GLOBAL VOLATILITY SUMMIT

August 2017 Newsletter

Dear Investor,

The Global Volatility Summit ("GVS") brings together volatility and tail hedge managers, institutional investors, thought-provoking speakers, and other industry experts to discuss the volatility markets and the roles volatility strategies can play in institutional investment portfolios. The GVS aims to keep investors updated on the volatility markets throughout the year, and educated on innovations within the space.

Morgan Stanley has provided the latest write up for the GVS newsletter series.

Cheers,
Global Volatility Summit

Event

The eighth annual Global Volatility Summit ("GVS") is scheduled for Wednesday, March 14th, 2018 at Pier 60 in New York City. Alongside our featured volatility managers, we are excited to announce the addition of a Quantitative and CTA manager panel, featuring prominent portfolio managers in the space to share their views on the volatility markets and resulting impact on these strategies.

2017 MANAGER PARTICIPANTS

Allianz Global Investors
Argentière Capital
Capstone Investment Advisors
BlueMountain Capital
Capula Investment Management
Dominicé & Co
Fort LP
Graham Capital Management
III Capital Management
Ionic Capital Management
Man AHL
Parallax Investment Advisors
Pine River Capital Management
R.G. Niederhoffer Capital
True Partner

2017 Event Recap

The 8th Annual Global Volatility Summit was held on March 15, 2017 at Chelsea Piers in New York City. Presenting to and networking with a well-attended crowd was an exciting lineup of 15 hedge fund managers, plus industry experts, hedge fund consultants, and institutional investors addressing the use of volatility, hedging, CTA and quantitative strategies within institutional investment portfolios.

Morgan Stanley

Korean Autocallables Update

Quantitative and Derivative Strategies

January 2017

Quantitative and Derivative Strategies
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Korean autocallable products: a brief overview

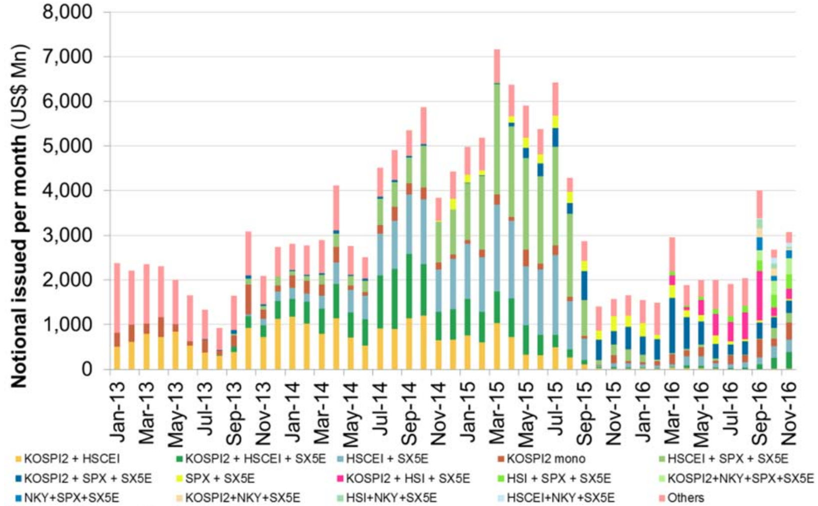
Korean autocallable products are major suppliers of index volatility to banks

- An autocallable is an income/yield type of equity-linked structured product. Embedded in its structure, the investor writes a put option and receives the premium to enhance yield. The underlyings can be single stocks or equity indices. The most common ‘mono product’ is based on KOSPI2 while ‘worst of' autocallables are most commonly linked to spot levels of the HSCEI, SX5E and KOSPI2.
- The embedded put option has a **knock-in**. The knock-in barrier, observed daily, usually set at a very low level compared to the initial spot price (the “reference level”), e.g. 55% of spot.
- A typical product would be 3 years in duration with observations every 6 months. If, at the first observation, the index (or in case of a ‘worst of’, the worst performing index) is above a certain **knock-out** level then the product is **autocalled** and the investor receives his investment back along with a coupon.
- Most of these products have a 'step-down' feature. For example, a typical worst of autocallable may have observation levels of (1) 90% initially for the first two 6 months periods, (2) then 85% for the next two and (3) 80% for the final two observations.
- Thus, as for our notional estimation, we assumed typical combinations of KO/KI barriers and took weighted-average of results based on their distribution in the market.
- As for vega estimation, we assumed (a) 3-year duration, (b) 55% KI barrier and (c) 90%-90%-85%-85%-80%-80% step-down KO barrier.

