Value and Capital Management

Thomas C. Wilson

Session 4: Better Decisions

Managing capital and value:
3 core skills from a Finance & Risk perspective

Better Information – What gets measured, gets managed

- How to value risk-based, capital intensive businesses?
- How to link management actions, risk adjusted performance measures (RAPMs) and other, Key Performance Indicators to value?

Better Insights – How to create value through operations

- What "rules of the game" (or generic strategies) create value in each business segment?
- What core skills are required in each segment?

Better Decisions – How Finance & Risk creates value

- Strategic planning and capital allocation
- Balance sheet, asset/liability and liquidity management
- Risk management and risk underwriting

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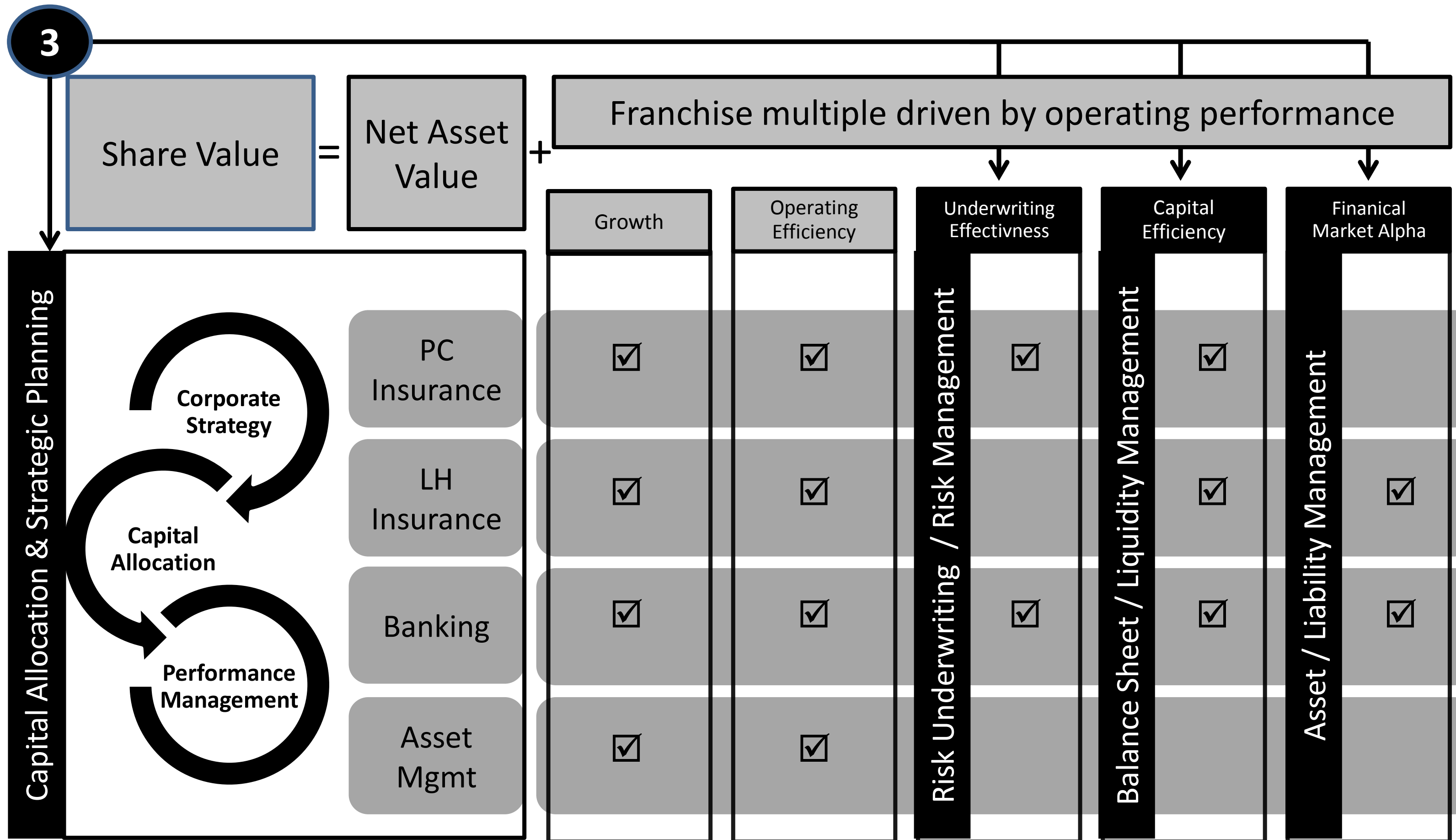
3. Better Decisions –
How to create value in Finance & Risk areas of responsibility?



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Contents

1. Strategic Planning & Capital allocaton
    a. Strategic Planning
    b. Performance management
    c. Capital Budgeting and allocation
2. Balance Sheet Management
3. Asset / Liability Management
4. Risk Management

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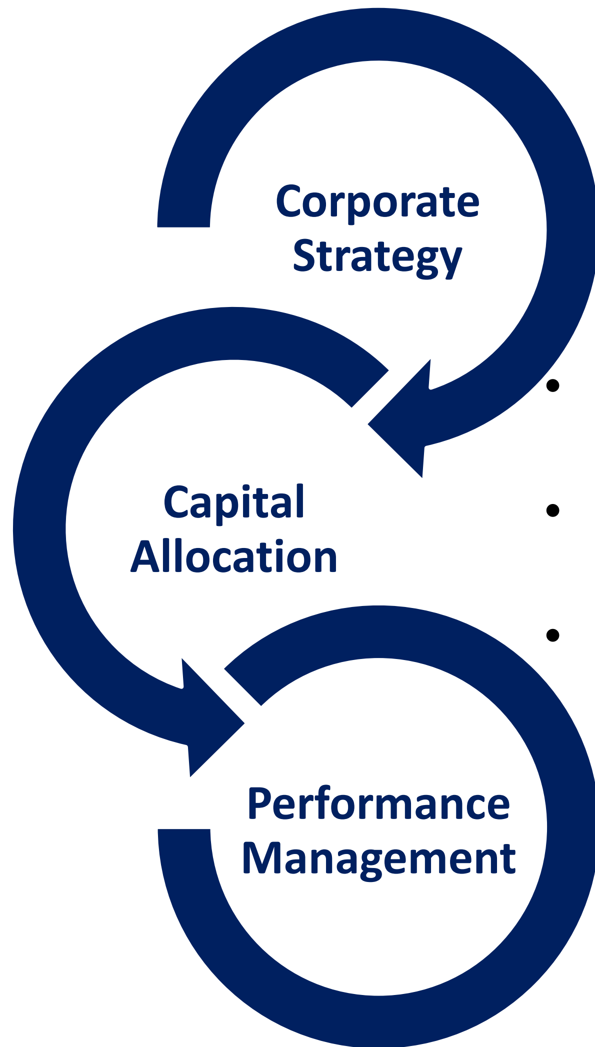
Strategy, capital allocation and performance management



- Where are we now?
- Where do we want to be in the future?
- How will we get there?

- Defining the Capital Budget: What are the sources and uses of capital?
- Capital Allocation: How is capital allocated for growth?
- Alignment: Is the internal capital allocation aligned with external constraints?

- What value should we be targeting?
- What actions to deliver?
- What operational targets to set?

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Capital allocation

Three steps

Define the Capital Budget

- Generate capital from earnings, maturing business and the capital markets
- Decide how much to reinvest into the business and how much to invest in strategic and financing initiatives
- Return excess capital to shareholders

Optimize corporate portfolio

- Allocate the capital not set aside for strategic and financing initiatives across the existing portfolio of businesses
- Maximize value, focusing on growth and excess returns
- Balance short- and long-term horizons

Align financial constraints

- Identify potential constraints, e.g. regulatory or rating agency definitions of capital, leverage and liquidity
- Align constrained resources consistently with the internal capital allocation
- Iterate optimization based on binding constraints

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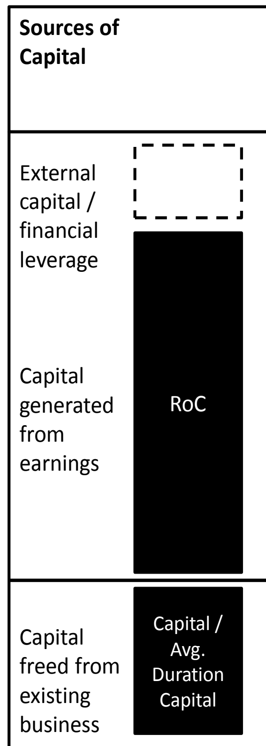
Capital allocation: Capital budget

The Capital budget



Rules of the game:

- Allocate capital between financing initiatives, strategic initiatives and the existing business portfolio in a manner consistent with your corporate strategy;
- Never invest in businesses or strategic initiatives with long-run returns below the cost of capital;
- Deploy as much capital as possible in initiatives which generate long-run excess returns, even considering raising additional capital if internal sources prove insufficient relative to the opportunities;
- Maintain a secure and resilient capital structure, always respecting regulatory constraints, in a manner consistent with your firm's risk appetite;
- Return any excess capital to shareholders.

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Capital allocation: Capital budget
On dividends and buy-backs

Regular Dividends

- Progressive, ratchet dividends
- Signaling value
  - Preferred by management and investors,
  - Signal management’s confidence in the strength of earnings:

“When a company pays solid dividends, it shows the firm is confident in its future cash flows. The company is comfortable in its ability to afford ongoing payouts…Higher dividend payments prevent companies from retaining too much cash, which can then be wasted on foolish ventures…Instead, the company is focused on executing its business…”

Dividend.com (2012)

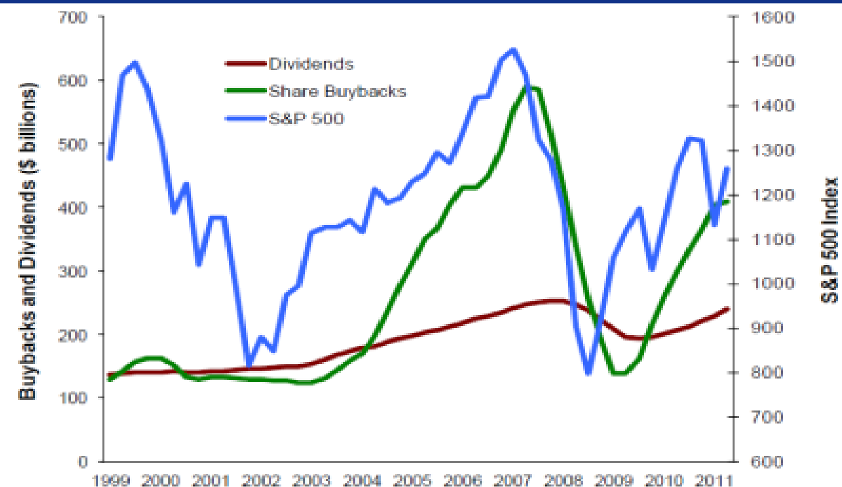
Share buy-backs

- Tax efficiency (if capital gains taxes < taxes on dividends)
- Excess of capital
- No opportunities for investment at rates above the cost of capital
- Management believes shares are „cheap“:

“When companies with outstanding businesses and comfortable financial positions find their shares selling far below intrinsic value in the marketplace, no alternative action can benefit shareholders as surely as repurchases.”

Warren Buffet (1984)

Consequences: Buybacks vary much more than Dividends



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Capital allocation: Capital budget

Example disclosure

Group financial results 3Q 2014

New dividend policy[1] going forward

1 — 50% pay-out
- Regular pay-out ratio of 50% (up from 40%)
- ➡ Healthy balance between dividend yield and investments in profitable growth

2 — Dividend continuity
- Dividend no less than previous year's level
- ➡ Predictable income for investors

3 — Discipline
- Payout of unused external growth budget every 3 years
- Entire dividend policy subject to sustainable Solvency II ratio > 160%

Allocation of net income[2] 2014ff (in %)

2013		2014 ff	
Internal growth	20	20	Budget for internal growth
External growth	20	20	Budget for external growth
Shift of investment to real assets	20	10	Buffer
Regular payout	40	50	Regular payout

+25%

Evaluation of unused budget for external growth every 3 years, starting end of 2016

1) This dividend policy represents the management's current intention and may be revised in the future. Also, the decision regarding dividend payments in any given year is subject to specific dividend proposals by the management and supervisory boards, each of which may elect to deviate from this dividend policy if appropriate under the then prevailing circumstances, as well as to the approval of the annual general meeting
2) Net income attributable to shareholders

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Capital allocation: Capital budget Complications

Inertia

Causes:

- No easy way to turn around the business and make it profitable
- Decisions are often delayed for another year
- Belief that "no one ever shrinks to greatness"
- Naive emphasis on growth
- Challenge of disentangling revenue or cost synergies

Solutions:

- Make the value of existing businesses fully transparent
- Change the focus of capital allocation discussions from revenues and earnings to value creation
- Monitor performance against plans over several years, making it clear where "hockey sticks", rather than reality, are the basis for business projections

Optimism

Causes:

- The world is uncertain, making investments with long payback and capital lock-in periods challenging to evaluate.
- Under such circumstances, there is a natural bias towards optimism "the positivity illusion"

Solutions:

- Don't get excited a CoC+ IRR if the returns emerge 10 or 15 years in the future
  - Give preference to investments with shorter payback periods
  - Require all initiatives to be cash flow accretive in the first year.
  - Give preference to business with a lower capital intensity
  - Carefully consider investments with break-even IRRs.
- Evaluate strategic investments in a balanced manner, e.g. "contra champion"
- Track the individual investments and make individuals accountable

