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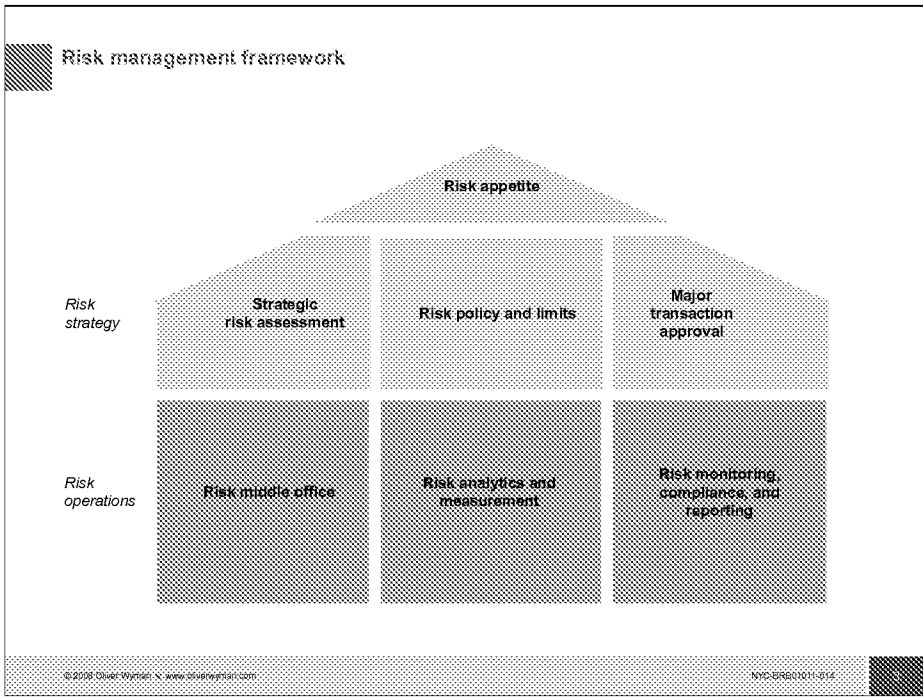
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#### Gaps in risk management

- No formal framework for risk appetite
- No clear process for approval of major trades
  - Vacuum created by departure of Warren Spector
  - Risk Management often given little time and information for review
- Lack of coherent limit structure with consistent enforcement
  - Policies and limits not integrated into governance framework
  - Limits not based on consistent economic view of risk
  - Limits proposed by business and frequently overridden
- Underdeveloped processes for strategic risk assessment
  - Infrequent and ad hoc
  - Hampered by insufficient and poorly aligned resources
- Lack of mandate for the Risk Policy Committee
- Lack of institutional stature for Risk Management group
  - Risk managers not effectively positioned to challenge front office decisions
  - Understaffed and low priority in IT queue
  - Cultural resistance to VaR and tail risk measures





Leading risk management practice at peer investment banks

<b>Top-level risk committee</b>	<ul style="list-style-type: none"> <li>Contains both business leaders and control function representatives</li> <li>Responsible for risk policy approval, limit approval, and ongoing risk profile monitoring</li> </ul>
<b>Firmwide risk appetite</b>	<ul style="list-style-type: none"> <li>Dynamic, explicit, and frequent discussion of risk appetite among top-level executives</li> </ul>
<b>Limit framework</b>	<ul style="list-style-type: none"> <li>Delegated limit system based on robust metrics</li> <li>Limits monitored and strongly enforced</li> </ul>
<b>Escalation and transparency</b>	<ul style="list-style-type: none"> <li>Rapid and frequent escalation of all types of decisions leads to active dialog across all levels of the organization</li> <li>Senior leaders involved in reviewing daily business decisions</li> </ul>
<b>Robustness of risk measurement</b>	<ul style="list-style-type: none"> <li>Well-embedded VaR framework plus stress testing is the backbone of firmwide risk metrics</li> <li>Risk measures updated multiple times per day</li> <li><i>Universal banks</i>: Economic Capital is well established as the primary firmwide risk metric</li> </ul>
<b>Risk Management organizational stature</b>	<ul style="list-style-type: none"> <li>Risk Management staff respected as valued advisors and challengers to businesses</li> <li>Successful front office personnel rotated through control functions</li> <li>Compensation for Risk roles competitive with business line positions</li> </ul>