Monthly issuance of Korean auto-callables

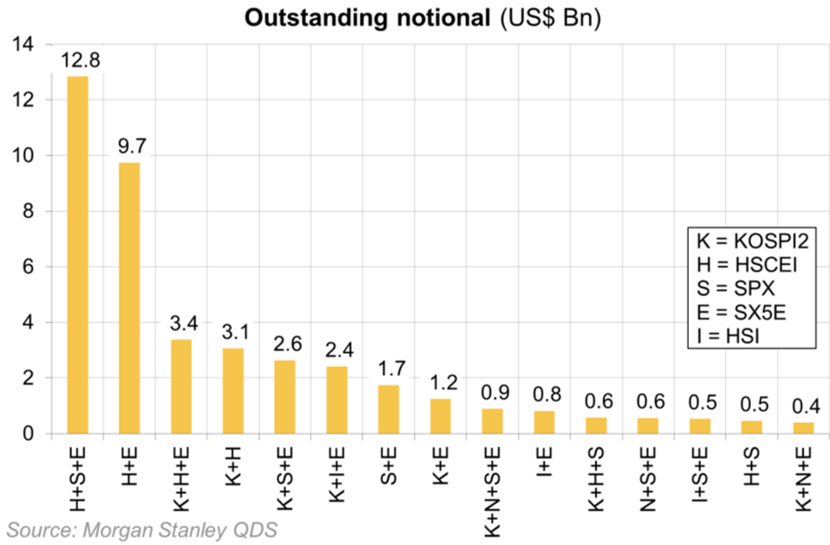
- Autocall issuance has started to pickup again with notable increase in products that include NKY.
- Monthly issuance increased significantly from September onwards to around 3-4bn USD monthly compared to around 2.0 Bn USD notional in June.
- With the increase in overall issuance, SX5E vega issuance had the biggest increase to around 4.6 Bn USD monthly from 1.9 Bn USD in June

