Lombard Odier’s Risk Parity
Asia Allocation Process

Managing your portfolio through different market environments

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Head of Asia

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Overview of Lombard Odier
An overview of Lombard Odier

- We are 100% private and have been for more than 200 years. The firm is owned by 16 partners.
- With USD 164 billion of AUM and almost 1,900 staff spread across 24 offices around the world, we are small, but with critical mass and a global footprint.
- Asset management is, and always has been, our core business. Today we manage money for Institutional and Private Clients.
- Lombard Odier Investment Managers (LOIM) is the asset management division of Lombard Odier, focused on Institutional and Third-Party Distributor/Financial Intermediaries.

**GROUP ASSETS UNDER MANAGEMENT (USD)**

- 164 bn

**LOIM ASSETS UNDER MANAGEMENT (USD)**

- 40 bn
  - 19 bn
    - Fixed Income & Currencies
  - 12 bn
    - Equities*
  - 8 bn
    - Asset Allocation
  - 1 bn
    - Illiquid Strategies

Data as of 30 June 2012. * Includes Convertibles.
A safe haven in turbulent times
Key points of the business model

Capital
- Our Firm has an excellent Fitch rating (AA-), the best for an institution of its size. This positions us as one of the most solid financial institutions in Switzerland and abroad.
- Our balance sheet is very liquid, and our capital ratio (Tier 1) is a multiple of the statutory requirement.
- The Bank’s capital is principally invested in AAA instruments.
- Independent from capital providers.

Credit
- Our balance sheet is not exposed to mortgages or to commercial or structured credit.
- Our credit activity is low (reserved for our clients with liquid and good-quality collateral and mostly through lombard credits).
- We are one of the rare financial institutions without structural debt.

Investments
- We are not engaged in high-risk activities.
- We work with counterparts that we know and closely monitor: our limits are precisely defined and monitored daily (notably, in 2008 we had no exposure to Lehman Brothers, AIG or Washington Mutual).
- Client assets are clearly separated from Lombard Odier’s balance sheet.
- Independent from products and services providers.
A strategically located Asian network

Lombard Odier was awarded the 2011 distinction for best Asian Private Bank*

**Singapore (2006)**
- Merchant bank licence
- Asset management and private banking services
- Regulated by The Monetary Authority of Singapore (MAS)
- 33 employees

**Hong Kong (1987)**
- Asset manager licence
- Asset management and private banking services
- Regulated by the Hong Kong Securities and Futures Commission (HKSFC)
- 36 employees

**Tokyo (1992)**
- Trust licence
- Asset consulting, investment advice, discretionary management, securities intermediary services and reporting services
- Regulated by the Financial Services Agency (FSA)
- 23 employees

- USD 8bn of AuM with USD 1.5bn for institutional clients
- One of our partners, Vincent Duhamel, based in Asia
- Specialized institutional and private wealth management teams

*Winner of Asian Private Banker Awards for Distinction 2011 – Best Discretionary Portfolio Services*
Where is Asia going from here?
Urbanization will drive growth forward

- Today China has over 200 cities with a population of at least 1mn and India over 60 ...............(vs. only 52 in U.S.)

- The percentage of Chinese living in cities nearly doubled in the past two decades from 26% in 1990 to 51% today .............(vs. 80% in U.S.)

- Continued mass migration from rural to urban areas in China and India will cause urban population to nearly double again by 2050 from 1.6 billion to 3 billion in 2050.

- This will create social issues, but will multiple by multiple orders the level of domestic consumption....and thereby the domestic industry to feed this demand.
China is currently the world leader in graduate production with 18% of the total and India with 11% trails only America’s 14%.

By 2020 China will have grown to 29% of the world’s total population of graduates and India with 12% will have surpassed America’s percentage, which will have fallen to 11%.

