J.P.MORGAN MACRO HEDGE INDICES

Rule-based Volatility Investing

August 2011

J.P.Morgan

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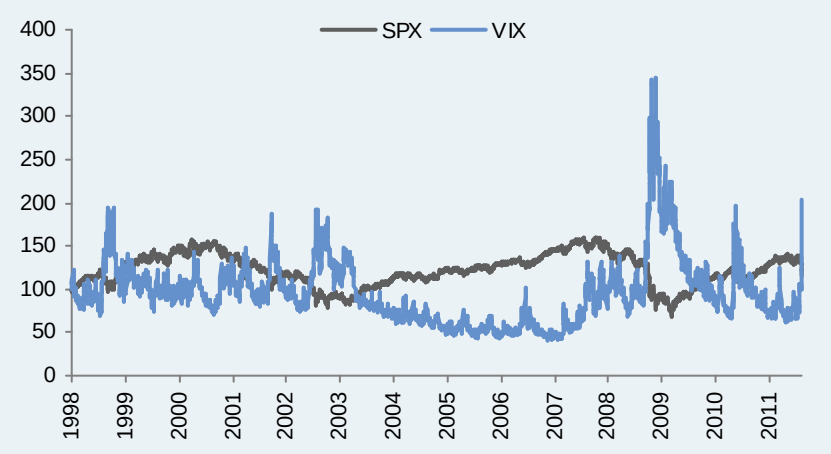
Executive Summary

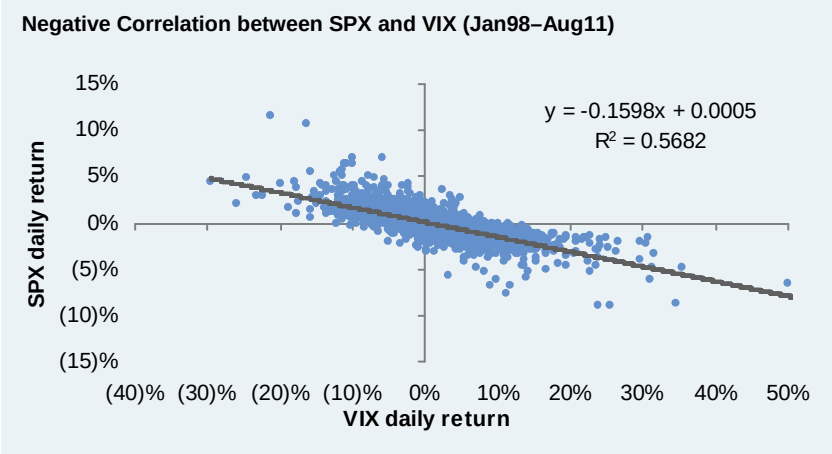
- Considered by a growing number of participants as an emerging asset class, volatility is generally **negatively correlated to equity markets**
- Volatility Index Futures on S&P500 ("VIX Futures") have gained **increasing popularity among investors** as a transparent and liquid way to get exposure to volatility. They were initially introduced on the CBOE Futures Exchange on 26 March 2004 and are commonly traded with maturities up to 9 months.
- However, under certain conditions (depending on the slope of the term structure), a long-term investment in a volatility index that rolls futures contracts could drag down the performance by virtue of the carry cost of curve slides.
- The J.P. Morgan Macro Hedge Index is an investment solution whereby:
  - Contracts are rolled systematically in a less costly way than most currently available volatility index investments
  - We introduce an opportunistic short leg to enhance the return of the long volatility investment; this conditional short leg is 'activated' during certain market conditions based on pre-defined rules
  - Provides for a transparent investment strategy with daily liquidity
- J.P Morgan have implemented an enhanced version of the J.P Morgan Macro Hedge Index
  - More reactive to short-dated volatility spikes
  - Provides a long vega exposure
  - The J.P Morgan Macro **Hedge Enhanced Index-** JPMZMHEN Index
- J.P. Morgan can provides exposure to European volatility through Macro Hedge Hybrid and Macro Hedge Enhanced Hybrid indices
- J.P. Morgan provides exposure to these bespoke indices through accessible instruments such as swaps or certificates

Agenda

Volatility as an equity hedge

- Equity and volatility have empirically exhibited a strong negative correlation



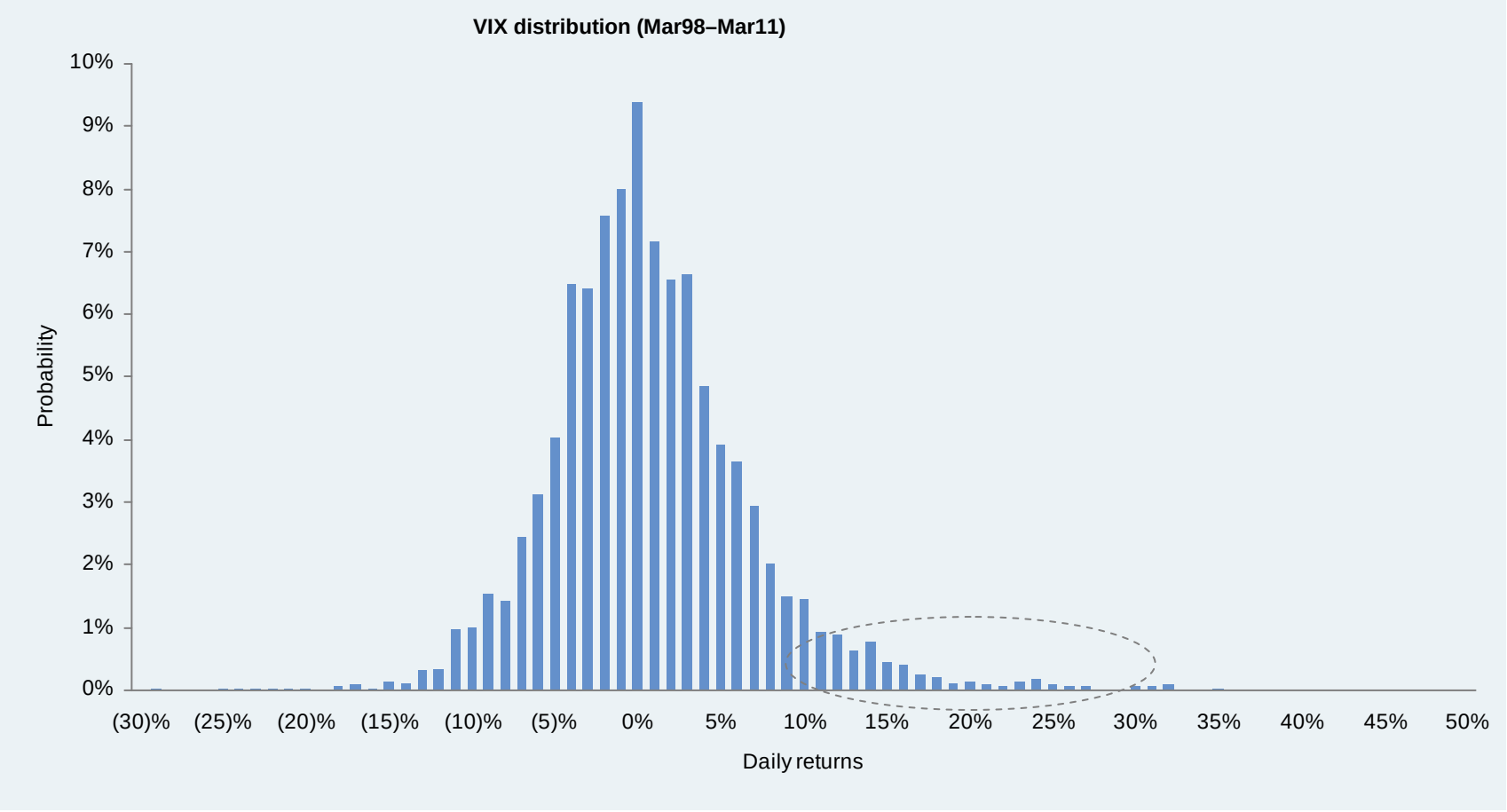


Source: J.P. Morgan. Past performance is not a guide to future performance. "VIX Index" refers to the performance of CBOE SPX Volatility Index (Bloomberg: VIX Index). "SPX Index" refers to the performance of S&P 500 Index (Bloomberg: SPX Index).
Please refer to the back-testing disclaimer at the beginning of this presentation.

- Market sell-offs typically result in volatility spikes
- Volatility spikes
  - Tend to be large in magnitude
  - Tend to occur infrequently
  - Tend to mean-revert over time

Distributional Properties of Volatility as an Asset Class

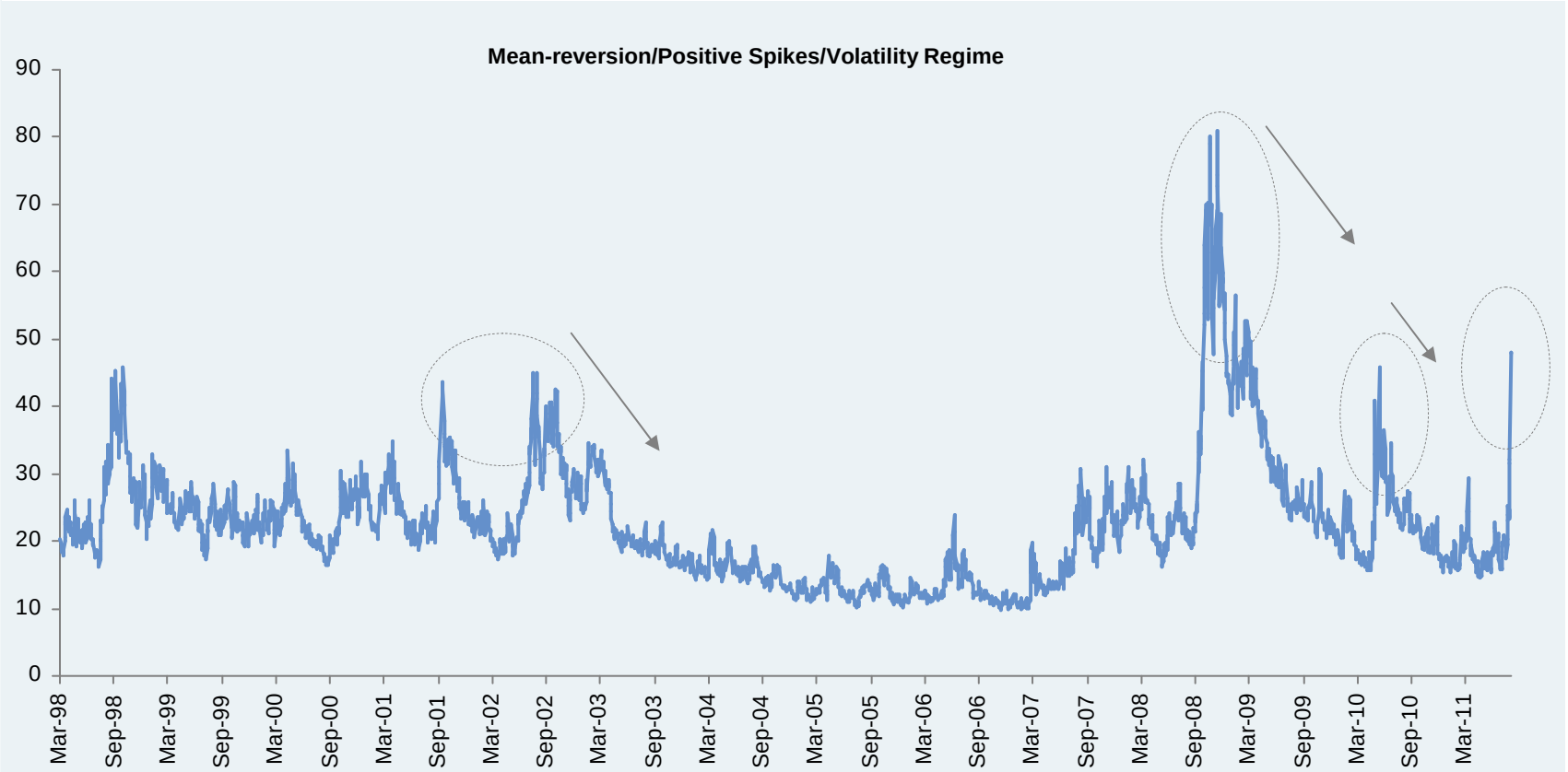
- Historical performance of volatility does exhibit a positively skewed distribution and can significantly improve the risk-return profile of a traditional equity portfolio.



Source: Bloomberg. Past performance is not a guide to future performance. "VIX Index" refers to the performance of CBOE SPX Volatility Index (Bloomberg: VIX Index). Please refer to the back-testing disclaimer at the beginning of this presentation.

Volatility's return and behaviour

VIX Index historical performance–Bloomberg VIX <Index>



Source: Bloomberg. From March 1998 to March 2011. Past performance is not a guide to future performance.
"VIX Index" refers to the performance of CBOE SPX Volatility Index (Bloomberg: VIX Index).
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Volatility as an Investment

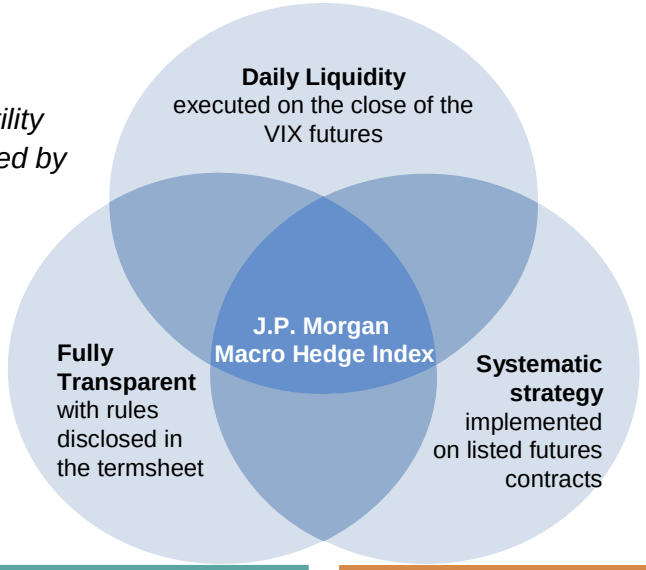
VIX Futures and VXX Index

- A VIX Future is linked to the expectation of the spot VIX Index at Future's expiry, i.e. it will settle at the volatility index level on expiry. It is therefore very closely related to forward-starting variance (30day variance starting at Future's expiry) and any VIX Future strategy will involve term structure slide considerations.
- VIX Futures will therefore enable to express a pure implied volatility play without getting exposed to the carry between implied and realized volatility.
- The VXX index provides exposure to a long VIX Futures position that is rolled continuously throughout each month from the first month VIX Futures contract into the second month VIX Futures contract.
- At the start of the Roll Period of the Macro-Hedge Index, all of the weight is allocated to the second month contract. Then on each subsequent business day, a fraction of the second VIX Futures holding is sold and an equal notional amount of the third month VIX Futures is bought. This enables to achieve a constant exposure to 1M volatility starting in 2M.
- This allocation in the Macro-Hedge Index carries on until the following Roll Period starts when the old third month VIX Futures contract becomes the new second month VIX Futures contract and gets sold every day afterwards as the process begins again.