Monthly issuance notional by index



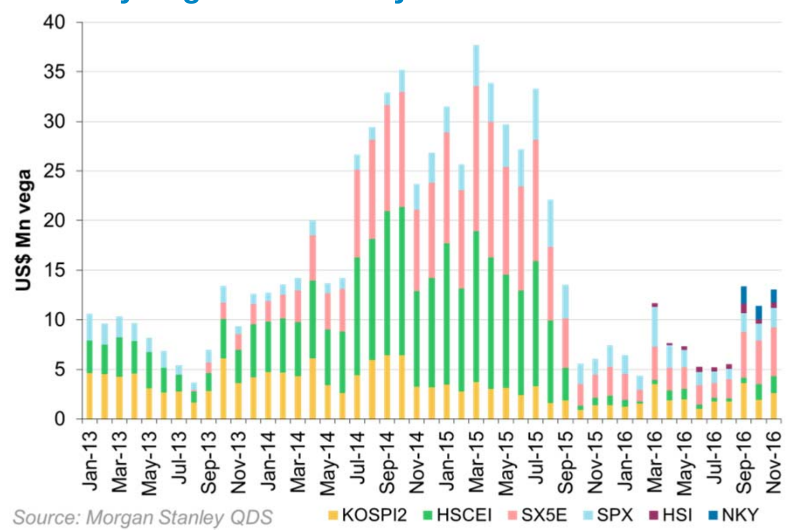
Source: Morgan Stanley QDS

Outstanding notional by index combination



Source: Morgan Stanley QDS

Monthly vega issuance by index

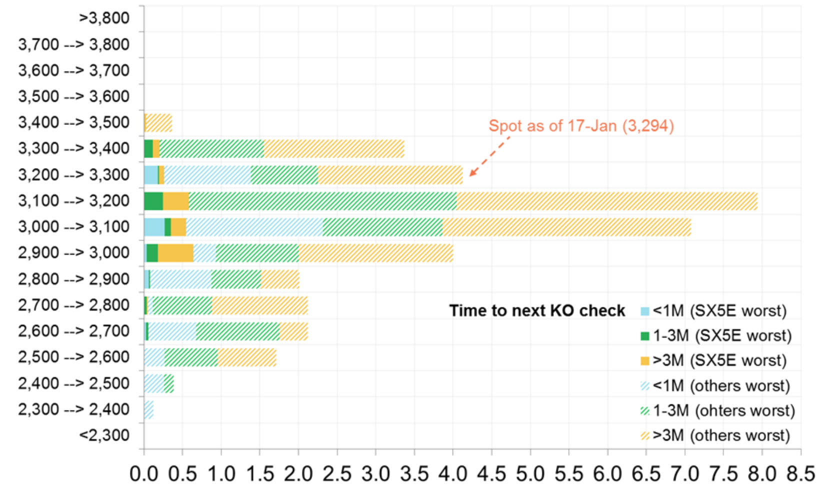


Source: Morgan Stanley QDS

Knock-out barrier breakdown

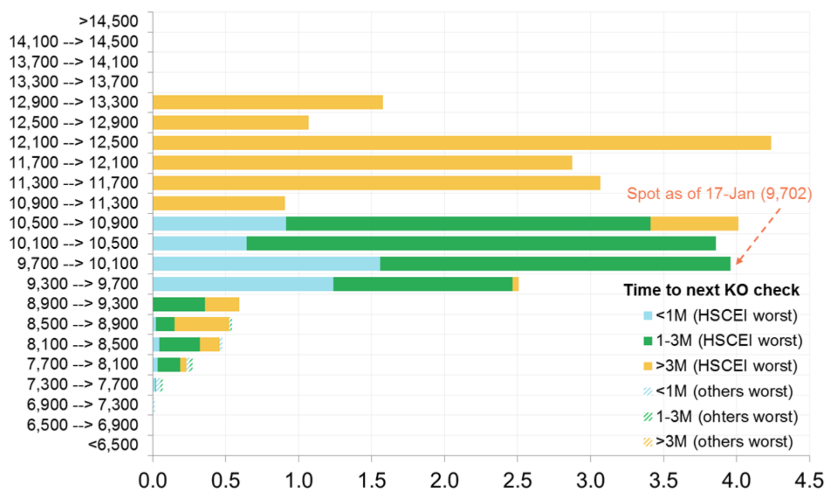
- The bar charts show expected knock-out levels for each index split up by time left to the next observation. Solid bars represent products with the corresponding index being the worst performer while shaded bars are not.
- HSCEI is the worst performer for around 99% of notional outstanding of products linked to HSCEI.
- Most of the KO-barriers of HSCEI for the coming month range between 9300-10900.
- 1.2 Bn USD in KOs would be expected within a month if the all 3 of the indices stays around the current spot.

Knock-out intervals for SX5E-linked autocalls (US$ Bn)



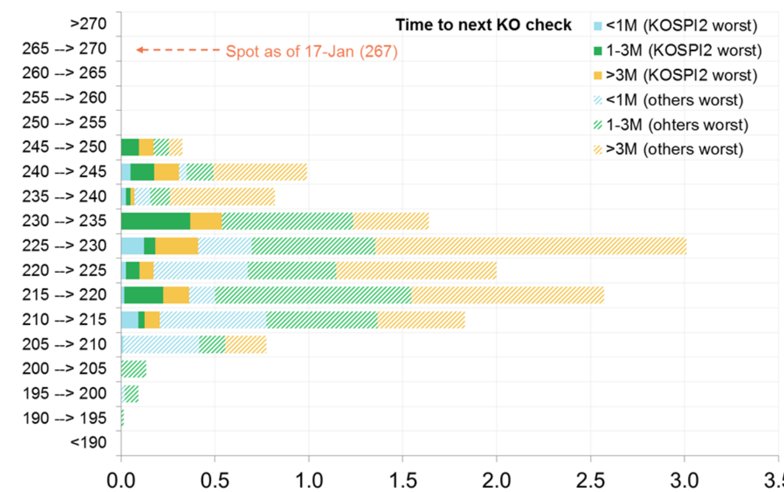
Source: Morgan Stanley QDS

Knock-out intervals for HSCEI-linked autocalls (US$ Bn)



Source: Morgan Stanley QDS

Knock-out intervals for KOSPI2-linked autocalls (US$ Bn)