Short-termism

Causes:

- Management is too risk averse or too focused on short-term earnings to make the investments needed to position the company for the next phase of growth
- Frequent CEO rotations

Solutions:

- Align manager's incentives to the long-term returns of the firm
- Reform earnings guidance to the market and to the holding company
- Emphasize longer term objectives and ranges rather than point estimates
- Increase communication of long-term strategy
- Clearer financial reporting aligned with the strategy

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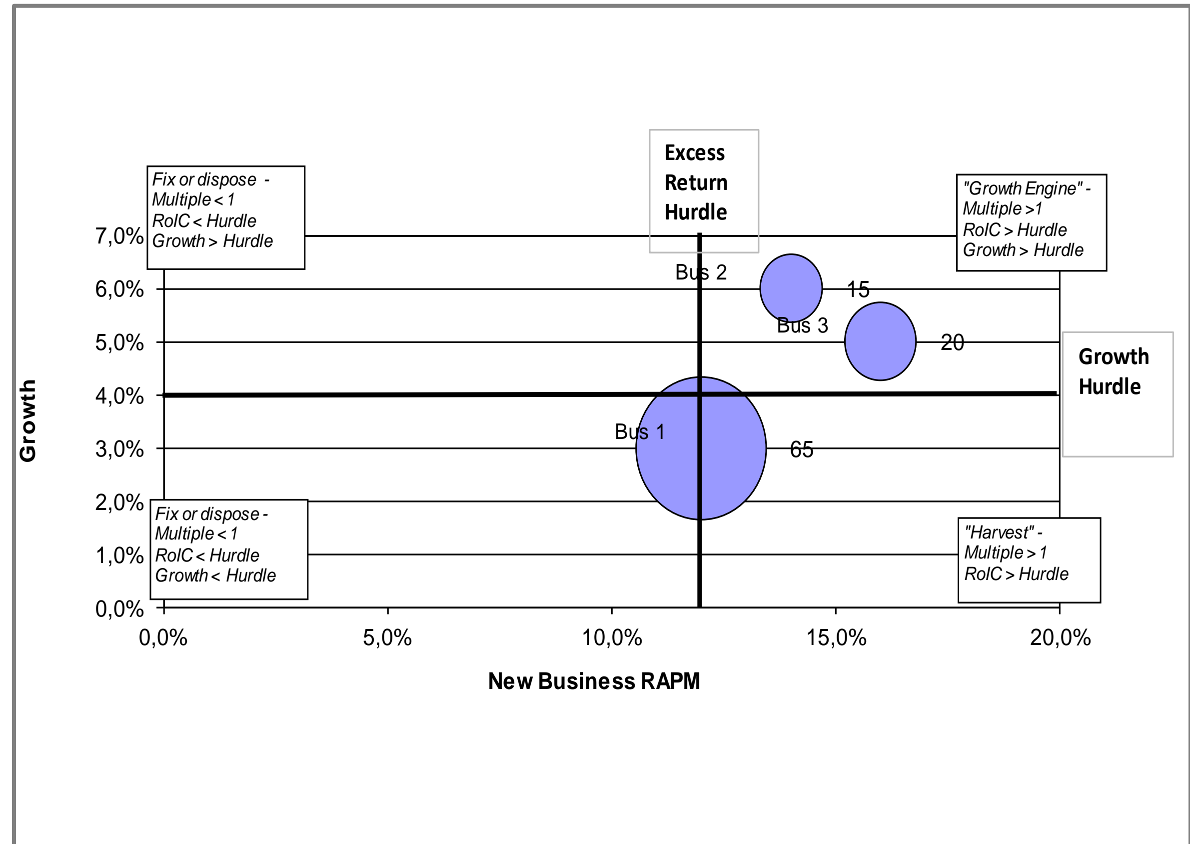
Capital allocation: Optimize business portfolio

Rules of the game

Build and grow your portfolio of profitable businesses by:

- Fixing the businesses where you are not making excess risk-adjusted returns;
- Growing faster than the market where you do make excess returns, investing in organic growth and market adjacencies;
- Exiting the businesses that you cannot fix or where you are not the best owner

2x2 Performance Matrix



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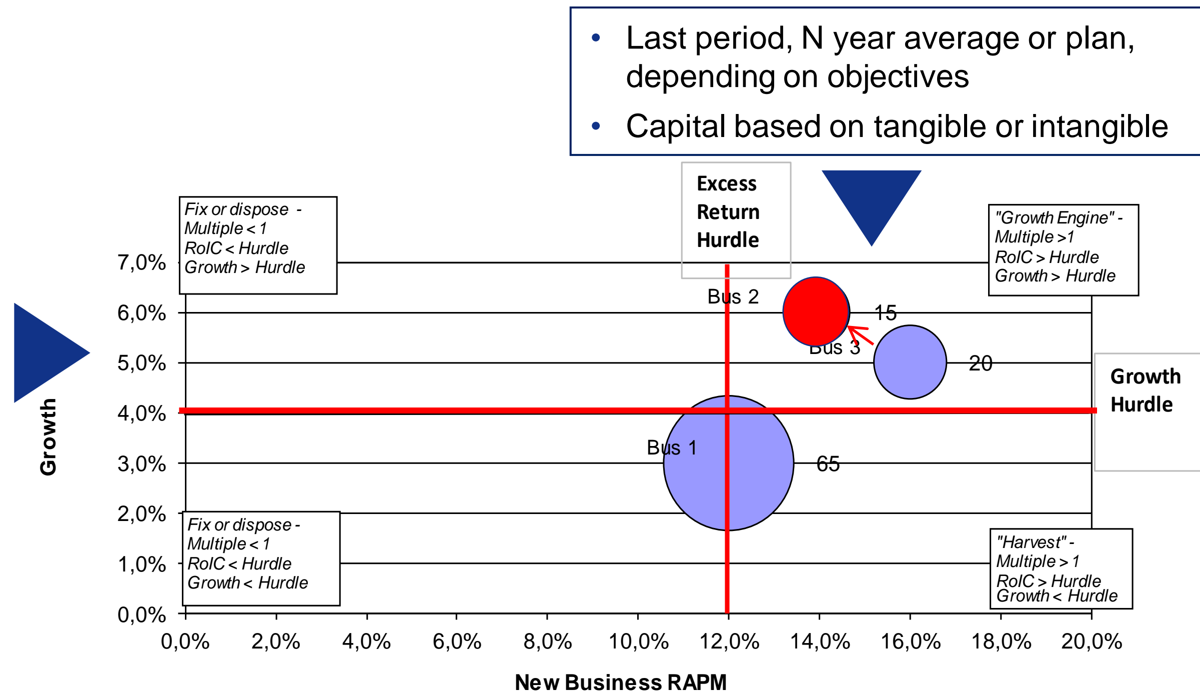
Capital allocation: Optimize business portfolio

- Common rate such as a 0% or 5% *or*
- Hurdle rate equal to the business unit specific plan *or*
- relative to the average realized or expected growth rate for each market segment



- Set based on either an absolute hurdle or on a business unit specific hurdle rate
- Most firms use a common hurdle rate across their corporate portfolio ➡ inappropriate if the businesses have materially different CoC

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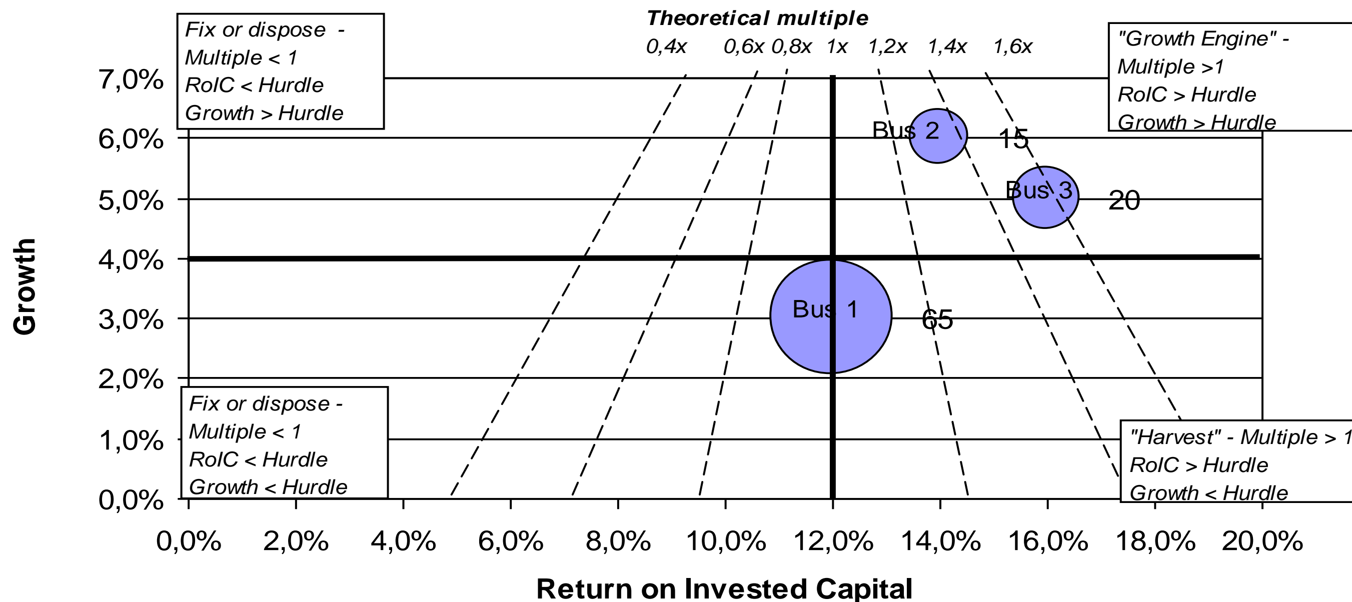
Capital allocation: Optimize business portfolio



From single period to value is important: value creation (and destruction) becomes multiplied

Steady state: iso-value lines are based on steady state assumptions for both growth and risk adjusted returns

- Applying a common multiple or even a common steady state assumption across all business units can be misleading

Alternative: non-steady state assumption, e.g. a high growth phase followed by lower growth, will imply a very different multiple

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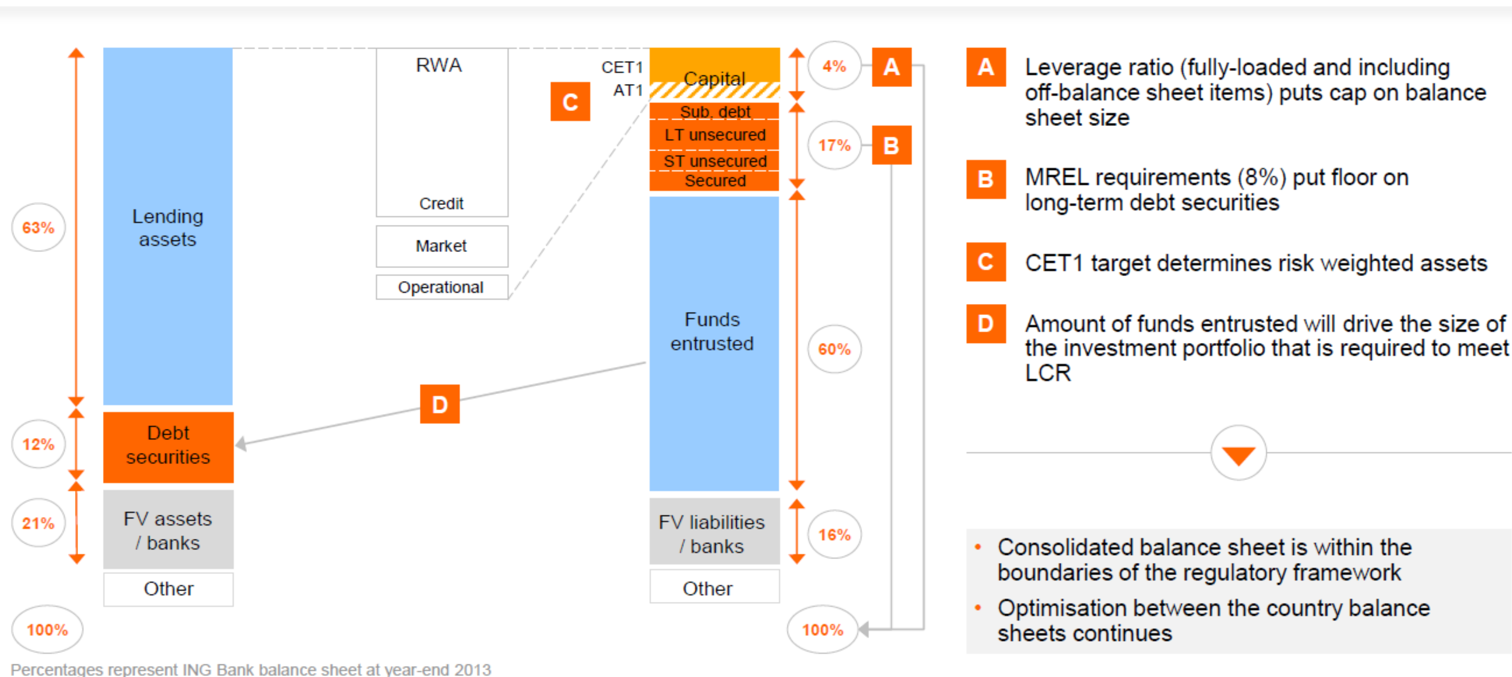
Capital allocation: Integrating constraints
Added Complexity – external constraints