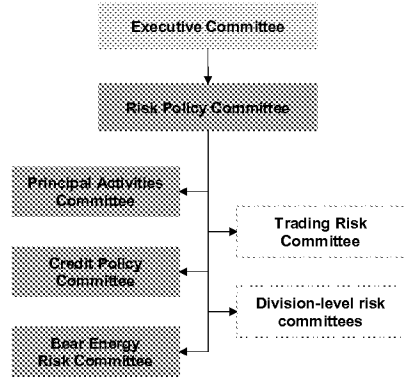
Oliver Wyman recommendations

1. Charter a top-level risk committee (the Risk Policy Committee) to govern all credit and market (financial) risks, with authority for specific risk areas delegated to subcommittees
2. Create a 5-person Trading Risk Committee as a subcommittee of the Risk Policy Committee, with authority to review and approve large transactions above agreed business line limits
3. Mandate that the full Risk Policy Committee focus on two ongoing tasks: (a) risk appetite, policies and limit setting; and (b) strategic risk assessment
4. Expand the role of the Risk Management group to cover both independent governance/controls and effective dialog/advisory with the businesses at all levels of the organization





Recommended scope of Risk Policy Committee: all financial risks, with specific responsibilities delegated to other subcommittees



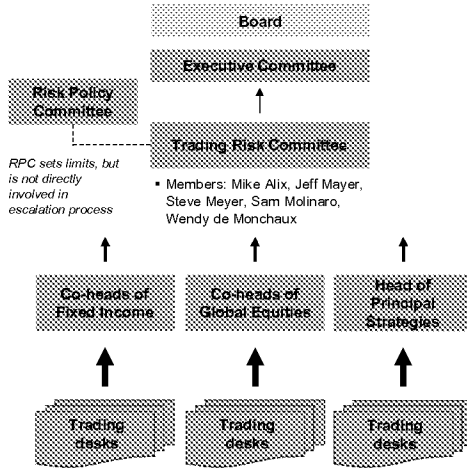
- Existing financial risk committees to be formally re-chartered as subcommittees of RPC
  - Allows specialized risk subcommittees to continue to operate with focus and expertise
- Non-financial risks (e.g. operational, legal, compliance) should fall under scope of firm Operating Committee
- Division-level risk committees would improve engagement with Risk Management below the RPC and syndicate risk decisions across product areas, but would require an additional committee layer





### Recommended structure for trade approval

#### Trade approval escalation

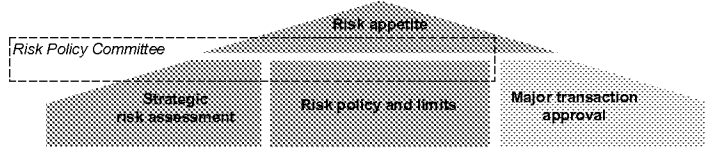


#### Sample transactions approved at each level

- **Hilton deal:** Bear leads \$22BN commitment for Blackstone purchase of Hilton Hotels
  - **E\*Trade's ABS portfolio:** Potential bid for \$3 BN notional ABS portfolio (bought by Citadel)
  - **Life settlements:** 2007 bid for \$450MM portfolio (vs. limit of \$100MM and business to date of ~\$20MM)
- 
- **Block stock:** 2007 \$85MM position in Dreamworks, with first day VaR of \$4MM
- 
- **Mortgages:** Long ARM position with market value of \$20MM