Agenda

J.P. Morgan Macro Hedge Index: Concepts & Mechanism

The Macro Hedge Index is a volatility strategy designed and implemented by J.P. Morgan



Systematic Long Position

- The long position 'buys protection' systematically and can be viewed as a stable macro-hedge for a traditional equity portfolio
- Positions are rolled continuously each month to smooth out market timing:
  - Rolling from 2nd to 3rd month listed VIX futures contacts
  - Rolling a proportionate amount based on the number of business days in the current month, i.e. 5% of the position per day if the month has 20 business days

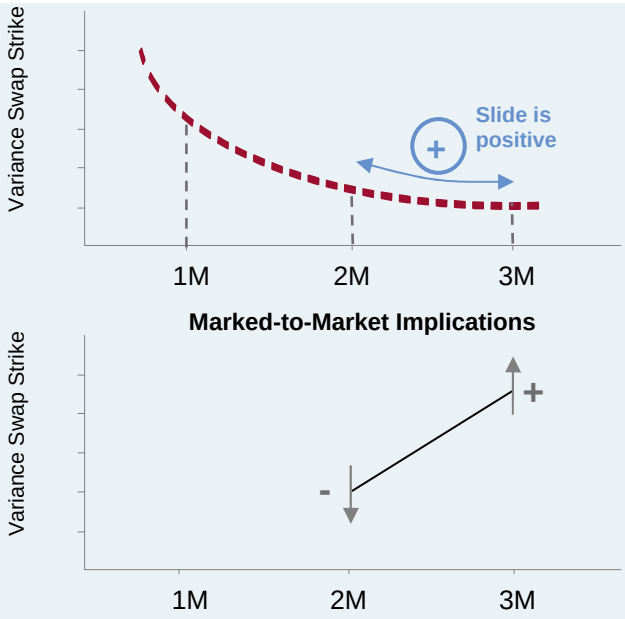
Opportunistic Short Position

- Slide cost of the systematic long position is mitigated by selling volatility opportunistically when term structure is upward sloping
- Conditional short position is activated:
  - If there is negative spread between the VIX Index (spot) and the relevant average of the two first month contracts (i.e. when spot is cheaper than the front month). This shape of the curve is typically the result of low stress in equity markets
  - Rolling from 1st to 2nd month listed VIX futures contracts
- Short position is opened/closed, in 20% percent increments, through applying the 3 days Robustness Test

The combination of a systematic long position and an opportunistic short overlay constitutes a robust volatility strategy

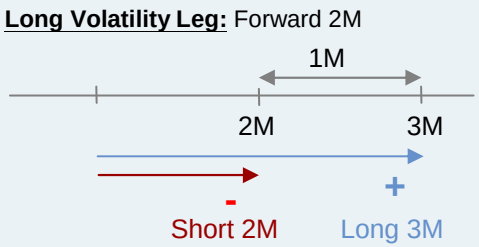
Roll mechanisms of long and short volatility legs

Equity markets in distress

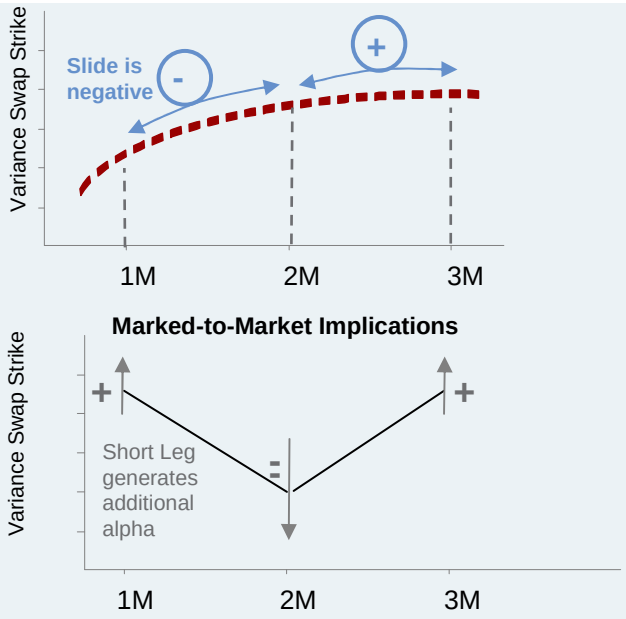


Long volatility leg active

- Positive Slide
- Rolling process maintaining constant exposure to 1M future volatility starting in 2M

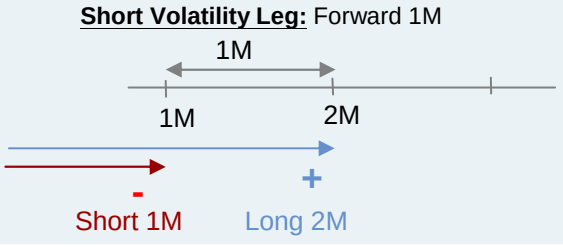


Equity markets not in distress



Short volatility leg activated together with long leg

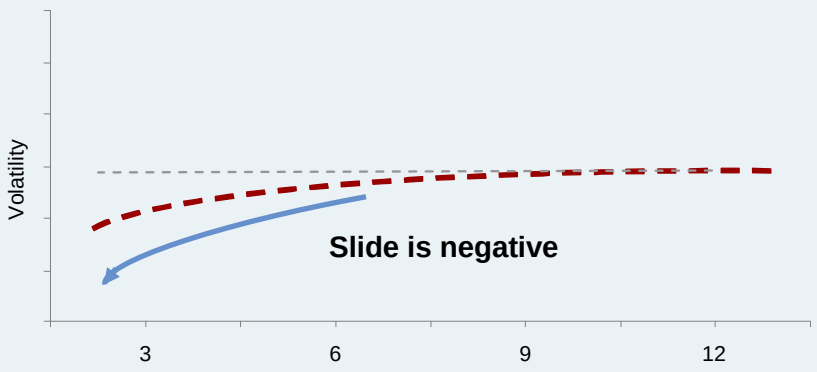
- Index replicates "Spot Starting Variance Butterfly" position:
  - Long 1M and 3M spot volatility
  - Short 2M spot volatility



Enhanced Contract Roll Mechanism

Holding an opportunistic short VIX futures position generates alpha when the term structure is upward sloping (assuming the shape of the term structure remains unchanged)

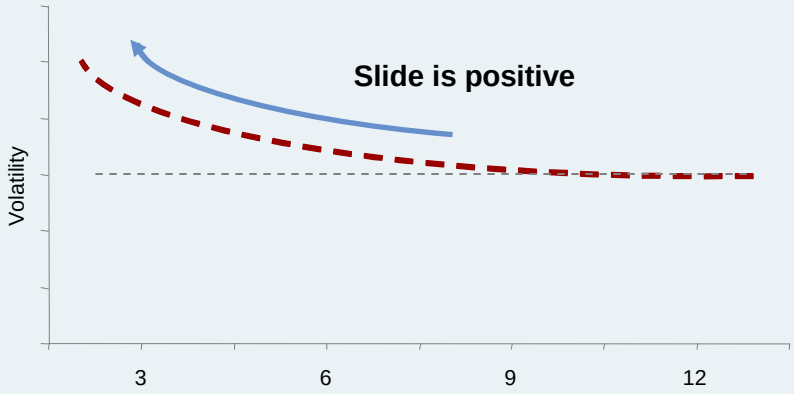
Upward sloping volatility term structure



For an upward sloping volatility term structure, the long VIX futures position 'slides' down the curve and the expected P&L (the slide) is negative.

This term structure is typical of a low volatility market environment.

Downward sloping volatility term structure



For a downward sloping volatility term structure, the long VIX futures position 'slides' up the curve and the expected P&L (the slide) is positive.

This term structure is typical of a stressed market environment.

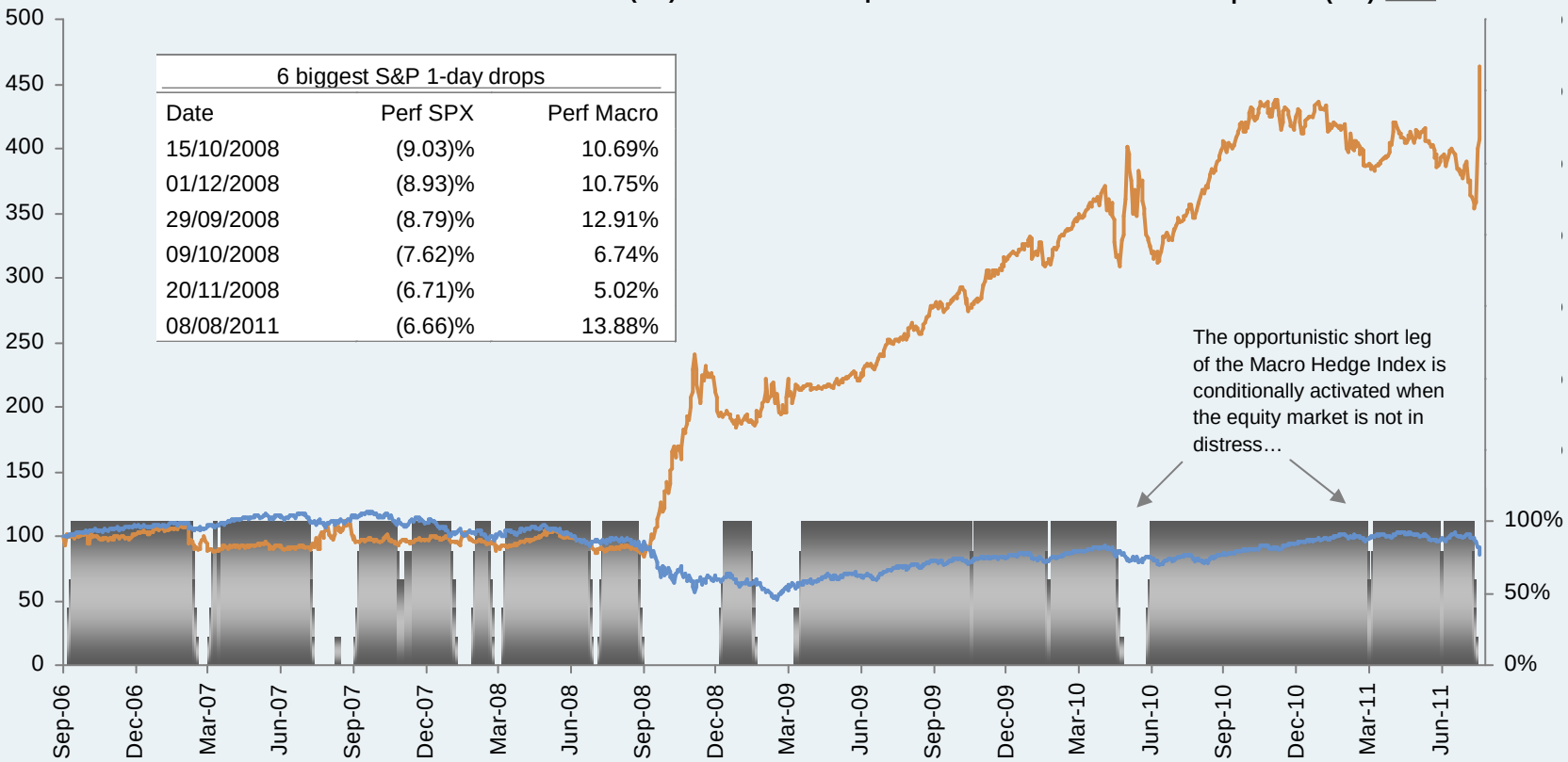
Macro Hedge Series Overview

Index (Ticker)	Key Features
Macro Hedge (JPMZMHUS <Index>)	■The J.P. Morgan Macro Hedge Index aims to provide a stable and fully transparent source of absolute return, positively correlated with the level of implied volatility, which complements a long-only equity portfolio
Macro Hedge Enhanced (JPMZMHEN <Index>)	■More diversified and less leveraged exposure across the VIX Futures curve aiming at mitigating the slide cost of a long volatility overlay ■Better reactivity in the deactivation of the short leg in a risk/off scenario (short leg is unwound over 3 days versus 5 days in earlier version) ■Dynamic additional allocation to the long volatility leg (75% up to 100%), to better handle short-dated spikes in volatility
Macro Hedge Enhanced Hybrid (JPMZMHHG <Index>)	■Similar approach to Macro Hedge Enhanced, i.e. a base long/short SPX volatility exposure (carry optimization through a more diversified exposure across VIX futures) ■Additional pickup through a variable long SX5E volatility exposure (0 up to 25%), allowing for a better hedging reactivity in case of a short-dated spike in volatility ■Topical positioning against sovereign risks in Europe on top of a more standard US volatility carry / macro hedge trade (including daily FX hedging into EUR)
Macro Hedge Enhanced Risk Control 6% (JPMZMHE6 <Index>)	■Advanced risk-control mechanism (taking into account the long/short dynamics of the Macro Hedge algorithm) that allows to successfully target a volatility of 6% for the Macro Hedge Enhanced Index ■Low-volatility carry strategy that can be accessed in capital-protected format
Macro Hedge Enhanced Hybrid Risk Control 6% (JPMZMHH6 <Index>)	■Advanced risk-control mechanism (taking into account the long/short dynamics of the Macro Hedge algorithm) that allows to successfully target a volatility of 6% for the Macro Hedge Enhanced Hybrid Index ■Low-volatility global carry strategy that can be accessed in capital-protected format