Regulatory framework limits the degrees of freedom for balance sheet optimisation



Source: ING

Definitions:

•MREL: minimum required eligible liabilities

•CET1: common equity counting as tier 1 capital

•LCR: liquidity coverage ratio

Additional constraints:

•Rating agencies

•Management's risk appetite

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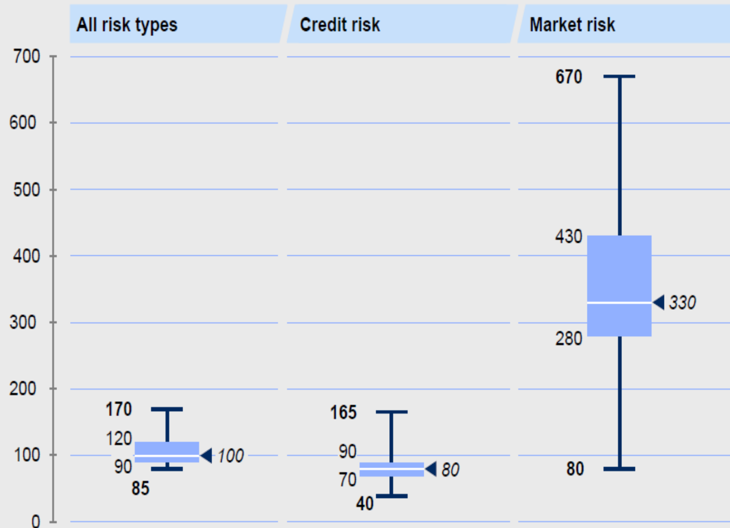
Capital allocation: Integrating constraints
Added Complexity – constraints never line up

Example disclosure



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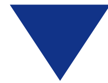
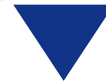
Capital allocation: Integrating constraints

Holistic solution approach	Marginal approach
➢ Define objective function: • Rewards • Risks ➢ Define constraints ➢ Define decision variables, e.g. „how much“ FICC, commercial loans, etc.	➢ Allocate capital ➢ Understand binding constraints and „marginal / average“ cost ➢ Reallocate ➢ Iterate





- ➢ <u>One shot optimum</u>
- ➢ No reference to current portfolio or skills
- ➢ See Puts (2012), Pokutta and Schmaltz (2012) and Kruger (2011) and Balasubrahmanyan, et al (2012)

- ➢ <u>Iterative “hill climbing”</u>
- ➢ Reorganizing current portfolio or skills

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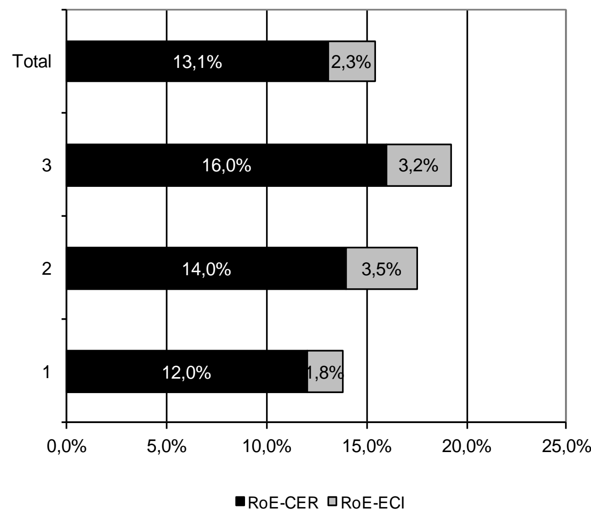
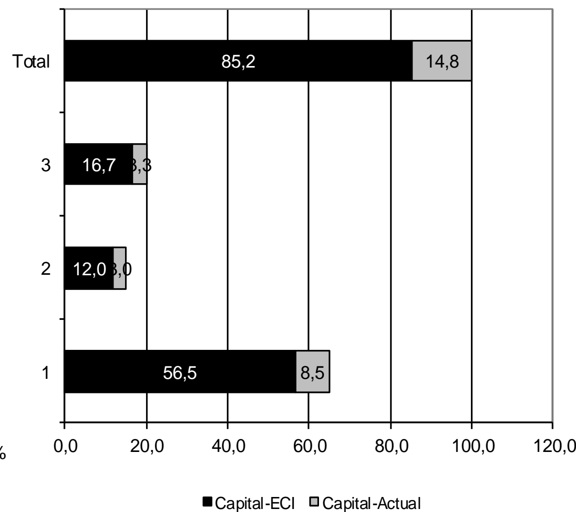
Capital allocation: Integrating constraints

Capital efficiency KPIs

- **ECI**: Economic Capital Intensity defines the minimum capital required to support the business from an economic perspective (e.g. PVRC/L or PVRC/A, PVRC/P)
- **CER**: Capital Efficiency Ratio defines the ratio of actual, invested capital to the minimum required capital over the lifetime of the portfolio (CER = Actual Capital / PVRC ≥ 1)





Economic Capital Intensity	
Business 1	2,85%
Business 2	4,00%
Business 3	2,50%
Total	2,95%
Capital Efficiency Ratio	
Business 1	115%
Business 2	125%
Business 3	120%
Total	118%
Invested Capital	
Business 1	65
Business 2	15
Business 3	20
Total	100

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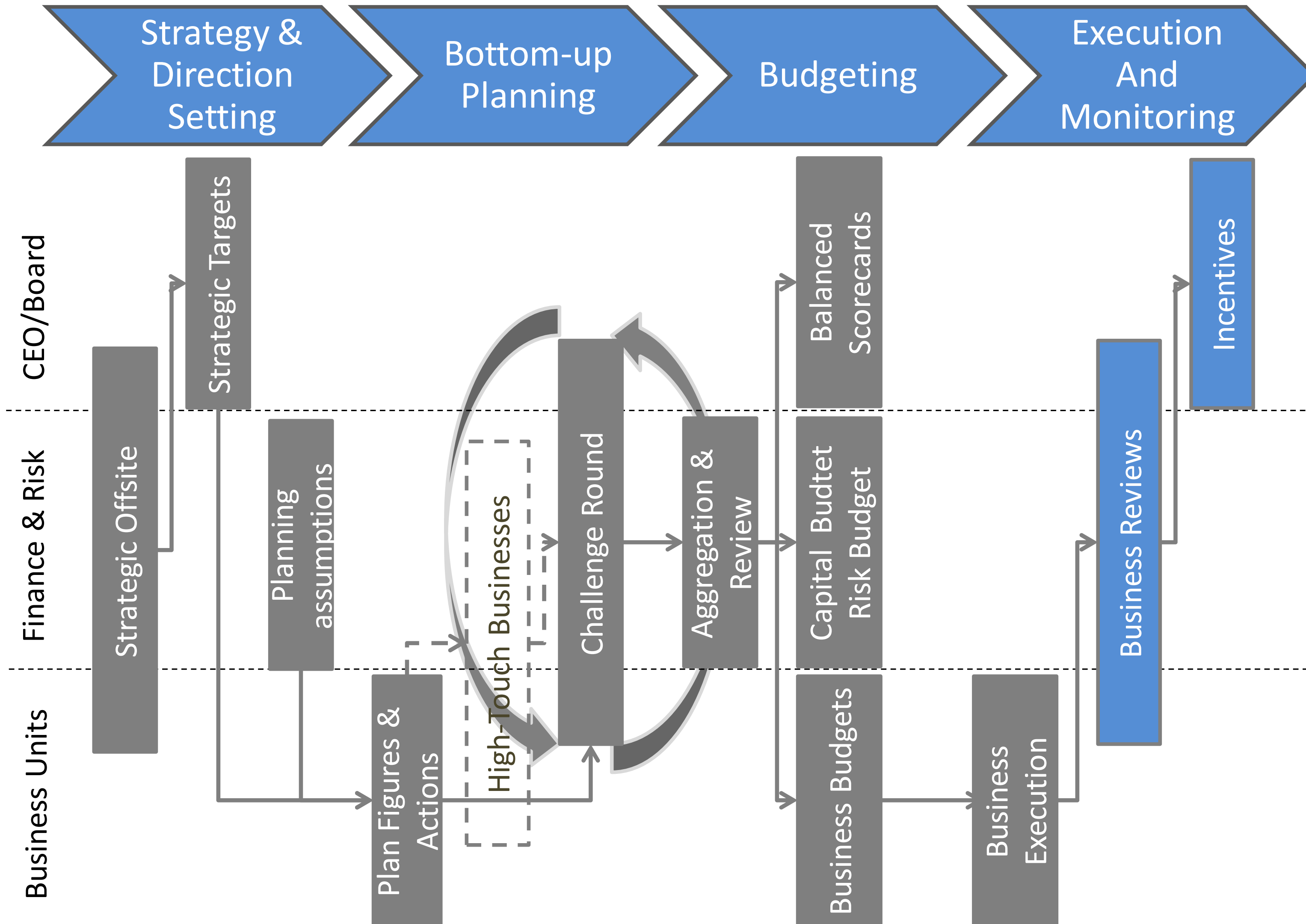
Strategic planning: Process and Roles



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Improving the strategic planning process

Arguably good at negotiating targets and defining budgets…

- Anything but strategic
- Significant investment with limited returns
- Strategic inertia caused by the process, an internal focus and lack of challenge
- Limited focus on value, more focus on revenues, growth and earnings

- Focus on value,
- Separate strategy from tactical decisions, bringing in an external view
- Make the firm‘s strategy explicit and communicate it
- Resource and structure the Finance Function appropriately

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Improving the strategic planning process

Focus on Value

- *Explicitly value your company and its businesses.* Conduct a sum of parts valuation and make the excess returns (or losses) by incremental investments transparent *before* you allocate capital. “Explain” your actual share valuation to reinforce the message;
- *Make value the “headline” and the “baseline” in your plan and Balanced Scorecards.* Link value creation, invested capital, and return on capital and drill down to the operating drivers, including profitable growth, operating efficiency, underwriting effectiveness and capital efficiency;
- *Be explicit about where capital is generated, where that capital is invested and at what returns*. Do not let momentum carry underperforming businesses forward;
- *Run your planning dialog as if it was an internal “Capital Markets Day”,* businesses compete for investment and the corporate a well-informed investor eager to invest but just as eager to return capital if returns are not compelling.

Strategy shortchanged by tactics

Golsby (2011) – every leader has two jobs, *“to run the operation as it exists today, and to rethink the organization so that it can survive and thrive into the future. These are two distinct jobs. The budgetary and business planning system helps the organization manage today’s operations... The strategic system… confronts an uncertain, further-off future.”*

- *Narrow focus of bottom-up planning process and Monthly Business Reviews on near term performance*. Make both processes shorter, “lighter”, more streamlined and more focused on operating performance.
- *Separate strategic discussions from the budgeting process and the MBRs*. Earmark and table issues during the MBRs, discuss at length during a separate strategy discussion, along with strategic investments and capital allocation over a 3-5 year horizon.
- *Emphasizing an outside-in view*, by benchmarking your company against the market and competitors in terms of strategies, actions and valuations.

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Improving the strategic planning process

Make your strategy and objectives explicit

Why make strategy and objectives explicit?

There are four reasons why you should explicitly formulate and communicate the firm's strategy and financial objectives:

Enable leadership: Good leaders communicate the direction they want to go and communicate it often. If you can't tell people where you want to go, don't be surprised if they don't follow you.

From vision to reality: Knowing where you are going is only half the battle; the other half is getting there. Wicks (2010) comments that, "*A poor strategy can't be expected to produce good results. But is a good strategy enough...? … the ability to implement strategy is more important … suggesting that more time and effort must be devoted to making a strategic decision work than to making the perfect strategic decision."*

Maintain operational focus: A well-defined and communicated strategy adds value by sharpening focus. Collins et al (2008) suggest that, *"In an astonishing number of organizations, executives, frontline employees and all those in between are frustrated because no clear strategy exists for the company or its lines of business."* According to Collins, et al, the frustration arises when projects are shut down after significant investment because they "don't fit strategy" or when there are mixed messages sent with respect to the attractiveness of a market segment or product.

Combat the conglomerate discount: Many large banks and insurers suffer from a "conglomerate discount", with the intrinsic, sum-of-parts value higher than the firm's market capitalization. A discount can arise from many sources, for example due to complexity, a lack of apparent synergies, increased costs in the form of additional management layers, limited transparency and/or a reduced emphasis on shareholder value.

How to make it explicit?

From a hard-nosed analyst perspective, *management should at a minimum make explicit*

- *What businesses and markets are important, today and in the future as "strategic bets"*;
- *What makes your company uniquely positioned to extract value from these markets and from the sum of the portfolio;*
- *Expectations with respect to earnings growth, return on capital, cash distributions and cash reinvested by segment* (e.g. a clearly communicated Capital Budget).

