SRPInsight

January 2021, Issue 1

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SRP

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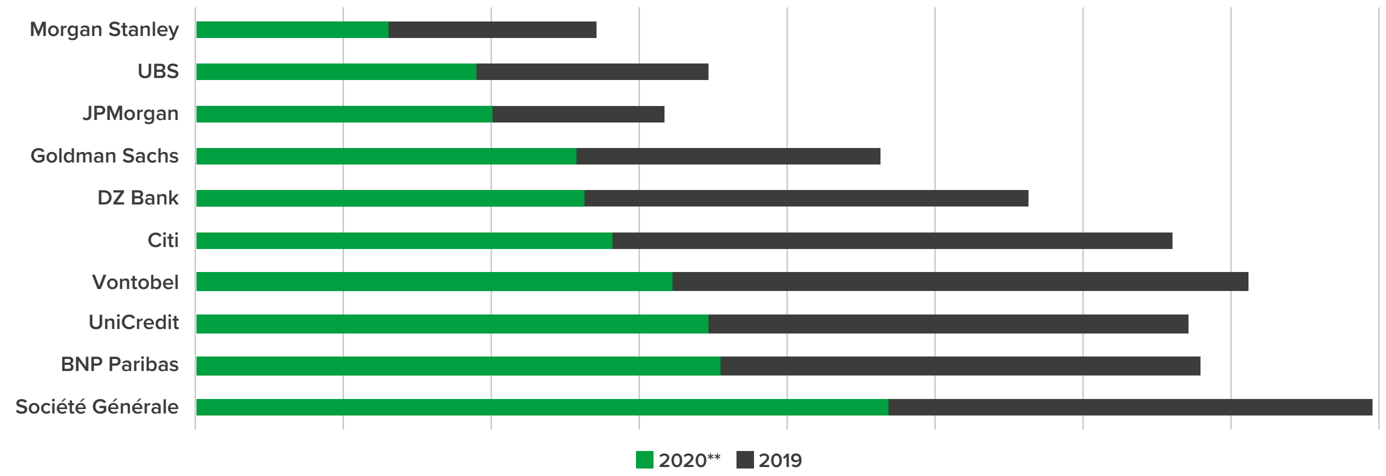
Europe 2020: primary market sales stumble

As 2020 came to a close, SRP took a look at some of the most active issuers in Europe in both the primary and secondary market.

Europe: Top 10 issuer group by issuance*



*Incl. flow and leverage products, excl. open-ended turbos **As of 1 December 2020

Source: StructuredRetailProducts.com

Europe: Top 10 issuer group by market share* in 2020**

Underlying	Issuance	Sales (US$m)	Market share
Intesa Sanpaolo	[illegible]	[illegible]	9.06%
BNP Paribas	[illegible]	[illegible]	8.94%
Crédit Agricole	[illegible]	[illegible]	7.88%
Société Générale	[illegible]	[illegible]	7.82%
UniCredit	[illegible]	[illegible]	7.64%
Santander	[illegible]	[illegible]	7.11%
Natixis	[illegible]	[illegible]	4.84%
UBS	[illegible]	[illegible]	3.96%
DekaBank	[illegible]	[illegible]	3.46%
Goldman Sachs	[illegible]	[illegible]	2.71%
Others	[illegible]	[illegible]	36.58%
Total	[illegible]	[illegible]	**100%**

*Excl. flow and leverage products **As of 1 December 2020

Source: StructuredRetailProducts.com

AFM consults on turbo restrictions

The Dutch regulator has proposed measures to protect retail investors against the risks of turbos.

The Dutch Authority for the Financial Markets (AFM) is holding a consultation on measures to restrict the marketing, distribution or sale of turbos in the Netherlands.

According to the regulator, retail investors are currently not adequately protected against the risks of turbos. Previous AFM research has shown that 68% of retail investors who traded in turbos between 1 June 2017 and 1 July 2018 suffered losses, with clients ending up with a negative return of on average -€2,680.

The AFM sees similarities between turbos and contracts for difference (CfDs), the sale of which is already subject restrictions.

The restrictions for turbos proposed by the watchdog cover three of the five restrictions that already apply for the sale of CFDs: a leverage limitation, a mandatory risk warning and a prohibition on incentives offered to trade in turbos.

The first measure, the limitation of the leverage factor, not only contributes to the protection of the retail client but also counters the concerns about investor protection, according to the AFM.

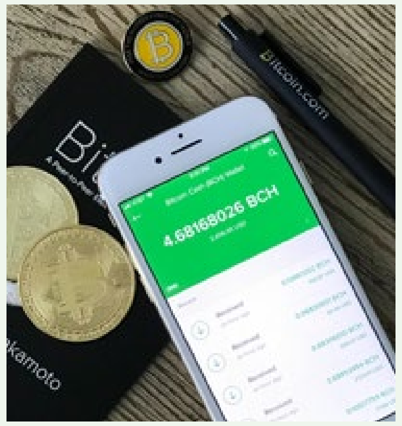
The maximum leverage depends on the underlying and can be as low as two, if the underlying asset is a cryptocurrency, and as high as 30 for a currency pair consisting of any two of the following currencies: US dollar, euro, Japanese yen, pound sterling, Canadian dollar or Swiss franc.

Another measure that addresses the risks for retail investors, is for issuers to provide a standardised and effective company-specific warning, stating, among other things, the percentage of retail customers with that turbo provider who make a loss in trading turbos.

The final measure proposed by the AFM is a ban on monetary benefits, such as 'trading bonuses' and certain types of non-cash benefits. Financial offers with bonuses or other incentives to encourage clients to trade in turbos, often divert the attention of these clients away from the very risky nature of turbos.

