

Confidential Presentation to:

Board of Directors

Risk Equity Framework

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LEHMAN BROTHERS

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Risk Equity Overview

Risk Equity

- ◆ We use our Risk Equity Model to determine the equity to be allocated to each of our businesses. The components of our Risk Equity Model are:
 - Economic equity – Market risk, Event risk and Counterparty credit risk
 - Regulatory-adjusted economic equity
 - Operating risk
 - Legal risk
 - Other corporate asset charges
- ◆ These components are combined in a single number which we refer to as Risk Equity. Below, a description of each component:
 - Market risk – Measures the potential mark-to-market loss on positions from adverse moves in all risk factors. It is computed by historical simulation (similarly to daily VaR) but at a higher confidence level of 99.5% and one-year holding period.
 - Event risk – Measures the potential loss beyond those measured in market risk such as losses associated with a downgrade for high quality bonds, defaults of the high-yield bonds and loans and loss on real-estate-backed loans, etc.
 - Counterparty credit risk – Measures the potential losses across all of the Firm’s forward settlement, financing and derivative transactions, due to non-performance of our trading counterparties.
 - Regulatory capital for regulated entities – Regulated legal entities are required to maintain a minimum level of equity capital. In determining the amount of capital utilized by a business operating in a regulated entity, the after tax economic risk capital is compared to the regulatory equity and the greater of the two is allocated to the business.
 - Operating risk – Measures business risk.
 - Legal risk – Measures the potential loss arising from litigation with investors, customers and employees, net of applicable insurance recoveries
 - Other corporate assets – The equity associated other assets in the Firm, for example buildings, are allocated to each business as part of the operating component of equity

VaR

- ◆ VaR is the market risk component of Risk Appetite.
- ◆ VaR is an estimate of the potential decline in the value of the Firm's trading positions due to normal market movements over a one-day holding horizon at a 95% confidence level.
- ◆ The VaR model accounts for
 - General and issuer-specific risk, and
 - The non-linear dependency of certain positions with respect to the underlying risk drivers by actual portfolio revaluation.
- ◆ We adopt a historical simulation approach to the VaR calculation, utilizing the most recent four years of market data across all general market risk factors.
 - The correlations among general risk factors are implicitly determined by the actual historical time series.
 - The data are weighted to emphasize the most recent period (the Firm currently uses an exponential decay factor of approximately 10% per month).
 - Individual stock price series are used for the simulation of equities risk wherever those series are available.
 - When there are not enough data on a recently issued stock (e.g. recent IPOs), the Firm employs an interim model using a proxy for the individual stock return: either the closest stock index (when there are fewer than 60 data points) or linear regression model based on the closest index (when there are 60 data points or more).
 - For debt-related instruments, general risk is represented by bond indices constructed for rating-maturity-industry buckets.
 - The specific risk component is simulated based on the characteristics of the empirical distribution of the individual bond residuals with respect to each bucket.
 - All simulated specific risks are assumed to be independent of each other as well as general market risk factors in the VaR model.
 - We have a high degree of granularity in our estimation of risk evidenced by the fact that we use over 20,000 time series.
 - The VaR model, as well as most pricing models (which feed risk factor sensitivities into the VaR model), has been developed internally.

Event Risk

- ◆ Event risk measures potential trading losses associated with large, gap-like market moves or stress market events that usually cannot be adequately captured by VaR model and historical time series of limited length. The following examples illustrate the type of losses covered under the event risk metric:
 - Downgrade for high grade loans, bonds and convertibles
 - Defaults for the high yield loans, bonds and convertibles
 - Defaults for sub-prime mortgage loans
 - Property value losses on real estate
 - Dividend yield assumptions for equity derivatives
 - Gap risk for fund derivatives