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Improving the strategic planning process

Resource Finance appropriately

Putting the “value” back into “value management” requires a significant investment in experienced Finance personnel

- To conduct and analyze the sum-of-parts valuation, in-depth peer comparisons and industry benchmarking;
- To play the “buy-side analyst”, covering and challenging the businesses from a tactical and strategic perspective;
- To make recommendations with regards to the Capital Budget and its allocation across strategic initiatives and operating businesses;
- To negotiate short-term performance targets and conduct regular Business Reviews;
- To run the Strategic Planning and Business Review processes

Best practices suggest a *dedicated team to* undertake these activities. The team should

- *Be separate and distinct from financial and management reporting* or other activities to ensure that the team does not focus on numbers generation, but rather on driving impact;
- *Parallel the way that the business is segmented or organized* in order to ensure alignment on strategic and operational discussions;
- *Have sufficient “segment specialists”*, e.g. for LH or distribution, which cut across the organization in order to ensure that technical sectoral themes and challenges are appropriately addressed;
- *Staffed predominantly with senior executives with a strong business and financial background, supported by talented, high-potential associates*;
- *Combining analytical and problem solving skills with excellent communication and persuasion skills* and including technical specialists where necessary, e.g. focusing on segments, expense management and investment controlling, etc.

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Business Reviews

Quarterly- /Monthly-Business Reviews (QBRs, MBRs)

Objectives. The primary objectives of periodic Business Reviews (BRs) are to

- Manage expectations (especially of the "shareholders", the corporate centre) with regards to current operating performance and outlook;
- Assess the progress of key strategic initiatives and transversal projects;
- Discuss emerging issues and course corrections in response;
- Exchange ideas on Group strategy (quarterly).

The objective of the Business Review is *not* to solve issues during the meeting, nor is it to engage in operational decision making: business unit management should have already identified the relevant issues and developed proposals for resolution. If they have not, or if they come to the Business Review unprepared, then you have the wrong management in place.

Information. Monthly Business Reviews focus on understanding the operating performance of the business, the forecast for the year and the position vis-a-vis plan. Quarterly Business Reviews include a discussion on strategy and external benchmarking.

More important than tables and figures, the BR should focus on the MD&A (Management Discussion and Analysis) which summarizes the performance and actions, trends, issues and risks to achieving the forecast and plan. Information to support the Business Review should include value- and operating-KPIs relevant for the business.

- Including a comparison – actual, plan and updated forecast;
- Granular enough to indicate support a root cause analysis;
- Presented in a common format (across businesses where appropriate), consistent with the format used in planning;
- Calculated consistently, using the same data source and approaches with sufficient controls in place to ensure quality;

Businesses should *not* be allowed to introduce alternative metrics or use data sources which are not reconciled and suitably controlled.

Process and ownership: The Business Review is "owned" by the business unit. This "ownership" needs to be demonstrated: participation is mandatory, management is responsible to ensure that the relevant issues and actions are discussed and management is prepared to be challenged on current performance, outlook and actions. The materials for the Business Review should be provided in advance of the meeting, allowing sufficient time for questions to be raised beforehand.

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Incentive systems for banks and insurers

Balanced Scorecards

Balanced Scorecards include a combination of financial and non-financial measures used to evaluate performance. Scorecard measures should align with and reinforce the strategic and tactical objectives of the firm and need to include measures of short-term business results as well as longer-term shareholder value, including value management KPIs such as risk-adjusted returns / New Business RAPMs, profitable growth, measures of cost efficiency, underwriting effectiveness and capital efficiency.

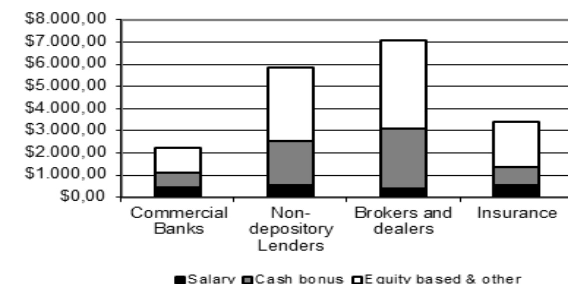
SMART targets

Scorecard targets should be "SMART", e.g. Specific, Measurable, Attainable, Realistic and Time-related. They should balance individual objectives with the performance of the entire company, especially in situations where cooperation and alignment between activities is required to achieve the corporate objectives. There are three common criticisms of SMART Balanced Scorecards.

- First, they often include too many measures. A general rule of thumb is that any more than 3-5 measures dilutes focus, reduces autonomy in deciding how to achieve the objectives and may lead to evaluations which are "on average" meeting expectations but missing the truly important points.
- Second, there is too high of an emphasis on measurable targets and not enough on judgment; this may lead managers to optimize the specific target, or to "manage" the numbers, at the expense of common sense.
- Finally, even a series of well-designed short-term targets may be insufficient to fully align managers' and shareholders' interests.

Alignment with shareholder interests – generic considerations

SMART scorecards are part of the solution; the second is a properly designed incentive structure comprising base salary, cash or short-term incentives and longer-term deferred compensation. Especially effective are deferred, equity-based incentives by converting managers into partial owners. The deferral period should be sufficient to capture the consequences of actions taken today. Measures tied to short-term results are used to fund the annual, cash incentive plan whereas measures tied to shareholder value drive the longer-term, deferred compensation plan.



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Incentive systems for banks and insurers

Alignment with stakeholder interests: preventing excessive risk taking

Given limited liability, both managers and shareholders may have an incentive to take higher risks, a "heads I win, tails you lose" bet which increases the value to both shareholders and managers at the expense of depositors, policy holders, bond holders and potentially taxpayers. This behavior can go unnoticed during bull markets as the risk profile may be complex and managers have more information. Incentive structures in financial services firms not only need to align management and shareholder interests, but also the interests of other stakeholders.

Incentives sshould have "hold-back and claw-back" features. Small (2013), "*… institutions should be required to hold back a substantial share – perhaps 20% – of the compensation of employees who can have a meaningful impact on the survival of the firm." The holdback would be forfeited if the firm's solvency ratio dropped below a specific threshold, set well in excess of minimum regulatory solvency requirements; beyond forfeiture, the payout would not depend on the firm's performance, eliminating any upside potential, and could not be hedged by the manager. The deferral period, for example 5 years, should be long enough for the impact of the manager's decisions to be clear. Other recommendations include setting caps on the ratio between incentive compensation and the base salary.*

Implementation requires the identification of *"material risk takers"*, defined as individuals that through decisions or influence can expose the organization to material risk. Typically included in the list are traders and underwriters as well as those who design and implement the models used.

It is necessary to use judgment in evaluating performance: results are not all that count, but also how the results are achieved. An appropriate governance structure should be used to design and implement incentive compensation structures as well as to monitor and evaluate performance. This governance structure should balance quantitative and qualitative aspects and seek input from the second- and third-line of defense, including risk, compliance and audit.

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Contents

1. Strategic Planning & Capital allocation
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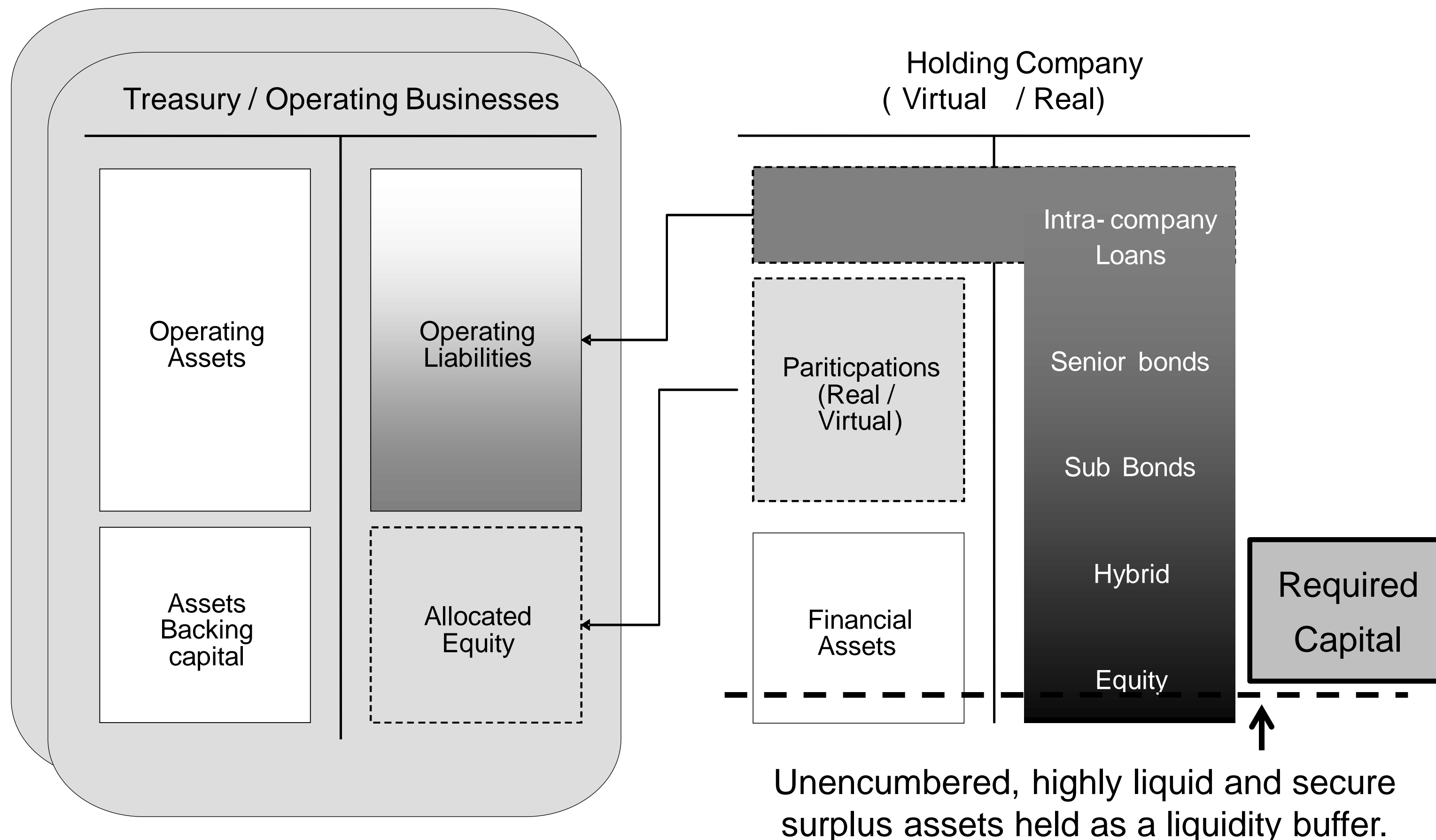
Balance Sheet Management
Two levels for managing capital and leverage

Capital funding structure

Managing operating leverage and liquidity to create operating income

Manage the firm's rating and solvency position, financial funding structure and leverage



Unencumbered, highly liquid and secure surplus assets held as a liquidity buffer.

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Balance Sheet Management

Rules of the Game (1/2)

Capital and leverage are Group resources managed on behalf of shareholders within the constraints imposed by regulators and rating agencies. In order to make the most out of these resources,

Economic vs external capital definitions: The group distinguishes between *external capital*, defined and used by regulators and rating agencies, and *economic capital*. Economic capital, defined as the economic value invested in the operating business which can in principle be returned to shareholders, is the basis for strategic capital allocation decisions and for evaluating the value created by a business; externally defined capital measures and requirements represent constraints to capital and leverage decisions.

Optimal capital structure based on regulatory and rating agency definitions,

1) The firm is committed to always meeting minimum regulatory capital requirements for the group and for each local operating entities and holds capital in excess of the minimum regulatory requirements in each balance sheet, with the buffer determined by the volatility of local requirements;
2) Management sets a target rating for the Group based on its business model, management's *risk appetite and peer rating comparison*. This target rating implicitly defines its target capital structure as well as solvency and leverage ranges.
3) The firm periodically reviews its rating aspiration and can deviate from the target rating, solvency and leverage ratios in the short-run (e.g. due to a strategic acquisition or an unexpected loss), but manages its dividend policy, retained earnings and risk profile so as to bring it back within the target ranges over time.

Leverage capacity belongs to the group and is managed as a group resource.

1) As part of the Capital Budgeting process, leverage capacity is first split between *group financial leverage*, used to optimize the group's weighted average cost of capital, and *operational leverage*, allocated to the businesses to finance operating income.
2) The group optimizes its *financial leverage* within its target rating aspiration and regulatory constraints
   a) Utilizing significantly its issuance capacity for *qualifying hybrid capital* (a substitute for shareholder equity) and *senior unsecured bonds* (as double leverage to recapture diversification benefits across the group;
   b) However, some leverage capacity is kept in reserve to meet contingencies and consistent with its funding liquidity risk appetite;
   c) *Only the group can raise equity and financial leverage in the form of hybrid or senior, unsecured bonds*.
3) *Operating leverage is allocated to the subsidiaries and business units* in a manner consistent with their business model and strategic plans. *Operating leverage* may include intra-company loans, commercial paper programs, structured note and asset backed securities issuance capacity, inter-bank borrowing, collateralized borrowing through repurchase agreements, securities lending and borrowing arrangements, etc.

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Balance Sheet Management

Rules of the Game (2/2)

Managing economic capital: Excess capital and cash resources belong to the group and are managed as a group resource.

