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### MEET STOXX AT A CONFERENCE

>> Jan. 22-25, Hollywood, FL, USA
STOXX will exhibit at the Inside ETFs Conference. Meet us at our booth!

### "OUR FINAL ISSUE OF 2016 BRINGS A REMARKABLE YEAR TO A CLOSE"



Matteo Andreetto CEO, STOXX Limited

### Dear readers,

Welcome to the Fall/Winter edition of STOXX PULSE.

Our final issue of 2016 brings a remarkable year to a close. Extraordinary monetary policies and unforeseen political developments have shaped market performance and investors' attitude to risk. In an ever-changing world, in this edition we travel around every major region of the globe to cover key developing investment themes.

We start our reporting trip in Europe with a look at how the STOXX Select and Diversification Indices are making a difference in the structured-products business in the face of negative interest rates. We publish an insightful Q&A session with Guillaume Flamarion, London-based equity derivatives structurer at J.P. Morgan, and Jurgen Vanhaverbeke, head of product management, Save and Invest, BNP Paribas Fortis in Brussels. Both discuss how indices that can optimize pricing improve investors' capital protection and participation.

The monetary policy landscape is also dictating market performance in the US, where a change in government promises to add to the uncertainty. It is timely then that minimum variance strategies are growing in the country, a feature covered in our second article. STOXX recently licensed the STOXX® USA 900 Minimum Variance Unconstrained Index to Recon Capital Partners for an exchange-traded fund (ETF). We talked to Kevin Kelly, Recon's chief investment officer, about how a minimum variance strategy can combine lower risk with higher returns, and why the STOXX offering is different.

We next turn to the Asia/Pacific market, where our footprint is growing in tandem with a structural shift towards smart-beta products, as well as demand for more traditional market capitalization-weighted products such as the iconic EURO STOXX 50® Index.

We are tremendously excited about the developments in this region, where the sophistication of investors is quickly catching up with those of other markets.

We round up this issue with a topic that is on investors' minds globally – Environmental, Social and Governance (ESG) investing. ESG is a vigorous force in asset management, and STOXX continues to unveil new products that incorporate innovative approaches and possibilities for investors. This year, we introduced the STOXX ESG Impact Indices, which track companies with the greatest exposure to ESG key performance indicators (KPIs) that tend to reduce

volatility and therefore impact investment risk and returns.

To hear how STOXX is helping investors approach ESG strategies, we take the knowledgeable insights of Shundrawn A. Thomas, head of funds and managed accounts at Northern Trust, and Rod Jones, head of STOXX's North American business. Northern Trust's FlexShares this year licensed the STOXX® Global ESG Impact Index and the STOXX® USA ESG Impact Index for respective ETFs that now trade in New York. As Rod says in this closing article, socially responsible investing (SRI) is increasingly becoming a minimum requirement for many asset owners.

I hope you enjoy this issue, and would like to thank you for your partnership during the past year. I wish all readers a happy holiday, and look forward to sharing new experiences in the new year.

Finally, I invite you to visit our blog on stoxx.com/pulseonline for more insight articles and timely updates. For comments and/or suggestions, please contact pulse@stoxx.com.

Regards,

Matteo Andreetto CEO, STOXX Limited







**Guillaume Flamarion** Equity Derivatives Structurer, J.P. Morgan



Jurgen Vanhaverbeke Head of Product Management Save & Invest, BNP Paribas Fortis





# >> STRUCTURED PRODUCTS: TUNED UP FOR A ZERO-RATE WORLD

The first anniversary of the Select and Diversification Select Indices helps assess STOXX's role in reshaping the structured-products industry.

The post-crisis world presented sellers of structured products with the challenge of providing an attractive pricing and capital protection proposition. As developed-world interest rates sank below zero, the high cost of tailoring these investment vehicles threatened the viability of the business itself.

A drop in rates lifts the cost of the zero-coupon bond used in structured products to guarantee the invested capital. As the bond takes more of the investment, less is left to buy the derivatives part of the structure that offers exposure to the underlying bet. As a result, the structured product needs to offer either lower capital protection or reduced investment participation terms.



As a leading provider of underlying indices for structured products worldwide – the EURO STOXX 50° Index is the most widely used underlying for these vehicles – STOXX was keenly aware of the problem that issuers and distributors faced.

### Pricing advantage

Against this market backdrop, STOXX focused on where it could add value: enabling option-price efficiency in the products, which would allow issuers to provide higher participation and greater protection to investors. That's how the STOXX Select Dividend Indices came to fruition. This first Select generation includes the EURO STOXX® Select Dividend 30 Index, and the STOXX® Global Select Dividend 100, the first global index tracking high-dividend yielding stocks worldwide.

Options on an index tracking high- and sustainable-dividend payers – usually stable companies with strong balance sheets and mature businesses – are significantly lower-priced than those on broad-market benchmarks. This pricing enhancement meant that, in structured products, either capital protection or exposure, or both, could be improved.

The indices came with an additional benefit: high-dividend stocks proved to outperform their parent benchmarks.

### Further transforming indices for superior performance and attractive pricing framework

As policymakers hinted at a 'lower-forlonger' rate policy and some, noticeably the European Central Bank (ECB) in 2014, took the unprecedented measure of cutting deposit rates into negative territory, STOXX stepped up investors' possibilities: in October 2015, it introduced the Select and Diversification Select Indices, which delved further into performance and pricing efficiency. The Select and Diversification Select Indices are a second generation of benchmarks for the investor seeking an optimized benefit of capital protection, improved exposure to an asset, and higher returns.

The indices marry under one roof two factors that have shown to provide stability in stock prices: a high-dividend yield and a low-volatility ratio. In the case of the Diversification Select Indices, an additional screen precedes the selection process: stocks that show high correlation among each other are excluded. This is intended to neutralize any bias or concentration towards specific sectors or regions, and hence lower the overall risk. It is important to note here that the low-volatility screen filters out stocks that show a highdividend yield as a result of a slump in their price, sometimes referred to as 'dividend traps.'