Agenda

Simulated Performance Details

J.P. Morgan Macro Hedge Index Simulated Performance – Bloomberg JPMZMHUS Index



6 biggest S&P 1-day drops

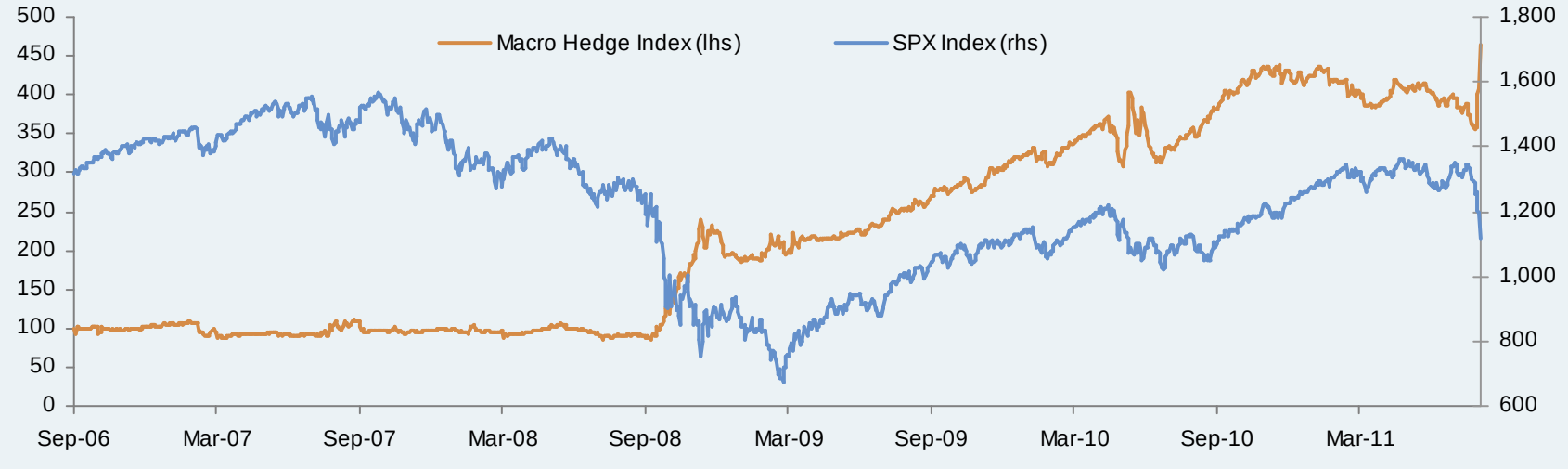
Date	Perf SPX	Perf Macro
15/10/2008	(9.03)%	10.69%
01/12/2008	(8.93)%	10.75%
29/09/2008	(8.79)%	12.91%
09/10/2008	(7.62)%	6.74%
20/11/2008	(6.71)%	5.02%
08/08/2011	(6.66)%	13.88%

J.P. Macro Hedge Index's inception date: 3rd of May 2010

Source: J.P. Morgan. Past performance is not a guide to future performance. "Macro Hedge Index " refers to the performance of J.P. Morgan Macro Hedge Index (Bloomberg: JPMZMHUS Index). J.P. Morgan Macro Hedge Index's inception date : 3rd of May 2010. Back-testing is applied from Sep 2006 to August 2011.
Please refer to the back-testing disclaimer at the beginning of this presentation. This performance is net of index calculation fees of 75bps per annum.

Simulated Performance Details – Comparison

J.P. Morgan Macro Hedge Index Simulated Performance – Bloomberg JPMZMHUS <Index>



JPMZMHUS Index	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
2006										(1.17%)	0.94%	2.49%	2.25%
2007	2.49%	(7.47%)	(8.54%)	3.30%	2.68%	(4.13%)	3.77%	11.89%	(8.04%)	5.16%	(6.17%)	5.15%	(2.28%)
2008	(5.42%)	1.43%	(3.48%)	3.67%	10.41%	(8.25%)	(9.72%)	5.42%	4.32%	75.78%	19.55%	(3.63%)	95.49%
2009	(3.47%)	10.25%	4.32%	(0.97%)	3.13%	4.59%	7.66%	4.09%	7.14%	(1.49%)	9.04%	6.20%	62.43%
2010	(0.17%)	4.40%	6.10%	(0.46%)	0.98%	(11.52%)	10.16%	8.03%	7.50%	5.97%	(2.19%)	1.63%	32.55%
2011	(1.73%)	(0.53%)	(6.12%)	6.30%	1.08%	(4.08%)	(10.24%)	34.04%					

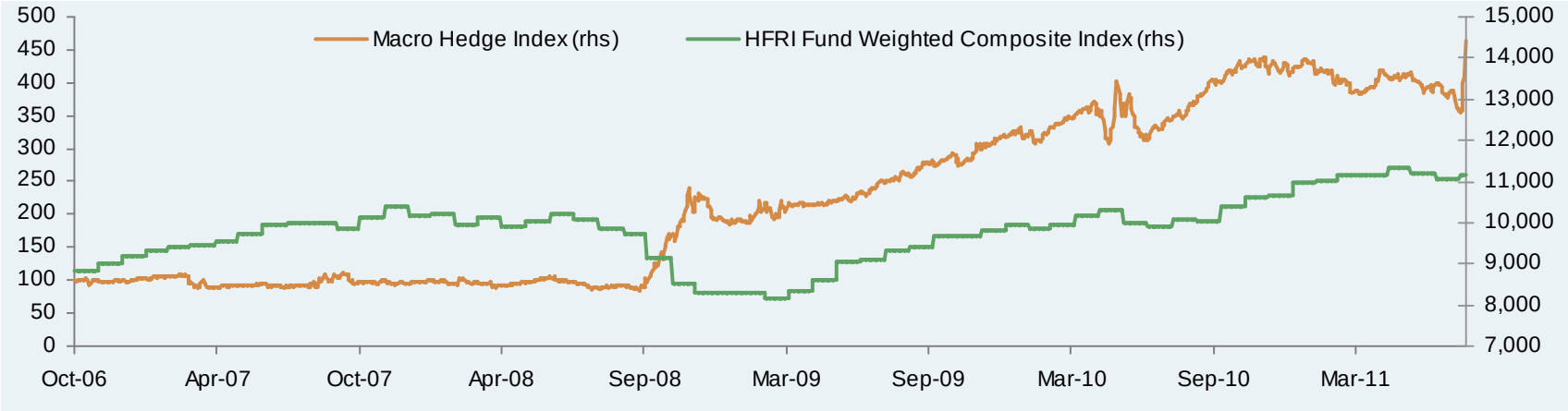
SPX Index	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
2006										3.15%	1.65%	1.26%	6.17%
2007	1.41%	(2.18%)	1.00%	4.33%	3.25%	(1.78%)	(3.20%)	1.29%	3.58%	1.48%	(4.40%)	(0.86%)	3.53%
2008	(6.12%)	(3.48%)	(0.60%)	4.75%	1.07%	(8.60%)	(0.99%)	1.22%	(9.08%)	(16.94%)	(7.48%)	0.78%	(38.49%)
2009	(8.57%)	(10.99%)	8.54%	9.39%	5.31%	0.02%	7.41%	3.36%	3.57%	(1.98%)	5.74%	1.78%	23.45%
2010	(3.70%)	2.85%	5.88%	1.48%	(8.20%)	(5.39%)	6.88%	(4.74%)	8.76%	3.69%	(0.23%)	6.53%	12.78%
2011	2.26%	3.20%	(0.10%)	2.85%	(1.35%)	(1.83%)	(2.15%)	(5.68%)					

HFRIFWI Index	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
2006										1.77%	2.07%	1.48%	5.41%
2007	1.10%	0.68%	0.96%	1.77%	1.99%	0.73%	0.08%	(1.53%)	2.69%	2.85%	(2.20%)	0.53%	9.96%
2008	(2.69%)	1.50%	(2.24%)	1.63%	1.87%	(1.33%)	(2.29%)	(1.44%)	(6.13%)	(6.84%)	(2.67%)	0.15%	(19.03%)
2009	(0.09%)	(1.21%)	1.66%	3.60%	5.15%	0.25%	2.50%	1.30%	2.79%	(0.20%)	1.52%	1.28%	19.98%
2010	(0.76%)	0.66%	2.49%	1.19%	(2.89%)	(0.95%)	1.61%	(0.13%)	3.48%	2.14%	0.19%	2.95%	10.25%
2011	0.41%	1.23%	0.06%	1.48%	(1.18%)	(1.17%)	0.29%						

Source: J.P. Morgan. Past performance is not a guide to future performance. “SPX Index” refers to the performance of S&P 500 Index (Bloomberg: SPX Index). “HFRIFWI Index” refers to the performance of HFRI Fund Weighted Composite Index (Bloomberg: HFRIFWI Index): it is a global equal-weighted index of over 2,000 single-manager funds that report to HFR database (constituent funds report monthly net of of all fees performance in USD and have a minimum of $50m AUM or a 12m track record of active performance; the index does not include Funds of Hedge Funds). “JPMZMHUS Index” refers to the performance of J.P. Morgan Macro Hedge Index (Bloomberg: JPMZMHUS Index). Please refer to the back-testing disclaimer at the beginning of this presentation.

Simulated Performance Details – Comparison (cont'd)

J.P. Morgan Macro Hedge Index Simulated Performance–Bloomberg JPMZMHUS <Index>



2006	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
JPMZMHUS Index										(1.17%)	0.94%	2.49%	
SPX Index										3.15%	1.65%	1.26%	
HFRIFWI Index										1.77%	2.07%	1.48%	
2007	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
JPMZMHUS Index	2.49%	(7.47%)	(8.54%)	3.30%	2.68%	(4.13%)	3.77%	11.89%	(8.04%)	5.16%	(6.17%)	5.15%	(2.28%)
SPX Index	1.41%	(2.18%)	1.00%	4.33%	3.25%	(1.78%)	(3.20%)	1.29%	3.58%	1.48%	(4.40%)	(0.86%)	3.53%
HFRIFWI Index	1.10%	0.68%	0.96%	1.77%	1.99%	0.73%	0.08%	(1.53%)	2.69%	2.85%	(2.20%)	0.53%	9.96%
2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
JPMZMHUS Index	(5.42%)	1.43%	(3.48%)	3.67%	10.41%	(8.25%)	(9.72%)	5.42%	4.32%	75.78%	19.55%	(3.63%)	95.49%
SPX Index	(6.12%)	(3.48%)	(0.60%)	4.75%	1.07%	(8.60%)	(0.99%)	1.22%	(9.08%)	(16.94%)	(7.48%)	0.78%	(38.49%)
HFRIFWI Index	(2.69%)	1.50%	(2.24%)	1.63%	1.87%	(1.33%)	(2.29%)	(1.44%)	(6.13%)	(6.84%)	(2.67%)	0.15%	(19.03%)
2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
JPMZMHUS Index	(3.47%)	10.25%	4.32%	(0.97%)	3.13%	4.59%	7.66%	4.09%	7.14%	(1.49%)	9.04%	6.20%	62.43%
SPX Index	(8.57%)	(10.99%)	8.54%	9.39%	5.31%	0.02%	7.41%	3.36%	3.57%	(1.98%)	5.74%	1.78%	23.45%
HFRIFWI Index	(0.09%)	(1.21%)	1.66%	3.60%	5.15%	0.25%	2.50%	1.30%	2.79%	(0.20%)	1.52%	1.28%	19.98%
2010	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
JPMZMHUS Index	(0.17%)	4.40%	6.10%	(0.46%)	0.98%	(11.52%)	10.16%	8.03%	7.50%	5.97%	(2.19%)	1.63%	32.55%
SPX Index	(3.70%)	2.85%	5.88%	1.48%	(8.20%)	(5.39%)	6.88%	(4.74%)	8.76%	3.69%	(0.23%)	6.53%	12.78%
HFRIFWI Index	(0.76%)	0.66%	2.49%	1.19%	(2.89%)	(0.95%)	1.61%	(0.13%)	3.48%	2.14%	0.19%	2.95%	10.25%
2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
JPMZMHUS Index	(1.73%)	(0.53%)	(6.12%)	6.30%	1.08%	(4.08%)	(10.24%)	34.04%					
SPX Index	2.26%	3.20%	(0.10%)	2.85%	(1.35%)	(1.83%)	(2.15%)	(5.68%)					
HFRIFWI Index	0.41%	1.23%	0.06%	1.48%	(1.18%)	(1.17%)	0.29%						

Source: J.P. Morgan. Past performance is not a guide to future performance. "SPX Index" refers to the performance of S&P 500 Index (Bloomberg: SPX Index). "HFRIFWI Index" refers to the performance of HFRI Fund Weighted Composite Index (Bloomberg: HFRIFWI Index): it is a global equal-weighted index of over 2,000 single-manager funds that report to HFR database (constituent funds report monthly net of of all fees performance in USD and have a minimum of $50m AUM or a 12m track record of active performance; the index does not include Funds of Hedge Funds). "JPMZMHUS Index" refers to the performance of J.P. Morgan Macro Hedge Index (Bloomberg: JPMZMHUS Index). Please refer to the back-testing disclaimer at the beginning of this presentation.