1) Economic solvency targets are set by the Group based on its risk appetite and form a binding constraint at the Group level. Economic solvency targets are generally not set for operating businesses or, if they are, they are not strictly binding in order to reduce the constraints on capital allocation, cash management and capital fungability.
2) In order to retain flexibility, the firm *keeps as much of the group's excess capital at the holding company level in a liquid, unencumbered and transferable form*.
3) Subsidiaries and sub-holding companies are physically capitalized to the *minimum regulatory capital requirements* (or rating agency requirements, if an external rating is needed) *plus a prudent buffer* to cover the possible volatility in local solvency ratios.
4) The number of subsidiaries with an external public rating are kept to a minimum in order to increase capital flexibility across the Group; externally rated subsidiaries should be positioned as strategic so as to reduce any limitations on capital fungibility;
5) Most subsidiaries' growth is financed *through retained earnings*. If funding for planned growth is in excess of retained earnings, it is funded by capital allocated from the group as part of the Capital Budgeting and Allocation process.
6) All earnings in excess of those required for planned growth *are transferred to the group as a cash dividend*;

The group's ***dividend policy*** *is set through the Capital Budgeting process consistent* with the group's target solvency ratio, return on equity and planned growth.

1) In general, growth and regular dividends are funded out of retained earnings. Increased financial leverage deviating from the firm's target financing structure can be used to bridge gaps, but returning to the target structure over time.
2) The firm's regular dividend policy should be predictable and progressive. Any capital accumulated in excess of the target can be returned to shareholders through share repurchases or special dividends.

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Balance Sheet Management
An optimal financing structure?

The Theory: Modigliani-Miller

"I have a simple explanation [for the first Modigliani-Miller proposition]. It's after the ball game, and the pizza man comes up to Yogi Berra and he says, 'Yogi, how do you want me to cut this pizza, into quarters?' Yogi says, 'No, cut it into eight pieces, I'm feeling hungry tonight.' Now when I tell that story the usual reaction is, 'And you mean to say that they gave you a [Nobel] prize for that?'"

Miller's testimony in Glendale Federal Bank's lawsuit against the US government in 1997

Assumptions:

- There are no distortionary taxes
- Capital markets are efficient and frictionless
- No bankruptcy costs or frictional costs
- No information asymmetries between managers and other stakeholders
- Manager's incentives are aligned to those of both the debt and equity holders of the firm

The Reality

Factors affecting all corporations…	**Advantage goes to…**
Tax shield on interest payments	Debt
Differences in cost of borrowing, corporations vs individual shareholders	Debt
Frictional bankruptcy costs	Equity
Factors specifically affecting financial service firms …	**Advantage goes to…**
Subsidized debt through implicit or explicit guarantees	Debt
Minimum regulatory requirements and associated "buffers"	Equity
Asymmetric information, Principal-Agent problems, Moral Hazard and Signalling	Debt
Value created by customer liabilities	Debt
Double leverage to recapture diversification benefit	Debt
Overall advantage:	**Debt**

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Contents

1. Strategic Planning & Capital allocation
2. Balance Sheet Management
3. Asset / Liability Management
    a) On the returns
    b) On the risks
    c) Managing ALM
4. Risk Management

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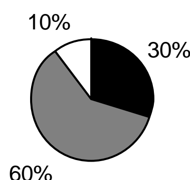
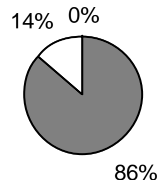
On the importance of financial market returns

Operating profit for stylized PC company

95% Combined Ratio



100% Combined Ratio



Assumptions:

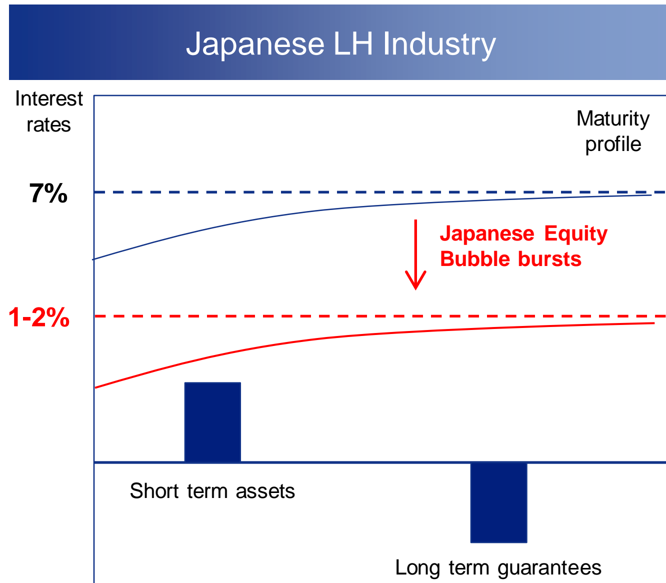
- Capital-premium intensity: 75%
- Average duration of the claims reserves and expenses: 3,5 years and 0,5 years
- Risk free rate of return: 3%
- Expected additional spread on reserve assets and capital: 0,5%
- Tax rate: 33%

Operating profit for LH company

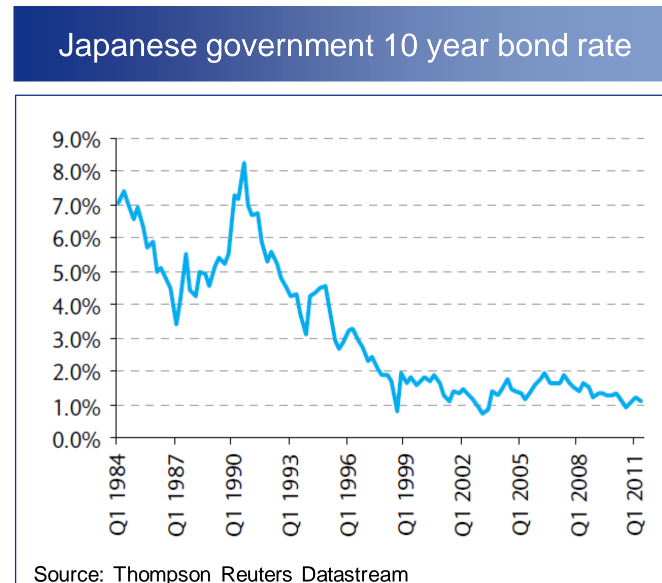
2013 Allianz LH operating profit details, EUR mn	LH Segment		Guaranteed savings & annuities		Protection & Health		Unit linked w/o guarantees	
	12M2012	12M2013	12M2012	12M2013	12M2012	12M2013	12M2012	12M2013
Loadings and fees	4293	4483	2772	3004	1210	1162	311	317
Investment margin	2913	2532	2825	2512	80	11	9	9
Technical margin	1208	1191	604	613	534	525	69	53
Expenses	-5430	-5525	-3890	-3970	-1316	-1287	-224	-269
Operating profit before DAC	2984	2681	2311	2159	508	411	165	110
Contribution, investment margin	**98%**	**94%**	**122%**	**116%**	**16%**	**3%**	**5%**	**8%**

Why is Asset / Liability Management important?
Case Study – Japanese Insurance Crisis

Japanese LH Industry



Japanese government 10 year bond rate



Overview of Japanese insurance insolvencies, 1997-2001

Insurer	Date	Assets (Yen bn)	Reduction in technical provisions	Guaranteed rate after reduction	Penalty for early withdrawal	Assistance by Policy Holder Protection Fund
Nissan	4.1997	1822	0%	2.75%	7 yrs	✓
Toho	6.1999	2190	10%	1.50%	8 yrs	✓
Dai-Hyaku	5.2000	1300	10%	1.00%	10 yrs	✓
Taisho	8.2000	154	10%	1.00%	9 yrs	✓
Chiyoda	10.2000	2233	10%	1.50%	10 yrs	--
Kyoei	10.2000	3725	8%	1.75%	8 yrs	--
Tokyo	3.2001	690	0%	2.60%	10 yrs	--
Taisei	11.2001	344	10%	1.05%	7 yrs	✓
Yamato	10.2008	194	10%	1.00%	10 yrs	✓

- Expense management
- Technical margins from life and critical illness
- New products, e.g. VA
- Fundamental shift in profit sources

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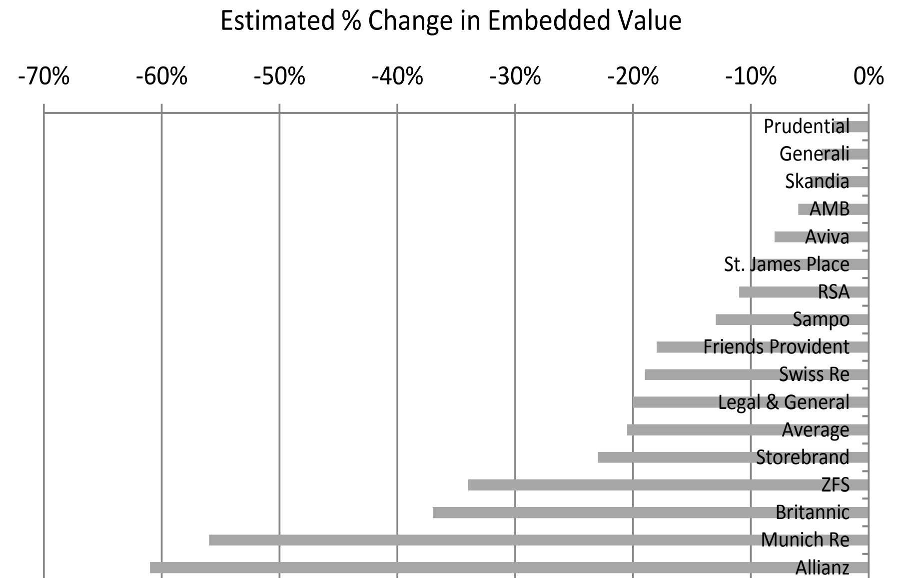
Why is Asset / Liability Management important?
Case Study – European Insurance Crisis 2001-02

Source: Bloomberg, Allianz analysis



Decline in surplus so material it forced several insurers to take consequent action,

- Cutting dividends (Aviva, ING, amongst others),
- Raising capital or injecting equity (Aegon, Ergo, Swiss Life, Winterthur and Zurich Financial Services, amongst others)
- Selling or putting non-core businesses into run-off (Mannheimer Leben, Royal Sun Alliance, Hannover Leben, Winterthur and Zurich, amongst others).

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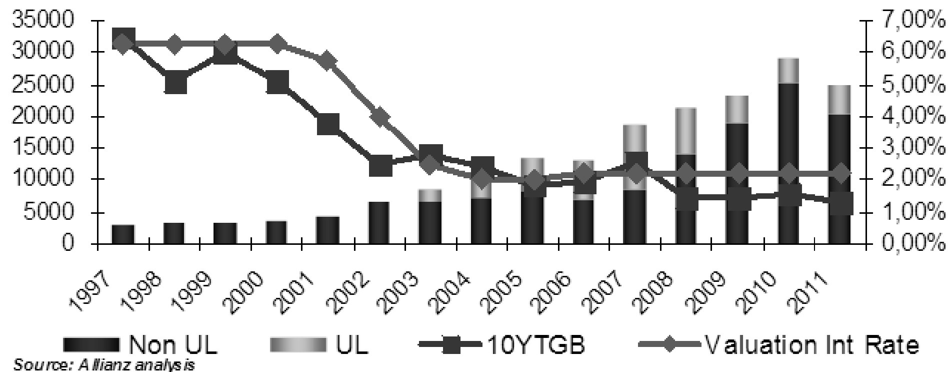
Why is Asset / Liability Management important?
Case Study: Taiwanese Insurance Market 2000-today

Taiwanese life market developments: Interest rates and new business mix



- New "legacy blocks" created, an earnings drag for incumbents
- Virtually all firms followed an "evergreen" strategy, growing their portfolio with more profitable new business to try to outrun the legacy block, possibly effective in Taiwan due to low historical penetration rates for savings and retirement products.
- Some changed their product mix, emphasizing products with lower interest rate sensitivity - unit linked products, structured notes and protection products. Encouraged by the FSC to build up additional sources of expense and mortality margins to offset the reinvestment drag on the back book.
- Regulators help. Financial Supervisory Commission (FSC) launched its "Bond Market Development Project", allow high-yield foreign-denominated bonds and eliminate restrictions on investing in locally issued, foreign-denominated Rimimbi bonds, domestic real estate limit increased from 19% to 30% in 2001, overseas investment limits increased to 45% in 2007, overseas real estate can be purchased in 2012, etc. The FSC also encouraged risk management by making contributions to the Insurance Guarantee Fund depend on risk management practices.
- Foreign-owned subsidiaries of groups such as ING, Prudential UK and AIG were sold to domestic firms. Why? Difference in accounting between local GAAP and international IFRS standards? Local players may have an advantage should low rates persist, especially if regulatory forbearance or resolution becomes necessary? Purchase a large interest rate option at a low premium due to their limited liability, where large international groups may have reputational concerns.

