

Presentation to:  
**Employees' Retirement System of Rhode Island**



April 2017

# A Market Leading Specialist Asset Manager Backed by the Premier Global Capabilities of Credit Suisse Group

## Credit Suisse

- Founded in **1856** with headquarters in Zurich, Switzerland, Credit Suisse operates as an integrated bank.
- **USD 1,277 billion** in assets under management.
- **47,170** employees (full-time equivalents).
- **11.6% BIS statistics (Basel III), look through CET 1 ratio** exceeding target required for 2019.
- **A1/A/A<sup>1</sup>** long-term credit rating.
- **Global investment banking presence** with leading equities, fixed income and advisory capabilities.
- **One of the leading banks** for private clients – in more than **300 office** locations and **50 countries**.<sup>2</sup>

## Credit Suisse Asset Management<sup>3</sup>

- **USD 314 billion** in assets under management.
- **Among top 10 largest** global alternative asset manager<sup>4</sup>.
- **Approximately 748** investment professionals.
- **>60%** of assets with **institutional clients**<sup>5</sup>.
- Raised multiple billions through channel management structure in the past two years.
- **Centralized** investment hub out of Switzerland.

<sup>1</sup> A1/Moody's, A/Standard & Poor's, A/Fitch. The Moody's ratings shown are senior unsecured long-term debt ratings. The long-term deposit rating for Credit Suisse AG is A1 with stable outlook. Standard & Poor's considers Credit Suisse Securities (USA) LLC and Credit Suisse Securities (Europe) Limited to be core to Credit Suisse under its group rating methodology. Therefore, both entities' long- and short-term ratings from Standard & Poor's are in line with those of Credit Suisse AG – A/A-1: stable outlook. Latest rating action on December 13, 2016.

<sup>2</sup> As of December 31, 2016.

<sup>3</sup> The AuM for Credit Suisse Asset Management have been restated at the end of 2015 to reflect the new reporting structure of Credit Suisse that has been introduced by the Board of Directors in October 2015. The AuM no longer include client assets managed on behalf of the Private Bank.

<sup>4</sup> Source: Towers Watson Global Alternatives Survey 2015. As of December 31, 2015.

<sup>5</sup> Excludes MACS.

Source: Credit Suisse  
As of December 31, 2016

# Distinct 3 Pillars Model Delivers Global Capabilities to Our Clients

## Key Businesses

specialized product expertise

### Family of highly specialized businesses

- Innovative in alternative and traditional asset classes.
- Focus on performance: agility to opportunistically identify and capture alpha.
- Direct client coverage with open access to highly experienced PMs.
- Deep technical expertise and risk management processes.

## CSAM

governance and controls

### CSAM providing strong fiduciary oversight

- Scale and global presence, with USD 314bn AuM.
- Supports business' investment independence.
- Institutional-quality infrastructure and controls.
- Strong firm-wide culture of risk management.



## CS Group

talent, insights and support

### The best of Credit Suisse Group

- Diverse talent and skills coming from the IB.
- Market insights and intellectual capital flow.
- Global coverage to identify client needs.
- Support for CSAM's development through capital.

We believe this model uniquely positions CSAM for success in the new environment.

Source: Credit Suisse  
As of December 31, 2016

# Credit Suisse's Asset Management Capabilities

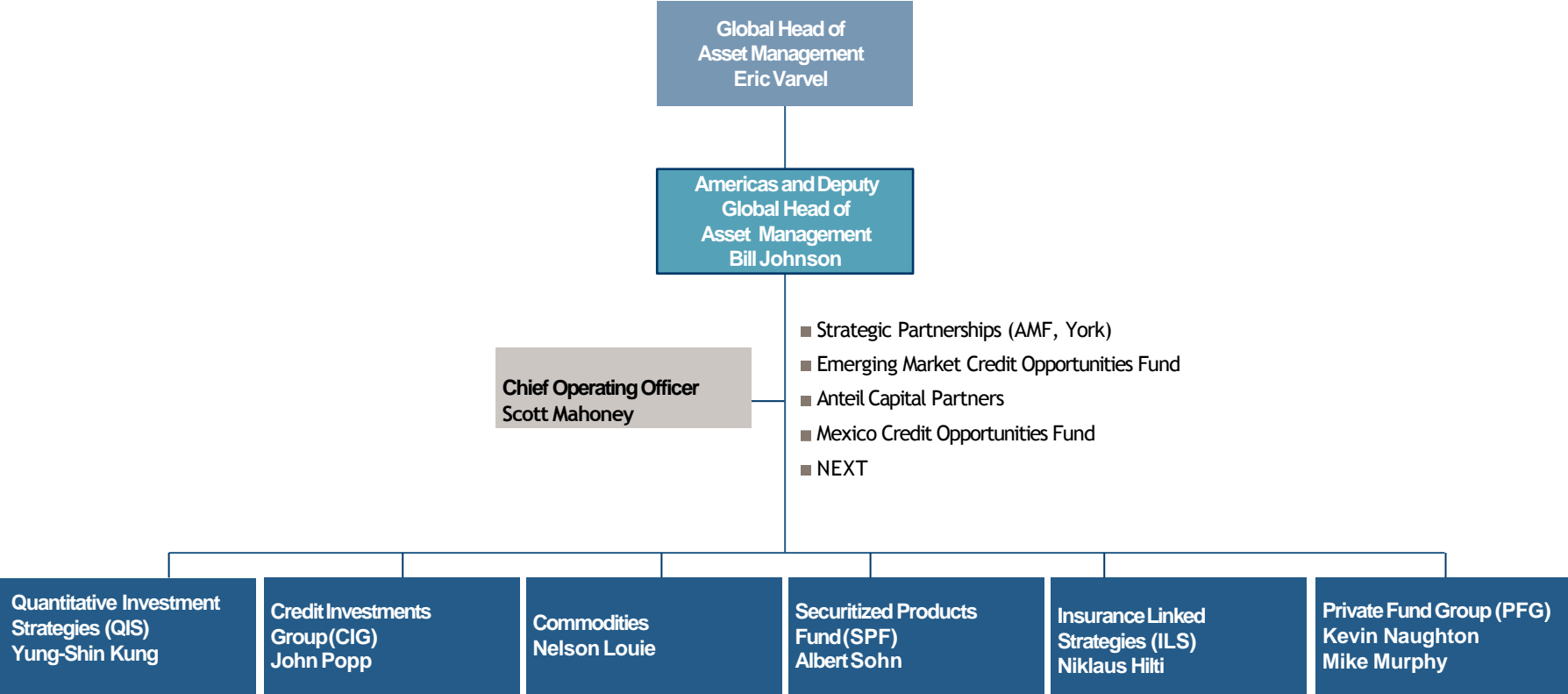
## Credit Suisse Asset Management (Total AuM: USD 314 bn)

