interest income and net interest revenues
  - Sensitivity of margin and revenues to changes in market risk factors, normally:
    - The yield curve
    - Various driver rates
  
- Regulators care more about:
  - Values and less about earnings
  - Values can change dramatically resulting in impacts to capital
  
- How to measure accrual book capital at risk?

- Common practice is to use EVE to evaluate capital at risk.
- The FRB defines EVE as:

*“...the present value of the expected cash flows on assets minus the present value of the expected cash flows on liabilities plus the net present value of the expected cash flows on OBS instruments.”*

- What is the basis of those expectations?
  - Arbitrage-free/risk-neutral?
  - Deterministic? Forecast? Along-the-forward path?
  - Stochastic? Earnings and value or just earnings? Or just value? Current position or forecast position?



We can value all three of these components. Typically, new business roll is 18% – 27% of CP balances (for most banks). The manner in which it is modeled (from both an income and valuation view) is a significant modeling assumption, often poorly understood by management and external 3<sup>rd</sup> parties.

- Capped Floater Loan = Non-Capped Floating Rate Loan - 5-Yr Cap Option
- Assume:
  - Cap is 200bp OTM
  - Loan at Libor flat, with Libor at 3.80% (cap, therefore @ 5.8%)
  - Volatility is flat at 15%
  - 31-October-2005 is valuation date

Impact of Rate Movement on Loan Coupon					
	Dn 100	Base Case	Up 100	Up 200	Up 300
Base Rate	3.80%	3.80%	3.80%	3.80%	3.80%
Rate Shock	-1.00%	0.00%	1.00%	2.00%	3.00%
Net Rate	2.80%	3.80%	4.80%	5.80%	6.80%
Cap Level	5.80%	5.80%	5.80%	5.80%	5.80%
Net Rate	2.80%	3.80%	4.80%	5.80%	5.80%
EVE NPV	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 95.79

Table - 2

Impact of Rate Movement on Value

	<b>Dn 100</b>	<b>Base Case</b>	<b>Up 100</b>	<b>Up 200</b>	<b>Up 300</b>
Floating Rate Note	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00	\$ 100.00
Option Value	\$ (0.41)	\$ (1.38)	\$ (3.33)	\$ (6.34)	\$ (9.83)
OAV	\$ <b>99.59</b>	\$ <b>98.62</b>	\$ <b>96.67</b>	\$ <b>93.66</b>	\$ <b>90.17</b>
EVE/NPV	\$ <b>100.00</b>	\$ <b>100.00</b>	\$ <b>100.00</b>	\$ <b>100.00</b>	\$ <b>95.79</b>
Difference	\$ (0.41)	\$ (1.38)	\$ (3.33)	\$ (6.34)	\$ (5.62)

- Differences are far from trivial
- Why then is this measure advocated and accepted by most regulators? Theory =
  1. Less than ideal but sufficient “scalar” of value at risk in a balance sheet
  2. The dominance of earnings simulation for accrual book risk management

- While the two prior are powerful arguments against better methods, the argument hinges on the issue of sufficiency.
- In light of trends:
  - More integration of credit with market risk measurement
  - More active use of correlation products
  - More active use of portfolio products such as credit derivatives – cash and synthetic
  - More frequent computes
  - Quicker computers
  - A 1-year holding period for risk assessment
  - A need to better assess balance sheet embedded optionality (e.g., mortgages, collars, caps, floors (periodic and lifetime))
- Do we need to consider other measures?

- Questions:

1. @

2. @

3. @

4. @

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6. @

7. @



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Integrated  
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Tom Day  
thomas.day@risk.sungard.com  
617 542 2800 ext. 804

[www.sungard.com/bancware](http://www.sungard.com/bancware)