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Why is Asset / Liability Management important?
Typical responses to ALM failures

Allianz

- *The "denial" phase:* Wait it out and hope for "normal" rates to reemerge. Continue to offer attractive returns to existing and new policy holders. This phase typically lasts for the first 1-2 years.
- *The "evergreen" phase:* After the first year, lower the guarantees and focus on growth in an attempt to outrun the drag from the legacy block. Argue that it "lowers the average guarantee level", even though the lower average only masks the loss of the legacy block while putting even more cows in the barn, with the door still open, until the products are redesigned.
- *The "visit the casino" phase:* After a further 1-2 years, analysts become concerned. The next step is to change the asset / liability strategy in two important ways
  - Take more risk in an effort to pick up yield – invest in high yield loans, off-shore or non-domestic assets, illiquid or real assets (e.g. equities, hedge funds, etc.) and generally lower credit quality assets.
  - Increase the asset duration as much as possible, but only at yields above the average guarantee level. Encourage long-dated issuance by sovereigns and corporations, originate long-dated infrastructure and real estate loans, etc.
- *The "closing the barn door" phase:* By about the 3-4 year, it becomes clear "hope" may not be the best strategy. So, begin changing the products to take less structural risk, typically
  - Introduce products with lower structural exposure to interest rates, for example guarantees which reset.
  - Change the product mix to avoid rate risk altogether, e.g. to more unit linked products or structured notes and on more protection-oriented products such as mortality, long term care or health riders.
  - Encourage policy loans and policy surrenders or conversions to the "new" generation of products. (Note that conversions in particular are likely to generate policy holder protection and sales practice concerns).
- *The "Tighten the belt" phase:* At about the same time, focus on managing distribution and administration expenses in order to compensate for the shrinking "investment margin".
- *The "lobby" phase:* When it becomes apparent that low interest rates are likely to stay a problem, lobby for regulatory and / or accounting forbearance to lengthen the recovery period, for example by changing the technical interest rate, creating new reserves, etc.
- *The "denouement" phase.* As last resort, exit the market, merge with a stronger entity or suffer insolvency.

Why is Asset / Liability Management important?
Europe today

Market developements since the crisis

EURSTOXX50E

20Y Swap (EUR)

EUR-SWAP-VOL 10Y/10Y*

Corporates Spread A EUR (bp)

		current	Δ 1 week	Δ Qtd	Δ Ytd	5Y Low	5Y High
EUR	1Y	0.08%	0.00%	-0.06%	-0.06%	0.08%	2.01%
	5Y	0.30%	0.03%	-0.06%	-0.06%	0.27%	3.14%
	10Y	0.72%	0.04%	-0.11%	-0.11%	0.68%	3.74%
	20Y	1.13%	0.00%	-0.24%	-0.24%	1.11%	4.16%
	30Y	1.24%	-0.01%	-0.29%	-0.29%	1.21%	3.90%
USD	1Y	0.52%	0.02%	0.04%	0.04%	0.34%	0.93%
	5Y	1.74%	0.13%	-0.04%	-0.04%	0.73%	2.87%
	10Y	2.25%	0.14%	-0.07%	-0.07%	1.56%	4.05%
	20Y	2.57%	0.13%	-0.10%	-0.10%	2.17%	4.73%
	30Y	2.63%	0.12%	-0.13%	-0.13%	2.31%	4.83%

*absolute change

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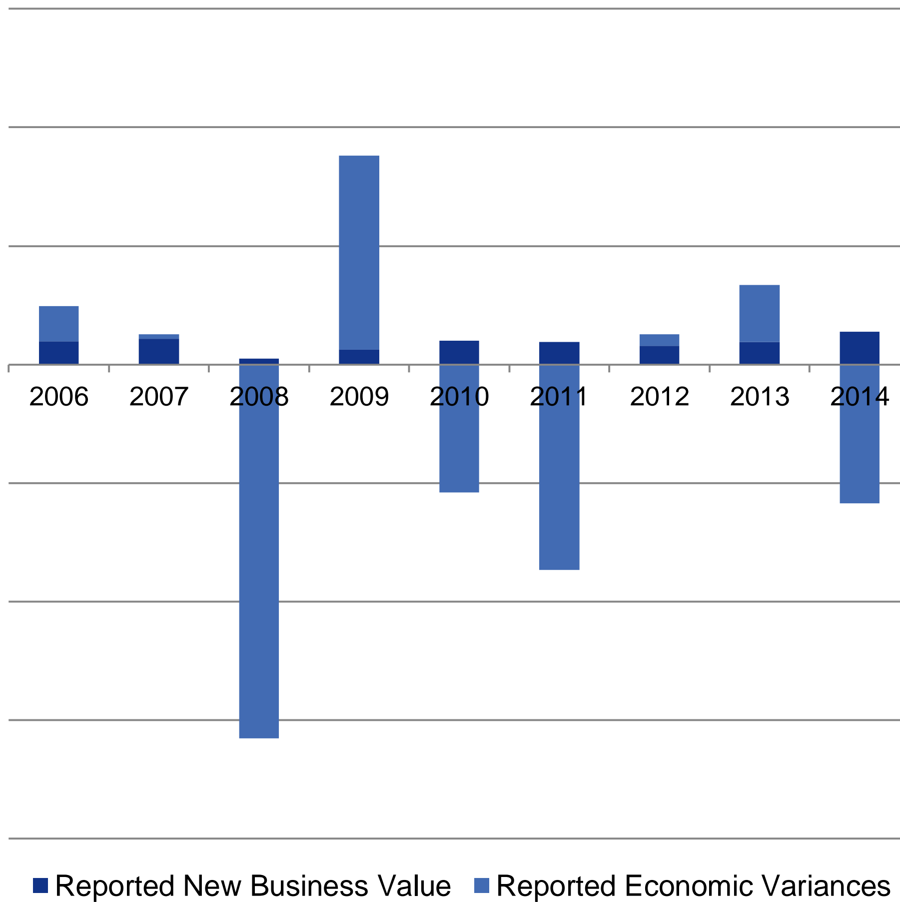
Allianz

Two defining forces: Markets and Regulation



What are potential sources of “Alpha” and does it exist?

Source of alpha	Description	Assessment	ALM	Trading	AM
Information	Better access to market-relevant data (faster, deeper, more comprehensive), more advanced trading algorithms or more advanced analysis of individual complex transactions such as private equity, infrastructure, etc., leading to better asset allocation, market timing and security selection	Challenging in efficient markets, especially after expenses	☒	??	??
Long term investing	Access to long term risk-, illiquidity- or complexity- premium Ability to avoid pro-cyclical investment bias Lowering transaction costs.	Access does not guarantee outperformance Prerequisites (stable funding, limited constraints, aligned incentives) are increasingly challenging No barriers to entry – if it is so valuable, why don’t funds emerge to capture the value?	?? LH only	☒	☒ Except specializ ed asset manager s (e.g. private equity, with lock-up periods)
Funding	Lower cost of funding, leading to higher return on levered equity	For banks, possibly subsidized by tax payers and deposit holders For PC insurers, a confusion between underwriting profitability and funding	?? PC only	??	☒
Customer franchise	Strong customer flows in market making businesses (capturing bid-offer spreads with low risk position), and in retail / wealth management segments (leading to higher fees and margins on investment solutions)	Possible for the strongest customer franchises but difficult to distinguish from proprietary position taking	☒	☑	??

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Why pursue financial risk in a financial services company?

Advantages of taking financial market risk on a bank or insurer's balance sheet	Disadvantages of taking financial market risk on a bank or insurer's balance sheet	Do Investors value "Alpha"
• *May be the only way to access profitable customer margins which cannot be replicated directly by shareholders;* • Lower transaction costs and investment expenses due to economies of scale in investment or financial market transactions; • Access to leverage at a lower cost.	• Possibility of structural non-hedgable financial risk positions, leading to negative alpha performance; • Double taxation, at the corporate level and on dividends / capital gains to shareholders; • The conglomerate discount, e.g. the sum of parts is greater than the share price, with financial market investments sharing the implicit discount; • Inherent opacity, exacerbating principle-agent problems, e.g. - Acceptance of too much risk / "heads I win, tails you lose" - Diversion of firm resources for management's own purposes • Shareholders' inability to influence tactical and strategic trading strategy	• Commercial banks and Insurers: Morgan Stanley values insurers stating that "We estimate a normalized return…, that is the return we expect to be achieved over the cycle, allowing for average… investment returns, using the formula Fair Value / Book Value = Normalized RoE / Cost of Capital." ➢ Common Practice of normalizing investment returns and eliminating "trading related" earnings. • Investment banks: "Because bankers are paid such big bonuses, they seek clever ways to report higher profits while concealing the true risks from their own management or shareholders." BBC News, 2011 ➢ Since 2008, analysts are beginning to question investment banks "out-performance"

Asset / Liability Management

Rules of the Game

Insurers take an open mismatch position, either by choice or by product design. These mismatch positions contribute significantly to the earnings and risk of the firm but generally not to their valuation multiple. The "rules of the game" for managing the mismatch result are straightforward:

1. The Group needs to put in place the organizational prerequisites to manage asset / liability mismatch risk
   a. A management organization, including a governance body (the ALCO) and line management (the ALM unit, ALM process manager and selected business units) with explicit limits and delegated authorities;
   b. A risk and performance measurement framework focusing on both accounting earnings as well as market consistent or fair values of the mismatch portfolio
   c. A clear separation of product contribution from the mismatch result to provide the right incentives to product managers and the ALM function. Funds Transfer Pricing and New Business RAPM frameworks are a prerequisite.
2. A value-oriented asset / liability management strategy.
   a. Effective asset / liability management begins with product design. There is no investment or hedging strategy which can circumvent the potential drag of a poorly designed product.
      i. Products should be designed to minimize non-hedgable financial risk, allowing the possibility to manage the mismatch result in principle, e.g. reduce durations below the longest maturity available bonds and swaps, reduce the complexity of embedded options and guarantees, eliminate basis risk and behavioral risk, etc.
      ii. If non-hedgable financial risk is necessary to participate in a specific profit pool, evaluate the trade-offs objectively and limit the total exposure.
   b. When managing the ALM mismatch result through investment and derivative overlay strategies, always keep in mind that
      i. "Mean reversion" or a "normal level of rates" are just assumptions – they are not physical laws comparable to Planck's constant or gravity and are heavily influenced by monetary policy.
      ii. Even if expected to generate accounting earnings, ALM mismatch positions are generally not valued at a premium by shareholders and can represent a significant risk in terms of value;
      iii. As such, they need to be kept within well-defined limits and managed from both an accounting and a value perspective.

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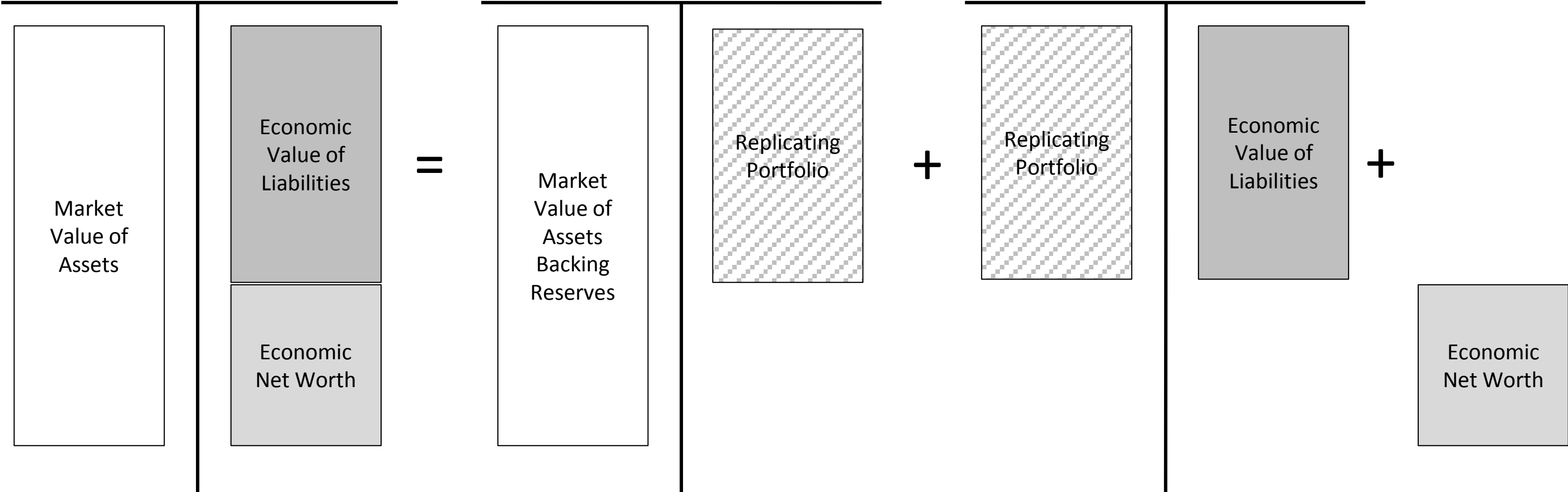
Asset / Liability Management and the Replicating Portfolio