Operating Businesses (AuM: USD 275 bn)				Investments & Partnerships
	Traditional Asset Classes	Alternative Asset Classes	Alternative Investment Styles	
AuM	USD 156bn	USD 103 bn	USD 16 bn	USD 39 bn
Description	<ul style="list-style-type: none"> <li>Exposure to traditional asset classes through predominantly long-only fee structures</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to alternative asset classes through predominantly long-only fee structures</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to alternative asset classes with absolute return objectives and/or long lock-ups, e.g. direct hedge funds, private equity</li> </ul>	<ul style="list-style-type: none"> <li>Minority investments in top-tier firms – York, Verde, ICBC</li> </ul>

The AuM for Credit Suisse Asset Management have been restated at the end of 2015 to reflect the new reporting structure of Credit Suisse that has been introduced by the Board of Directors in October 2015. The AuM no longer include client assets managed on behalf of the Private Bank.

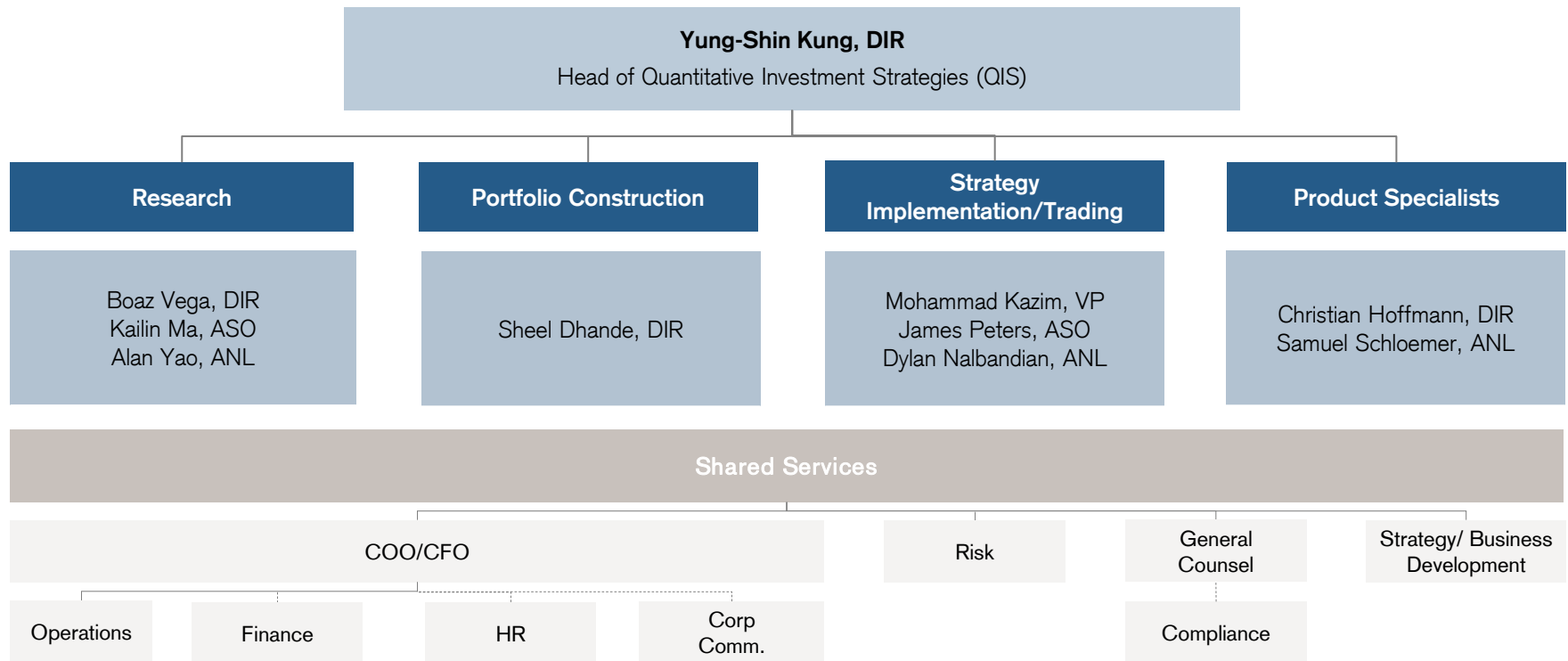
Source: Credit Suisse  
As of December 31, 2016