Earlier this year, the AFM called on the turbo industry to share solutions that would decrease the risks of turbos. Several companies and individuals responded to this with a range of proposals. These varied from 'do nothing' to an outright ban on turbos. There were also proposals to restrict the sale of turbos, to be imposed by the AFM or the market itself.

During the first three quarters of 2020, the number of newly-listed turbo certificates on Euronext Amsterdam reached 156,019, up from 74,200 leverage products issued in the whole of 2019, according to the latest figures released by the European Structured Investment Products Association (Eusipa). Turnover for turbos traded in Amsterdam stood at €5.4 billion between 1 January and 30 September 2020, compared to €4.6 billion in FY2019.



New Bitcoin volatility index launches

UK-based CryptoCompare has launched the Bitcoin Volatility Index (BVIX), the first benchmark index to quantify bitcoin implied volatility developed in partnership with the University of Sussex Business School.

The index measures the implied volatility of bitcoin - the view on volatility over the next 30 days held by sophisticated bitcoin option traders - which is the standard gauge of market sentiment. The firm is seeking to replicate other VIX indices used for settlement prices of volatility futures contracts in traditional markets in a move to pave the way for the creation of a diverse set of leveraged, direct and inverse volatility ETFs, ETPs and structured products.

BVIX is derived from the volatility implied from market prices of bitcoin options. The index provides a new tool for institutional investors to price bitcoin volatility risk, and hedge and trade on bitcoin volatility. 'We have created the Bitcoin Volatility Index (BVIX) so that investors can use a reliable and transparent barometer to monitor and eventually hedge against bitcoin volatility,' said Quynh Tran-Thanh, head of indices and investable instruments at CryptoCompare.

FSMA aims at 'high costs' in product governance memo

The Belgian watchdog is targeting credit institutions and insurance distributors that are developing structured products with a memo on product governance.

The Financial Services and Markets Authority (FSMA) has published a reminder of the product governance rules for the offering of structured products in Belgium.

The regulator has recently established that high costs were included in the issue price of some structured products offered in Belgium. According to the FSMA, 'there was room for improvement' in the product governance for these structured products, especially in the field of managing conflicts of interest, analysis of those costs and outcome scenarios.

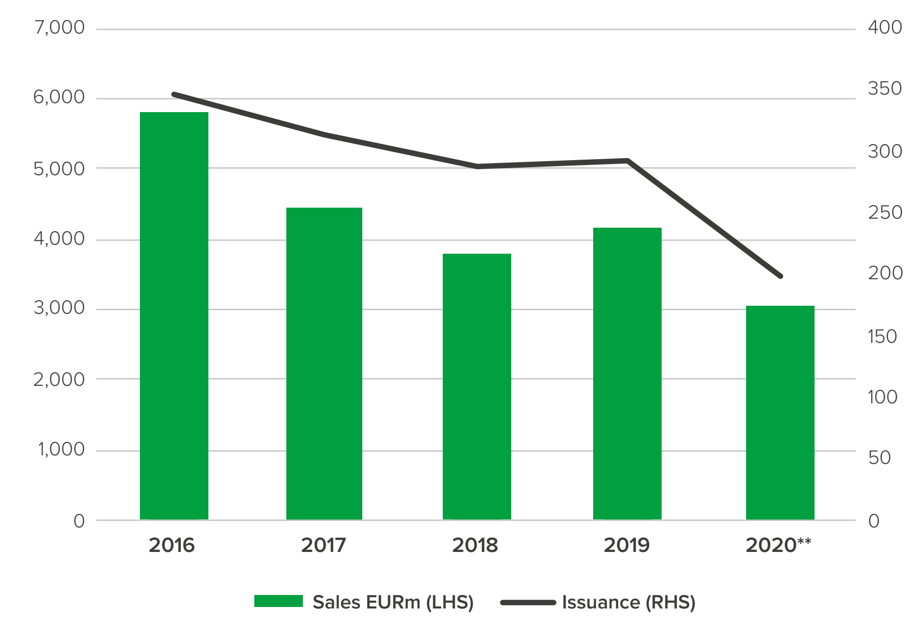
Credit institutions and insurance distributors developing structured products should put in place appropriate product governance arrangements

Structured products offered in the Belgian market must be developed in the interest of the customer. This must also be done effectively in the current context, with the profitability of financial institutions under pressure, due to, among other things, low interest rates and strong competition, a situation which has been exacerbated by the impact of the Covid-19 pandemic, according to the regulator.

The FSMA said it will continue to deploy preventive action 'as much as possible' and wants to ensure that the credit institutions and insurance distributors fulfil their obligations, reminding them of the importance of conducting themselves in a 'loyal, fair and professional manner' when offering structured products to customers in Belgium.

Credit institutions and insurance distributors developing structured products should put in place appropriate product governance arrangements to ensure that their products meet the needs, characteristics and objectives of the target audience, said the regulator.

Belgium: sales and issuance 2016 to 2020*



*Incl. flow and leverage products, excl. open-ended turbos **As of 1 December 2020

Source: StructuredRetailProducts.com

Since there are various credit institutions and insurance distributors active that only distribute structured products without being a product manufacturer, the FSMA stated that these companies should integrate the structure and the totality of the costs and the product value of the structured product in the assessment of the characteristics and needs of the customers they want to target.

Distributors who collaborate with a manufacturer who is not subject to European rules on the provision of investment services or the insurance distribution must take all reasonable steps to obtain appropriate and reliable information from those developers, allowing them to distribute products that conform to the needs of the target market.

Some 192 structured products with an estimated combined sales volume of €3 billion have strike dates in Belgium in 2020 to date (FY2019: 291 products worth €4.1 billion).

Belfius is the main issuer, with a 37% share of the market (€1.1 billion from 70 products), followed by KBC (31%) and BNP Paribas (12%).