Insurance Company | Asset/Liability Management | Technical Insurance Center



Performance metrics

MtM development of the net A/L portfolio

Investment income

Total investment returns

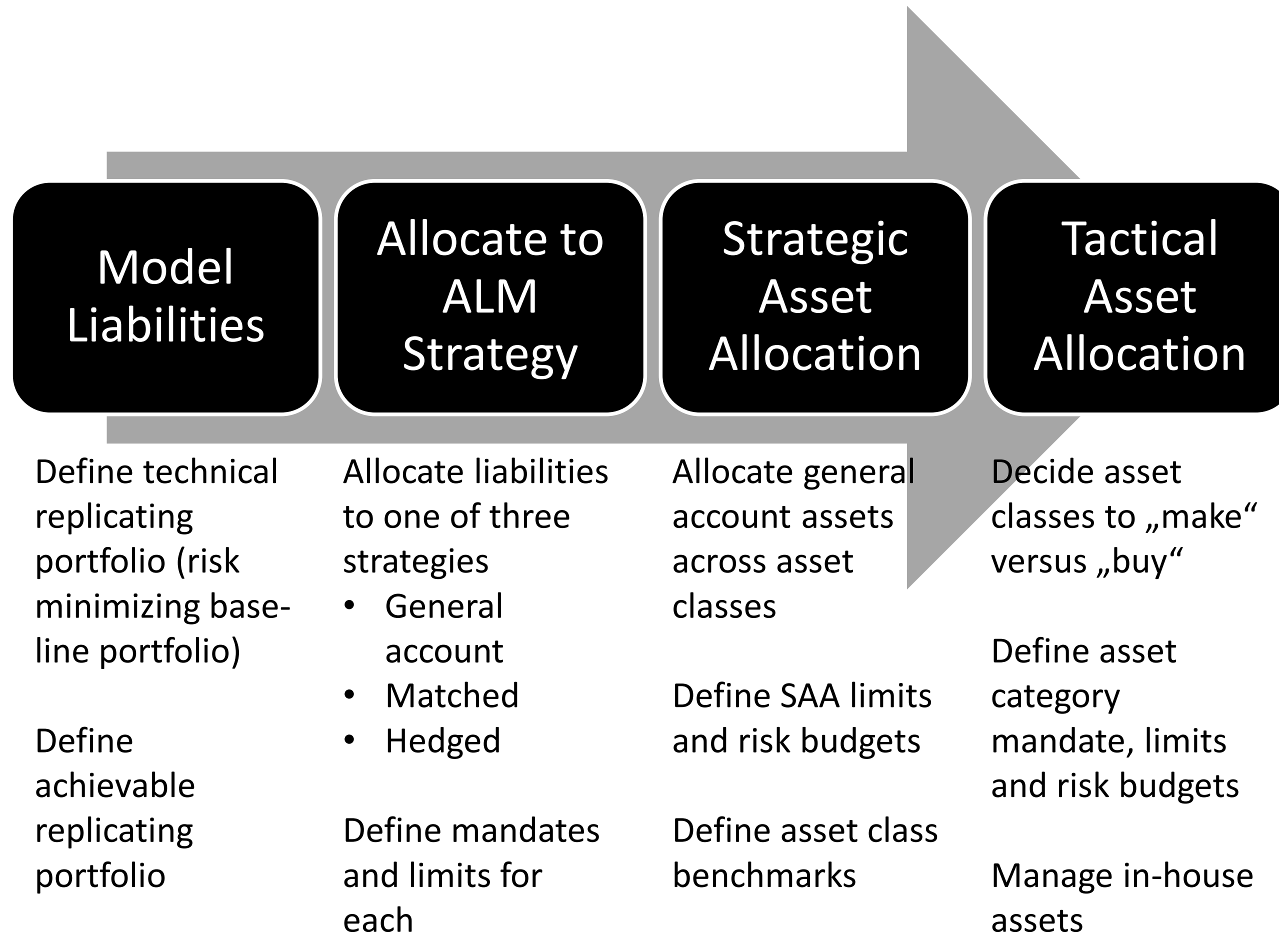
Risk adjusted u/w margin

- PC New Business RAPM
- LH New Business RAPM

Source: Adapted from Hancock, et al. (2001)

Asset / Liability Management

Insurer Investment value chain



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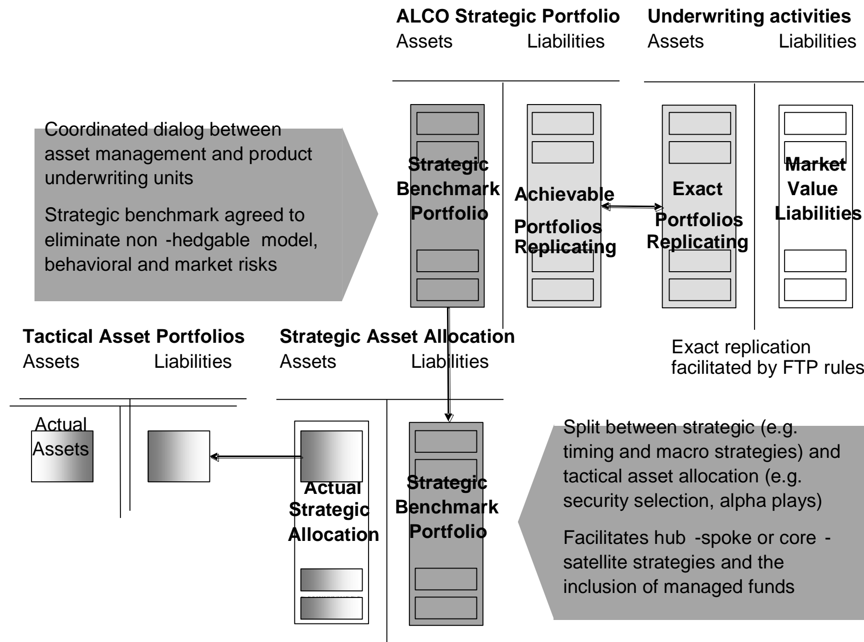
Asset / Liability Management for insurers
Strategic versus tactical allocations

A/LM and the Replicating Portfolio



Why separate strategic and tactical asset allocation?

Primary reasons are:

- Strategic asset allocation has a more fundamental impact on long term investment results,
- To build the specific skills for each tactical asset class or strategy in order generate returns sufficient to compensate for the higher cost of active management, and
- To implement an overall investment management approach compatible with both in-house investing and the use of third party asset managers.

What is the relative importance of SAA?

Strategic allocation decisions tend to have a much higher impact on realized portfolio returns than do security selection decisions (Brinson, et al,1986):

- Most of the difference in investment performance is driven by strategic asset allocation across asset classes and not by security selection within a class; and
- The returns on the market indices were superior to those of the managed asset classes.
- In other words, security selection or tactical asset management may not generate alpha sufficient to compensate for the costs of active management.

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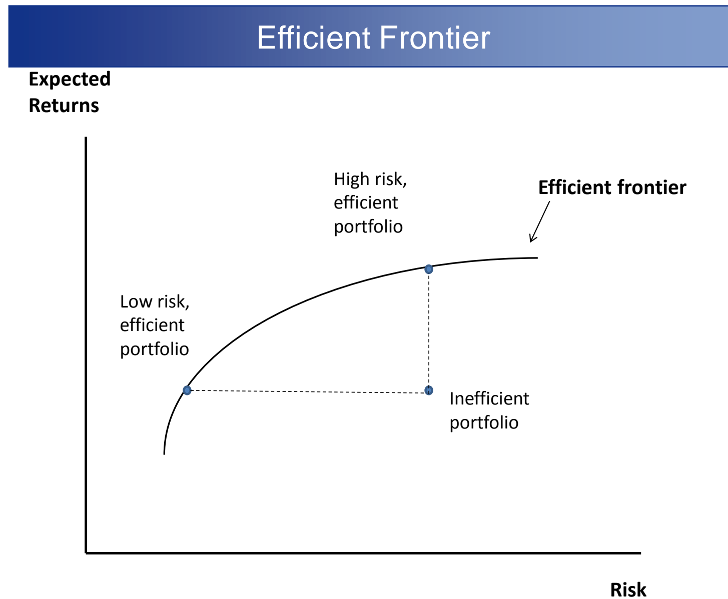
Insurance ALM: Allocation of Capital (1/2)

Efficient Frontier



Portfolio optimization / efficient frontier approaches used in practice

	Objective function	Controls variables	Risk Measures	Constraints	Asset returns
Markowitz Mean-Variance	Maximize single period expected total returns	Portfolio weights (constants)	Portfolio return variance		Normally distributed
Common Variations	• Multi-period returns • Accounting returns, operating profit	Portfolio response functions for multi-period dynamic problems	• Risk relative to an investment- and liability-benchmarks • Portfolio short-fall risk and other downside risk measures • Capital measures – internal model, regulatory, rating agency	•No short sales •Reserve coverage ratios •Liquidity ratios •Solvency ratios •Duration and equity sensitivities	• Asymmetric returns for derivatives, liabilities • Mean reverting equity and interest rate processes • Different scenarios (e.g. “bull market”, “bear market”

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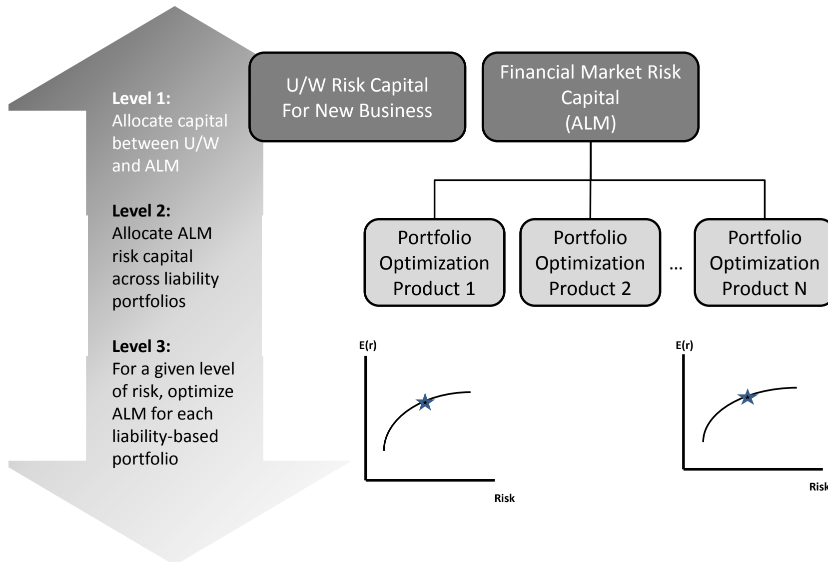
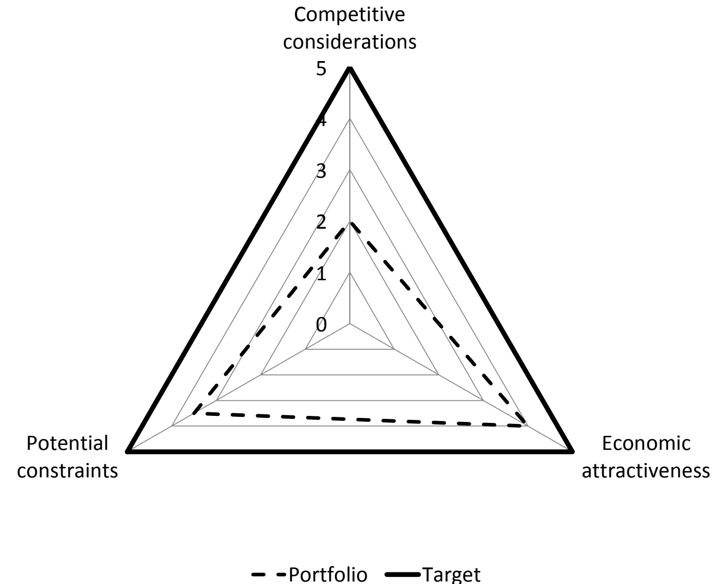
Insurance ALM: Allocation of Capital (2/2)

Optimizing financial market risk

Allocating financial risk capital to general account portfolios



Factors affecting investment capital allocation



** Qualitative / quantitative criteria defined for each dimension*

Strategy for general account

- Risk capital allocated between supporting legacy and new business. If capital is tight, new business can only be funded if the risk in the legacy block is reduced.
- When allocating capital between asset classes within the general account (e.g. shareholder at risk)
  - Duration mismatch risk should be eliminated through product design and effective A/L matching
  - Long-dated liabilities require long-dated assets – credit and credit spread risk is unavoidable
  - Priority is stable margin; capital can be allocated to real assets only if available after structural mismatch, credit and credit spread risk is covered.

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FTP for Insurers

Objectives

Funds Transfer Pricing (FTP) systems and associated replicating portfolios are the fundamental building blocks of effective asset / liability management. They are used to separate underwriting decisions from financial market risk taking decisions. The FTP for a specific product gives two, related results:

- It defines the arms-length transfer price of financial risk from the areas responsible for the products to the AL portfolio.
- It implicitly or explicitly defines the replicating portfolio, or the portfolio of capital market transactions which can be used to represent the product's financial market risk in the AL portfolio.

Principles

Given the goal of separating underwriting from financing or investment decisions, an FTP should satisfy several principles:

- First, the FTP should be calculated using actual market prices;
- Second, the FTP should reflect the specific financial cash flow characteristics of the product as far as possible.
- Third, it should reflect the marginal cost of hedging financial risks for a highly rated financial institution in liquid, wholesale markets in the same currency as the underlying product;
- Fourth, the transfer price should in principle be able to "purchase" the replicating portfolio or hedging cash flows which neutralizes the product's financial market risk.
- Finally, because it is used to calculate underwriting product contributions and will influence management decisions, the FTP should be set in a transparent and consistent manner.