# Introduction – Asset Management Americas Organization



Source: Credit Suisse  
As of December 31, 2016

# Introduction – Quantitative Investment Strategies (QIS) Organization



Source: Credit Suisse  
As of December 31, 2016

# Philosophy: Pure, Representative Exposure to Trend Following

A Component of CSAM's Liquid Alternative Beta (LAB) Platform

## LAB Platform Objective

- Deliver the performance of alternative investment strategies using liquid, tradable instruments
  - Liquid, transparent and attractively priced
- 

## LAB Strategies

- Broad Industry
  - **Managed Futures**
  - Long/Short Equity
  - Event Driven
  - Global Strategies
  - Merger Arbitrage
- 

## Platform Inception

- July 2007
  - The Managed Futures Strategy went live in **February 2011**
- 

## QIS Team

- Experienced team
- Industry-recognized academic researchers – Professors Bill Fung, David Hsieh and Narayan Naik – collaborated with the QIS team on the initial development of the models
- Supported by a dedicated investor relations team, business development professionals, an independent operations group, Credit Suisse Asset Management legal and compliance department and Credit Suisse Asset Management finance and risk teams

# Key Considerations Favoring the QIS Team Approach

**Trend Following Strategies Have Historically Improved Portfolio Efficiency**

**We Believe that Our Approach Addresses the Biggest Issue Facing Allocators.... Reliability**

1

An **offset** should aim to provide **negative correlation** in the tail; this is different from diversification maximization

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2

Overly complex programs introduce cost, illiquidity and erratic behavior; an offset should **limit** exposure to **highly idiosyncratic** “off-the-run” **instruments**

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3

Program performance should be **intuitive** and **relevant** to the portfolio it is designed to enhance

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4

A well-suited program should function on **timescales relevant to** portfolio performance measurement and **decision-making**

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5

**Opt for robustness** across regimes over outperformance in a particular regime



# The Credit Suisse Managed Futures Strategy

## Diversified Trend Following Balanced across Asset Classes

- We seek to give investors diversified and fee-efficient access to the core components of the Managed Futures Strategy by seeking to capture the most significant trends across major asset classes

	Important Considerations	Credit Suisse Approach
<b>Investable Universe</b>	What instruments will be traded? (asset classes, regions, # instruments)	Diversified set of liquid instruments: Equities, Fixed Income, FX, commodities
<b>Trend Identification</b>	When and how are trends identified? When is the trend entered/exited?	Daily trend identification <b>across multiple time signal periods</b>
<b>Portfolio Construction</b>	How is each trend position sized? What risk measures are considered?	<b>Risk-diversified weighting approach</b> that takes recent volatility of each instrument into account
<b>Fee efficient Implementation</b>	How are transaction costs considered in overall strategy design?	Focus on <b>transaction cost efficiency</b> and <b>competitive pricing</b>

# Investable Universe

## Diversified Instruments across Major Asset Classes

The instruments in the portfolio have been carefully selected with the goal of achieving **portfolio diversification** across a global opportunity set while maintaining efficiency in regards to portfolio turnover and trading costs

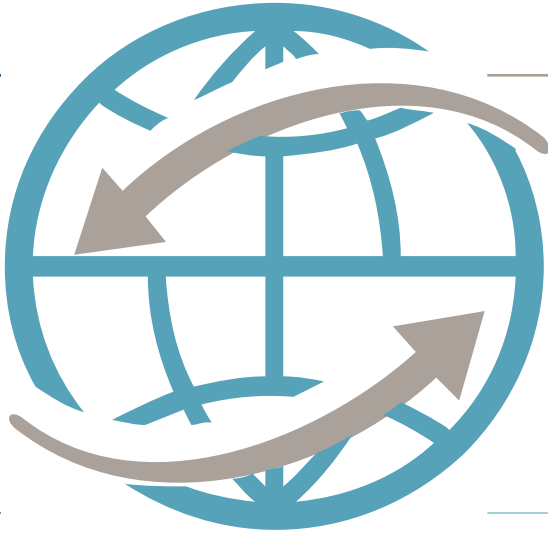
### Global Investment Universe

#### Equities

- ✓ S&P 500
- ✓ Hang Seng
- ✓ Nikkei 225
- ✓ Euro Stoxx 50
- ✓ FTSE 100

#### Currencies

- ✓ Australian Dollar
- ✓ British Pound
- ✓ Canadian Dollar
- ✓ Euro
- ✓ Japanese Yen