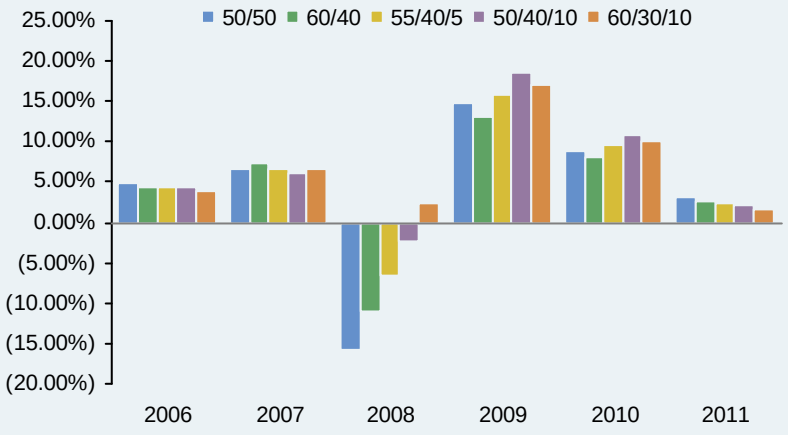
Sample Portfolio Performance Comparison

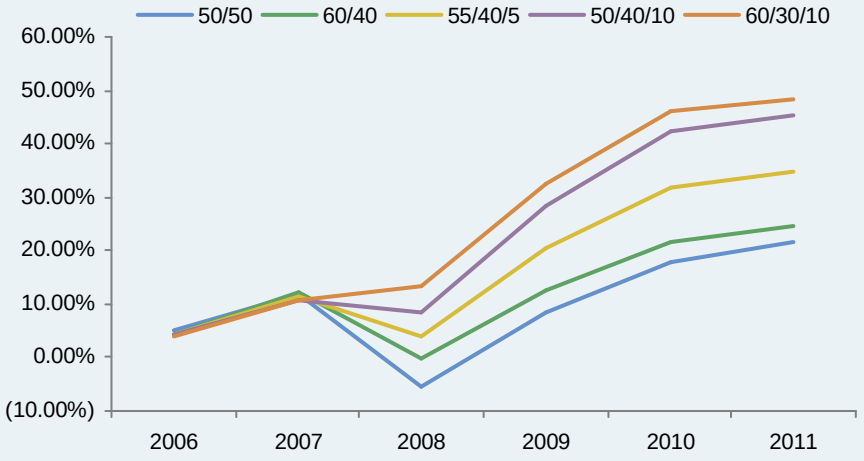
Equity/Bond Portfolio with J. P. Morgan Macro Hedge Index overlay

Hypothetical Portfolio Construction

- J.P. Morgan Global Aggregate Bond Index
  Total Return Unhedged USD
  (Bloomberg: JGAGGUSD Index)
- S&P 500 Index
  Price Return Equity Index
  (Bloomberg: SPX Index)
- J.P. Morgan Macro Hedge Index
  (Bloomberg: JPMZMHUS Index)

Weights per Strategy	50% Bonds 50% Equity	60% Bonds 40% Equity	55% Bonds 40% Equity 5% JPM MH	50% Bonds 40% Equity 10% JPM MH	60% Bonds 30% Equity 10% JPM MH
2006[1]	4.97%	4.44%	4.45%	4.45%	3.93%
2007	6.63%	7.25%	6.65%	6.05%	6.67%
2008	(15.66)%	(11.09)%	(6.67)%	(2.26)%	2.31%
2009	14.77%	13.03%	15.85%	18.66%	16.93%
2010	8.90%	8.12%	9.50%	10.87%	10.10%
2011[1]	3.09%	2.54%	2.34%	2.14%	1.59%
5Y Performance [1]	121.63%	124.80%	134.96%	145.49%	148.33%





Source: J.P. Morgan. Past performance is not a guide to future performance. Please refer to the back-testing disclaimer at the beginning of this presentation.
[1] From 19th of September 2006 to 3rd of March 2010.

J.P.Morgan

Sample Portfolio Performance Comparison (continued)

Long/Short and Long Only Portfolio optimisation[1]

Portfolio Construction

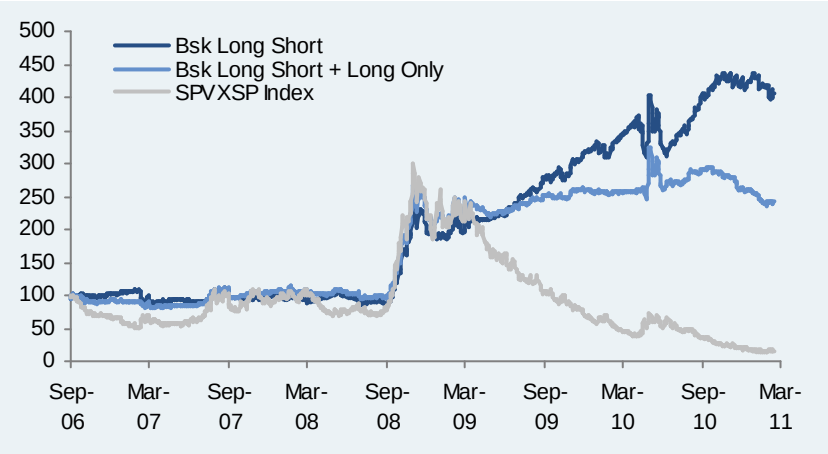
- Long/Short Strategy: 100% Long/Short, 0% Long Only
- Long/Short + Long Only Strategy: 70% Long/Short, 30% Long Only
- J.P. Morgan Macro Hedge Long/Short

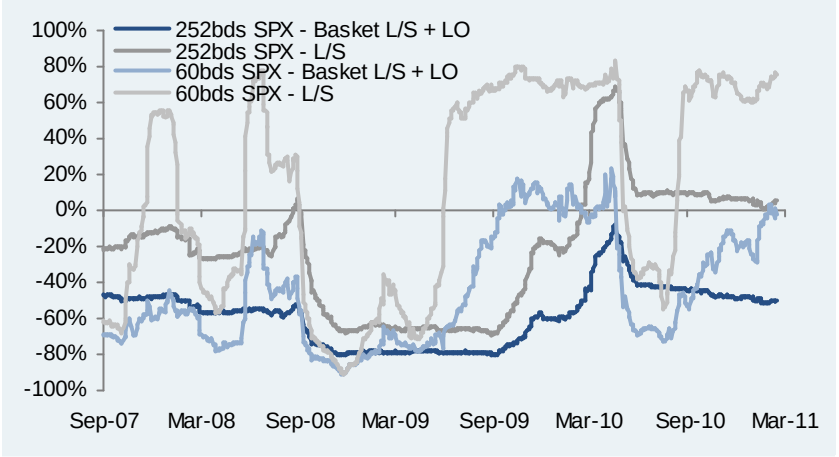
  (Bloomberg: JPMZMHUS Index)
- J.P. Morgan Macro Hedge Long Only Index

  (Bloomberg: JPMZMHLO Index)

Performances	Long/Short + Long Only	Long/Short
Min	81.3%	84.5%
Max	324.8%	437.8%
Avg. annual Performance	30.7%	41.9%
Max Drawdown	27.1%	24.1%
Annual Volatility	29.1%	31.7%
Sharpe Ratio	1.06	1.32

Correlation	SPX vs. Long/Short + Long Only	SPX vs. Long/Short
Min	-80%	-69%
Max	8%	68%
Average	-58%	-22%
Standard Dev	16%	34%





Source: J.P. Morgan. Past performance is not a guide to future performance. Please refer to the back-testing disclaimer at the beginning of this presentation.
[1] From 19th of September 2006 to 4th of March 2011.

J.P. Morgan Macro Hedge Index – Indicative Terms

	Indicative terms	
I.	Format	Swap
	Issuer	J.P. Morgan
	Notional	USD [10M]
	Maturity	[1 Year]
	Underlying	J.P. Morgan Macro Hedge Index (BBG: JPMZMHUS Index)
	Payoff	At maturity, client receives the performance of the index $\frac{FinalIndexLevel}{InitialIndexLevel} - 1$
II.	Format	Certificate
	Issuer	J.P. Morgan
	Notional	USD [10M]
	Maturity	[1 Year]
	Underlying	J.P. Morgan Macro Hedge Index (BBG: JPMZMHUS Index)
	Payoff	At maturity, client receives the performance of the index plus any interest on cash $\frac{FinalIndexLevel}{InitialIndexLevel} + Cash\,\mathrm{Re}turn$

Rule of thumb for calibrating the exposure:

The Vega of the long and the short leg is approximately 1/current VIX Index level (i.e. for VIX Index at 26, the Vega of both the long leg and the short is about 1/26 ~ 3.8%).

Vega amount ultimately depends on the proportion of equities in the portfolio (see slide “Portfolio Construction”) and is sized according to above rule of thumb.

Agenda

Pros & Cons of the Macro Hedge Index

Macro Hedge Index

Pros

- Gives a long volatility exposure during distressed situations in the equities market
- Monetising the dislocation of the front end of the forward starting volatility curve in an upward trended market
- Purely systematic strategy that tracks an algorithm based on VIX Futures closing levels
- Neutral/positive carry when the volatility curve is upward sloping
- Very low correlation to the equity market → efficient diversification can be achieved

Cons

- Not as reactive to spikes in very short term volatility compared to a pure long volatility exposure
- Mark to market can suffer from very short term volatility spikes

Agenda

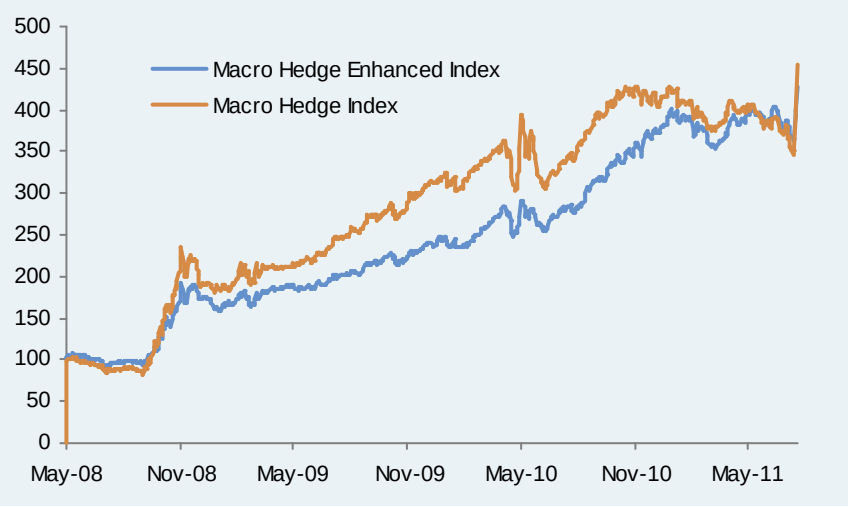
The J.P. Morgan Macro Hedge Enhanced Index

The J.P. Morgan Macro Hedge Enhanced Index (JPMZMHEN Index)

The J.P. Morgan Macro Hedge Enhanced Index (the "Index") attempts to improve upon the original Macro Hedge Index by referencing a greater number of futures contracts and adjusting the allocation mechanism between the long and short legs. The key changes include:

- More diversified and less leveraged exposure across the VIX Futures curve
  - The Index references the first 7 VIX futures contracts, as opposed to the first 3 referenced by Macro Hedge
- Better reactivity in the deactivation of the short leg
  - The short leg is now engaged or unwound over 3 days instead 5
- There is a dynamic additional allocation to the long volatility leg, to better handle short-dated spikes in volatility
  - The allocation can be increased from 75% up to 100% according to the shape of the futures curve

Simulated Historical Performance of the J.P. Morgan Macro Hedge Enhanced Index (May 08 to Aug 11)



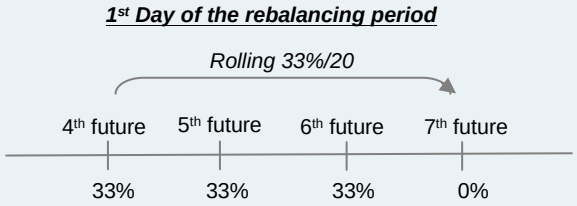
	Macro Hedge Enhanced	Macro Hedge
Excess Return	**57.1%**	60.1%
Annualized Volatility	**24.6%**	32.2%
Sharpe Ratio	**2.32**	1.87
Min	**89.9%**	82.7%
Max	**427.9%**	454.4.8%
Max Drawdown	**-16.7%**	-23.0%

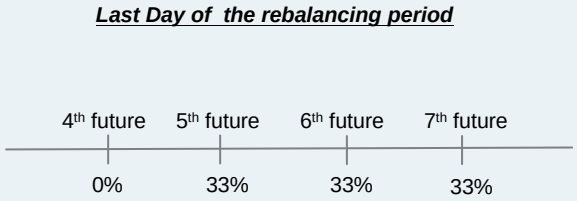
Source: J.P. Morgan. Past performance is not a guide to future performance. Pleaser refer to the backtesting disclaimer at the beginning of this presentation. "Macro Hedge Index" refers to the performance of J.P. Morgan Macro Hedge Index (Bloomberg: JPMZMHUS Index). "Macro Hedge Enhanced Index" refers to the performance of J.P. Morgan Macro Hedge Enhanced Index (Bloomberg: JPMZMHEN Index).