KBC-Life MI+ Global 90 Booster-1, a five-year life insurance product linked to a basket of 30 stocks, is the best-selling structure of the year so far, with sales of €89.5m. Another product from KBC, Perspective European Champions 90 USD 3, is the best performer in YTD2020, returning 161.3% after five years.

Credit Suisse, MSCI debut 'positive impact' green notes

The Swiss bank has launched its inaugural structured notes with green use of issuance proceeds.

Credit Suisse has launched its first ESG structured notes which incorporate an impact-aligned use of proceeds and an exposure to the MSCI ESG Rating Select Indices on either US or eurozone equities. The inaugural notes have been sold to Credit Suisse's private banking clients in Europe.

The MSCI ESG Rating Select Indexes are constructed by selecting a target number of constituents from the parent index, as ranked based on their free float market capitalisation - only securities which trade in the target currency are eligible for selection. These notes offer a new debt structure that combines a compelling investment opportunity with a goal to positively contribute to climate change

"As our clients continue to look for investments incorporating sustainability considerations, these notes offer a new debt structure that combines a compelling investment opportunity with a goal to positively contribute to climate change mitigation and environmental protection," said Marisa Drew (pictured), chief sustainability officer and global head of sustainability strategy, advisory and finance.

The net issuance proceeds of the notes, as opposed to traditional structured note issuances, will be allocated or reallocated to the financing or refinancing of eligible projects with a defined environmental benefit, such as the reduction in greenhouse emissions or protection of natural resources, and are in line with the bank's Green Finance Framework.

"We are bringing together our structured products suite and ESG-focused index offering with Credit Suisse's expertise in green financings," said Michael Ebert, co-head of cross-asset investor products in global trading solutions. "Investors into these notes benefit from a yield enhancement product linked to ESG-friendly alternatives to traditional US or Eurozone equity benchmarks with a green use of issuance proceeds."

The net issuance proceeds will focus on eight eligible sectors in line with Credit Suisse's Green Finance Framework, which was established in 2019. The framework is based on the industry-leading Green Bond Principles of the International Capital Market Association (ICMA) and is aligned with the UN Sustainable Development Goals. The Swiss bank will report annually on the allocation and impact of its green issuance, which will be externally verified.

NEW STRATEGY

Credit Suisse enhanced its commitment to sustainability and impact in July 2020 by establishing a new executive board level corporate function. The new sustainability, research & investment solutions (SRI) function, led by Lydie Hudson, centralised and combined the bank's Investment Solutions & Products (IS&P) division – which houses the bank's structured products business - and research capabilities.

The SRI unit supports the bank's divisions in delivering products, content and solutions to wealth management, corporate and institutional clients and was created to accelerate the bank-wide evolution, innovation, and response required to support the changing needs of clients, regulators and the markets in which the bank operates.

The Swiss bank has 19 live structured notes worth an estimated US$102m linked to ESG underlyings including the Euronext Eurozone 100 ESG Decrement 5% Index, Stoxx Global ESG Leaders Select 50 EUR Index, Stoxx Global ESG Leaders Diversification Select 50 Index, iStoxx Global Low Carbon ex-Controversial Activities Select 30 Index, and iSTOXX Europe ESG Select 30.

Six and SBI launch JV Venture

Six Digital Exchange (SDX) and SBI Digital Asset Holdings have agreed to work towards a joint venture to drive institutional digital asset liquidity through a Singapore-based digital issuance platform, exchange and CSD venue that is set to go live by 2022 subject to regulatory approvals from the Monetary Authority of Singapore (Mas).

The joint venture comes in response to growing demand for public and private institutional digital assets, including regulated digital asset securities and cryptocurrency assets. The venture will market directly to regulated institutional clients, using technologies from both companies to provide institutional grade services including issuing, listing, trading, CSD infrastructure and custody of digital assets and cryptocurrencies

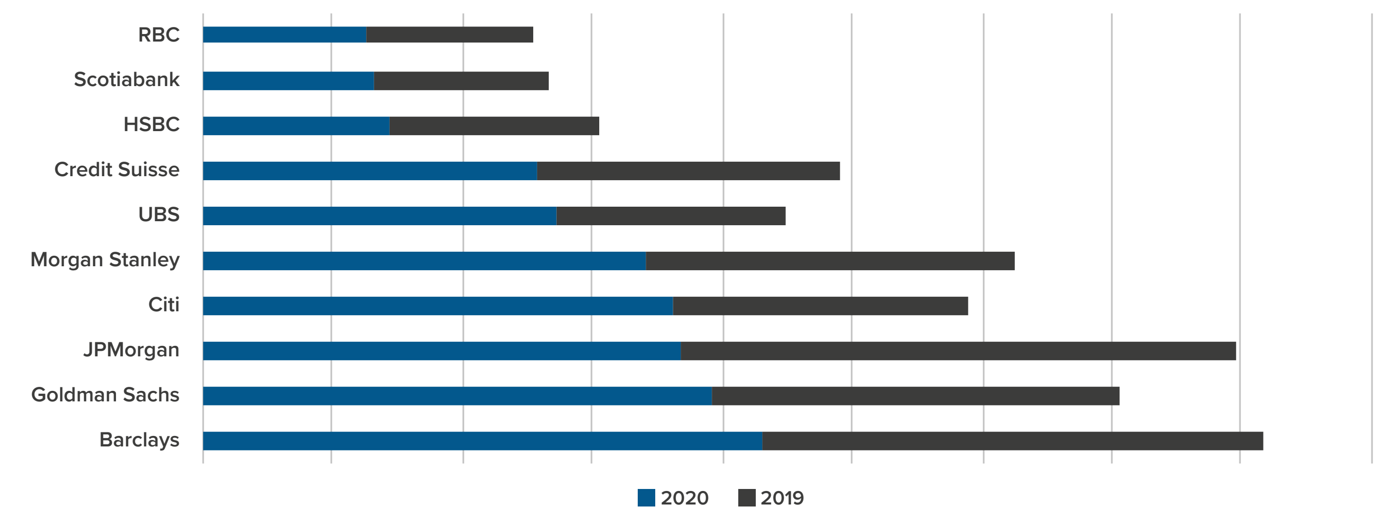
The Swiss exchange plans to offer equity - both listed shares and private placements - as well as debt instruments, fund structures and structured products on crypto assets as well as on non-bankable assets like real estate and art.