Components of both index families are weighted by the inverse of their volatility.

The STOXX Select Indices are derived from major STOXX benchmarks and globally relevant themes, resulting in the most stable and highest-yielding stocks in the respective investment universe.

### "THE INNOVATION NOW RESIDES MORE IN THE UNDERLYING THAN IN THE PRODUCT"

The depth and breadth of the Select and Diversification Select family include a range of regions, countries, levels of geographic exposure and themes like Environmental, Social and Governance (ESG), Low Carbon Christianity and True Exposure, which further expanded the possibilities for issuers, distributors and investors.

### Outperformance as added benefit

An additional benefit to the Select and Diversification Select family has come from the historical outperformance of the factors behind these indices.

The 'low-volatility anomaly', where low-volatility stocks have historically produced higher risk-adjusted returns, has been attributed to their smaller-than-average drawdowns and low beta. Secondly, high dividends tend to be a strong indication of a company's future prospects. These businesses usually perform well because of their stable cash flows and less volatile economic cycles. They also often have a significant value tilt.

Figure 1 shows the performance of the STOXX® Europe Select 50 Index and the broader STOXX® Europe 600 Index since data for the former starts in 2004. Returns are shown net of dividends.

In May 2016, the Select and Diversification Select Indices were expanded to add investment themes such as Low Carbon and ESG Environmental Leaders.

### Indices in action

We talked with Guillaume Flamarion, London-based equity derivatives structurer at J.P. Morgan, and Jurgen Vanhaverbeke, head of product management, Save and Invest, BNP Paribas Fortis in Brussels, to get their views on the structured-product industry and how STOXX has helped their business.

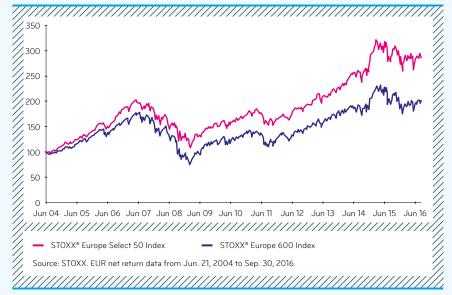
### Guillaume, how would you describe the environment for structuredproduct issuance at the moment?

"The two main drivers for the current structured-product issuance are: firstly, search for simplicity; and secondly, the super low interest-rate environment. Investors are therefore looking for simple yield enhancement structures or simple capital-protected participation structures. The innovation now resides more in the underlying than in the product."

### You have used the Select and Diversification Select Indices for structured products. What would you highlight as their most differentiating aspect?

"The demand for low-volatility and high-dividend strategies has grown significantly over the past few years due to strong risk-adjusted performance and

FIGURE 1 – STOXX® EUROPE SELECT 50 INDEX AND STOXX® EUROPE 600 INDEX



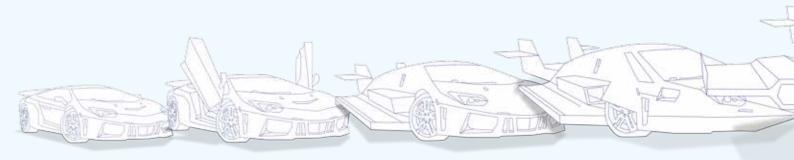
increased investors' appetite for smarter equity exposure. In fact, recent exchange-traded fund (ETF) launches have gathered considerable assets and today most index providers have flagship low-volatility and select dividend indices. The STOXX Select and Diversification Select Indices have the merit to offer a homogenous index series, with the same standard methodology applied to all regions (Europe, US, Asia) and themes (ESG, Low Carbon, etc.). In a crowded market of smart beta indices, the Select and Diversification Select Indices stand out in their simplicity and uniformity. This is a strong message and commitment sent to retail distributors in Europe, who can now rely on one single methodology and therefore an easier marketing pitch for them."

So what does all that mean for an issuer of structured products? How do you benefit by using the Select and Diversification Select family of indices?

"Firstly, the benefit of the Select and Diversification Select Indices is to offer, in a very low interest-rate environment, a level of capital protection and an exposure to the positive performance of equity indices, neither of which would be possible on more classical benchmark indices. Secondly, once this uniform methodology of the index series has been accepted by the retail distributors, it makes it easier for us, as a product manufacturer, to focus only on the theme (ESG, Core Europe etc.) and the structured product terms (participation, level of capital protection)."

Jurgen, what's the scope of the effect that record-low interest rates have had on the structured-products industry?

"When rates were high, structured products were very popular because you could get 100% protection. It was easy to offer capital protection and participation on traditional indices such as the EURO STOXX 50. But due to the decline in interest rates, it has become practically impossible to offer this. That is why we are looking to optimize the structure behind these products. We need to have low options prices to be able to still offer attractive conditions of capital protection and gearing levels."



## "IN A CROWDED MARKET OF SMART BETA INDICES, THE SELECT AND DIVERSIFICATION SELECT INDICES STAND OUT IN THEIR SIMPLICITY AND UNIFORMITY"

Your search for an optimized structure has led your team to use the Select and Diversification Select Indices. How do they help?

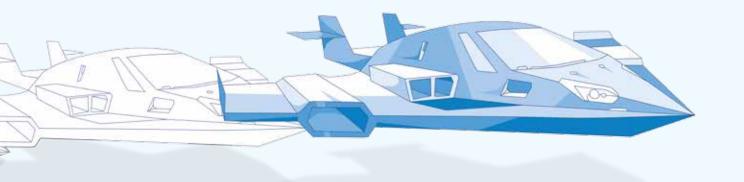
"These optimized indices did help us continue to offer these products, whereas with classical indices it would have been impossible to offer 100% or even 90% capital protection. The big advantage here is that so-called optimized indices allow you to offer a higher participation on the rise versus classical indices, in combination with capital protection, but they also tend to outperform them. So we are creating a win-win situation for the client: we can offer them more attractive conditions and, on top of that, exposure to an outperforming underlying."