The creation of an intellectual cadre will create innovation and drive India and China up the ladder of value addition...a position that is currently still held by the West.
Rapid Emergence of World Class Companies

- China and India have made steady progress up the ranking of innovation by the Economist Intelligence Unit (the rankings inputs include patent output, broadband penetration, R&D as % of GDP, education of workforce and quality of local research).

- Today’s outsourced manufacturing will become tomorrow’s brand name global companies.

![Graph showing innovation rankings of China, India, Brazil, and Russia](image-url)
Asia has sound Fiscal Foundations

**Inflation**

**Public Debt as % of GDP**

**Current Accounts Surplus/Deficit**

Source: Credit Suisse (EM Quarterly, January 2012) Aggregates for regions are weighted by 2010 nominal GDP ($bn) figures. Asia doesn’t include Japan.
Asia will continue to increase its share of global output

Asia’s share of the Global GDP, 1700 - 2050

Source: Asia 2050: Realizing the Asian Century, Asian Development Bank

Asia will be more than 50% of global GDP by 2050
Asian economies will experience huge leap in personal income

Growth in income per capita 2010 - 2050

Source: The world in 2050, HSBC January 2011

Asia will account for a greater share of global consumption
Emerging Market’s share of Financial Markets will come in line with realities

Despite accounting for nearly 50% of GDP and 70% of global growth, EM assets in general are severely under-represented in DM portfolios.

Source: Emerging Appetite, EM Bonds from a DM Perspective, BCA Research
Emerging market’s share of Financial Markets will come in line with realities

Portfolio equity home bias over time

Global portfolios will diversify away from their home markets

The Asian trend is here to stay

- Irrespective of short term volatility, the broader direction of Asian economies is irreversible.

- Asia will grow faster economically, has a better demographic profile, will consume more, and will have deeper financial markets. This trend will not change, and will lead to continued growth.

- The structural realignment of Asia vs. West will create a radically different wealth and investment picture than is accepted today.

- All long term investors (trusts, generational wealth, long term growth accounts) must have Asia and Emerging markets as a meaningful portion of their portfolios.
The limits of traditional portfolios construction
# The Traditional Plan Sponsor Process

<table>
<thead>
<tr>
<th>Decision Body</th>
<th>Investment Decision</th>
<th>Objective / Result</th>
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</thead>
<tbody>
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<td>Asset Owner</td>
<td>Assets &amp; Liabilities</td>
<td>Asset owner risk &amp; return objectives</td>
</tr>
<tr>
<td>Investment Committee</td>
<td>Policy Portfolio</td>
<td>Diversification, asset class risk premium - beta</td>
</tr>
<tr>
<td>CIO / Consultant</td>
<td>Style / Category Allocation</td>
<td>Diversification</td>
</tr>
<tr>
<td>Asset Manager</td>
<td>Benchmarked Products</td>
<td>Excess Return - alpha</td>
</tr>
</tbody>
</table>

Activeness: 75% passive, 25% active
Manager: 85% external, 15% internal
Structural issues in financial markets

In market crises, which are increasingly frequent, diversification from different asset classes often fails to work.

MAXIMUM DRAWDOWN OF A PORTFOLIO WITH GLOBAL STOCKS

Source: Lombard Odier Investment Managers’ analysis
“Conventional” balanced portfolios are biased toward equity risk

- Equity risk is by far the main risk factor
- Adding other asset classes (credit, convertibles, etc.) does not improve diversification
- A one-bet portfolio: «the stock market goes up, you win; the stock market goes down, you lose»

Drawdowns of a traditional weight-balanced portfolio (60% Bonds / 40% Equity) and of its equity component

Correlation between drawdown of the traditional portfolio and its equity component: 77%
Allocations are frequently based on long term hypotheses/observations.