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FTP for Insurers - Approaches

Approach	Description	Application
Direct, no-arbitrage approach	Define the set of replicating instruments by direct observation such that, when deducted from the underlying position, the result is a constant margin assuming no underwriting risk. Delivers the FTP, gross product margin* and replicating portfolio simultaneously.	Products with fixed, best estimate cash flows, e.g. • Term deposits and loans • PC best estimate claims
Simultaneous margin and replicating portfolio by minimizing hedge error variance	Use numerical techniques to find the set of replicating instruments and constant product margin which, when deducted from the underlying position, minimizes the hedge error variance. Delivers the FTP, gross product margin* and replicating portfolio simultaneously.	Non-maturing deposits
Option Adjusted valuation combined with portfolio replication	Use option pricing theory to value the embedded options and guarantees. The FTP, gross product margin* are calculated directly. Calculate as a second step the replicating portfolio which best matches the value and risk characteristics of the underlying portfolio.	Products with complex embedded optionality, e.g. • Pre-payable loans • LH guaranteed savings and retirement products

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FTP for Insurers - Approaches

Illustrative FTP & Margin Calculations for Simple Banking Products

Product	Gross underwriting margin*	ALM component**
5 year floating rate loan paying 6 month Libor + 75 bps, no prepayment possible	75 bps	6 month Libor***
5 year fixed rate loan paying 5 year swap rate + 75 bps, no prepayment possible	75 bps	5 year swap rate***
6 month term deposit paying Libor – 50 bps, no early withdrawal possible	50 bps	6 month Libor
6 month term deposit paying Prime – 50 bps, no early withdrawal possible	50 bps + cost of basis swap, Libor-prime	6 month Libor

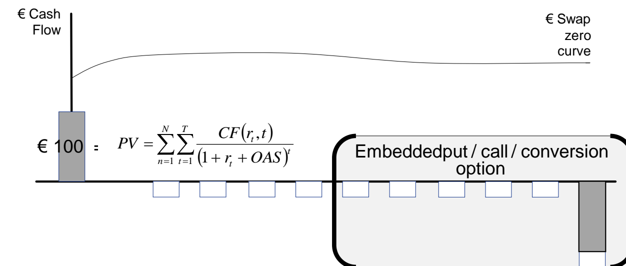
** Gross margin, without deduction of expected loan losses, expenses and cost of underwriting capital covering unexpected loan losses*

*** Funds transfer pricing framework based on interbank and swap rates excluding any own credit, term funding or other adjustment*

**** 5 year term funding premium could be added to FTP rate if the cost of term funding is explicitly recognized, reducing the loan margin.*

Illustration of Option Adjusted Spread / NBM Calculations

Option Adjusted Funding Spread is defined as the effective spread over-/under Libor for a financing alternative. It equates the present value of the cash received against the present value of future obligations, including any embedded options valued using financial market techniques



The formal definition of the option adjusted spread is given by the following equation:

$$OAS \left| PV = \frac{1}{N} \sum_{n=1}^{N} \sum_{t=1}^{T} \frac{CF(r_t^n, t)}{\prod_{s=1}^{t} \left(1 + r_s^n + OAS\right)} \right.$$

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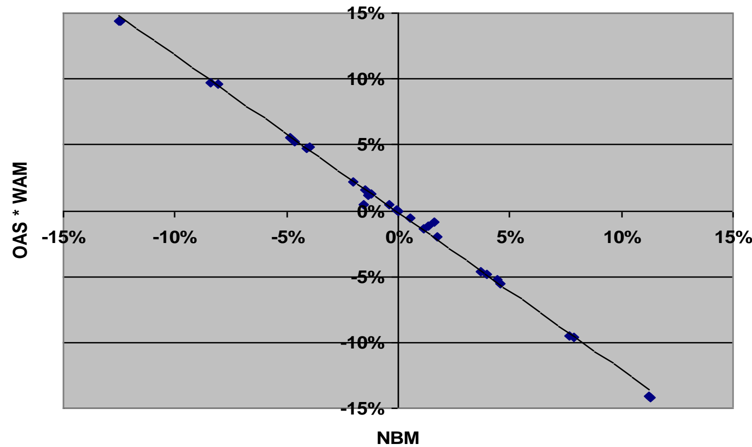
FTP for Insurers - Approaches

Comparison of OAS and NBM for bond liabilities

MCEV and OAS for Bonds

Product: 10 year coupon bonds (seller's perspective)

(OAS * WAM) vs NBM for Bonds



Option Adjusted Spread – Traditional European Life Products

	Annual ratchet - 0% min guarantee, no lapse	Annual ratchet – 2% min guarantee, no lapse	Annual ratchet – 3% min guarantee, no lapse	Annual ratchet – 2% min guarantee, 2% deterministic lapse	Annual ratchet – 2% min guarantee, dynamic lapses
OAS (in bp)	-100 bp	-10 bp	30 bp	-10 bp	20 bp
NBM (in %)	4.6%	0.3%	-1.3%	0.2%	-0.5%

- *Market conditions: 4.5% flat yield curve*
- *Product specifications: 10 year, 50%/50% bond/equity fund, 80/20 profit sharing*

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Contents

1. Strategic Planning & Capital allocation
2. Balance Sheet Management
3. Asset / Liability Management
4. Risk Management

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Asking the right questions…

Risk Communication	▪ Is the risk profile and risk / return strategy understood by analysts, rating agencies and regulators ▪ Are they applying appropriate capital requirements and valuation multiple ?
Risk Strategy	▪ Is our risk / return strategy explicitly defined? ▪ Is it consistent with our risk bearing capacity? ▪ Are limits and authorities delegated consistently?
Risk Controlling	▪ Is the risk profile transparent and understood by management? ▪ Is it within the limits and authorities delegated?
Risk Underwriting	▪ All risks identified? ▪ Are all risk core to our strategy structured, underwritten and priced appropriately? ▪ All other, non-core risks mitigated?

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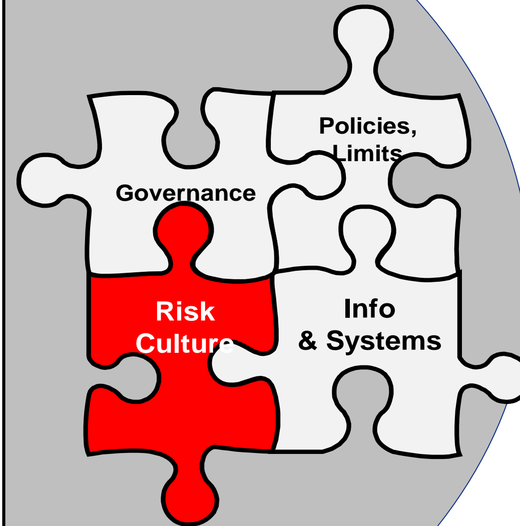
Enterprise Risk Management

Enterprise Risk Management

Asking the right questions…		In practice…
Risk Commun-ication	Risk / Return strategy ▪ Clearly communicated? ▪ Correctly understood?	▪ Mandatory disclosures ▪ Complementary disclosures
Risk Strategy	▪ Risk / Return strategy defined? ▪ Delegated authorities consistent with strategy?	▪ Risk strategy and appetite ▪ Delegation of authorities ▪ Risk governance, including committees, three lines of defense, etc
Risk Controlling	▪ Risk profile transparent and understood? ▪ Within delegated authorities?	▪ Internal model ▪ Limit system ▪ Risk & limit reporting
Risk Under-writing	▪ All risks identified? ▪ Transactions structured, underwritten and priced appropriately? ▪ All other risks mitigated?	▪ U/W policies ▪ (Rorac) pricing ▪ New product approvals ▪ RCSA, TRA, ERI



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ERM Framework: Risk Culture as the critical element

ERM ≠ Box Ticking

"*Risk at Bear Stearns was managed through a system of checks and balances. Each business unit was responsible for managing its risk, and the head of each division was then responsible for managing the aggregate risk within its units… The Executive Committee approved explicit limits for all areas of the firm… These limits were reviewed and monitored by the Risk Management Group, which was an independent unit that reported to the Executive Committee and met regularly with the Board's Risk Committee… Overall, I thought Bear Stearns was well-managed, and I was saddened and disappointed when the firm collapsed.*"

Testimony of the co-Chief Operating Officer to the Senate Financial Crisis Inquiry Committee, 2008

- Evidence of an ERM framework is not enough
- Differentiating "good" firms from "bad" firms through ***culture***

- ***What is culture?***

"The combined set of individual and corporate values, attitudes, competencies and behavior that determine a firm's commitment to and style of operational risk management."

Basel Committee, 2011

"The norms and traditions of behaviour of individuals and of groups within an organization that determine the way in which they identify, understand, discuss, and act on the risks the organization confronts and the risks it takes."

IIF, 2009

- ***What are symptoms of a 'bad' risk culture?***

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Risk Culture: Common dysfunctionalities

1. "Dancing with the music is playing"

"When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance. We're still dancing."

Chuck Prince (ex-CEO of Citigroup), 2007

- Management can become so motivated by its continued success during bull markets that common sense and risk discipline becomes a victim.
- **Failure in business judgment**: Crossing the invisible line between the right amount of risk and "too much" risk

2. "Babe Ruth"

"And when MF Global's chief risk officer argued that the European bet had grown too big, Mr. Corzine effectively stripped the executive of the ability to check that trade. Oversight of Mr. Corzine's trading was eventually delegated to the firm's board, which tended to support its chairman."

Protess and de la Merced, 2012

- It can be very dangerous to have a charismatic and authoritarian leader who is willing to take bold positions and play a view regardless of the consequences, disregarding or suppressing the input of others.
- **Failure in business judgment**

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Risk Culture: Common dysfunctionalities

3. The "Golden Rule"

"He who makes the gold, makes the rules."

"(A)t a January 2008 meeting … AIG's auditor, PwC, concluded that the access to AIG Financial Products enjoyed by (AIG) risk officers 'may require strengthening'. And in March, 2008, the Office of Thrift Supervision sent a letter to AIG, later released by Congress… (saying) that AIGFP 'was allowed to limit access of key risk control groups while material questions relating to the valuation of the [swap portfolio] were mounting.'

Roth, Z., 2009

- The second line of defence functions are kept from exercising their control and oversight responsibilities for business areas which produce an inordinate amount of earnings.

4. "Arbitraging the system"

Lehman Brothers' "repo 105" transactions were said to have created "a materially misleading picture of the firm's financial condition in late 2007 and 2008" and were deemed by the examiner to be "actionable balance sheet manipulation… (and) … nonculpable errors of business judgment"

Examiner's report following Lehman's bankruptcy

- *"It's basically window-dressing."*
- *"I see … so it's legally do-able but doesn't look good when we actually do it? Does the rest of the street do it? Also is that why we have so much BS [balance sheet] to Rates Europe?"*
- *"Yes, No and yes. :)"*

- Company which tolerates or promotes the blatant arbitrage of internal or external rules

5. Unethical behavior

"Am I doing the 'right' thing?"

Would you feel comfortable seeing your picture on the cover of the Wall Street Journal and reading a half page article about what you did?

- This test is very useful and should be standard operating procedure in virtually all circumstances, especially those where there are no "right" or "wrong" answers such as for Environmental and Social issues.

- *The LIBOR fixing scandal*
- *The FX scandal*
- *"'Getting an unsophisticated client was the golden prize…The quickest way to make money on Wall Street is to take the most sophisticated product and try to sell it to the least sophisticated client."*

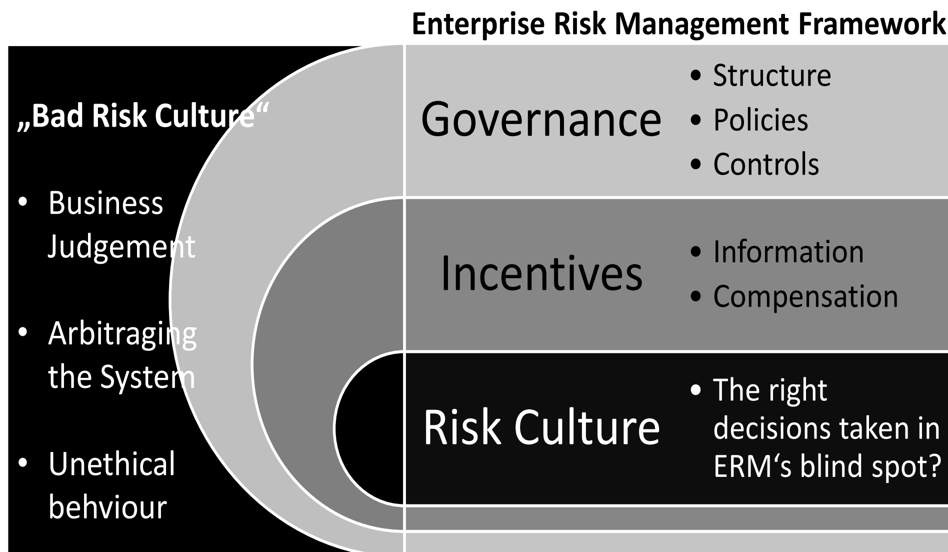
Greg Smith, 2012

Developing an effective Risk Culture

Typical actions

1. Align accountability
2. Increase information
3. Align incentives
4. Implement controls
5. Challenge the status quo
6. Encourage and develop RM skills & knowledge
7. Encourage risk event reporting and whistle blowing
8. Consistent tone from the top in respect of risk taking and avoidance

Risk Culture: Enhance ERM framework…but promote the „right“ behavior in ERM‘s blind spots



What is needed in addition?

- Communicating and enforcing reasonable rules consistently.
- Build a learning organization. Discuss lessons and conclusions openly. Set new precedents, develop the ability decide between “right and wrong” even in the absence of rules or precedents. Use file reviews and transaction post mortems, underwriting training, celebrating “underwriting heroes” on par with “rainmakers”, etc.
- Become role models, setting a consistent “tone at the top”, including a commitment to ethical principles generally, as well as
  - An “underwriting culture” where risk is taken on behalf of the institution as if it were your own;
  - A “customer culture”, where customer needs and value play a prominent role in product design and sales; and,
  - A stronger identification with the long term success and reputation of the company than an individual
- Finally, an alignment between corporate and individual goals and cultural principles.

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