### And how has the client response been?

"Our clients really want at least 90%, and ideally 100%, capital protection; the vast majority of volume is there. These indices have made a big difference. For a lot of clients, 90% capital protection is still a safer proposition than a mutual fund, so we need to have these products for those clients."

And, more generally, you've reaped the benefits of structuring notes on equity indices for some years, is that right?

"Until only a few years ago, BNP Paribas Fortis used to sell many notes around baskets of stocks allowing the payment of yearly coupons. The problem with this underlying was that in some baskets there would be a couple of companies that would fail during the product's life span, hurting overall returns. The use of indices, with their frequent rebalance, solves this issue, since the bad performers are left out of the index if they are no longer in line with the index rulebook. Clients want a more dynamic, rather than a static, approach. Using an index has helped us to support sales in this sense." «







Kevin Kelly Chief Investment Officer & Managing Partner, Recon Capital Partners





## >> A MINIMUM VARIANCE STRATEGY FOR THE US

The STOXX® Minimum Variance Indices offer strong returns for a given level of risk, additionally avoiding intra-stock correlation.

The search for lower portfolio volatility has featured strongly in the aftermath of the global financial crisis. Minimum variance, a strategy described as optimal because it sits on the 'efficient frontier' offering the highest expected return for a given level of risk, has been in demand. The STOXX Minimum Variance Indices select a portfolio with the lowest possible level of risk, but they also optimize the portfolio via a multi-factor model developed by partner Axioma to more efficiently minimize risk and eradicate stock correlation, which is so common in other low-volatility strategies.

The indices also stand out because they feature in both constrained and unconstrained versions. While the former mirror a conventional market-cap weighted benchmark but with reduced volatility, the latter are

free from any bias to an underlying index. Being the first of its kind globally, the unconstrained version is optimized with minimal constraints. This freedom to fulfill its minimum variance mandate has boosted the unconstrained version's ability to lower risk and has made it the best performer historically.

A unique new vehicle to access this strategy on US stocks was introduced on Sep. 20 with the listing in New York of an exchange-traded fund that tracks the STOXX® USA 900 Minimum Variance Unconstrained Index and is managed by Recon Capital Partners. We talked to Kevin Kelly, Chief Investment Officer at Recon Capital, about interest around a minimum variance strategy for US stocks.

Why are low-volatility, low-risk products in demand in the US, considering volatility has come down substantially from the 2008 crisis levels?

"Minimum variance products and strategies are seen as delivering the best of both worlds, where you can have a lower-risk strategy and lower drawdowns, as well as strong returns. Sometimes these strategies outperform even in up markets. Minimum variance is a different type of strategy to just focusing on volatility; it really focuses on lowering the risk and drawdowns in down markets, but still getting the participation in up markets.

"Even though you may be a in a lowvolatility environment, this strategy still performs well. One of the things about a minimum variance strategy is that it tries to take out riskier stocks that don't have the same risk-return profile in a normal market. There tends to be a behavioral bias towards riskier stocks that skews their risk-return trade-off. This is because investors tend to go towards riskier stocks and hence tend to overvalue them and don't get the returns they seek. A lot of the stocks in a minimum variance strategy are not the sexy, headline-grabbing names. But they have a better risk-return reward to them, because they are not as loved as some of the high-flying stocks."

### How would you describe the current US and global equity market environment?

"Global growth is slowing, and the efficacy of monetary policy is declining. As central banks' policies can no longer stimulate markets further, it will be up to governments to provide that stimulus through fiscal and other policies. But this is a difficult baton to pass.

"We know markets always face uncertainties and crises, and minimum variance is the type of strategy you want to carry in your portfolio consistently, because it performs in those crises."

### Minimum variance differs from a simple low-volatility strategy. What is attractive about it?

"Minimum variance differs significantly from a low-volatility strategy. Low volatility focuses only on the volatility factor. You take all the stocks, rank them by volatility, and pick the bottom quartile. That is not the most efficient construction exercise to lower the risk of a portfolio. Minimum variance, on the other hand, differs by looking at all the factors amongst stocks, as well as correlations ranging from liquidity, leverage, and momentum to growth and value and so on, to reduce the risk amongst all those factors to its lowest possible point and thus efficiently get on the frontier. You are not taking an additional point of risk; you are not overweighting any factor that could contribute additional risk to the portfolio. By using a minimum variance strategy, you are therefore reducing the volatility of the portfolio because you are not overvaluing certain factors, geographies, sectors, etc.

"In the case of STOXX's Minimum Variance Indices, they use Axioma's multi-factor risk optimization model. That takes all the equities from the STOXX® USA 900 Index and runs through the co-variance model to figure out the units per risk for each stock. That is how the index chooses and weights them."

Factor-based indices have seen huge growth in demand. Do you foresee this continuing? Are 'smarter' indices becoming a new norm in terms of investor demand?

"The next leg of growth in the marketplace is going to be on factorbased indices. It is important for investors to establish what type of factors they are getting exposure to and how those are being implemented. One of the most crucial things we believe, and this is another reason why we were drawn to this index, is that it incorporates information from all the different factors. So we won't overweight or underweight a certain factor. We will incorporate a multi-factor approach that leads to better Sharpe ratios for portfolios. One of the reasons why that is true is that if you just focus on one factor, and if you only rebalance once every several months, and that factor is out of fashion, then you will underperform the market. We think there are smarter ways to address investors' needs in their portfolios. They just need to be very conscientious as to how to address those needs. So we believe that a multi-factor risk optimization approach provides the ultimate risk-adjusted return."