#### Fixed Income

- ✓ US Treasuries
- ✓ UK Gilt
- ✓ Euro Bund
- ✓ Japanese Govt. Bond

#### Commodities

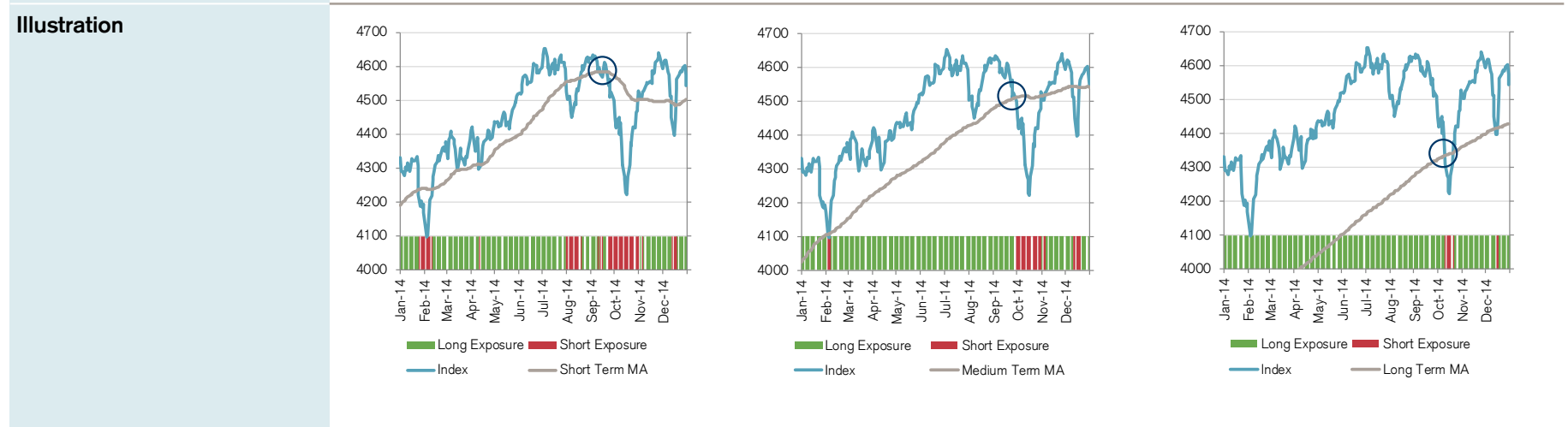
- ✓ Agriculture
- ✓ Precious Metals
- ✓ Industrial Metals
- ✓ Energy

# Trend Identification

We Combine Several Independent Moving Average Crossover Signals to Determine Trends

We combine a range of different time horizons with the goal of achieving **diversification across multiple signals** and then implement the aggregate signal by going either long or short the underlying asset.

Signal Range	Shorter-Term (3M–6M)	Medium-Term (7M–12M)	Long-Term (>12M)
<b>Role in Portfolio</b>	React quickly to changes in trends and cut exposures	Act as trend strength indicator to determine net long/short exposure	Participate in sustained, long-term trends across asset classes
<b>Strength</b>	Fastest to react to changes in trends and reduces risk	Less susceptible to “noise” and incurs lower transaction costs	Least susceptible to “noise” and thus incurs the least transaction costs
<b>Weakness</b>	Can result in high portfolio turn-over in sideways markets	Slower to react to changes in trends	Slowest to react to changes in trends



For illustrative purposes only.  
 (Short Term MA = 5 vs. 60 day; Medium Term MA = 5 vs. 140 day; Long Term MA = 5 vs. 300 day)

Source: Bloomberg; based on MSCI World TR Index  
 As of December 31, 2016

# Trend Identification

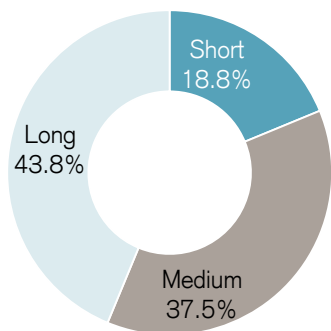
## Diversification across Signal Periods

Financial markets are dynamic and trends establish across multiple different time horizons. We therefore seek to identify trends across a variety of different periods and trade the net position derived from all utilized signals.

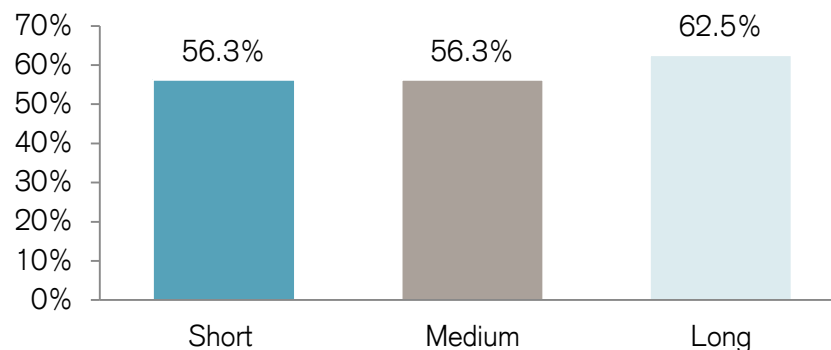
This is an **illustrative** example to show how different trend-signals perform during various periods<sup>1</sup>.

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Short 3.7%	Medium 16.8%	Long 19.6%	Medium 30.0%	Long 14.7%	Medium 9.5%	Long 20.1%	Long 9.0%	Medium 41.4%	Short 46.3%	Medium 2.9%	Medium -4.8%	Short 9.0%	Long 26.7%	Long -2.3%	Long -9.9%
Long 2.2%	Long 16.8%	Medium 0.7%	Short 20.2%	Medium 5.4%	Long 9.5%	Short 15.8%	Medium -9.9%	Short 40.1%	Medium 19.2%	Short -11.9%	Long -17.4%	Long -3.9%	Medium 26.7%	Medium -6.5%	Medium -15.9%
Medium -0.5%	Short 8.1%	Short -5.5%	Long 15.2%	Short 2.9%	Short -2.2%	Medium -1.4%	Short -13.7%	Long 33.0%	Long 4.2%	Long -21.3%	Short -31.8%	Medium -17.4	Short 11.9%	Short -11.8%	Short -22.3%

YTD 1st rank distribution



% positive years for each signal



<sup>1</sup> Source: Bloomberg, based on MSCI World TR Index, measurement period 6/30/2000 to 12/31/2015; "Short" refers to the YTD performance (after assumed transaction costs) of 5 days vs. 60, 80, 100, 120 days moving average (long position if 5 day moving average is above the longer dated moving average and vice versa). "Medium" refers to the YTD performance (after assumed transaction costs) of 5 days vs. 140, 160, 180, 200, 220 days moving average; "Long" refers to the YTD performance (after assumed transaction costs) of 5 days vs. 240, 260, 280, 300, 320, 340, 360 days moving average.