Counterparty Credit Risk

- ◆ Counterparty credit risk measures the potential loss to the Firm due to non-performance of our counterparties on forward settlements, financing and OTC derivative transactions.
- ◆ A multitude of risk measures are calculated in the counterparty risk arena.
- ◆ Current Credit Exposure (CCE) to counterparty is our potential credit loss arising from its immediate default or non-performance. It equates to the positive mark-to-market value of the trade portfolio.
- ◆ Maximum Potential Exposure (MPE) is a measure of the stressed value of potential credit losses if counter-party defaults sometime in the future.
 - It is calculated over the life of the portfolio of trades, and identified at a tail percentile (95th) amongst all possible scenarios.
- ◆ The average expected magnitude of potential credit exposures is designated as Expected Potential Exposures (EPE).
 - This quantity is also calculated over the life of the trade portfolio as an average over all possible future scenarios.
 - EPE is commonly used as input to the calculation of other key counterparty credit risk measures such as the credit component of Regulatory Capital or the Credit Valuation Adjustments (CVA)
- ◆ At the aggregate level, counterparty credit risk contribution to the Risk appetite is estimated by constructing a portfolio loss distribution across all counterparties, taking into account both the magnitude of each credit exposure, the probabilities of each counterparty defaulting, as well as the estimated recovery value to each counterparty claim.
- ◆ The Firm adopts a Monte Carlo simulation approach to counterparty credit risk quantification for OTC derivative and long settlement transactions, by generating future market scenarios with multiple risk drivers and subsequently revaluating the trade portfolios under each possible market scenarios. For financing trades with daily mark-to-market, a direct historical simulation approach is used.
- ◆ All credit calculations are subject to the proper application of legal netting rules as well as margin and pledge provisions. Exposures are typically aggregated at both the legal entity and the product level.