**LONG TERM PERFORMANCE OF EQUITIES (1969-1999)**

Probability of having a positive performance over:
- 1 year: 76%
- 3 years: 85%
- 5 years: 95%

30 years of growth in the equity market with a speed-up from 1995 to early 2000.
... that were not confirmed over the last decade

LONG TERM PERFORMANCE OF EQUITIES (2000-2011)

Probability of having a positive performance over:
1 year: 51%
3 years: 47%
5 years: 58%

Equities delivered a negative performance over the last decade (2000-2011) with very wide fluctuations.
Static Weights ignore that Risk environment is not stable over time

- Risk environment is very unstable over time.
- Volatility peaks tend to have repeating patterns and therefore, explain the sequences of high or low volatility regime.
- The risk level of a given allocation varies according to the effective (not theoretical) volatility regime.

During two distinct volatility regimes, a constant strategic target in equities stands for a very different level of risk.

Volatility peaks repeat themselves: a first peak is generally followed by other peaks in the same direction.
An apparently diversified asset allocation... that hides huge risk concentration

The portfolio appears to be allocated in a **balanced** way across the various asset classes that compose the benchmark.

A risk contribution analysis shows that more than **90% of the risk budget is related to the equity allocation**
What is Risk Parity?

A systematic investment strategy, allocating risk rather than capital

- Achieves true **diversification** by equalizing the **risk contribution** of each underlying component of a portfolio
- Exposes the portfolio to market **risk premium** in a more efficient and balanced way
- Can be implemented on a single- or a multi-asset universe
- Does not rely on expected/forecasted return and volatility
Risk - based Asset Allocation during past scenarios

BONDS BEAR MARKET 1980 - 1981

- Risk based Asset Allocation
- 60% Bonds / 30% Equities / 10% Commodities allocation
- Bonds

BONDS BULL MARKET 2000 - 2003

- Risk based Asset Allocation
- 60% Bonds / 30% Equities / 10% Commodities allocation
- Bonds

EQUITIES BEAR MARKET 2007 - 2009

- Risk based Asset Allocation
- 60% Bonds / 30% Equities / 10% Commodities
- MSCI World Equities

EQUITIES BULL MARKET 1994 - 1997

- Risk based Asset Allocation
- 60% Bonds / 30% Equities / 10% Commodities
- MSCI World Equities
Investment process in Asia
- The four principles
The Four Principles

1. Capitalize on economic growth, but manage the economic cycles – global and local.

2. Identify the themes that will be pervasive, irrespective of short term market volatility.

3. Don’t forget regular income yield - compounding is a good defense against inflation.

4. Manage RISK as well as Return. That is the only way to get a diversified portfolio.
Outlook scenario: U-shaped recovery

- Asia’s growth path will continue to depend largely on external demand and China’s cyclical picture in 2013.
- China’s growth will stabilize in 2013 due to positive impact from more anchored market sentiments on Beijing’s policy.
- Japan will experience further growth deceleration due to increasing fiscal drag from fading reconstruction spending.
- India will achieve moderate acceleration in growth under more benign financing condition for the private sector, but external imbalance will remain as the key challenge.
- Exports and counter-cyclical policy will help newly industrialized economies’ (SK, TW, SG, HK) recovery from this year’s slump.
- ASEAN economies are set to outperform again in 2013, but overheating may trigger tightening and growth moderation toward the year-end.
Investment philosophy

- Unlike the US and Europe, Asia is not a homogenous financial market. It is a collection of 13 different countries, each one having a very different sector breakdown: industrial companies, real estate companies, IT companies, etc.

- This segmentation means that countries and sectors are at different points in their economic and earnings cycle, and this creates the opportunity to harvest return from a top-down strategy.

- The LO Asia Macro Strategy is a top-down investment strategy capitalizing on the many themes, which drive asset prices in countries, sectors and currencies in Asia, with an absolute return orientation.

Portfolio Characteristics

- An Absolute return strategy, targeting return of 6-8% over a cycle with a volatility much lower than the market.

- A delivery of absolute return from Asian and Emerging markets to investors, with a far lower volatility than the equity markets.
LO Asia Macro Strategy (Cont’d)

**Investment Process - A Confluence of Cycles**
The Asia Macro strategy distills a confluence of various cycles into a macro allocation strategy across market segments.