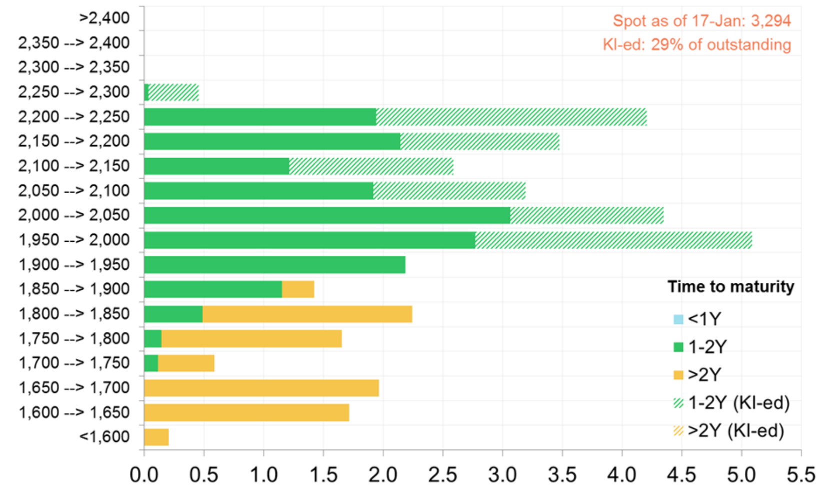


Source: Morgan Stanley QDS

Knock-in barrier breakdown

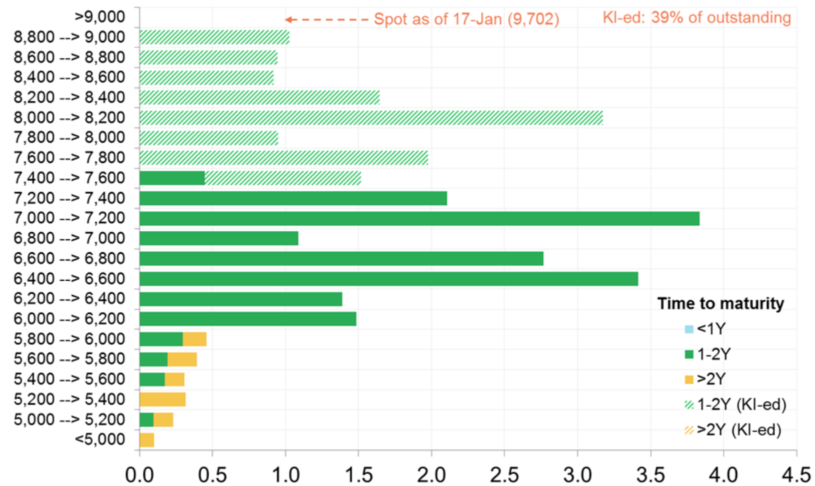
- The bar charts show expected knock-in levels for each index split up by time left to maturity. Solid bars represent products that have not knocked-in while shaded bars represent products that have knocked-in.
- HSCEI should be looked at most carefully as it is worst performing index in most cases.
- Most products with HSCEI KI barrier above 7400 have already knocked-in (39% of total outstanding).
- There are no outstanding products with time to maturity below 1 year, therefore delta impact of KI (selling of futures due to unwind of over hedges by dealers) would be limited even at the KI event.

Knock-in intervals for SX5E-linked autocalls (US$ Bn)



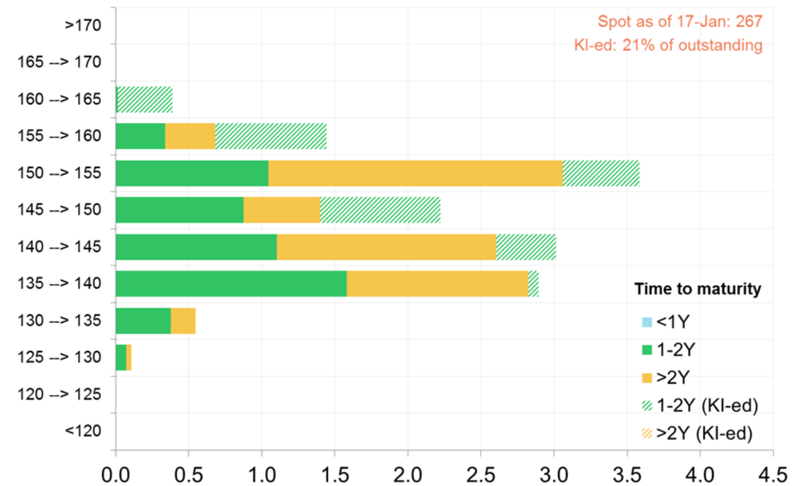
Source: Morgan Stanley QDS

Knock-in intervals for HSCEI-linked autocalls (US$ Bn)



Source: Morgan Stanley QDS

Knock-in intervals for KOSPI2-linked autocalls (US$ Bn)



Source: Morgan Stanley QDS

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