# Portfolio Construction

## Diversified Opportunity Set through Allocating across Asset Classes

We seek to **diversify and balance risk across four major asset classes.**

When rebalancing the portfolio, we incorporate the realized volatility of each instrument to determine its weight in the overall portfolio. This way, we **reduce the dependency on any one instrument or asset class** to drive returns and balance risk across the portfolio at the same time.

### Target Risk Allocation (approx.)

Equities ← 25% →

Fixed Income ← 25% →

Commodities ← 25% →

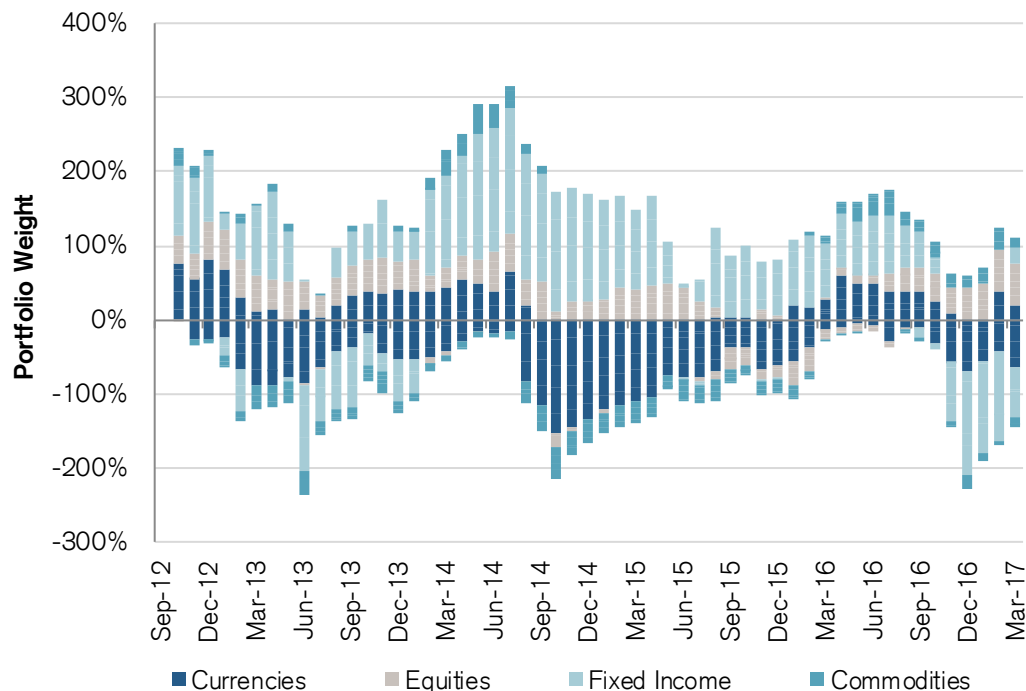
Currencies ← 25% →

**Below-average** risk allocation due to sliding weights resulting from negative P&L and/or off-setting trend signals across periods

**Above-average** risk allocation due to sliding weights resulting from positive P&L and/or strong trend (either long or short) signals across periods

At the onset, each instrument is weighted based on its recent realized volatility to approximately contribute an **equal amount of risk** to the portfolio

### Historical Portfolio Weights (% of Total)

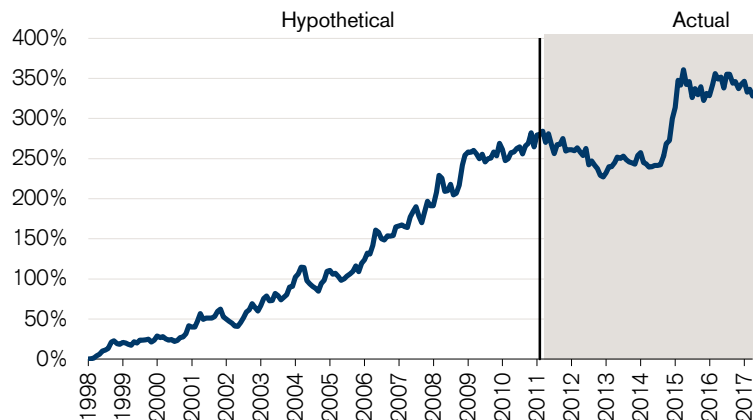


Source: Credit Suisse  
As of March 31, 2017

# Credit Suisse Managed Futures Liquid Index

## Hypothetical and Actual Cumulative Performance\*

Based on hypothetical performance from Jan 1998 - Jan 2011  
and actual performance from Feb 2011 - Mar 2017



— Hypothetical CS Managed Futures Liquid Index\*

## Hypothetical and Actual Index Performance\*

Based on hypothetical performance from Jan 1998 - Jan 2011 and actual performance from Feb 2011 - Mar 2017

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Hypothetical CS Managed Futures Liquid Index*</b>	20.91%	6.59%	8.71%	7.02%	11.23%	21.31%	4.16%	6.26%	18.77%	9.50%	23.03%	0.93%	4.97%	-4.85%	-7.95%	7.49%	15.77%	3.56%	4.19%	-4.70%