Systematic Long Leg

Systematic long exposure to mid-term VIX futures

- The long leg is designed to provide a systematic long exposure to volatility. The position should benefit from spikes in the level of the VIX, but tends to have a high cost of carry under normal market conditions
- The long leg provides a systematic exposure to 4th, 5th, 6th and 7th month VIX futures with the notional invested varying from 75% to 100%
- Positions are rolled continuously each month to smooth out market timing risk:
  - Rolling from 4th to 7th month listed VIX futures contacts
  - Rolling a constant amount based on the number of business days in the current month, i.e. if the month has 20 business days then each day **1.65%** (33%/20) of the position in the 4th month contract is sold to buy an equal amount of the 7th month contract





Long Leg Allocation Signal

The allocation to the long leg is determined by the shape of the futures curve

- The notional invested in the systematic long leg is dynamically varied between 75% and 100% using a signal across the VIX futures curve
- Under normal market conditions (see Signal 0) the long leg has a negative carry, which is detrimental to index performance. Thus, the exposure to the long leg is decreased to minimise the impact
- However in distressed markets (see Signal 1) the long leg generates a positive carry, so exposure is increased to generate additional performance

Determining Allocation to the Long Leg

- Each day, we observe the signal over the past 5 days. The exposure to the Long Leg is then calculated as:

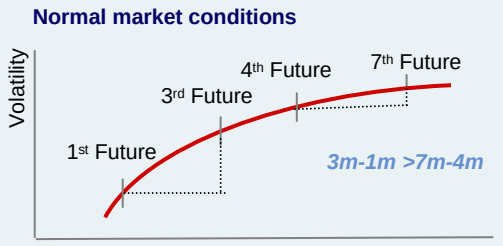
75% + 25% x (Average of Past 5 Signals)

- Example for illustrative purposes:

	Day 1	Day 2	Day 3	Day 4	Day 5
Signal	1	1/2	1/2	1	1

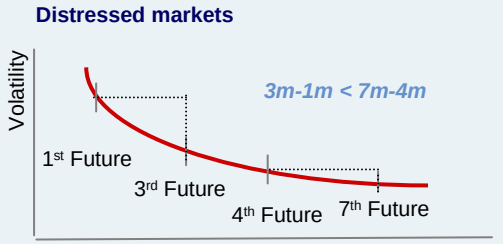
  - Average signal over the past 5 days is 80%
  - The exposure to the long leg would be set at 95%

- ***Signal 0:*** When the cost carry on the short leg is higher than on the long leg (i.e. **3m Future -1m Future - *0.2 > 7m Future - 4m Future**): the notional invested on the long leg is **decreased**



- ***Signal 1/2:*** **|(3m -1m) - |7m -4m)| <0.2**

- ***Signal 1:*** When the cost of carry on the short leg is lower than on the long leg (i.e. **3m Future -1m Future+ *0.2 < 7m Future-4m Future**): the notional invested on the long leg is **increased**



*Tolerance @ 0.2 set to avoid any very frequent rebalancing

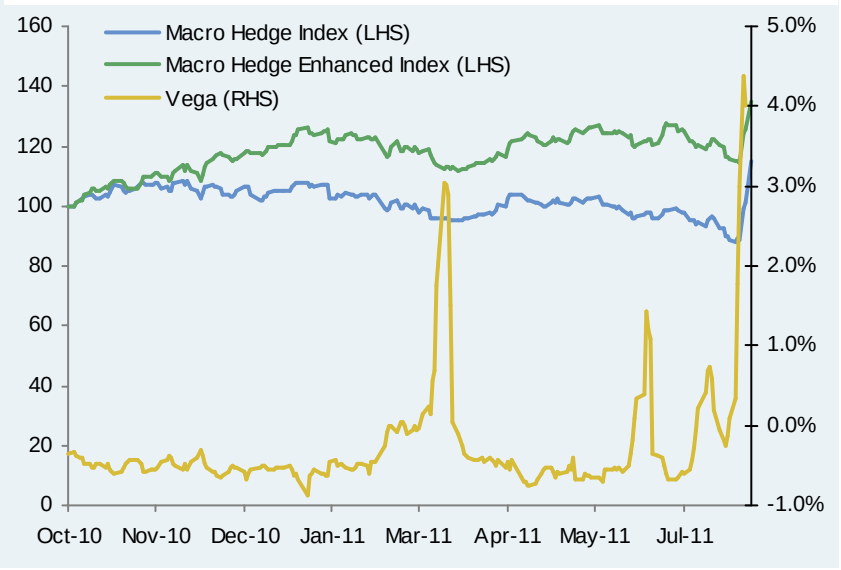
Opportunistic Short Leg

Opportunistic short exposure to short-term VIX futures

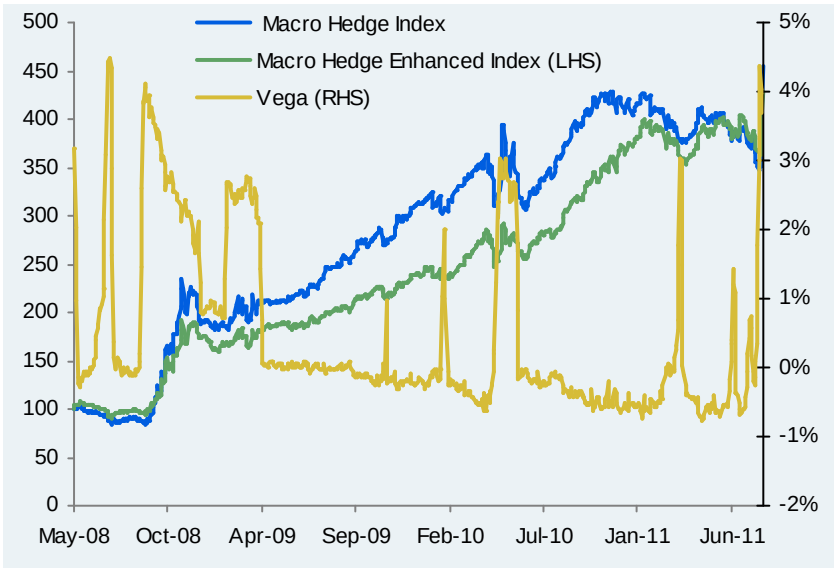
- The Short Leg provides an opportunistic short exposure to 1st, 2nd and 3rd month VIX futures, with the notional invested varying from 0% to 75%
- This aims to mitigate the slide cost of the long volatility overlay under normal market conditions, whilst deactivating in stressed markets
- Positions are rolled continuously each month to smooth out market timing risk:
  - Rolling from 1st to 3rd month listed VIX futures contacts
  - Rolling a constant amount based on the number of business days in the current month, i.e. if the month has 20 business days then each day 2.50% (50%/20) of the position in the 1st month contract is sold to buy an equal amount of the 3rd month contract
- Conditional short position is activated if there is negative spread between the VIX Index (spot) and the relevant average of the three first month contracts
- Short position is opened/closed in 25% percent increments through applying the 3 days Robustness Test
  - i.e. if the weighted average of the first three contracts has closed above the VIX Index level for three consecutive days then the allocation to the short leg is decreased 25%

Vega exposure

Recent performances- Middle East and Japan Crisis



J.P. Morgan Macro Hedge Enhanced Index- Vega exposure



Statistics from 02/05/2008 to 19/04/2011

Macro Hedge Enhanced Vega Exposure	
Min	-0.76%
Max	4.50%
Average	0.44%
Standard Deviation	1.24%

Vega represents the PNL for a parallel shift of +/-1 vol point in the futures curve

Vega is calculated as follows:

$$\frac{-\ \text{Weight}_{Sleg}}{\text{Futures level}_{Sleg}} + \frac{\text{Weight}_{Lleg}}{\text{Futures level}_{Lleg}}$$

Numerical example as of 22/05/08 :

Weight_{Sleg} 0.25 Weight_{Lleg} 0.75
$\text{Futures level}_{Sleg}$ 23.24
$\text{Futures level}_{Lleg}$ 24.11

Vega = (-0.25/23.24)+(0.75/24.11)= **2.03%**

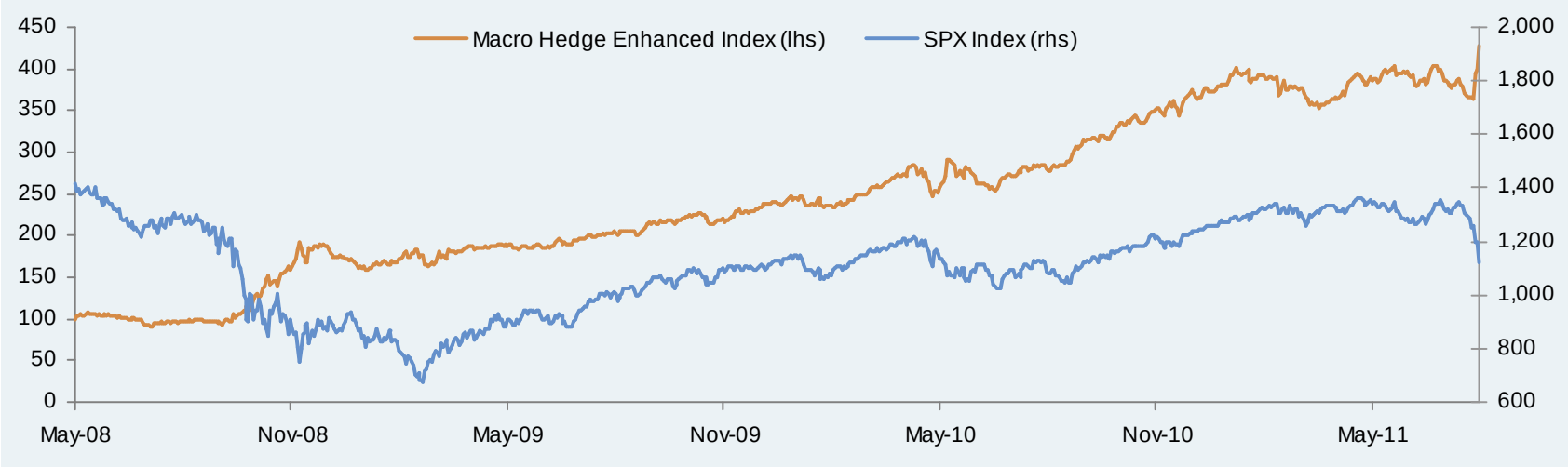
Source: J.P. Morgan. Past performance is not a guide to future performance. "Macro Hedge Index " refers to the performance of J.P. Morgan Macro Hedge Index (Bloomberg: JPMZMHUS Index). "Macro Hedge Enhanced Index " refers to the performance of J.P. Morgan Macro Hedge Enhanced Index (Bloomberg: JPMZMHEN Index).

Source: J.P. Morgan.

J.P.Morgan

The J.P. Morgan Macro Hedge Enhanced Index Performance Comparison

J.P. Morgan Macro Hedge Enhanced Index Simulated Performance – Bloomberg JPMZMHEN <Index>



JPMZMHEN Index	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
2008						-5.49%	-6.40%	4.11%	3.15%	43.35%	14.63%	2.86%	60.55%
2009	-3.98%	8.12%	1.49%	2.48%	0.79%	2.96%	3.28%	2.35%	6.47%	-0.55%	4.98%	3.95%	36.87%
2010	0.08%	1.50%	10.02%	3.10%	0.44%	-6.84%	9.77%	4.20%	8.44%	6.20%	2.59%	10.52%	61.01%
2011	1.09%	0.15%	-7.38%	9.83%	2.84%	0.34%	(9.27%)	26.53%					12.53%

SPX Index	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Full Year
2008						-8.60%	-0.99%	1.22%	-9.08%	-16.94%	-7.48%	0.78%	-35.50%
2009	-8.57%	-10.99%	8.54%	9.39%	5.31%	0.02%	7.41%	3.36%	3.57%	-1.98%	5.74%	1.78%	23.45%
2010	-3.70%	2.85%	5.88%	1.48%	-8.20%	-5.39%	6.88%	-4.74%	8.76%	3.69%	-0.23%	6.53%	12.78%
2011	2.26%	3.20%	-0.10%	2.85%	-1.35%	(1.83%)	(2.15%)	(5.68%)					(10.99%)

Source: J.P. Morgan. Past performance is not a guide to future performance. “SPX Index” refers to the performance of S&P 500 Index (Bloomberg: SPX Index). “JPMZMHEN Index” refers to the performance of J.P. Morgan Macro Hedge Enhanced Index (Bloomberg: JPMZMHEN Index).

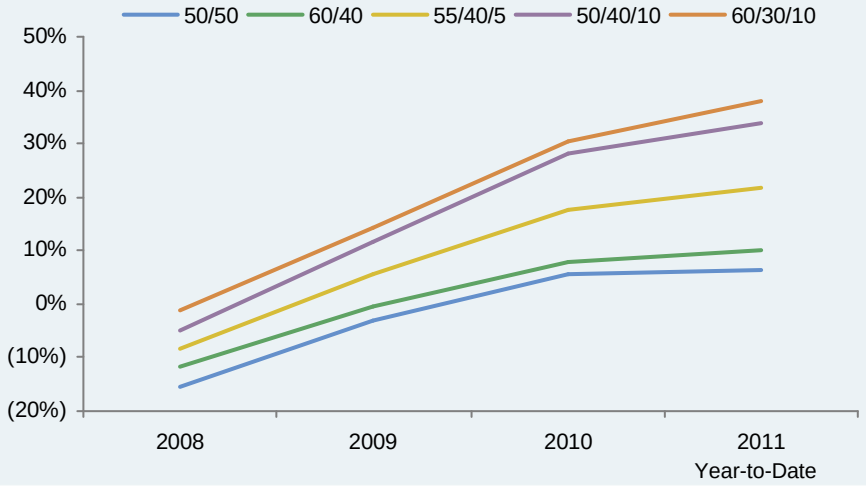
Sample Portfolio Performance Comparison

Equity/Bond Portfolio with J. P. Morgan Macro Hedge Enhanced Index overlay

Hypothetical Portfolio Construction

- J.P. Morgan Global Aggregate Bond Index
  Total Return Unhedged USD
  (Bloomberg: JGAGGUSD Index)
- S&P 500 Index
  Price Return Equity Index
  (Bloomberg: SPX Index)
- J.P. Morgan Macro Hedge Enhanced Index
  (Bloomberg: JPMZMHEN Index)

Weights per Strategy	50% Bonds 50% Equity	60% Bonds 40% Equity	55% Bonds 40% Equity 5% JPM MH	50% Bonds 40% Equity 10% JPM MH	60% Bonds 30% Equity 10% JPM MH
2008*	(15.64%)	(11.88%)	(8.46%)	(5.04%)	(1.28%)
2009	14.77%	13.03%	15.34%	17.66%	15.92%
2010	8.90%	8.12%	11.43%	14.73%	13.95%
2011* (Year-to-Date)	0.89%	2.28%	3.37%	4.47%	5.86%
3Y Performance [1]	6.37%	10.14%	21.62%	33.91%	38.04%



Source: J.P. Morgan. Past performance is not a guide to future performance. Please refer to the back-testing disclaimer at the beginning of this presentation.
[1] From 20th of May 2008 to 6th of September 2011.