**Mandate of full Risk Policy Committee**



Strategic risk assessment	Risk policies and limits	Composition and schedule
<ul style="list-style-type: none"> <li>▪ On an ongoing basis, review major franchise risks                             <ul style="list-style-type: none"> <li>– Risks with effects across business units and asset classes</li> <li>– Risks that could produce earnings surprises over the next 1-12 months</li> </ul> </li> <li>▪ Recommend to the Executive Committee specific risk mitigation actions to address franchise risks</li> </ul>	<ul style="list-style-type: none"> <li>▪ Establish comprehensive governance framework for risk management</li> <li>▪ Review and approve firm-wide risk policies                             <ul style="list-style-type: none"> <li>– May choose to delegate policy approval for some risk types</li> </ul> </li> <li>▪ Recommend firmwide risk appetite to Executive Committee and Board for approval</li> <li>▪ Review and approve franchise and divisional risk limits</li> </ul>	<ul style="list-style-type: none"> <li>▪ Membership to include leaders of major business divisions, CRO, CFO, and senior advisors                             <ul style="list-style-type: none"> <li>– May also include Treasurer and others, depending on scope of RPC responsibilities</li> </ul> </li> <li>▪ Committee to meet twice per month</li> </ul>



### Expanded role for Risk Management group

- Group Risk Management roles**
- Active dialog with business at all levels of the firm
  - Thought leadership on franchise risks
  - Limit and policy design
  - Risk monitoring
  - Analytics for regular reporting, strategic risk assessment, and business line support
  - Regulatory compliance and reporting
  - Risk middle office functions



- Supporting practices**
- Consistent early engagement with Risk by front office
  - Cultural respect for Risk Management
  - Rotation of respected traders into Risk Management
  - Risk Manager compensation competitive with front office positions
  - Adequate staffing (numbers and expertise) for expanded role
  - CRO has (at least dotted line) authority over all risk control functions, including resources in business line
  - Improved reliability and robustness of risk metrics
  - Higher priority in IT spending