<table>
<thead>
<tr>
<th><strong>Global Cycles</strong></th>
<th><strong>Domestic Cycles</strong></th>
<th><strong>Product Cycle</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>impacts output demand for the export led growth model</td>
<td>impacts domestic demand from consumers and government spending</td>
<td>impacts the rate of obsolescence of products eg: electronics</td>
</tr>
<tr>
<td>Commodity Cycle</td>
<td>Monetary cycle</td>
<td></td>
</tr>
<tr>
<td>impact the price of raw materials and profitability</td>
<td>impacts the cost of capital for companies eg: heavily indebted companies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capex cycle</td>
<td>Credit cycle</td>
</tr>
<tr>
<td></td>
<td>impacts capacity and spending on fixed assets eg: heavy industry</td>
<td>credit availability impacts areas which are financed by credit eg: autos</td>
</tr>
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<td></td>
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The Four Principles

1. Capitalize on economic growth, but manage the economic cycles – global and local.

2. Identify the themes that will be pervasive, irrespective of short term market volatility.

3. Don’t forget regular income yield - compounding is a good defense against inflation.

4. Manage RISK as well as Return. That is the only way to get a diversified portfolio.
LO Asia Absolute Return Strategy

**Investment Philosophy**

- A Multi-strategy approach to investing in Asian equities and bonds.

- Deep fundamental bottom up security selection across the capital structure, with a systematic risk managed portfolio construction process.

- Investment process for each security segment tailored to the specific characteristics of that segment.

- Delivers an Absolute Return without the huge volatility risk of Asian markets.

- A combination of a sector and country approach, capitalising on the level of local or global factors which drive financial markets in various countries.

**Portfolio Characteristics**

- An Absolute return strategy, targeting return of 6-8% over a cycle with a volatility much lower than the market.

- A delivery of absolute return from Asian and Emerging markets to investors, with a far lower volatility than the equity markets.
Investment Process – A multi-strategy approach to investing in Asia
- A dynamic capital and risk allocation process across five independent strategies in Asia and Emerging markets.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia in the Global Technology Ecosystem</td>
<td>A global customer-supplier relationship approach for all regional technology companies</td>
</tr>
<tr>
<td>Asian Domestic Consumption</td>
<td>The resilience of domestic demand in Asia, analyzed using an income based approach.</td>
</tr>
<tr>
<td>China Export and Demand</td>
<td>Reshaping of the Chinese economy to rebalance from export orientation to domestic demand</td>
</tr>
<tr>
<td>Financing Asia’s Growth</td>
<td>The ability of each Asian country to continue to support credit and lending</td>
</tr>
<tr>
<td>Production &amp; Demand of Commodities</td>
<td>Analysis of who benefits from high commodity prices and who suffers from it.</td>
</tr>
</tbody>
</table>

Portfolio Characteristics
- Five bottom up stock selection strategies wrapped into a single portfolio.
- Focus on the stability of consistent return, where one investment process bias does not drive the portfolio return.
- Target 6-8% absolute return, with less than half the volatility of Asian equities.
The Four Principles

1. Capitalize on economic growth, but manage the economic cycles – global and local.

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LO Global Quality Income Strategy

Portfolio Solution

- LO Global Quality Income Strategy
- A globally diversified portfolio of:
  - High dividend equity
  - High quality credit (EM rather than DM)
  - Blue Chip preferred stock
- We only select issuers in any asset class which have the highest quality.
- The key question we ask in this respect is – Will the company still be around in 10 years.
- We only select companies which have the financial ability for a “sustainable” dividend payout in the future. The key question here is – Is the company under any market, financial, or balance sheet stress.