The contemplated venture is set to formalize Singapore operations in 2021, and is expected to launch into market with active offerings by 2022 with international connectivity to respective Swiss, Japanese businesses and other partnerships to follow.

Americas 2020: issuance stable but sales rise

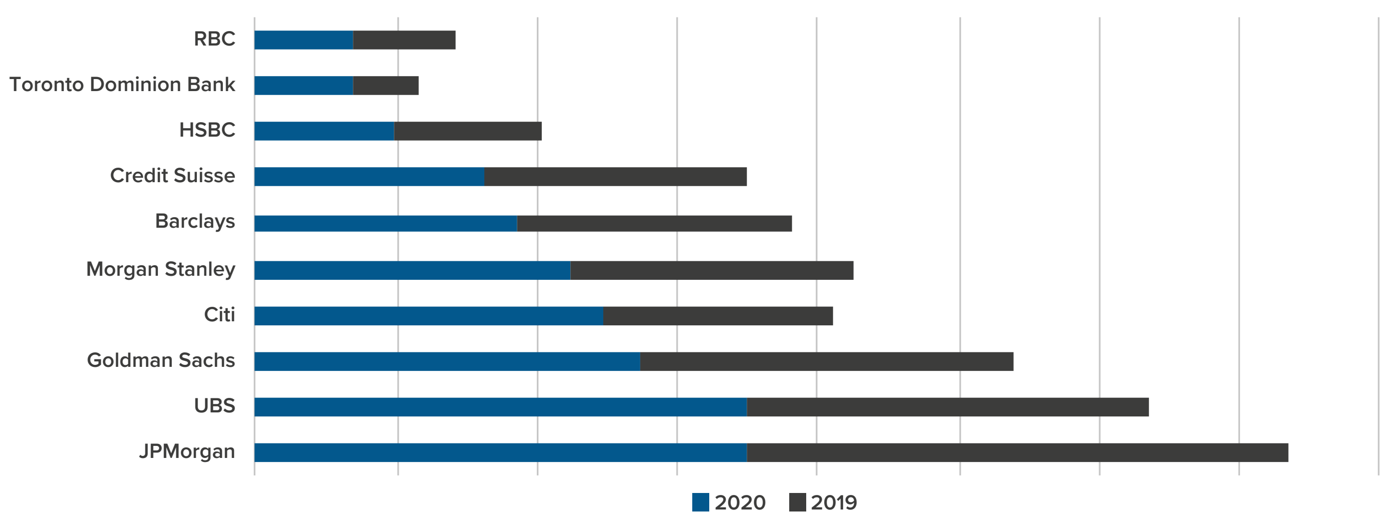
As 2020 comes to a close, SRP takes a look at some of the most active issuers in the main structured products market in the Americas during a remarkable year in which high volatility proved to be a driving factor for investors to flock towards structured products. *By Lavanya Nair*

USA: top 10 issuer group by sales volume (US$m) 2020* vs 2019



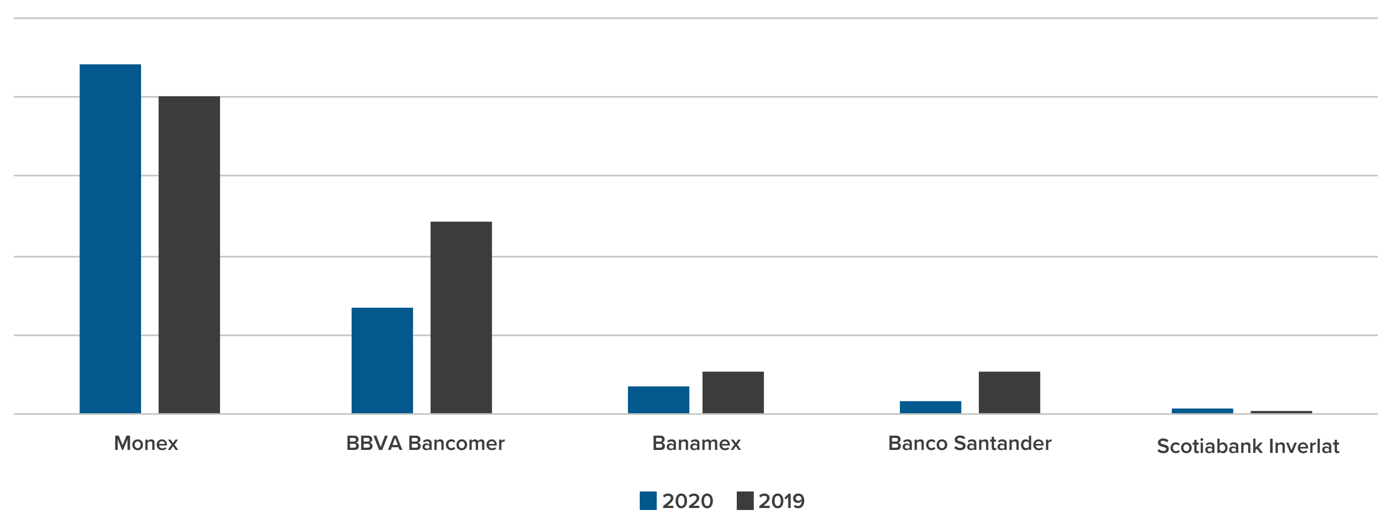
*As of 30 November 2020
Source: StructuredRetailProducts.com

USA: top 10 issuer group by issuance 2020* vs 2019



*As of 30 November 2020
Source: StructuredRetailProducts.com

Mexico: top 5 issuers by sales volume (MXNm) 2020* vs 2019



*As of 30 November 2020
Source: StructuredRetailProducts.com

Indexed annuity sales pick up in Q3

The US fixed index annuities (FIA) market has seen a rebound over the last three months despite a 27% fall year-on-year.