### "MINIMUM VARIANCE IS THE TYPE OF STRATEGY YOU WANT TO CARRY IN YOUR PORTFOLIO CONSISTENTLY"

You have put emphasis on a minimum variance strategy and the benefits of the multi-factor model. What else drove you to choose the STOXX USA 900 Minimum Variance Unconstrained Index as an underlying for an exchange-traded fund (ETF)?

"Markets change constantly and therefore risk dynamics also change on a daily basis. We do not want to have a stale portfolio given the current market environment. What drew us to this index is that it takes all of this information and updates it daily and the portfolio is rebalanced monthly. We can base decisions feeling comfortable that the portfolio incorporates all the relevant

information. Most portfolios rebalance quarterly or semi-annually, so if there is a big, macro event and your portfolio has already rebalanced and you have to wait for another few months, you are not going to have the proper portfolio based on the risk in the market."

### What role does the unconstrained characteristic of the index play towards those potential returns?

"The unconstrained characteristic plays a crucial role towards potential returns because it means the index is not restricted to the attributes of the parent benchmark. So the portfolio can espouse its market views without being restricted to the holdings, factors or sector constraints of its parent benchmark. The important part is

FIGURE 1 – STOXX USA 900 INDEX AGAINST ITS TWO MINIMUM VARIANCE VERSIONS

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Source: STOXX. USD gross return data from Jun. 28, 2002 to Nov. 10, 2016.

FIGURE 2 – STOXX USA 900 MINIMUM VARIANCE UNCONSTRAINED INDEX

	STOXX USA 900	STOXX USA 900 MinVar	STOXX USA 900 MinVar Unconstrained
Performance (annualized)	7.5%	10.2%	10.5%
Volatility (annualized)	19.4%	15.1%	12.4%
Maximum drawdown	54.8%	45.2%	36.9%
Sharpe ratio	0.40	0.62	0.75
	///////////////////////////////////////		

Source: STOXX USD gross return data from Jun. 28, 2002 to Jun. 30, 2016

that it may overweight certain factors or geographies because they have better risk-adjusted attributes to them versus the benchmark. The problem with a constrained index is that you are going be closer to a portfolio of the parent benchmark, which may overweight certain riskier equities. So we can avoid those. We want to get better returns."

### Why was STOXX the perfect choice as your partner?

"One of the reasons we decided to use STOXX is not only because of their global footprint but also because they provide transparent, consistent and rules-based indices that have performed over time. We have always respected their high operational standards. So using them helped us come up with a strategy that could be implemented into a publicly traded vehicle, being compliant for all rules. Using STOXX helps us implement and adhere to the strategy's regulatory framework. Using STOXX has allowed us to optimize a product where turnover and transaction costs are considered in the implementation of the strategy, all for the benefit of shareholders."

Figure 1 shows the benchmark STOXX USA 900 Index against its two minimum variance versions.

Figure 2 shows how the STOXX USA 900 Minimum Variance Unconstrained Index has had superior returns relative to the other two indices. The outperformance has come with lower volatility and lower drawdowns too. «





Shirley Low Storchenegger, CFA, FRM, CAIA, Managing Director Head of Asia/Pacific, STOXX





# >> ASIA/PACIFIC: SMART BETA, DIVERSIFICATION DRIVES INDEXING GROWTH

Asia/Pacific has seen compelling growth in asset management in recent years, driven by a wealthier middle class, an ageing population, and rising deposits and investment penetration ratios.

According to estimates, assets under management in the region will grow by an average of 9.8% a year between 2012 and 2020, or about twice the rate of those in Europe and North America.

This growth trajectory has run in parallel to passive investing's momentum in the region. STOXX's expanding footprint in the past two years reflects this development: from an enlarged physical presence, to new partnership agreements and a string of listings of the flagship EURO STOXX 50° Index, along with smart-beta or strategic-beta benchmarks.



"In Asia, traditional actively managed investments are still predominant, where investors are paying higher fees and are increasingly unhappy with net returns," said Shirley Low Storchenegger, Managing Director at STOXX and Head of Asia/Pacific. "A structural shift towards passive investing for both market-beta and smart-beta strategies will follow imminently, similar to the trend we have seen in North America. STOXX is well-positioned in the region to support Asian investors to improve their risk-return profile."

There is little doubt that this is only the beginning of a long journey, as experts<sup>3</sup> say Asia/Pacific will become a real power within asset management in the coming years.

### Smart beta – strong momentum in North Asia

Japan has decisively positioned itself on the front lines of the smart-beta index universe in recent years. The passive investing industry got a boost after the government itself launched a quantitative index tracking companies with high return on equity and corporate governance. Since returning to power in 2012, Japan's Prime Minister Shinzo Abe has pushed for structural reforms. Part of the 'Abenomics' package is to cut corporate taxes and force companies to improve governance and returns on investments.

As local investors seek geographical diversification outside of their home markets, STOXX has seen an increase in demand for its well-established blue-chip market capitalization-weighted indices. In addition, the region is fast adopting innovative products such as smart-beta strategies. Assets under management in exchange-traded products (ETPs) based on those strategies grew by nearly 50% in the 12 months through June 2016, outpacing the broader ETP industry in the region.<sup>2</sup>

## "STOXX HAS SEEN AN INCREASE IN DEMAND FOR ITS WELLESTABLISHED BLUE-CHIP INDICES"

Additional momentum has come since the central bank and the country's Government Pension Investment Fund – the world's largest pension fund – started to replace the allocation of traditional actively-managed assets with smart-beta strategies.

An important milestone for STOXX in Asia took place in May 2015 with the signing of a strategic alliance with Mitsubishi UFJ Trust and Banking Corp. (MUTB), one of Japan's largest trust banks, to jointly develop and expand the smart-beta footprint in the country and beyond.