\* The above chart shows **hypothetical performance** of the Credit Suisse Managed Futures Liquid Index from **January 1998 to January 2011** and **actual historical performance** since **February 2011**. Please note that the black vertical line and grey shading in the chart and graph above delineates hypothetical from actual historical performance. **Please see important information regarding hypothetical, back-tested or simulated performance at the end of this presentation.** It is not possible to invest directly in an Index. Exposure to an asset class represented by an Index is available through investable instruments based on that Index. Those investable instruments will have fees and other transactional costs associated with investments in them, and those fees and other transactional costs, when applied, would impact the performance demonstrated above. **Past performance is not a guarantee or indicator of future results.** The results do not represent the results of actual trading but are provided by means of the retroactive application of the index construction methodology that was designed with the benefit of hindsight. The results should not be considered indicative of the skill of the adviser and the results may not reflect the impact that any material market or economic factors might have had on the index construction.

Sources: Credit Suisse Asset Management LLC, Bloomberg. All data was obtained from publicly available information, internally developed data and other third party sources believed to be reliable. Credit Suisse has not sought to independently verify information obtained from public and third party sources and makes no representations or warranties as to accuracy, completeness or reliability of such information.

## Hypothetical and Actual Performance Statistics\*

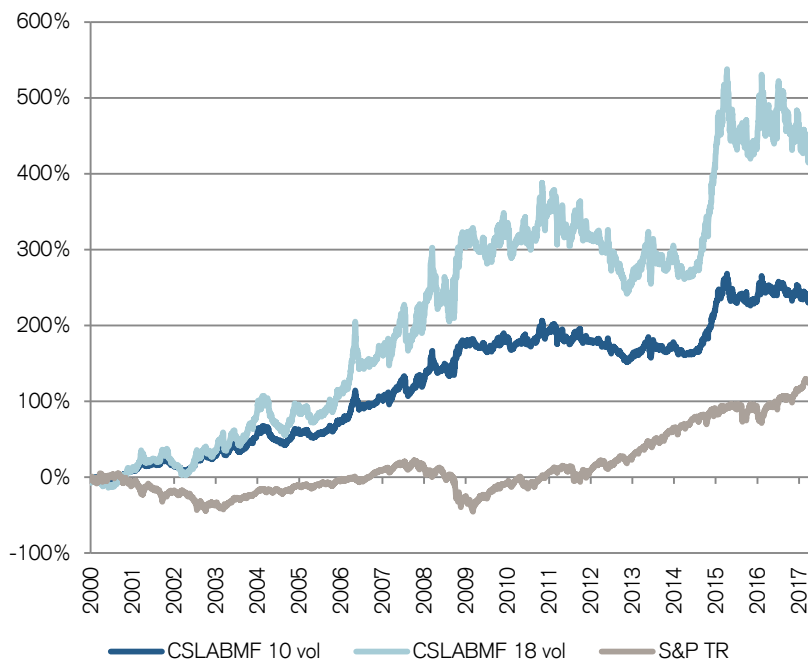
Based on hypothetical performance from Jan 1998 - Jan 2011  
and actual performance from Feb 2011 - Mar 2017

	Hypothetical CS Managed Futures Liquid Index*
Annualized Return	7.84%
1 Month	-1.96%
1 Year rolling	-4.70%
5 Year rolling (Annualized)	3.73%
YTD	-4.13%
Annualized Volatility	9.93%
Sharpe Ratio	0.79

# Performance in Challenging Equity Markets

Credit Suisse Managed Futures Liquid Index Custom Volatility Targets

## Hypothetical Performance



	CSLABMF 10 vol	CSLABMF 18 vol	S&P TR Index
Annualized Return	7.21%	10.06%	4.87%
Annualized Volatility	10.47%	18.36%	19.63%

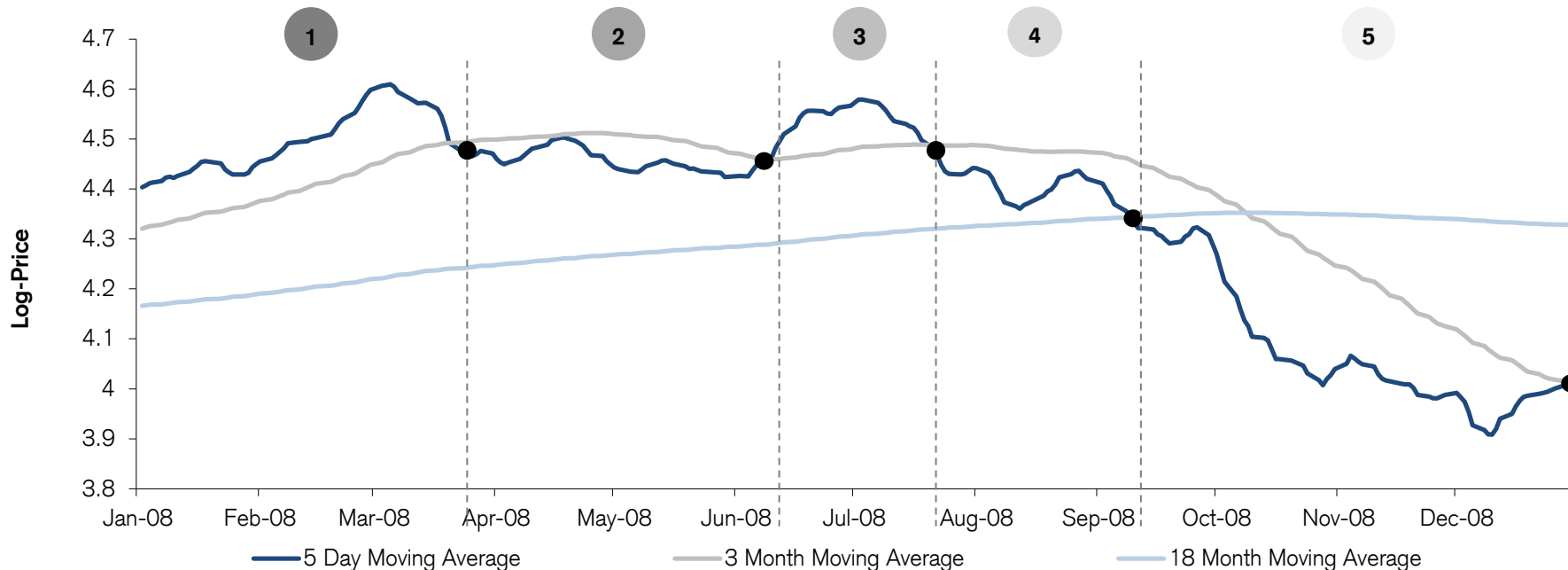
## Hypothetical Performance During Equity Market Drawdowns >10%