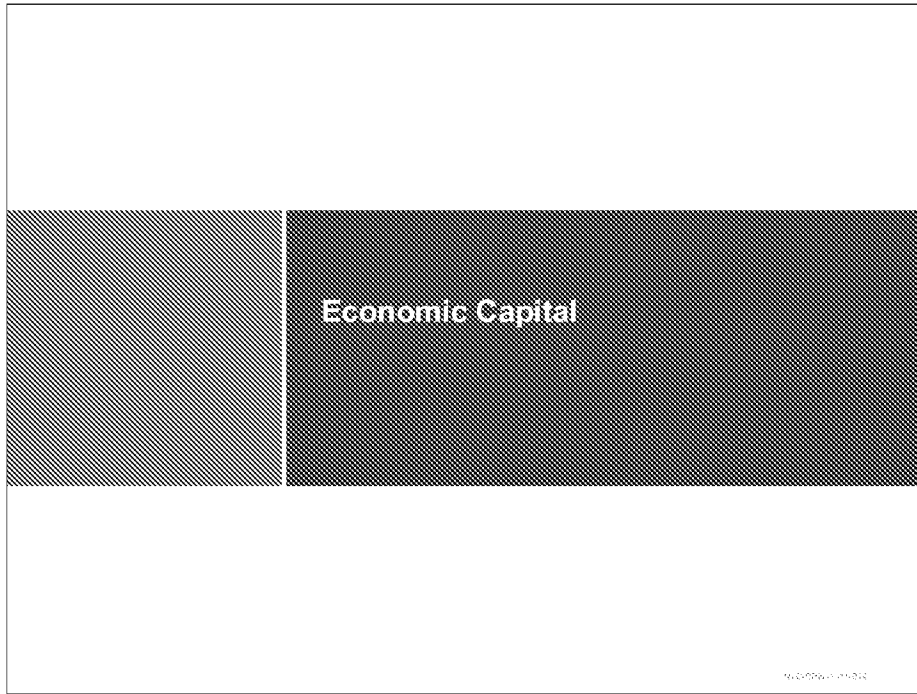


Recommended action plan – near and medium term

	In month 1	By month 6
<b>Trade approval</b>	<ul style="list-style-type: none"> <li>Executive Committee: Establish Trading Risk Committee</li> </ul>	
<b>Risk Policy Committee</b>	<ul style="list-style-type: none"> <li>Executive Committee: Approve mandate of Risk Policy Committee</li> </ul>	<ul style="list-style-type: none"> <li>Risk Policy Committee: Approve new and revised risk policies</li> <li>Risk Policy Committee: Re-charter all risk committees under umbrella of Risk Policy Committee</li> </ul>
<b>Limits</b>	<ul style="list-style-type: none"> <li>Risk Management: Review existing limits to identify major inconsistencies and propose short-term solutions</li> <li>Risk Policy Committee: Approve proposed short-term changes to limit framework</li> <li>Risk Policy Committee: Adopt formal enforcement of existing limits and policies</li> </ul>	<ul style="list-style-type: none"> <li>Risk Management: Establish version 1.0 of Economic Capital framework</li> <li>Risk Management: Conduct complete re-design of limit framework, and jointly propose limit levels with businesses</li> <li>Risk Policy Committee: Approve limit framework and levels</li> </ul>
<b>Strategic risk assessment</b>	<ul style="list-style-type: none"> <li>CRO: Assign one SMD and one more junior resource to temporarily head up strategic risk assessment</li> </ul>	<ul style="list-style-type: none"> <li>CRO: Hire senior resource to head up Strategic Risk Assessment group reporting to CRO</li> <li>CRO: Hire staff for analytical team</li> </ul>
<b>Risk Management group</b>	<ul style="list-style-type: none"> <li>Risk Policy Committee: Approve of new mandate for Risk Management group</li> <li>CRO: Outline plan to align Risk organization to new mandate, with associated resourcing and cost implications</li> </ul>	<ul style="list-style-type: none"> <li>CRO: Hire additional risk personnel, preferably individuals with successful front office experience</li> <li>CRO/CFO: Clarify organizational responsibilities for price verification</li> </ul>