Sample Portfolio Performance Comparison (continued)

Portfolio composition

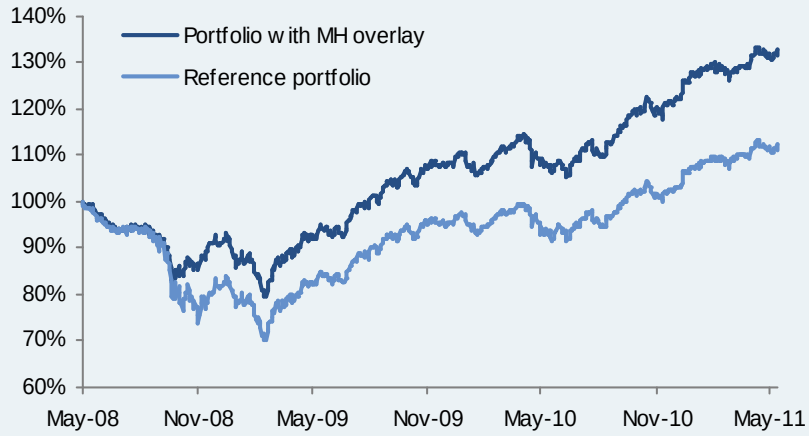
- **Hypothetical Portfolio Construction**

JGAGGUSD Index	45%
SPX Index	45%
JPMZMHEN Index	10%

- **Reference portfolio**

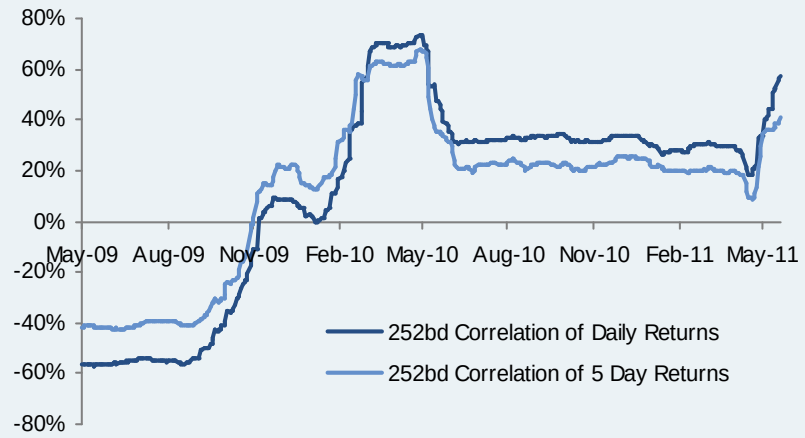
JGAGGUSD Index	50%
SPX Index	50%

Performance -from 20/05/2008 to 01/06/2011



Source: J.P. Morgan. Past performance is not a guide to future performance

Correlation of MH Overlay with Reference Portfolio



Source: J.P. Morgan

Statistics-from 20/05/2008 to 01/06/2011

Performances	Portfolio with Overlay	Reference Portfolio
Min	-20.50%	-29.90%
Max	33.46%	13.17%
Avg. Annual Performance	9.44%	3.57%
Max Drawdown	20.50%	29.90%
Annual Volatility	11.13%	13.38%
Sharpe Ratio	0.85	0.27

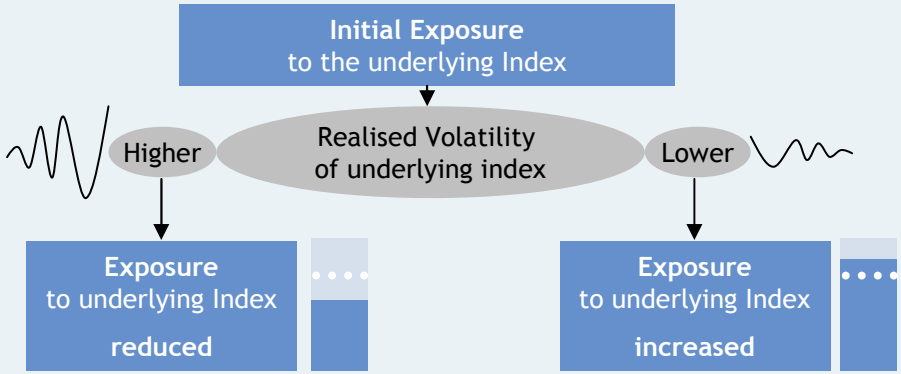
Source: J.P. Morgan. Past performance is not a guide to future performance

Agenda

Introducing “Standard” Risk Control Indices

“Standard” Risk Control Mechanism

- The Risk Control (“volatility target”) mechanism has proven to be an efficient enhancement in approaching risk in the structured product space. It aims to dynamically adapt the leverage in the underlying, allowing the investor to control the risk of the underlying in a portfolio
- Aiming for a constant level of volatility for Risk Control Index, the Risk Control mechanism continuously adjusts the exposure to the underlying index depending on the underlying index realised volatility
  - When volatility (“risk”) is high, the exposure to the underlying index is reduced
  - When volatility (“risk”) is low, the exposure to the underlying index is increased



The J.P. Morgan Macro Hedge Enhanced Risk Control Index

Risk Control Mechanism

- J.P. Morgan Macro Hedge Enhanced Risk Control Index offers investors efficient exposure to Macro Hedge Strategies, with the added benefit of a risk control mechanism.
- Volatility as an investment can itself be volatile, risk control in Macro Hedge indices aims to control volatility of the Index

Estimating exposure

Risk Control Mechanism in Macro Hedge

- Macro Hedge Enhanced is exposed to several maturity in the VIX curve, and its composition changes dynamically
- A long-only composition can be more volatile than the long-short one if the realized correlation between the long and short legs is very high
- The "Standard" Risk Control mechanism is not taking into account the dynamic composition in its volatility estimates, and would not estimate a fair exposure to the underlying index to control volatility

"Enhanced" Risk Control Mechanism

- J.P. Morgan Macro Hedge Enhanced Risk Control Index is an enhanced risk control mechanism that estimates the realized volatility using the index composition
- Realized volatility is calculated as the volatility of a long-short basket with the current weights, taking into account the realized correlation between the long leg and the short leg. :

$$\sigma_{\text{realized}}^{2} = w_L^2\sigma_L^2 + w_S^2\sigma_S^2 - 2\rho_{L/S}w_L w_S\sigma_L\sigma_S$$

- Implied leverage calculated this way offers a more efficient exposure and more accurate volatility control

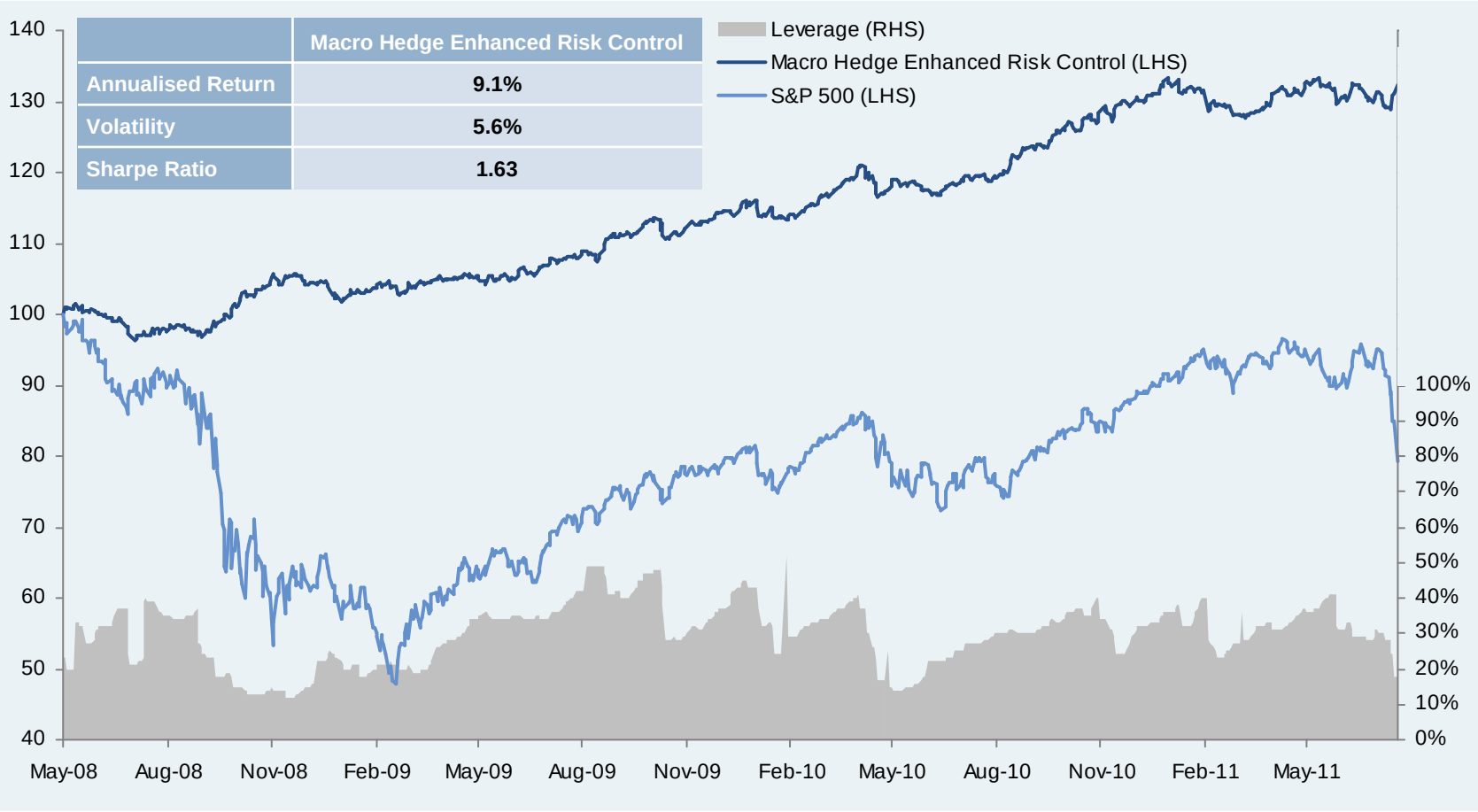
Example

- 11th Sep 2008: Macro-Hedge has 75% short exposure, along with 75% long exposure
- The 3 following days, short exposure is gradually reduced to 0%, following Macro Hedge strategy
- On 14th Sep, "Standard" Risk Control would estimate the realized volatility to 14.06%, which is the realized volatility of the Macro Hedge Strategy with 75% Long and 75% Short Exposure.
- On 14th Sep, "Enhanced" Risk Control estimates the realized volatility to 22.56% which is the realized volatility that the 75% Long leg only would have given, taking into account the current risks of the strategy.

The J.P. Morgan Macro Hedge Enhanced Risk Control Index (continued)

J.P. Morgan Macro Hedge Enhanced Risk Control Index Simulated Performance (May 08 – Aug 11)

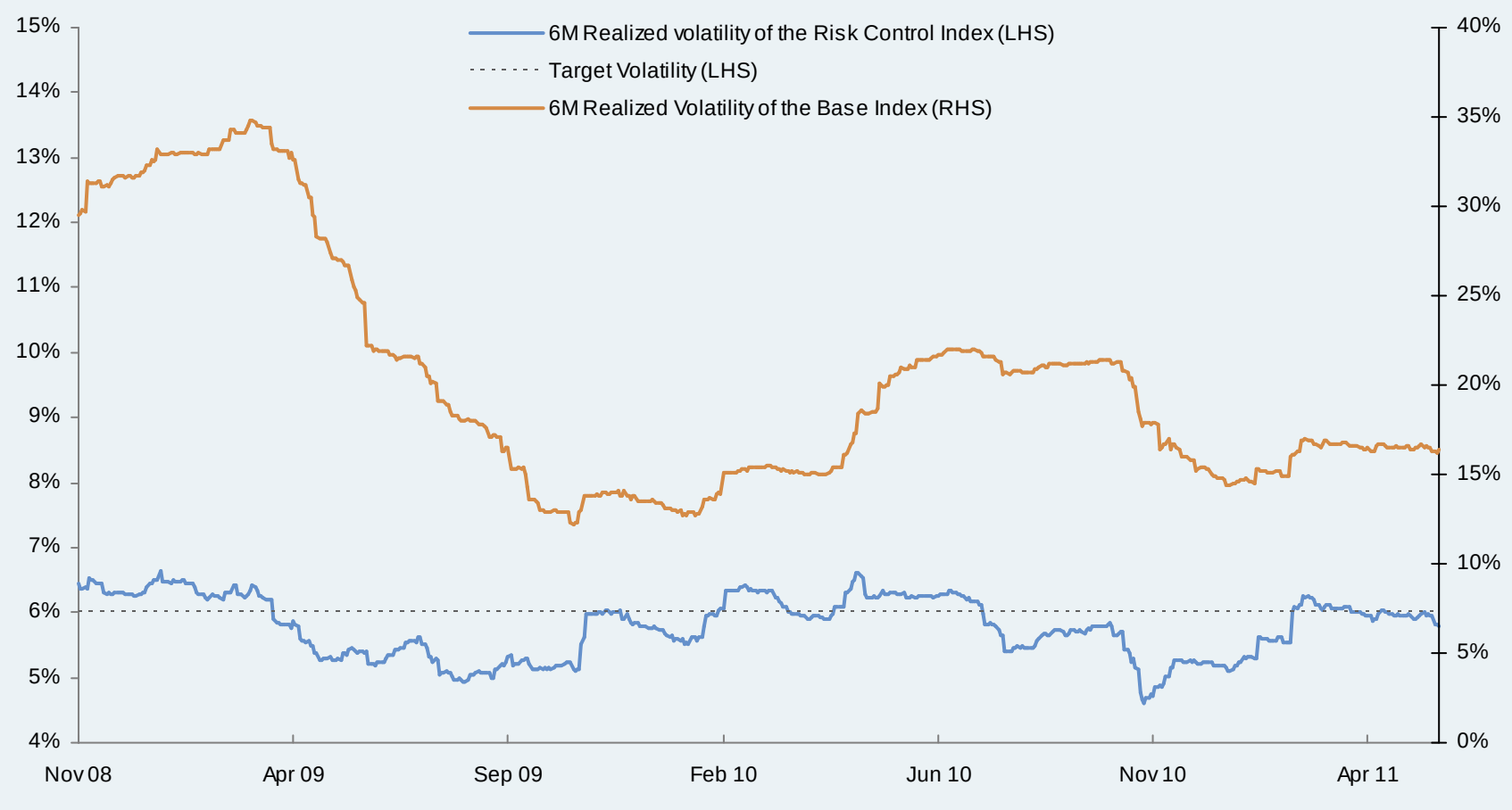
	Macro Hedge Enhanced Risk Control
Annualised Return	9.1%
Volatility	5.6%
Sharpe Ratio	1.63



Source: J.P. Morgan. Past performance is not a guide to future performance. "Macro Hedge Enhanced Risk Control" refers to J.P. Morgan Macro Hedge Enhanced Risk Control Index. Please refer to the back-testing disclaimer at the beginning of this presentation. This performance is net of index calculation fees of 75bps per annum.