This alliance opened the door to four smart-beta products tracking the iSTOXX® MUTB Japan Quality 150 Index, which aims to capture the performance of Japanese companies with high profitability, low leverage and sustainable cash flows.

MUTB manages an institutional passive fund, while Mitsubishi UFJ Kokusai Asset Management (MUKAM) manages a retail passive fund, an actively managed fund and also an exchange-traded fund (ETF) listed on the Tokyo Stock Exchange. STOXX also launched the iSTOXX® MUTB Global Quality 150 Index, which was licensed to MUTB for an institutional passive fund.

After the Bank of Japan (BOJ) announced that, as part of their quantitative and qualitative easing policies, they would back firms that reinvest proceeds to grow and to develop their human resources, STOXX and MUTB launched the iSTOXX® MUTB Japan Proactive Leaders 200 Index. The index tracks companies displaying the highest levels in two capital investment factors: physical and human, among other quality factors.

An ETF tracking this index and managed by MUKAM was listed in Tokyo soon after and the BOJ has chosen this ETF as one of their investment vehicles. In addition, the index has been selected by Japan's Gender Equality Bureau Cabinet Office to promote gender equality thanks to its criteria tracking the number of women on boards.

In July 2016, the BOJ almost doubled its ETF-purchasing power to an annual pace of 53 billion euros in its efforts to stimulate the local economy and spur inflation.

In the same month, the alliance with MUTB grew when Yuanta Securities Investment Trust Company, the largest mutual fund company in Taiwan, joined STOXX and MUTB in a three-way agreement to expand the smart-beta offerings to Taiwanese investors. Yuanta plans to license a wide variety of STOXX and iSTOXX MUTB Indices to increase its offerings to retail and institutional clients in Taiwan.

Looking at South Korea, this country has the largest number of ETPs in the region<sup>4</sup> and has also been home to a string of new products tracking nontraditional and alternative-weighing indices, demonstrating the appetite for these investments in the country.

In April 2015, STOXX licensed the EURO STOXX 50° Daily Short Index to Korea Investment & Securities to serve as underlying for an exchange-traded note. A couple of months later, the EURO STOXX 50° Daily Leverage Index was licensed to Mirae Asset Global Investments to underlie an ETF. In July this year, STOXX licensed the EURO STOXX° Select Dividend 30 Index to Mirae, a relationship which dates from the 2014 licensing of the EURO STOXX 50° Index in Korea.

There are now four exchange-traded products based on a STOXX index listed on the Korea Exchange (KRX). To capture this momentum, STOXX entered a memorandum of understanding with the KRX in 2015 to create a long-term collaboration for index projects.

### Diversification through index investing

Alongside the successive innovation in, and growing adoption of, smart-beta indices, there has also been strong interest among Asian investors for traditional exposure to European equities, as testified by the rising demand for the blue-chip EURO STOXX 50 Index. This is an interesting trend in a region with a significant home bias in the geographic allocation of equity portfolios.

The iconic blue-chip benchmark for Eurozone stocks was licensed by Yuanta in September 2015 and serves as the underlying for an ETF listed on the Taiwan Stock Exchange (TWSE) in June 2016. It was the first license of a STOXX product for an ETF in Taiwan.

In October 2015, a second EURO STOXX 50 product was licensed in Taiwan. This time it was a passive index fund for retail and institutional investors, and managed by SinoPac Securities Investment Trust Company.

### Australia and Hong Kong go Eurozone

There was another 'first' for the logbooks when the EURO STOXX 50 arrived in Australia in July this year, the result of a first license to ANZ ETFS Management.

This was an important step that allowed investors in Australia to diversify away from a local market and benchmark too geared towards mining and banking companies. Australia has the developed world's third-largest pool of pension money, according to the Organisation for Economic Co-operation and Development.

Finally, STOXX's presence also grew in Hong Kong this year when BlackRock's iShares licensed the EURO STOXX 50 for an ETF, which was the first ETF with our blue-chip benchmark as underlying there.

The scope for demand growth in developed-market indices in Asia is promising. According to BlackRock,<sup>4</sup> assets invested in exchange-traded products listed in the Asia/Pacific region rose 23% from the end of 2015, to 300 billion US dollars as of August 2016. However, just over 1% of the region's total ETP assets are invested in global developed-market, European or US equity funds.



## "THE SCOPE FOR DEMAND GROWTH IN DEVELOPED-MARKET INDICES IN ASIA IS PROMISING"

STOXX's long-standing plans for the Asia/Pacific region were evidenced by the opening of new offices in Sydney and Tokyo in 2015.

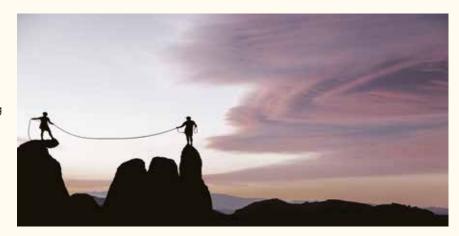
### Idiosyncrasies in investments

Low Storchenegger says the adoption of new investment strategies and geographical diversification is not a trend limited to the largest or most developed markets in the region. Clients in emerging economies, such as Thailand, are also participating, she says. The licensing of the STOXX® ASEAN Select Dividend 30 Index in 2015 to ONE AM, a Thai Asset Manager, was the first STOXX licensing of a smart-beta index in Thailand.

For some of these investors, geographic reallocation not only helps break away from tighter correlation among the region's markets, but it also brings about the benefit of sector or industry diversification. As an example, an investor relocating a share of their holdings in the FTSE TWSE Taiwan 50 into the EURO STOXX 50 would gain exposure to healthcare stocks, of which there are none in the Taiwanese benchmark. They would also dilute an unusually high 43% stake in the information technology sector.

### Partnerships as core principle

Much of STOXX's recent success in the Asia/Pacific region can be attributed to the partnerships with local asset management firms or banks and the strong support of its clients. STOXX aims to establish long-term alliances and works closely with the clients towards joint goals, rather than being a circumstantial licenser of indices, says Low Storchenegger.