FIA sales have recovered by 10%, totalling US$13.2 billion while registered index-linked annuity (Rila) sales soared by 29% to US$6.3 billion from the previous quarter of 2020, according to the Secure Retirement Institute (SRI).

Todd Giesing (pictured), director of annuity research at Limra, said the gains in FIA sales can be attributed to operational issues caused by remote working being resolved in the third quarter.

"When we look at the second quarter, we saw the impact from the social distancing working remotely. There were operational and technological hurdles that distributors and manufacturers had to overcome," he said.

Despite the boost, FIA sales in the first three quarters of 2020 were US$41.4 billion, which represent a 27% dip from 2019's results. Year-to-date, Rila sales have jumped by 25% to US$15.7 billion from the previous year which was driven by favourable economic conditions that provided investors with downside protection with greater growth potential.

"When we look at the distribution of these products, we are seeing distribution primarily through two channels, which include banks and independent broker dealers," said Giesing.

According to SRP data, the top five ranking distributors of Rilas in the third quarter of 2020 include Lincoln Financial Group, Equitable Financial, Allianz Life of North America, Brighthouse Financial, and CMFG Life Insurance Company.

"We do expect the momentum that Rilas have in this space to continue as the strain will still be on indexed annuities because of the low interest rate environment," said Giesing. "From that perspective we do expect slow growth in fixed annuities and fixed indexed annuities in 2021."

Additionally, variable annuity (VA) sales plummeted by 11% in the third quarter to US$23.5 billion, compared with the third quarter of 2019. In spite of the drop, VA sales were 13% higher than second quarter with bank and full-service national broker-dealers recording over 25% growth.

"The industry is growing as carriers are entering (...) the pie is getting bigger as distribution expands," said Giesing.

Americas best-selling 2020: Telecom, tech stocks come on top

With 2020 drawing to an end, SRP takes a look at some of the best-selling products in the Americas during a tumultuous year in terms of volatility and market uncertainty. *By Lavanya Nair*

Amid the Covid-19 pandemic and shift in scope of investment preferences, the S&P 500 retains the lion's share when it comes to underlying sales. However, when looking at individual product sales, SRP data shows that the best-selling structured product in the US market in 2020 was a structured note linked to Charter Communications (09709THH7) which was issued by BofA Finance and distributed by BofA Securities.

The registered unlisted note sold for US$300m, has a tenor of two years and is tied to the Charter Communications (Spectrum) underlying as well as the telecommunications sector. The product had an initial strike date of 22 January 2020 and will reach maturity on 1 September 2022.

SRP data shows a 58% jump in structured products tied to the telecommunications sector in 2020 from a year prior. In 2019, there were 254 products worth US$575.01m featuring shares from the telecoms sector as well as 96 products valued at US$252.04m exposed to technology stocks such as AT&T (product issuance: 72/sales volume: US$135.85m), Verizon (product issuance: 66 /sales volume: 57.28 US$m), Cisco Systems (product issuance: 61 /sales volume: US$148.47m) and Salesforce.com (product issuance: 39 /sales volume: 94.19 (USDm).

In 2020, SRP has recorded 402products linked to equity stocks from the telecommunications with a sales volume of US$1.2 billion, and the same amount of products linked to tech stocks as in 2019 but with a significant higher sales volume (96 products/ sales volume: US$365.97m).

The top tech stocks in the US structured products market this year include +Qualcomm (product issuance: 83/sales volume: US$119.59m), Cisco Systems (product issuance: 66/ sales volume: US$169.08m), Salesforce.com (product issuance: 64/sales volume: US$98.82m); and Amazon (product issuance: 22/sales volume: US$50.53m).

The second best-selling product in the US market was also issued by BofA Finance but distributed by Bank of America's investment subsidiary Merrill Lynch. The Autocallable Market-Linked Step Up Notes - S&P 500 (09710C451) has a longer tenor of around six years and is also wrapped as a registered unlisted note.

This growth product is linked to the performance of the S&P500 (strike level of 2,526.90) and is valued at US$164m with a strike date of 2 April 2020. The investment will reach maturity on 6 April 2026 and has 15% capital protection.

The Accelerated Return Notes - S&P 500 (06417Q429) and (06747H438) were the third and fourth best-selling products of 2020 and were issued by Scotiabank (US$162m) and Barclays (US$133m) respectively. The products were both distributed by Merrill Lynch and had identical tenors of just over one year.

The fifth top seller is the Leveraged Index Return Notes - DJ Industrial Average Index (95002W594), issued by Wells Fargo Finance and distributed by Merrill Lynch with a sales volume of US$132m. The product had an initial strike date of 26 March 2020 and will reach maturity on 28 March 2025.

BRAZIL

Morgan Stanley, an established player in the Brazilian structured products market issued the best-selling product of the year which was the COE S&P 500. The COE has a tenor of five years, was distributed by Modalmais and sold for an estimated BRL50m.

The best-sellers in 2020 have been issued by Banco XP and distributed by XP Investimentos. The firm's XP Ouro: Dobro ou Alta Limtada - 5 anos - the second best-seller with a sales figure of BRL28.5m, is tied to SPDR Gold Shares as well as the commodities sector.

MEXICO

Dual currency and range accrual notes continue to dominate the Mexican structured products market with prominent distributors including Monex, Banamex, Banco Santander, and BBVA Bancomer.