Portfolio Characteristics

- Three Basic Concepts:
  1. Safety first
  2. High Income
  3. Potential for capital appreciation
- Portfolio has an income yield of 6.0%
- The yields for Preferreds, Bonds, and Equity are 7.2%, 6.8%, and 5.0% respectively.
- Average portfolio duration of 4.9 years (assumes holding period of 5 years for equity)
The Investment Problem

- **Equities:** Higher volatility, lower return - 5 years annualized return dropped from 10% to -0.5% in the last ten years. Volatility increased from 12% to 18% in the same period.

- **Fixed Income:** Bond yields are at a 15 yr low - Over the last 10 years, the yield on short term & 10 year bonds have both dropped dramatically.

- **Future Inflation:** The huge monetary easing over the last 5 yrs will cause very high inflation sometime in the future.

- In order to protect the long term purchasing power of assets, an income yield above future inflation is required.
The Four Principles

1. Capitalize on economic growth, but manage the economic cycles – global and local.

2. Identify the themes that will be pervasive, irrespective of short term market volatility.

3. Don’t forget regular income yield - compounding is a good defense against inflation.

4. Manage RISK as well as Return. That is the only way to get a diversified portfolio.
Traditional Asset Allocation ≠ “Diversified” Portfolio

- The risk of a portfolio is usually expressed through its asset weights. This is very misleading...
- These traditional asset weight based portfolio allocations hide both highly imbalanced and static risk exposures (i.e. too much equity risk relative to the client risk profile)
- Such portfolios are only consistent with very bullish views on risky assets (i.e. very positive outlook on the equity markets)

Example:

- In a 70% bond / 30% equity based portfolio, 90% of the total risk results from the equity exposure
- 70% of the capital, allocated to bonds, only contributes to 10% of the total risk
- The bond allocation only serves to dilute the equity performance (positive or negative)
- Such risk imbalances are only consistent with a very strong positive view about equities.
How to develop a risk-based Asset Allocation?

- To build a “truly” diversified portfolio, our starting point is to allocate capital according to the risk contribution characteristics of individual asset classes (especially, where there is a disproportionate risk from a single asset class, like equity). Not the other way around, as it is done traditionally.

- In adopting this process, the risk allocation drives the capital allocation. This determines the implicit long-term strategic asset allocation weights for the portfolio.

- The result is a more stable and diversified multi-asset class portfolio.
...over reliance on equity bull market

Currently...

Traditional balanced portfolios pre-define "static" strategic weights of different assets...

...this approach hides a huge concentration of risk in only one equity-supportive scenario

Rather...

Portfolios should be built to benefit equally from various economic and financial scenarios...

...and dynamic exposures to various assets should only translate this balance in risk over time
Investment Horizon based suggested allocations

**Long Term Investment (10+ years) eg: Trusts**
- Benefitting from Asia’s growth: 50% Equity assets
- Uncorrelated sources of return: 30% Absolute return strategies
- Component of Yield: 20% Yield

**Medium Term Investment (3-8 years) eg: Surplus Liquid Assets**
- Benefitting from Asia’s growth: 40% Equity assets
- Uncorrelated sources of return: 30% Absolute return strategies
- Component of Yield: 30% Yield

**Short Term Opportunistic (3 years) eg: Active Investment Funds**
- Benefitting from Asia’s growth: 20% Equity assets
- Uncorrelated sources of return: 30% Absolute return strategies
- Component of Yield: 50% Yield
Conclusion
Conclusion

- Asia’s macro trends continue to be attractive and carry investment opportunities
- Asia’s short term outlook is slightly positive
- Manage the limits of traditional portfolio allocation
- We believe in a multi-strategy investment architecture to allow the use of multiple return drivers in a portfolio.
- We segment our investment universe not only by country and sectors, but also by themes
- We believe portfolio construction, risk management and portfolio hedging are an essential part of managing Asian strategies, given the higher market volatility. They are a must, to complement a fundamental alpha process
- We aggressively hedge all unwanted risks in the portfolio, using the now liquid Asian markets in futures, swaps, CFDs and forwards
- We believe a team of specialists, each with an independent customised investment process is better suited to prevent a single point of failure, and create a more robust portfolio
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