"Our business in the region is very much relationship-driven," she says. "We believe strongly in partnerships that evolve around long-term relationships and trust-building; a win-win for all partners involved."

Asia/Pacific will be an ascendant force in the global industry as investment flows increase and as end users become more knowledgeable and sophisticated. Financial services giant Standard Chartered forecasts China's asset management industry alone will rise by four times between 2015 and 2020.<sup>5</sup> The region promises many exciting developments ahead, and STOXX looks forward to being part of the transformation. «

- 1 "Asset Management 2020 and Beyond", PWC
- 2 "A Global Guide to Strategic-Beta Exchange-Traded Products – 2016", Morningstar
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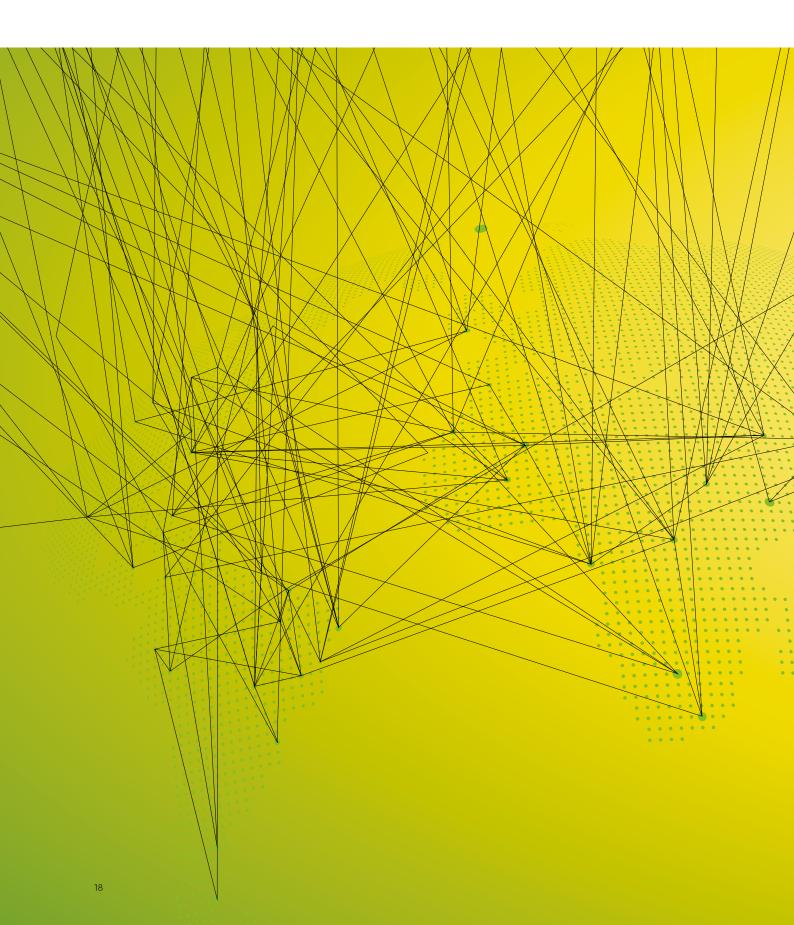




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## DESG: CHANGING PORTFOLIOS AND THE WORLD

Sustainable investing has swept across the asset-management industry, moving from niche to mainstream in just over a decade. According to the most recent data from the Global Sustainable Investment Alliance (GSIA), 30% of professionally managed assets globally employ Environmental, Social and Governance (ESG) strategies.

This transition was helped by the realization that socially responsible investing (SRI) is not only about ethics and values, but also about improving long-term returns and minimizing tail risk through better corporate management and avoidance of exogenous liabilities.



This road travelled by responsible investing has run in parallel with STOXX's growing and extensive offering of ESG indices. Starting from its foray into the field of sustainability in 2001, STOXX now has more than two dozen indices that enable investors to incorporate a wide range of SRI factors into their investment processes.

In 2011, STOXX opened a new chapter in sustainable indexing with the STOXX® Global ESG Leaders index family. These indices, produced in partnership with Sustainalytics, rank companies in each of the three ESG categories to determine the leaders. Investors can focus on one category or on all three with the STOXX Global ESG Leaders Indices.

This year, the SRI space at STOXX grew with the introduction of the STOXX® Low Carbon Indices, which help investors reduce the emission footprint of, and risk within, their portfolios. The indices include carbon data provided by CDP Europe and South Pole Group.

In addition to carbon reduction, investors are interested in understanding how other ESG factors can positively impact investments. With innovation in indexing and factor investing, ESG opens up new possibilities. Particularly as investors embrace sustainability factors with the reassurance that the move does not imply forgoing returns, or increasing risk or tracking error.

With this in mind, this year we introduced the STOXX® ESG Impact Indices, which track companies with

FIGURE 1 – STOXX® USA ESG IMPACT INDEX AND THE STOXX® GLOBAL ESG IMPACT RELATIVE TO BROADER-MARKET BENCHMARKS

	STOXX USA ESG Impact	STOXX USA 900	STOXX Global ESG Impact	STOXX Global 1800
Annualized return	13.07%	12.44%	9.13%	8.91%
Volatility	15.92%	16.49%	16.17%	16.11%
Max. drawdown	17.73%	21.28%	21.66%	22.02%

Source: STOXX, USD net return data from Sep. 17, 2010 to May 31, 2016.

## "INVESTORS ARE INTERESTED IN UNDERSTANDING HOW ESG FACTORS CAN POSITIVELY IMPACT INVESTMENTS"

the greatest exposure to ESG key performance indicators (KPIs) that impact investment risk and returns. The STOXX ESG Impact Indices are compiled through a positive screening of selected KPIs that have been shown to lower single-stock volatility. These indicators are: energy reduction targets, percentage of independent directors and percentage of women board members, policies against child labor and limits to 'golden parachute' executive compensation agreements.