Scenario	Date	Performance		
		CSLABMF 10% Volatility Target	CSLABMF 18% Volatility Target	S&P 500 TR Index
Internet Bubble	Mar 2000 – Oct 2002	35.0%	49.2%	-49.1%
Financial Crisis	Oct 2007 – Mar 2009	29.4%	48.0%	-56.8%
Euro Crisis 2010	Apr 2010 – Jun 2010	1.1%	2.1%	-16.0%
Euro Crisis 2011	Apr 2011 – Oct 2011	-0.6%	-0.3%	-19.4%
LTRO Announcement	Oct 2011 – Nov 2011	3.3%	5.8%	-9.8%
Euro Crisis 2012	Apr 2012 – Jun 2012	2.1%	3.8%	-9.9%
2015 Stock Market Selloff	May 2015 – Feb 2016	7.4%	11.9%	-14.2%

Source: Bloomberg, Credit Suisse Asset Management. Observation period is from 1/1/2000 to 3/31/2017. Performance has been calculated across the defined scenario period. Past performance is not a guarantee or indicator of future results. Please see important information regarding hypothetical, back-tested or simulated performance at the end of this presentation. It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. Those investable instruments will have fees and other transactional costs associated with investments in them, and those fees and other transactional costs, when applied, would impact the performance demonstrated above. The results do not represent the results of actual trading but are provided by means of the retroactive application of the index construction methodology that was designed with the benefit of hindsight. The results should not be considered indicative of the skill of the adviser and the results may not reflect the impact that any material market or economic factors might have had on the index construction.

# Identifying Market Trends: Hypothetical Case Study – Bloomberg Agriculture Index Moving Averages in 2008

The hypothetical example shown is provided to illustrate how the Index's rules based methodology would have responded based on the moving averages of the Bloomberg Agricultural Index. The example does not reflect actual results. Inception of the Credit Suisse Managed Futures Liquid Index was January 31, 2011



- 1
3
  - During these periods, the 5 day moving average is higher than both the 3 month and 18 month moving averages. As a result, the strategy would go long the Bloomberg Agriculture Index.
- 2
4
  - As trends shift, the 3 month moving average surpasses the 5 day moving average. Based on this combination of moving averages, the strategy would suggest selling Agriculture Index futures.
  - However, at the same time, the 5 day moving average remains higher than 18 month moving average. This suggests that the strategy should continue buying Agriculture Index futures.
  - These conflicting suggestions result in a neutral position as a solid trend has not been established. This interaction between different time horizons is an important feature of the strategy, allowing it to identify transitions between trending regimes.
- 5
  - In September 2008, both the 3 month and 18 month moving averages surpassed the 5 day moving average. At this point, the strategy would go short the Agriculture Index.

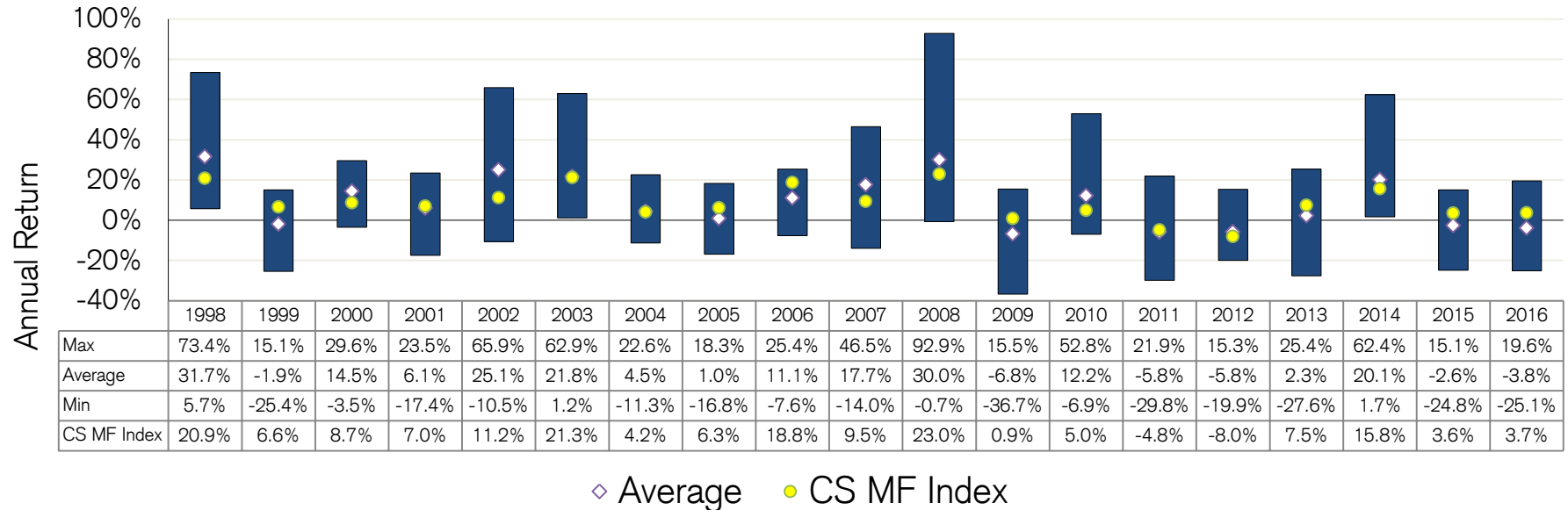
**Past performance is no guarantee or indicator of future results.** Source: Credit Suisse, Bloomberg. Observation period from 1/1/2008 to 12/31/2008. The results do not represent the results of actual trading but are provided by means of the retroactive application of the index construction methodology that was designed with the benefit of hindsight. The results should not be considered indicative of the skill of the adviser and the results may not reflect the impact that any material market or economic factors might have had on the index construction. Please see important information regarding hypothetical, back-tested or simulated performance at the end of this presentation.