In 2020, Monex's Dual Currency Note - USD/MXN - 5.4% pa is the best-selling product with a short tenor of just over a week. The structured bond sold for MXN64.3 billion (US$3.2 billion), had the USD/MXN currency pair as underlying. Ranking second is Banamex's Plain Vanilla Note - 8.7% pa which reached maturity on 27 November 2020 with a sales volume of MXN6.3 billion. The product is linked to the Mexico IPC Index.

In 2019, dual currency notes offering 8.5%, 12.23%, and 10.2% per annum were the top three best-selling products and were distributed by Monex, Banco Santander and Banamex, respectively.

CANADA

A series of guaranteed investment certificate products with both five-year and three-year terms made it to the top of Canada's best-sellers list. All products were distributed and issued by Desjardins Group. Strike dates range from February to August 2020 and the investments are linked to unspecified share baskets.

Prominent distributors are Bank of Montreal (897), National Bank of Canada (652), CIBC (530), Desjardins (507), TD Securities (480). Some underlyings are Bank of Nova Scotia, Royal Bank of Canada, Toronto Dominion Bank, Enbridge, and S&P/TSX 60 Index.

USA: Top 5 best-selling products 2020

Distributor	Product Name	Sales US$m	Strike Date
BofA Securities	Cash-Settled Equity Linked Notes - Charter Communications (09709THH7)	300.00	22 Jan 2020
Merrill Lynch	Autocallable Market-Linked Step Up Notes - S&P 500 (09710C451)	164.34	2 Apr 2020
Merrill Lynch	Accelerated Return Notes- S&P 500 (06417Q429)	162.92	27 Feb 2020
Merrill Lynch	Accelerated Return Notes- S&P 500 (06747H438)	133.76	25 Jun 2020
Merrill Lynch	Leveraged Index Return Notes - DJ Industrial Average Index (95002W594)	132.32	26 Mar 2020

Source: StructuredRetailProducts.com

Prudential hits jackpot with first indexed annuity

Prudential Financial announced that sales of its first indexed variable annuity (IVA) have crossed the US$1 billion threshold after only launching the product earlier this year.

The commission-based version debuted in May of this year is just the first launch as the life insurance firm aims at rolling out a fee-based alternative for the advisory space in 2021.

The launch yielded just over US$700 million in sales through the end of the third quarter and US$1 billion in less than six months.

The FlexGuard's index strategies enable consumers to elect an appropriate protection level, or 'buffer' against market losses linked to the performance of the S&P 500 and the MSCI EAFE indices - investors can choose from three different index crediting strategies and can also opt for a combination if they wish.

Prudential has increased its profile in the US retail structured products market over the last 12 months following an agreement with multi-issuer platform SIMON Markets which expanded its digital platform with an insurtech module to help financial professionals navigate the indexed annuities market. Prudential made its PruSecure fixed indexed annuity available on the platform.

Prudential is one of the seven financial institutions part of the consortium that owns SIMON Markets, including Goldman Sachs, Barclays, Credit Suisse, HSBC, JP Morgan and Wells Fargo.

Swan rolls out SOS Shield range

Colorado-based Swan Global Investments, a US specialist asset management firm in hedged equity solutions, has launched its Structured Outcome Strategies - SOS Shield, a series of separately managed accounts (SMAs) targeted at investors seeking to address the uncertainty and volatility associated with equity investing.

The introduction of our SOS Shield series directly addresses the need to mitigate losses and reduce volatility - Randy Swan

In the current low yield environment, options-based risk strategies address the need for growth and risk management – especially as investors continue to face unprecedented uncertainty brought on by the Covid-19 pandemic while turning to equities to increase returns in their portfolios, according to Randy Swan (pictured), founder and lead portfolio manager.

'The introduction of our SOS Shield series directly addresses the need to mitigate losses and reduce volatility so investors can remain on course to achieving their goals despite the unpredictable nature of the markets," he said.

The new portfolio provides a structured range of investment outcomes over a specified time period by combining three components: equity exposure, downside shield and an upside cap. The SOS Shield offers a blend of S&P 500 price exposure and downside shield combinations, and is available in three variations: conservative, moderate and FLEX. Each variation uses different options-strategies offering a tailored approach to the investor's objectives and risk tolerance. The SOS Shield series is available at Envestnet and other major custodians and platforms.

Former Vontobel head rolls out MIP targeted at EAMs

Hong Kong SAR-based Goldhorse Capital Management has launched Extramile, its new multi-issuer structured product platform (MIP), which will leverage on its ability as an independent intermediary to bring bargaining power to external asset managers (EAMs). ***By Summer Wang***

Long Lee (pictured), former CEO of Vontobel Limited - the financial products arm of Vontobel Holdings in Hong Kong SAR - will spearhead the cloud-based platform after joining the six-year old company as CEO on 12 October. In an interview with SRP, Lee elaborates on the platform functions and his outlook on the EAM market in Asia.

"Extramile positions itself in the middle of buyers and sellers and functions like a traditional interbank-broker from one perspective," Lee told SRP.

We are targeting 12 to 15 payoffs in the next six to 12 months

The platform supports lifecycle and sales management, record keeping, research reports as well as product advisory - Goldhorse obtained its Securities and Futures Commission (SFC) licences for advising on securities and dealing in securities last February, which is uncommon for existing multi-issuer structured products platforms, according to Lee.

"I can't say for Asia, but in Hong Kong SAR, we are the first and only one offering such a platform targeting EAMs," he said.

Goldhorse has 14 employees at present, spanning a CIO office, dealing team and back-end team, as well as a 'double-digit' number of EAM clients, according to Lee.

CAPABILITIES

Developed by Goldhorse last December, Extramile has seen a trading volume of US$2 billion through close to 1,000 trades year-to-date. "This year has been a difficult year to gauge any trend at all, but we saw very good numbers in Q3, and Q4 is not bad at all," said Lee.