These KPIs allow the ESG Impact Indices to outperform broader markets.

Figure 1 shows returns and volatility for the STOXX® USA ESG Impact Index and the STOXX® Global ESG Impact relative to broader-market benchmarks.

Northern Trust's FlexShares last July listed two funds tracking, respectively, the STOXX Global ESG Impact Index and the STOXX USA ESG Impact Index. To hear more about the drivers and outlook for ESG index investing and about the ESG Impact Indices, we talked to Shundrawn A. Thomas, head of funds and managed accounts at Northern Trust, and to Rod Jones, head of STOXX's North American business.

What's driving the increasing interest in ESG in the investment community? Is that interest a broad trend or is it focused on any particular type of asset owners, investors, managers or advisors?

Rod: "Investment in funds that incorporate sustainability inputs and controls is not new. What is new is the breadth of end-investor interest. This year we have seen interest not just from the asset owner community but also from financial advisors and structured product originators who serve the retail market. Response to the whole suite of ESG indices at STOXX has been strong, from the World Bank issuing

bonds linked to performance of the iSTOXX® Europe ESG Select 30 Index, to many examples of notes being structured around the indices.
Undoubtedly the sophistication of ESG indices and funds, and the scope of possibilities to adjust ESG strategies to each investor's goals and mandate, is also a big driver spurring interest."

Shundrawn: "One of the main trends in ESG these past years is how interest is spreading across the investment community. Until recently, much of the growth in ESG investing was concentrated among large institutional investors because of their capabilities and infrastructure. The number of financial advisors and retail investors considering ESG investment products is starting to grow. The merits of ESG investing have been trumpeted for years; however, a disjointed array of investment approaches and lower risk-adjusted performance relative to other investments has contributed to the slow uptake so far, outside institutions. That is changing, and there is increasing appetite in the mainstream investor marketplace for ESG products, whether because of principles or because of risk-reduction objectives."



Shundrawn, why did FlexShares launch the FlexShares STOXX US ESG Impact Index Fund and the FlexShares STOXX Global ESG Impact Index Fund, and why did you choose STOXX as your partner?

"At Northern Trust we take a distinctive approach to delivering index-based exchange-traded fund (ETF) strategies that we refer to as 'flexible indexing.' Each fund that we have introduced is based on empirically driven research and tracks newly created indices. The choice of an index partner is vitally important to our objectives of delivering innovative, investor-centric solutions. As such, we welcomed the opportunity to collaborate with STOXX given their depth of expertise in this area. The use of specific KPIs as drivers of return is integral to the value proposition. That's where STOXX, and the leading data provided by partners in this case, give us comfort in knowing that their strategy is guided by a strong and rules-based index methodology."

The ESG Impact Indices have shown that an ESG strategy can also enhance returns and be mindful of portfolio risk. How important is it to tick these boxes in order to lure the investment community?

Shundrawn: "Increasingly, investors are concerned about what impact they can have in the world. The principal question around responsible investing has been, 'Will I give up on potential returns? Will my portfolio's risk increase?' The answer to both is a firm 'no' if you employ the proper strategy. That finding has caused interest in SRI to grow meaningfully. ESG exposure is seen more and more as a core element of portfolios that can generate a sustainability record and at the same time reduce risk and enhance long-term growth. Sustainable investing is a dynamic area of emphasis for our clients globally, and our two ESG funds give investors exposure to sustainability indicators identified as the most substantial and effective factors in determining real risk and return opportunities."



### "RESPONSIBLE INVESTING HAS BECOME A NEW MINIMUM REQUIREMENT FOR MANY ASSET OWNERS"

The ESG Impact Indices have an innovative weight towards five KPIs that have shown to reduce single-stock volatility. Does this KPI selection process open a new chapter in ESG integration?

Rod: "The traditional ESG approaches available for investors so far have largely been agnostic to the portfolio's return and risk characteristics. We believe the STOXX ESG Impact Indices change that. The focus on ESG KPIs that tend to have a risk-reducing effect at the single-stock level explains the indices' historical outperformance to market benchmarks. This innovative way to approach sustainability investing cements the possibilities of ESG-related indicators, and therefore ESG integration processes, into portfolio strategies."

Shundrawn: "The development curve for identifying and using KPIs in ESG applications is in its early days, and this is very promising. It is now possible for asset managers to develop and apply systematic strategies that evaluate a company's risk and opportunities by examining its ESG indicators. Combining this type of information with traditional financial analysis and security selection is a textbook example of ESG integration into a diversified, tilted and core equity investment methodology. Measuring the impact of KPIs on security performance provides a holistic and diversified approach to ESG investing."

Those KPIs are standardized by industry, and additionally the index composition is capped by free-float market cap and country. Why is this?

Shundrawn: "We think this step in the index methodology is very important. The portfolio exposure is tilted in favor of constituents with higher aggregate scores on the KPIs with the aim to optimize risk-adjusted return. But these scores are standardized by industry and other factor constraints are employed to minimize concentration risk. These constraints mean that, despite the outperformance and the increase in sustainability that results from both indices, the tracking error to their respective market benchmarks is minimized. This is something of paramount importance to many investors. The fact that historical data show that maximum drawdowns have been lower for both ESG Impact indices than for their respective market benchmarks is testament to this risk control."

Rod, STOXX has partnered with leading data providers for its ESG indices, including Sustainalytics, CDP Europe and South Pole Group. How does that get reflected in the products?

"Generally speaking, we originate our own content for indices, but when we see that other firms have done a good job developing unique data sets, we will use them. This is what we have done with our ESG indices. Sustainalytics, CDP and South Pole have unique data sets that add value to the investment community. These firms help make our

indices more valuable to the industry by providing comprehensive and thoughtful coverage relating to carbon emissions, for example, that are fundamental to our index selection lists. We will continue to do this in the future."