The J.P. Morgan Macro Hedge Enhanced Risk Control Index (continued)

Risk Control Mechanism Simulated Performance (May 08 – Jun 11)



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Agenda

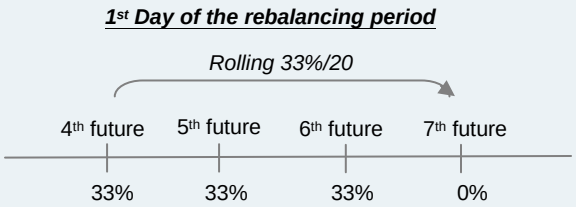
The J.P. Morgan Macro Hedge Enhanced Hybrid Index

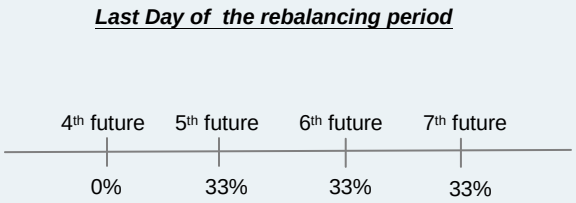
The J.P. Morgan Macro Hedge Enhanced Hybrid (USD) Index

- The new Index is an enhanced version of the JP Morgan Macro Hedge Hybrid Index in the following aspects:
  - An aggregate long vega exposure to VIX futures
  - A better reactivity on the activation/deactivation of the short leg
  - A dynamic additional allocation of up to 25% in 2nd and 3rd month VSTOXX futures

1- Systematic Long US Position

- The systematic long US position can be viewed as a stable macro-hedge for a traditional equity portfolio
- Positions are rolled continuously each month to smooth out market timing risk:
  - Rolling from 4th to 7th month listed VIX futures contacts
  - Rolling a constant amount based on the number of business days in the current month, i.e**. 1.65%** (33%/20) of the position per day if the month has 20 business days





- The notional invested is fixed at 100% of the notional

The J.P. Morgan Macro Hedge Enhanced Hybrid Index (continued)

2- Opportunistic Short US Position

- Slide cost of the systematic long position is mitigated by selling volatility opportunistically when term structure is upward sloping
- Conditional short position is activated:
  - If there is negative spread between the VIX Index (spot) and the relevant average of the first two month contracts
  - Rolling from 1st to 2rd month listed VIX futures contracts
- Short position is opened/closed, in 20% percent increments, through applying the 3 days Robustness Test
- We can allocate up to 100% of the notional invested on the short leg

3- Additional Long EU Position

- An additional long exposure to VSTOXX futures is determined using a signal across the VIX and VSTOXX futures curves
- The cost of carry between the 1st and 2nd VIX futures (UX1 and UX2) is compared with the equivalent cost across the 2nd and 3rd VSTOXX futures (FVS2 and FVS3). Each day, a signal is determined by

  - ***Signal 0:*** When **FVS2 – FVS3 < -*0.2** and **UX1 – UX2 < -*0.2**): the notional invested on the EU leg is **decreased**
  - ***Signal 1:*** When **FVS2 – FVS3 > *0.2** and **UX1 – UX2 > *0.2**): the notional invested on the EU leg is **increased**
  - ***Signal 1/2:*** When there is no clear signal i.e. **|FVS2 – FVS3| < 0.2** and **|UX1 – UX2| <0.2**: the notional invested on the EU leg is kept **constant**

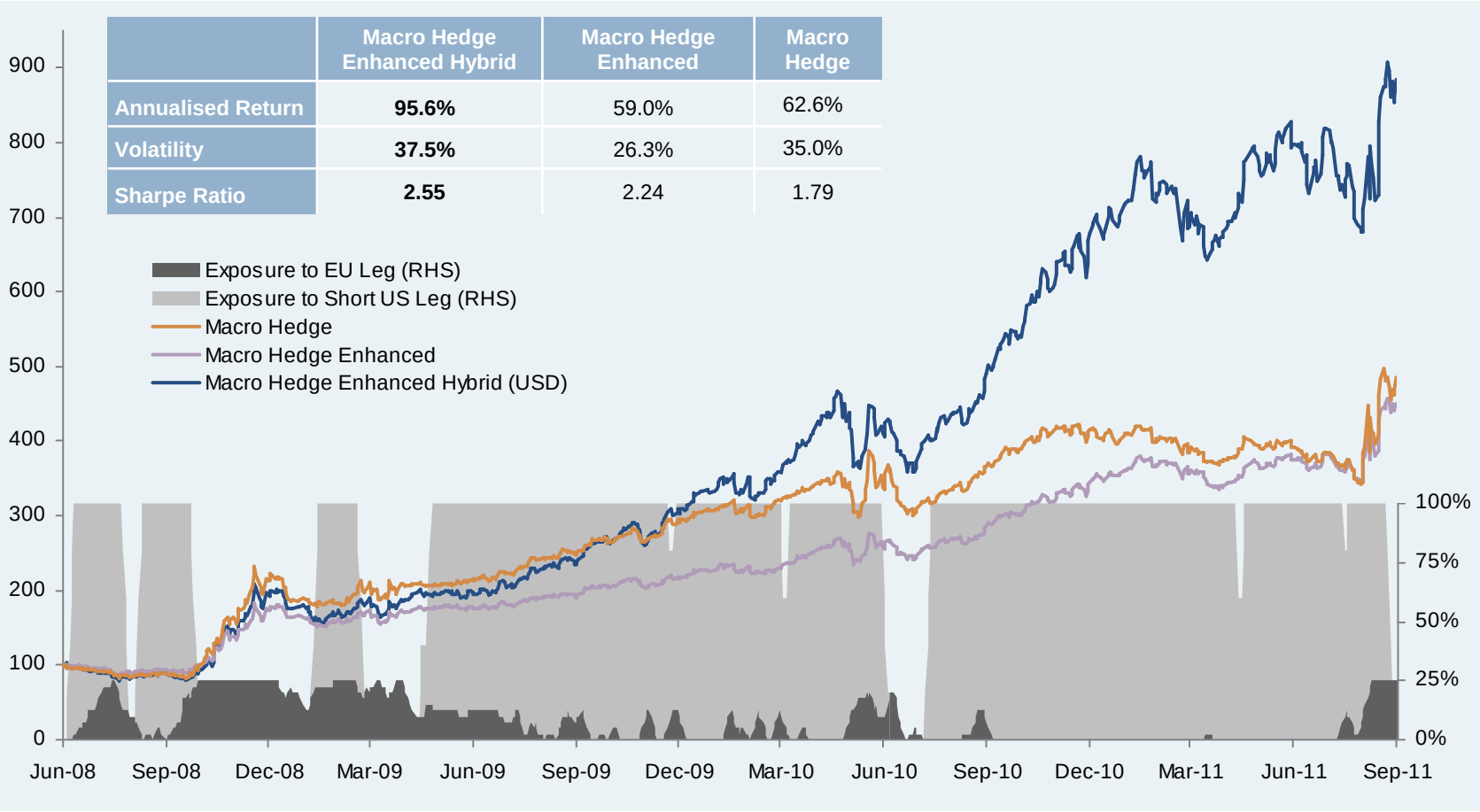
- The long exposure to the VSTOXX futures is then calculated as 25% * Average of the Signal over the past 5 days
- The long EU position consists of a rolling position from 2nd to 3rd month listed VSTOXX futures contracts

*Tolerance set @ 0.2 set to avoid any very frequent rebalancing

Simulated Performance Details

J.P. Morgan Macro Hedge Enhanced Hybrid (USD) Index Simulated Performance (Jun 08 – Sep 11)

	Macro Hedge Enhanced Hybrid	Macro Hedge Enhanced	Macro Hedge
Annualised Return	**95.6%**	59.0%	62.6%
Volatility	**37.5%**	26.3%	35.0%
Sharpe Ratio	**2.55**	2.24	1.79

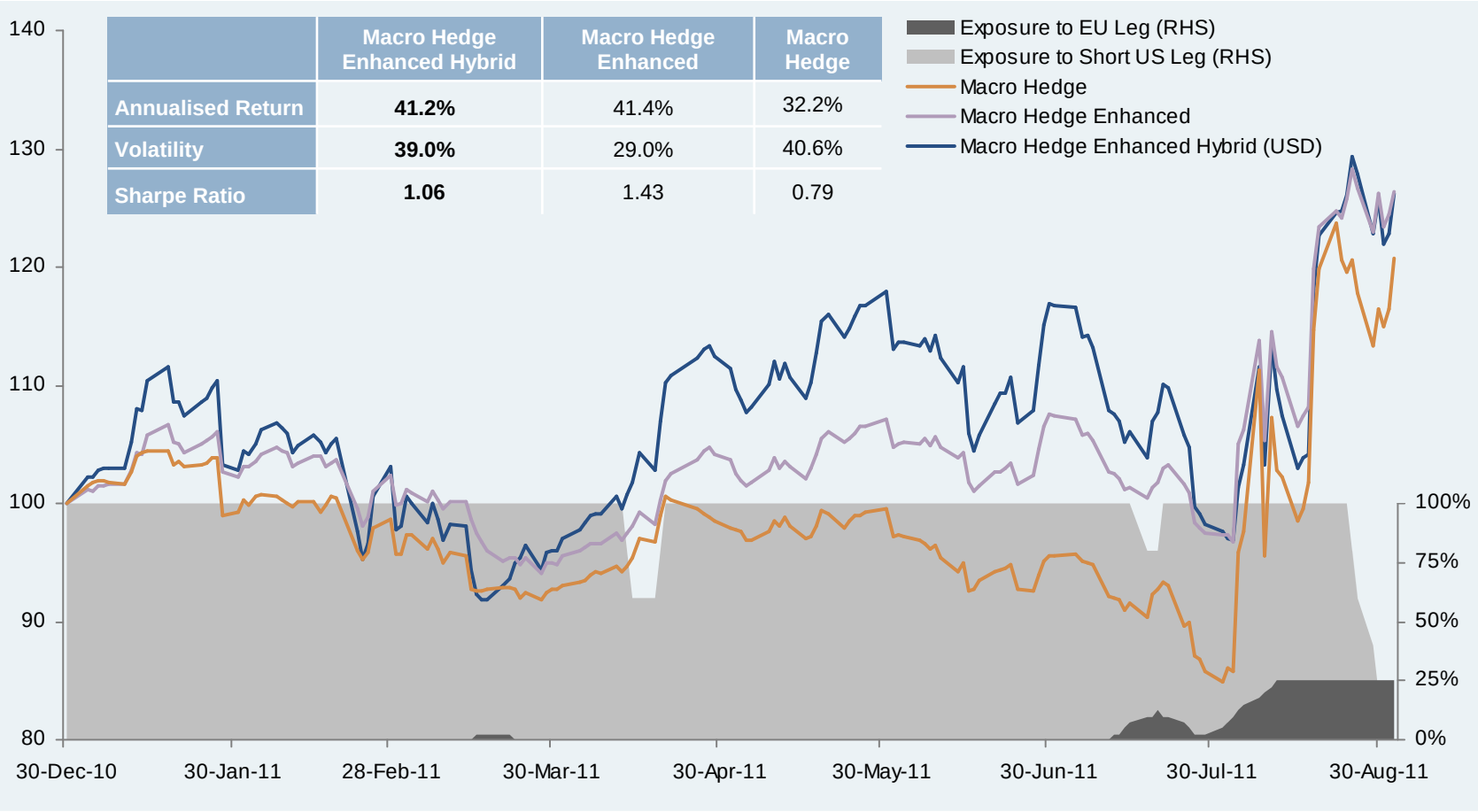


Source: J.P. Morgan. Past performance is not a guide to future performance. "Macro Hedge " refers to the performance of J.P. Morgan Macro Hedge Index (Bloomberg: JPMZMHUS Index). "Macro Hedge Enhanced" refers to J.P. Morgan Macro Hedge Enhanced Index (Bloomberg: JPMZMHEN Index). "Macro Hedge Enhanced Hybrid" refers to J.P. Morgan Macro Hedge Enhanced Hybrid Index (Bloomberg: JPMZMHHG Index). Please refer to the back-testing disclaimer at the beginning of this presentation. This performance is net of index calculation fees of 75bps per annum.