Ten issuers are currently quoting on the platform including Credit Suisse, UBS, Morgan Stanley, Société Générale, Nomura, Natixis, BNP Paribas, Vontobel, Leonteq and Citigroup.

Payoffs available have expanded from fixed coupon notes (FCN), bonus enhanced notes (BEN), accumulator and decumulators to range accrual, equity-linked notes (ELN) and target redemption forwards (TARF).

"We are targeting 12 to 15 payoffs in the next six to 12 months. However, our dealing team can service various structured products like fund-linked notes and actively managed certificates [AMCs], or even a bond repack," said Lee, adding that equity underlyings remain dominant.

Lifecycle management and risk control are the two most frequently requested areas from our clients

The pricing discovery takes around 60 to 90 seconds on average, and a trade can be executed within three to four minutes if the clients are ready.

Extramile also provides house views including daily recap, multi-asset class strategy, conviction list and macro analysis, as well as materials from third parties such as daily key investment highlights from investment banks.

As part of the firm's product advisory service, there will be daily trading axes, weekly investment theme and biweekly trading ideas, which are supported with live chatroom, according to Lee.

Additionally, EAMs can track their transactions and analyse the trade data for risk, trade or sales management purposes.

"They can now see a matrix of custodian banks and issuers and our system can prevent error trade due to onboarding setup," said Lee, adding that the platform also enables EAMs to filter the issuers that have no partnership with their custodian banks through a click of button.

"In addition, different product requirements from the issuers are displayed straightforwardly, such as the minimum or maximum ticket size."

WHOLESALE

The platform available in English and Chinese is targeted at EAMs - a group that's under-serviced by investment banks but growing rapidly in Asia, and is likely to include small securities houses or even private banks later next year.

EAMs pay no subscription or upfront fee to join and access research reports at Extramile but pay a volume-based commission after each trade.

"Goldhorse is not part of the settlement process," said Lee. "In fact, we are the first 'B' in the 'B2B2C'. Strictly speaking, we are not even in contact to 'C' and have absolutely no interest in their information."

Lee highlights the platform's bargaining power to offer wholesale pricings for EAMs, regardless of their trading volume.

"Most EAMs do not have the capacity to speak to more than just a few issuers on a regular basis, whereas due to our platform volume we are able to scan the rest of the market for them," said Lee. "It's a one venue to compete for billions of flow versus small manual tickets all over."

"We are issuers and/or custodian agnostic, making our views or suggestions unbiased and independent, and this is something I was not able to do in my past life for obvious reason."

NEXT

Goldhorse is also looking to develop a mobile application and incorporate more lifecycle pre-alerts, such as a specified percentage away from barrier hit or early knockout, as well as provide more efficient risk control including trade size control.

"Lifecycle management and risk control are the two most frequently requested areas from our clients," Lee said. "Right now, we are mostly handling post-trade service via email or in our secured chatroom on Extramile. Both types of alerts and medium of communication have room for improvement."

Big data is also set to be deployed based on the buyside's transaction history in order to provide automatic tailor-made solutions.

The blueprint is closely connected with the positive outlook of the EAM market as some private banks are setting up dedicated EAM desks to service this growing sector.

"Tremendous amount of wealth has been created from the IPO market this year," said Lee. "From what I can see, the pipeline for Q1 21 is just equally strong. Some of this new wealth is likely to flow either into single family offices or EAMs."

The asset under management (AUM) by EAMs in Asia ranges from US$100m to US$5 billion, which is contrasting from any private bank in Asia that would easily be managing US$25 billion. According to Lee, there are more than 100 EAMs in Asia.

"As a result, it's labour intensive for issuers to cover the EAM market," Lee said. "However, its growing presence has made it a segment that is difficult for them to ignore."

Asian countries remain far behind their counterparts in Europe when it comes to the percentage of wealth managed by EAMs, specially Switzerland. " A catch up is due," Lee concludes.

> "We are targeting 12 to 15 payoffs in the next six to 12 months
>
> **Long Lee,** CEO, **Goldhorse Capital Management**

UOB first to use Bloomberg Barclays MSCI Global Green Bond Index

Singaporean bank UOB will be the first to adopt the Bloomberg Barclays MSCI Global Green Bond Index for its environmental, social and governance (ESG) investment offering, as part of its move to integrate ethical considerations into its full suite of solutions.

The Bloomberg Barclays MSCI Global Green Bond Index was launched in 2014 and is part of a set of green bond indices in the Bloomberg Barclays MSCI ESG fixed income benchmark offering.

"We are seeing growing customer interest in sustainable investments, including in green bonds. The Bloomberg Barclays MSCI Global Green Bond index is a globally-recognised standard and adds to the accountability of the ESG solutions we offer to our customers," said Jacquelyn Tan (right), head of group personal financial services at UOB.

According to Ji Zhuang, APAC head of indices at Bloomberg, the index delivers transparency to the ever-expanding green bond market, which has recently crossed the US$1 trillion mark in total issuance.

This is giving investors a tool to evaluate performance and assess risk of projects with direct environmental benefits.

South Korean regulator implements new framework for financial benchmarks

The Financial Services Commission (FSC) has adopted a supervisory regulation that outlines details concerning financial benchmark management while the Financial Benchmark Act took effect on 27 November 2020.

The Act requires administrators of critical benchmarks to establish a committee for the management of critical benchmarks. The enforcement decree provides details regarding the composition and operation of the management committee.

The FSC is expected to follow up via a review committee meeting to determine the criteria for designating critical benchmarks and will start procedures in the first half of 2021 for the designation of these benchmarks and administrators.

The FSC can establish a review committee to discuss the designation and cancellation of critical benchmarks and other important matters regarding financial benchmarks.

Financial Services Commission

HK SAR non-listed products bounce back

The Hong Kong SAR regulator has released its latest report on non-listed structured products for public offering sold in the country during the last quarter.