Governance Project Personnel Infrastructure

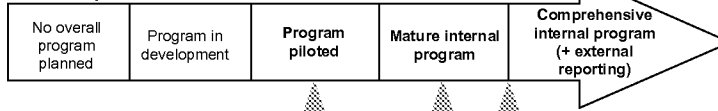




State of development of Economic Capital frameworks

IFRI Survey of 22 leading US/ European financial institutions

Level of sophistication

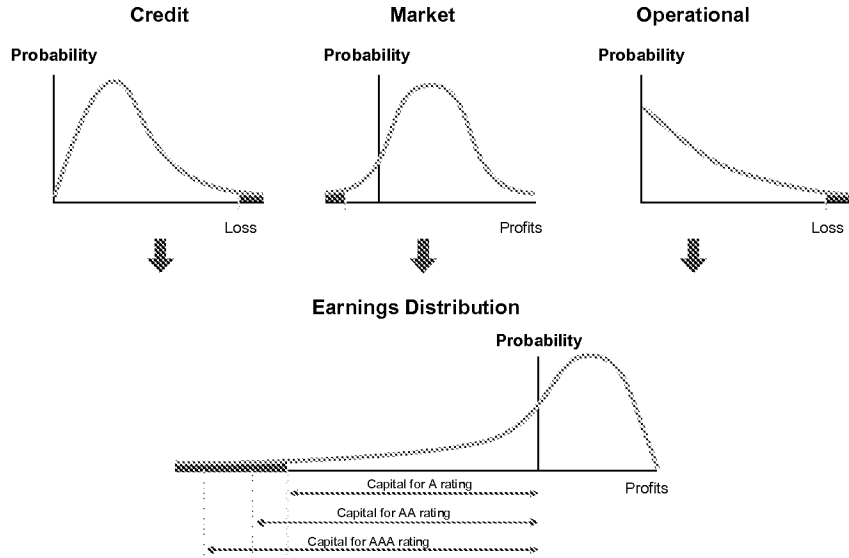


2000 Norm      2003 Norm      2006 Norm

2006 Classification of IFRI/CRO Forum ECap survey participants				
0%	6%	18%	41%	35%
2003 (MOW ECap Survey)				
0%	6%	29%	47%	18%
2000 (MOW ECap Survey)				
14%	7%	36%	21%	21%



Economic Capital: a common currency for risk



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### Economic Capital objectives for Bear Stearns

- Provide a universal risk metric
  - Currently a vacuum in risk measurement tools, as no single metric for financial and non-financial risks
  - No way to compare and aggregate different kinds of risk on an apples-to-apples basis
- Allow firmwide risk appetite to be translated into top-level limits
  - Economic Capital is especially useful for expressing a firmwide risk appetite, and for rendering that appetite into limits for major business lines
- Express an internal view of capital required
  - Regulatory capital is a flawed view of the actual capital required to support overall risks taken
  - As an internal view, Economic Capital can improve capital adequacy and capital planning decisions
- Perform strategic capital allocation and optimize Bear Stearns's business portfolio, using such measures as business-line return on capital
  - Economic Capital is the best way to understand the true capital requirements of major business lines on a standalone basis
- Communicate more effectively with external constituencies
  - Economic Capital is a global industry standard, and is likely to become a universal regulatory requirement
  - Regulators and rating agencies are looking for robust economic capital programs





## High-level roadmap for Economic Capital

	Phase 1: <i>Development</i>		Phase 2: <i>Rollout</i>		Phase 3: <i>Embedded Use</i>
	Jan – June 2008	July – Dec 2008	Jan – June 2009	July – Dec 2009	July 2009 – 2010
<b>Calculation methodology</b>	<ul style="list-style-type: none"> <li>Development of version 1.0 and first-pass results</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing refinements to market and credit risk models</li> </ul>	<ul style="list-style-type: none"> <li>Incorporation of op risk scenario analysis</li> </ul>	<ul style="list-style-type: none"> <li>Stable version 2.0 methodology</li> <li>Model validation</li> </ul>	
<b>Risk management</b>		<ul style="list-style-type: none"> <li>Risk profile monitoring</li> <li>Risk reporting</li> <li>Capital adequacy</li> </ul>	<ul style="list-style-type: none"> <li>ECap-based limits</li> <li>Integrated stress testing</li> <li>Capital forecasting</li> </ul>	<ul style="list-style-type: none"> <li>ECap-based risk appetite framework</li> <li>Risk decisioning</li> </ul>	
<b>Business management</b>		<ul style="list-style-type: none"> <li>Top-down performance measurement</li> <li>Ad hoc decision support</li> </ul>	<ul style="list-style-type: none"> <li>Strategic capital allocation</li> <li>Target setting</li> </ul>	<ul style="list-style-type: none"> <li>Performance drill-down (incl. link to compensation)</li> <li>Strategy/planning</li> </ul>	
<b>Compliance/communication</b>		<ul style="list-style-type: none"> <li>Results used for EU regulatory submissions</li> </ul>	<ul style="list-style-type: none"> <li>Sharing of results and methods with US regulators and rating agencies</li> </ul>	<ul style="list-style-type: none"> <li>Possible disclosure of high-level results to investors</li> </ul>	
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>Identification of high-level systems requirements</li> </ul>	<ul style="list-style-type: none"> <li>Automated extraction of data inputs</li> </ul>	<ul style="list-style-type: none"> <li>Systematized calculation</li> </ul>	<ul style="list-style-type: none"> <li>Reporting automation</li> </ul>	