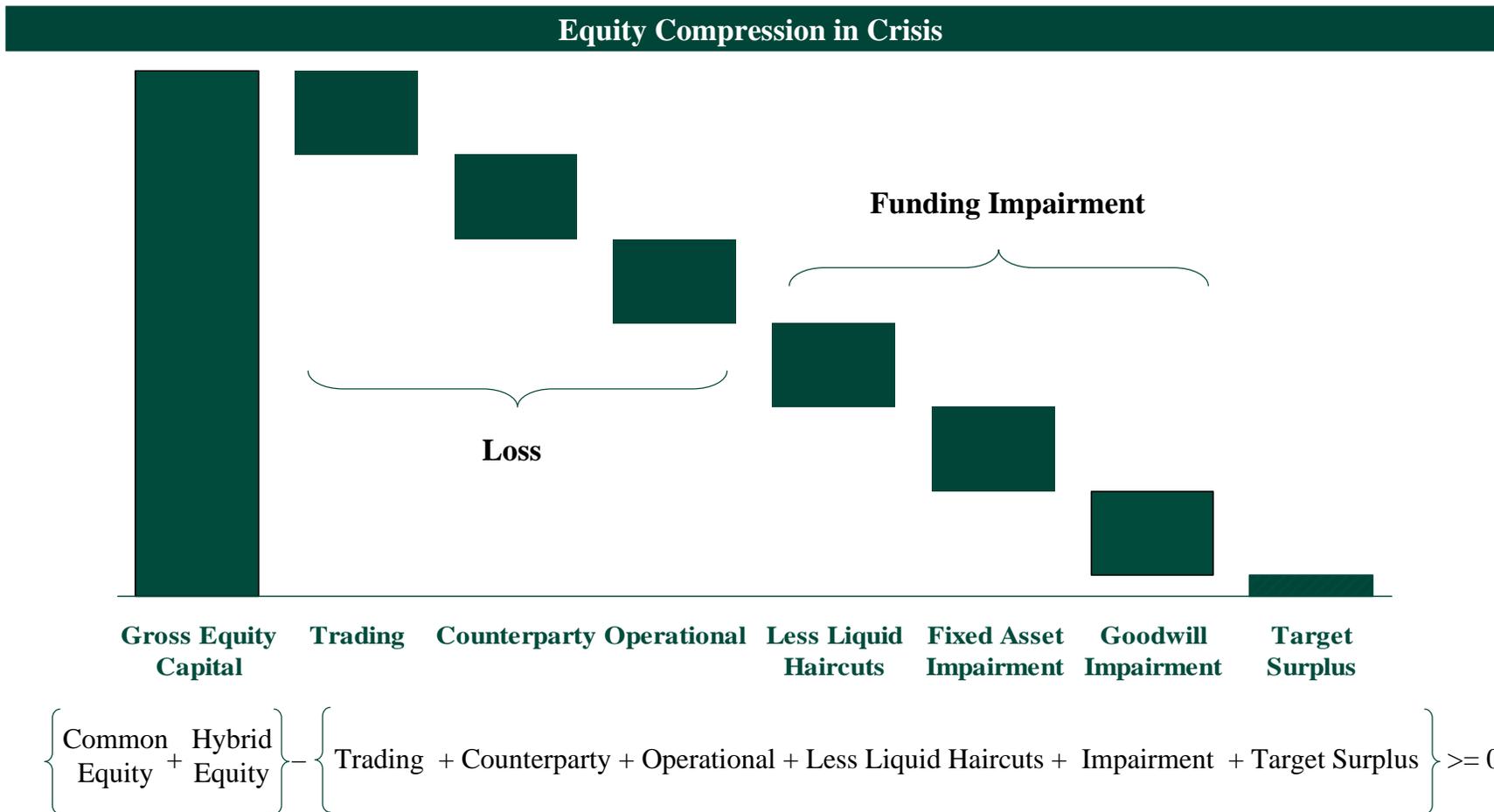
Equity Adequacy Framework

Equity Adequacy Framework

- ◆ Equity Adequacy Framework (EAF) is a proprietary equity adequacy and equity allocation tool, which supplements the existing Risk Equity Model.
 - EAF assesses equity adequacy in a potential Lehman-specific crisis to ensure that the Firm would have sufficient equity capital to absorb any potential losses and funding impairments caused by the Lehman-specific crisis.
 - EAF allocates equity to every business and every asset.
 - Target T1 Capital Ratio currently assumed to be 8%.
 - Equity charge currently calculated with 42bp as in Cash Capital Model and with ~2,650bp as in CAPM cost.
- ◆ History of EAF:
 - EAF 1.0 was initially developed in mid-2007 as a shadow risk equity tool.
 - By the end of 2007 equity became a critical resource.
 - Firm's equity growth slowed as net income declined and capital markets' demand for Lehman debt and hybrid equity became depressed and spotty.
 - Firm's financing capacity reduced as asset liquidity declined, intangible asset balance increased (e.g. goodwill from acquisitions) and pressure for share buyback increased.
 - Rating agencies and regulators renewed focus on capital adequacy and now expect capital ratios to be published starting Q2' 08.
- ◆ Current Status of EAF:
 - EAF 2.0 is ready for roll-out.
 - Consistent at the Firm, Divisional, BPM, and, ideally, trade levels.
 - Calibrated against CSE and with EVA application.
 - EAF 2.0 will be used as a major control tool.

EAF Analytical Model

To enable restructuring outside of bankruptcy, the Firm's available equity capital must be sufficient to absorb the losses caused by the crisis and to support refinancing or liquidation without having to access unsecured debt



Parameters of EAF Model

Component	Includes	Approach
Trading	<ul style="list-style-type: none"> ◆ Market Risk ◆ Credit Risk 	<ul style="list-style-type: none"> ◆ VaR-driven ◆ Reflects maximum loss over 1 year holding period with 99.97% confidence level
Counterparty	<ul style="list-style-type: none"> ◆ Financing and derivative exposure 	<ul style="list-style-type: none"> ◆ Maximum Potential Exposure (Probability of default and expected recovery in default)
Operational	<ul style="list-style-type: none"> ◆ Operational loss ◆ Litigation loss 	<ul style="list-style-type: none"> ◆ [5]% of revenue
Less Liquid	<ul style="list-style-type: none"> ◆ Haircut on funding of illiquid assets 	<ul style="list-style-type: none"> ◆ Triangulated based on: <ul style="list-style-type: none"> – Estimated discount in fire sale – Haircut for non-recourse financing – Equity requirement in CDO structure
Impairment	<ul style="list-style-type: none"> ◆ Haircut on funding of fixed assets ◆ Devaluation or loss of intangible assets 	<ul style="list-style-type: none"> ◆ Estimated by marking-to-market, then taking same haircuts as on illiquid assets ◆ Estimated by marking “separable” assets to market, then taking same haircuts as on corporate investments
Target Surplus	<ul style="list-style-type: none"> ◆ Protection against unexpected ◆ Reserve for tactical opportunities 	<ul style="list-style-type: none"> ◆ \$1.5 billion

Consolidated Supervised Entities Regulatory Capital

Overview of Consolidated Supervised Entities (“CSE”)