ESG has come a long way in the past ten years. Where do you see it in the next ten years?

Shundrawn: "The pace of adoption of responsible investing practices looks far from slowing down, as more investors are fast reviewing methods to incorporate ESG principles into their portfolios. But change is also flowing from companies. Aware of the drive for transparency and also of how ESG integration is gaining ground, a growing number of companies are reporting sustainability metrics together with their financial statements. As interest grows, the investment community will welcome the combination of sustainability principles and the traditional focus on risk-adjusted returns."

Rod: "Responsible investing has become a new minimum requirement for many asset owners and it will continue to grow as the link between sustainability, governance and returns becomes more visible. STOXX has taken ESG close to its heart, being a pioneer in sustainability indexing and partnering with leading data providers. As listed equities and non-financial metrics play a key role in this field, STOXX will support this positive trend by setting the standards in the ESG indexing space with innovative, tradable and global sustainability indices."



STOXX Global 1800	YTD PERFORMANCE	52-WEEK PERFORMANCE	3-YEAR PERFORMANCE		
STOXX Global 1800	3.65%	1.04%	13.67%		
STOXX Global 1800 Minimum Variance	6.34%	5.54%	27.47%		
STOXX Global 1800 Minimum Variance Unconstrained	6.88%	6.18%	25.72%		
STOXX Global Select Dividend 100*	7.76%	5.43%	7.67%		
STOXX Global Maximum Dividend 40*	2.52%	0.17%	-7.72%		
STOXX Global Strong Quality 50	9.90%	6.69%	33.15%		
STOXX Global Strong Balance Sheet	3.51%	1.98%	26.99%		
STOXX Global Strong Balance Sheet Equal Weight	5.76%	6.08%	22.67%		
STOXX Global Sharpe Ratio 100	1.40%	2.27%	9.96%		
STOXX Europe 600					
STOXX Europe 600	-3.37%	-7.40%	-6.38%		
STOXX Europe 600 Minimum Variance	-7.34%	-10.17%	0.90%		
STOXX Europe 600 Minimum Variance Unconstrained	-0.61%	-1.88%	12.78%		
STOXX Europe Select Dividend 30*	-1.09%	-4.65%	-0.86%		
STOXX Global Maximum Dividend 40*	2.52%	0.17%	-7.72%		
STOXX Europe 600 Equal Weight	-3.61%	-6.63%	-3.02%		
STOXX Europe Low Risk Weighted 100	-7.45%	-9.46%	2.56%		
STOXX Europe Strong Quality 30	-7.74%	-13.65%	-15.93%		
STOXX Europe Strong Balance Sheet	-3.21%	-4.56%	6.58%		
STOXX Europe Strong Balance Sheet Equal Weight	-0.38%	-0.32%	8.31%		
STOXX Europe Sharpe Ratio 50	-3.73%	-4.58%	12.81%		
EURO STOXX					
EURO STOXX 50	-2.13%	-8.10%	-10.47%		
EURO STOXX Minimum Variance	-2.56%	-4.15%	1.49%		
EURO STOXX Minimum Variance Unconstrained	-0.28%	-3.17%	10.34%		
EURO STOXX Select Dividend 30	6.69%	2.44%	5.81%		
EURO STOXX 50 Equal Weight	-3.16%	-8.80%	-10.86%		
EURO STOXX 50 Low Risk Weighted	-2.36%	-7.97%	-9.36%		
EURO STOXX Small	-2.43%	-5.70%	-7.95%		

STOXX Asia/Pacific 600	YTD PERFORMANCE	52-WEEK PERFORMANCE	3-YEAR PERFORMANCE
STOXX Asia/Pacific 600	5.69%	7.69%	7.41%
STOXX Asia/Pacific 600 Minimum Variance	12.25%	15.67%	27.32%
STOXX Asia/Pacific 600 Minimum Variance Unconstrained	10.37%	12.66%	23.05%
STOXX Asia/Pacific Select Dividend 30*	11.40%	11.23%	2.34%
STOXX Asia/Pacific Maximum Dividend 40*	10.87%	14.19%	15.15%
STOXX ASEAN-Five Select Dividend 50	12.45%	9.46%	-8.47%
STOXX Asia/Pacific Strong Quality 30	13.63%	15.99%	32.44%
STOXX Asia/Pacific Sharpe Ratio 50	10.76%	12.55%	12.89%
STOXX China A 50			
STOXX China A 50	-5.59%	-0.35%	37.64%
STOXX China A 50 Equal Weight	-7.55%	-3.39%	33.35%
STOXX North America 600			
STOXX North America 600	6.18%	3.14%	25.99%
STOXX North America 600 Minimum Variance	9.67%	7.84%	36.48%
STOXX North America 600 Minimum Variance Unconstrained	8.13%	7.11%	30.83%
STOXX North America Maximum Dividend 40*	21.32%	15.02%	28.55%
STOXX North America Select Dividend 40*	13.07%	10.17%	20.54%
STOXX North America Sharpe Ratio 50	11.57%	11.22%	32.46%
STOXX USA 900			
STOXX USA 900	5.72%	2.87%	27.24%
STOXX USA 900 Minimum Variance	6.98%	5.95%	30.28%
STOXX USA 900 Minimum Variance Unconstrained	5.28%	6.57%	36.15%
STOXX USA Strong Quality 50	10.76%	6.85%	35.91%
STOXX USA Strong Balance Sheet	4.20%	2.17%	33.69%
STOXX USA Strong Balance Sheet Equal Weight	4.45%	2.26%	27.87%

All indices are in USD Gross Return versions, except the ones marked with  $^*$ , which are in USD Net Return versions. Source: STOXX data as of Oct. 31, 2016

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