# High Stakes: Dispersion Makes Manager Selection Critical

Gaining Diversified Exposure Can be Challenging

## Annual Performance Dispersion of Trend Following Managed Futures Funds (Net of Fees)



Source: Credit Suisse. Observation period 12/31/1997 to 12/31/2016. Industry data based on funds within the Credit Suisse Managed Futures Hedge Fund Index. Performance is presented net of associated fees for the respective Credit Suisse Managed Futures Hedge Fund Index constituents. **Past performance is not a guarantee or indicator of future results.** The above table shows hypothetical performance of the Credit Suisse Managed Futures Liquid Index (“CS MF Index”) from January 1998 to January 2011 and actual historical performance since February 2011. Please see important information regarding hypothetical, back-tested or simulated performance at the end of this presentation. It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. Those investable instruments will have fees and other transactional costs associated with investments in them, and those fees and other transactional costs, when applied, would impact the performance demonstrated above. The results do not represent the results of actual trading but are provided by means of the retroactive application of the index construction methodology that was designed with the benefit of hindsight. The results should not be considered indicative of the skill of the adviser and the results may not reflect the impact that any material market or economic factors might have had on the index construction.

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Simulations for the Credit Suisse Managed Futures Liquid Index were conducted to measure how a portfolio of securities designed by means of the retroactive application of the current index construction methodology would have performed in the period beginning December 31, 1997. The results do not represent the results of actual trading, but have assumed transaction costs associated with trading. Any invested or borrowed cash earned or paid interest at assumed market rates. The platform on which this testing was performed is a proprietary system developed at Credit Suisse. All simulations were conducted by Credit Suisse Asset Management, LLC.

**Hypothetical, back-tested or simulated performances have many inherent limitations only some of which are described as follows:** (i) It is designed with the benefit of hindsight, based on historical data, and does not reflect the impact that certain economic and market factors might have had on the decision-making process. No hypothetical, back-tested or simulated performance can completely account for the impact of financial risk in actual performance. **Therefore, it will invariably show positive rates of return.** (ii) It does not reflect actual asset trading and cannot accurately account for the ability to withstand losses. (iii) The information is based, in part, on hypothetical assumptions made for modeling purposes that may not be realized in the actual management of indices. No representation or warranty is made as to the reasonableness of the assumptions made or that all assumptions used in achieving the returns have been stated or fully considered. Assumption changes may have a material impact on the model returns presented. This material is not representative of any particular index's performance. **Investors should not assume that they will have an investment experience similar to the hypothetical, back-tested or simulated performance shown.** There are frequently material differences between hypothetical, back-tested or simulated performance results and actual results subsequently achieved by any investment strategy.

Unlike an actual performance record based on trading actual portfolios, hypothetical, back-tested or simulated results are achieved by means of the retroactive application of a back-tested model itself designed with the benefit of hindsight. Hypothetical, back-tested or simulated performance does not reflect the impact that material economic or market factors might have on an adviser's decision making process if the adviser were actually managing a portfolio. The back-testing of performance differs from actual performance because the investment strategy may be adjusted at any time, for any reason and can continue to be changed until desired or better performance results are achieved. The back-tested performance includes hypothetical results that reflect the reinvestment of dividends and other earnings but do not reflect the deduction of advisory fees, brokerage or other commissions, and any other expenses that a client would have paid or actually paid. Likewise, and unless demonstrated otherwise, actual results do not reflect the deduction of advisory fees, brokerage or other commissions, and any other expenses that a client would pay or actually paid. **No representation is made that any index will or is likely to achieve profits or losses similar to those shown.** Alternative modeling techniques or assumptions might produce significantly different results and prove to be more appropriate. Past hypothetical, back-test or simulated results are neither indicators nor guarantees of future returns. **In fact, there are frequently sharp differences between hypothetical, back-tested and simulated performance results and the actual results subsequently achieved.** As a sophisticated investor, you accept and agree to use such information only for the purpose of discussing with Credit Suisse your preliminary interest in investing in the strategy described herein.

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