- ◆ LEH is a CSE firm.
 - In November 2003, SEC issued Consolidated Supervised Entities (“CSE”) regulations which gave large broker-dealers (i.e., capital in excess of \$1bn) the ability to elect VaR-based capital in their regulated broker dealer (LBI) in exchange for subjecting their holding company (LBHI) and unregulated affiliates (LBIE, LBEL, etc.) to examination by the SEC.
 - On November 30, 2005, LBHI was approved as CSE, alongside with Goldman Sachs, Morgan Stanley, Merrill Lynch and Bear Stearns.
- ◆ CSE Requirements are in effect mandatory.
 - CSE capital requirements:
 - Holding Company (LBHI) – Capital Adequacy Standard (Basel II) – Requires the assessment of Market, Credit & Operational Risks. Expected ratio of Total Allowable Capital to Risk Requirements = 10% or better.
 - Broker Dealer (LBI) – Market and Credit Risks replace traditional 15c3-1 Capital Requirements (Haircuts). Minimum Capital Required raised substantially to limit the broker dealer’s ability to withdraw capital initially.
 - Backtesting requirements - Risk models are subject to rigorous backtesting. Exceptions to models can increase multiplication factor or may lead SEC to withdraw approval of model.
 - Stress tests requirements - Stress test scenarios include post 9/11 steepening, post LTCM steepening, EMG crisis, HY default risk, Black Monday equity crash, etc.
 - SEC supervisory over the consolidated group:
 - Monthly, quarterly and annual filings to SEC containing financial, risk and operations data.
 - Monthly meeting with SEC on risk analytics and quarterly meeting with SEC on financial results
 - SEC books & records examinations focused on capital calculation and implementation of documented risk controls.

Components of CSE Capital

$$\text{Total Capital Ratio} = \frac{\text{Total Allowable Capital}}{(\text{Market risk} + \text{Credit risk} + \text{Operational risk})} = \text{SEC min capital ratio} \geq 10\%$$

Component	Details
Total Allowable Capital	<ul style="list-style-type: none"> ◆ Allowable Capital = common stockholders' equity + restricted and non restricted hybrid capital + eligible debt – intangible assets – deferred tax assets
Market Risk	<ul style="list-style-type: none"> ◆ VaR is calculated with predominantly the same methodology as in Risk Equity framework, with 2 exceptions: <ul style="list-style-type: none"> – 99% Confidence Interval – 10 day holding period ◆ Calculated 60 day average VaR is scaled up by the risk capital multiplier factor (currently 3.85x) based on the number of “failures” in VaR backtesting. ◆ Non-VaR based stress scenario add-ons (e.g. fund derivative gap risk, M&A deal break risk). ◆ Additional Regulation Y charges (8% of non-investment grade net longs and shorts), or starting March 31, 2008 the Holistic Trading Book add-on risks.
Credit Risk	<ul style="list-style-type: none"> ◆ Predominantly similar to the Counterparty Credit Risk in Risk Equity framework.
Operational Risk	<ul style="list-style-type: none"> ◆ Basic Indicator Approach (BIA): 15% of average of previous three years' gross income (i.e. net interest income plus net non-interest income). ◆ Advanced Measurement Approach (AMA): VaR calculation of Operational Risk. SEC approval of LEH's AMA model expected in Q3 2008.

Holistic Trading Book Methodology

Approved by SEC, to replace Regulation Y charges, effective Mar 31, 2008:

Jump-to-Default

- ◆ The JTD model applies to all trading book positions that are subject to single name default risks, including corporate, emerging markets, and municipal issuers:
 - Bonds, loans, single name & index default swaps, CDO tranches, and default baskets
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Jump-to-Gap

- ◆ New specific Risk add-on charge applied to Market Risk
 - ◆ The JTG model calculates the capital allowance for RMBS, CMBS, and ABS exposures across all credit ratings
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Principal Investments

- ◆ Replaces existing Basel II Equity exposures methodology with Merton Model.
 - ◆ Capital charge for the Principal Investment portfolio applies to investments in
 - Private equity funds; individual private equity investments
 - Investments and seed money in hedge funds; minority stakes in hedge funds
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Market Neutral Strategies (M&A deal breaks)

- ◆ In addition to VaR-based capital charge, positions in M&A market neutral strategies are subject to a capital add-on, calculated only using the portfolio distribution deal-break losses, at 99% confidence level.
 - ◆ This confidence level has increased to 99.9%.
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