Simulated Performance Details

J.P. Morgan Macro Hedge Enhanced Hybrid (USD) Index Simulated Performance (Dec 10 – Sep 11)

	Macro Hedge Enhanced Hybrid	Macro Hedge Enhanced	Macro Hedge
Annualised Return	**41.2%**	41.4%	32.2%
Volatility	**39.0%**	29.0%	40.6%
Sharpe Ratio	**1.06**	1.43	0.79



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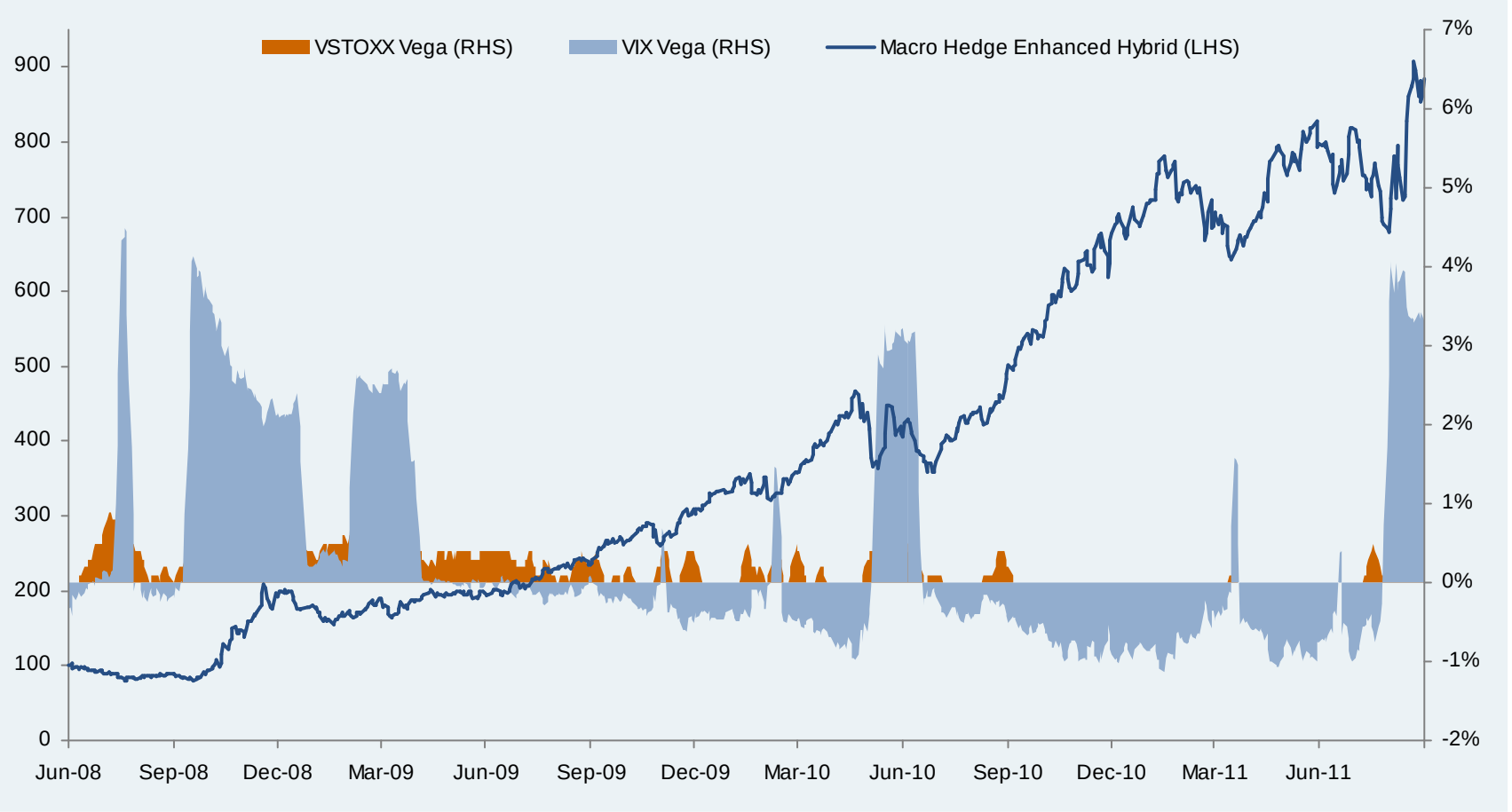
Simulated Performance Details (continued)

J.P. Morgan Macro Hedge Enhanced Hybrid (USD) Index Simulated Performance (Jun 08 – Sep 11)



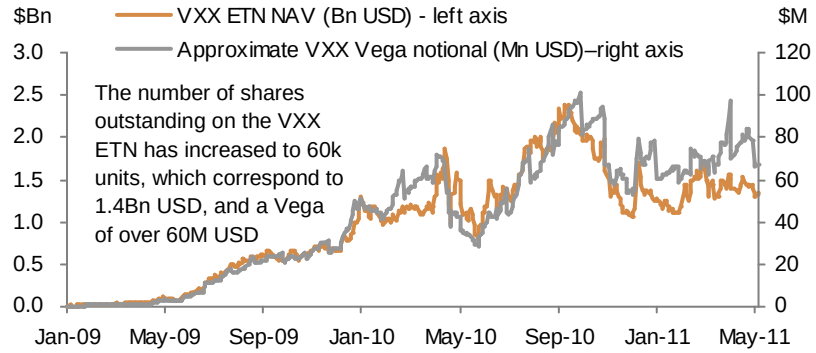
Source: J.P. Morgan. Past performance is not a guide to future performance. "Macro Hedge Enhanced Hybrid" refers to J.P. Morgan Macro Hedge Enhanced Hybrid Index. Please refer to the back-testing disclaimer at the beginning of this presentation. This performance is net of index calculation fees of 75bps per annum.

Agenda

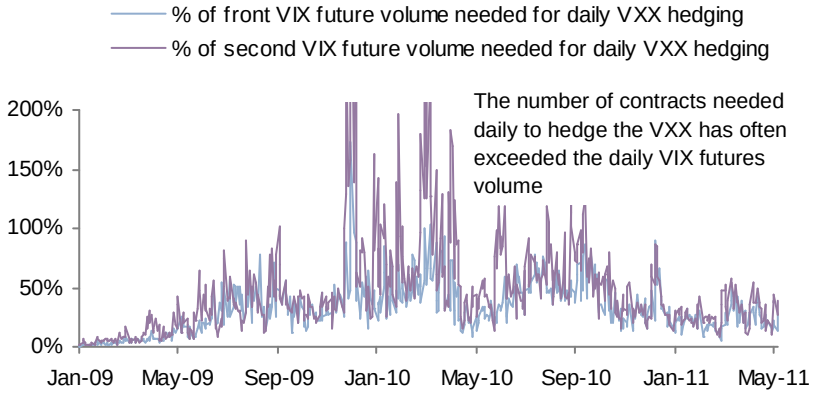
Appendix: update on VXX[1]

VXX update

- The VXX ETN tracks a collateralised investment in front and second month VIX Futures, rolled on a daily basis. We calculate historically the VXX US's total Net Asset Value (and work out the equivalent total Vega, which is currently over $60M)



- We compare the required hedging flows needed to hedge the VXX daily with the daily volume of the VIX front and second month futures and conclude that VXX is hedged OTC. In fact, the number of contracts needed to hedge the VXX exceeded the daily volume of the VIX Futures fairly often

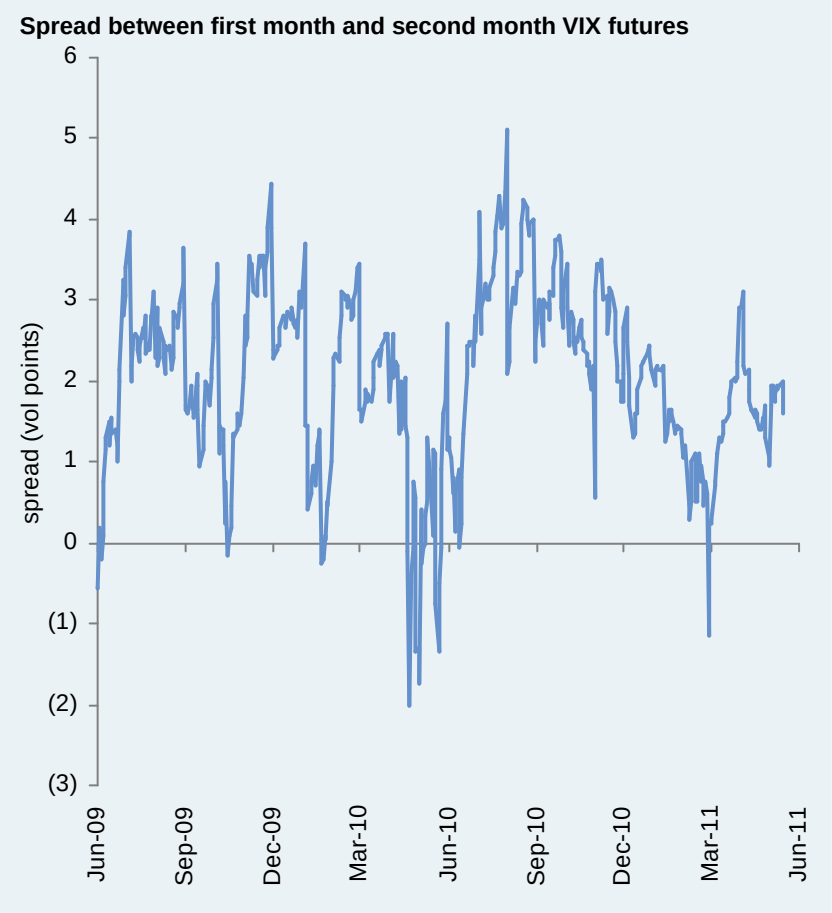


[1] Refer to JPMorgan Equity Derivatives Strategy for more details

Source: Bloomberg, J.P. Morgan. Past performance is not a guide to future performance.

Appendix: update on VXX (cont'd)

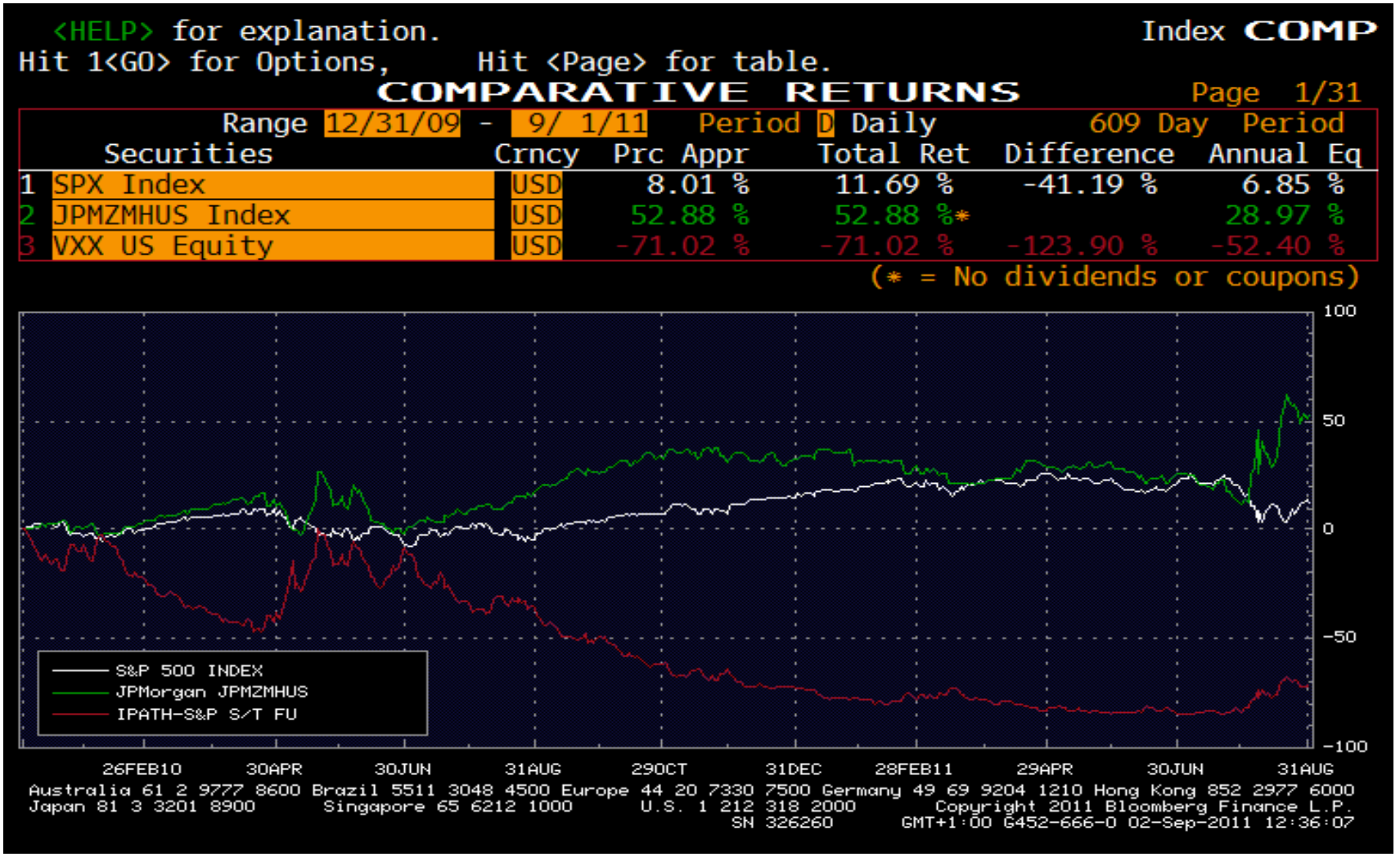
- The amount of Vega that needs to be traded daily to hedge the VXX ETN is currently approximately $7.5M (calculated as the sum of the Vega to be sold in the front contract and bought on the second contract). The VXX hedging leads to a systematic selling pressure on the front month futures and buying pressure on the second month futures. The size of the flow is such to likely lead to a steepening of the front end of the VIX futures term structure, in our view
- The difference in steepness of the VIX and VSTOXX futures term structures is large and could be impacted by the VXX hedging on the VIX (as well as by the difference in short-dated realized volatility)
- The elevated steepness of the VIX Futures term structure leads to high slide and roll cost for long front and second month VIX Futures positions. This makes holding these instruments an expensive way to be long US implied volatility



Source: Bloomberg, J.P. Morgan. "VSTOXX" refers to the VSTOXX Index which is based on the DJ Euro Stoxx 50 Index options traded on Eurex (Bloomberg: V2X Index). Past performance is not a guide to future performance.

J.P. Morgan Macro Hedge Index

J.P. Morgan Macro Hedge Index Hypothetical Performance–Bloomberg JPMZMHUS <Index>



Source: Bloomberg