The Securities Financial Commission (SFC) has authorised 73 unlisted structured products for public offering in Hong Kong SAR in its second quarter ended on 30 September, during which it posted an income of HK$206.1m (US$26.5m), a bounce from a loss of HK$111.1m year-on-year (YoY).

According to the regulator, there were 145 authorised unlisted structured products as at 30 September, one up from six months ago and three down from a year ago. These were issued in renminbi referring to onshore mainland investments through the RQFII, Stock Connect, Bond Connect and the China Interbank Bond Market.

In addition, the regulator gave the green lights to 40 unit trusts and mutual funds including 25 Hong Kong-domiciled funds and one investment-linked assurance scheme (ILAS) in the quarter.

In July, the SFC authorised the first two sets of leveraged and inverse products tracking the CSI 300 Index, a major benchmark for mainland equity. The first ETF under SFC's new streamlined requirements for ETFs adopting a master-feeder structure was also given the go-ahead in July.

For the six months ended on September, Hong Kong SAR-domiciled funds reported overall net inflows of US$7.1 billion, which was primarily attributed to bond funds and index funds.

No inflow for futures and options funds, structured funds and funds which invest in derivatives was recorded. The subscription for these funds were US$25m while redemptions reached US$31m YoY when their net asset value amounted to US$80m.

> **"A survey released by SFC in August shows strong growth despite the challenges facing global markets – no attribution**

A survey released by SFC in August shows that the asset and wealth management business in Hong Kong SAR posted strong growth despite the challenges facing global markets in 2019. Assets under management (AUM) increased by 20% year-on-year to HK$28.8 trillion and net fund inflows of HK$1.7 trillion were recorded during the same period.

DERIVATIVES

The SFC has also reported that the Hong Kong Exchanges and Clearing (HKEx) launched 33 MSCI index futures contracts in July and August, which 'expand HKEx's derivatives product range and provide more trading and hedging tools for market participants'.

During the quarter, the watchdog approved five more MSCI index futures contracts, which were launched in September, and one MSCI index options contract proposed by HKEx.

In July, SFC issued a circular to remind licensees of updated specifications for over-the-counter (OTC) derivatives trade reporting issued by the Hong Kong Trade Repository. They include refinements to improve data quality and align with international standards.

HKEx introduces the first Apac sustainable multi-asset product platform

Hong Kong Exchanges and Clearing Limited (HKEx) has launched Asia's first multi-asset sustainable investment product platform, Sustainable and Green Exchange (Stage) in aid of its support of the growing global demand for sustainable finance.

The Stage platform features 29 sustainable-themed products from leading Asian corporations. The listed sustainable products include sustainability, green, and transition bonds from issuers spanning over a variety of sectors including utilities, transportation, property development and financial services as well as ESG-related exchange traded products.

There is a need for information about sustainable products and ESG data - Wilfried Yiu

"The opportunities in sustainable finance in Asia are growing rapidly. There is a need for information about sustainable products and ESG data, and we hope that Stage will help meet that demand," said Wilfred Yiu (pictured), HKEx's head of markets.

> **"The opportunities in sustainable finance in Asia are growing rapidly**
>
> **Wilfred Yiu,** Head of market, **HKEx's**

The platform will allow issuers to equip investors with more information on their sustainable investment products, while promoting transparency and facilitating access. Issuers included on Stage must disclose additional information on their sustainable investment products, which includes the use of proceeds reports, as well as annual post issuance reports. This additional information will enable investors to access a trusted, easy-to-use platform for the region's fast growing 'green sector'. At the same time, the data will act as a benchmark for issuers seeking to raise funds for their sustainable projects and will also contribute to the standardisation of sustainability metrics.

"HKEx is at the forefront of driving the sustainable finance agenda in the region. With the launch of Stage, we are seeking to support the growth of Asia's sustainable finance market by increasing awareness, accessibility, data availability, and transparency of green and sustainable investment products," said Grace Hui, HKEx's head of green and sustainable finance.

DLCs surge 4x on SGX

The turnover of daily leveraged certificates (DLCs) listed on the Singapore Exchange (SGX) has jumped by 390% to SG$514m in November year-on-year (YoY) as 'markets bounced between positive news on vaccine developments and the pandemic's spread,' according to a SGX report.

That figure, 94.4% of which is linked to stocks while the remaining to indices, is a 204% growth month-to-month (MoM). There was 121 DLCs on single stocks and 19 DLCs on the MSCI Singapore Free, Hang Seng Index or Hang Seng China Enterprises Index.

Single stock DLCs on Hong Kong stocks accounted for 78% of the total turnover with Xiaomi, BYD, Alibaba and Tencent amongst the most popular stock underlying. The most actively traded stock DLC was the 5x Long Xiaomi DLC.

Weekly outstanding value in DLCs has grown more than sixfold since the launch of single stock DLCs in 2018, which reached a record high of SG$33m as of 27 November.

In the meantime, the turnover of SGX-listed structured warrants in November was down 52% YoY to SG$274m, or up 32% MoM. Approximately 91.6% of the value came from the warrants linked to indices with the Hang Seng Index remaining dominant. There were 143 warrants outstanding as at the end of November.

This month saw Macquarie Bank list 42 new warrants on SGX, a hike from 26 in October. These included 11 longer-dated warrants tied to stocks and eight longer-dated ones tied to the Hang Seng Index, S&P 500, Nikkei 225 and Straits Times Index.

The longer-term warrants will expire between 25 February 2021 to 1 October 2021, and feature slower time value erosion and lower risk (lower effective gearing), according to Macquarie.

Additionally, the Australian bank has begun to trade one new warrant on iFast, UOL Group and City Developments (CDL) each since 30 November as it looks to expand its Singapore single stock shelf.

FEATURE

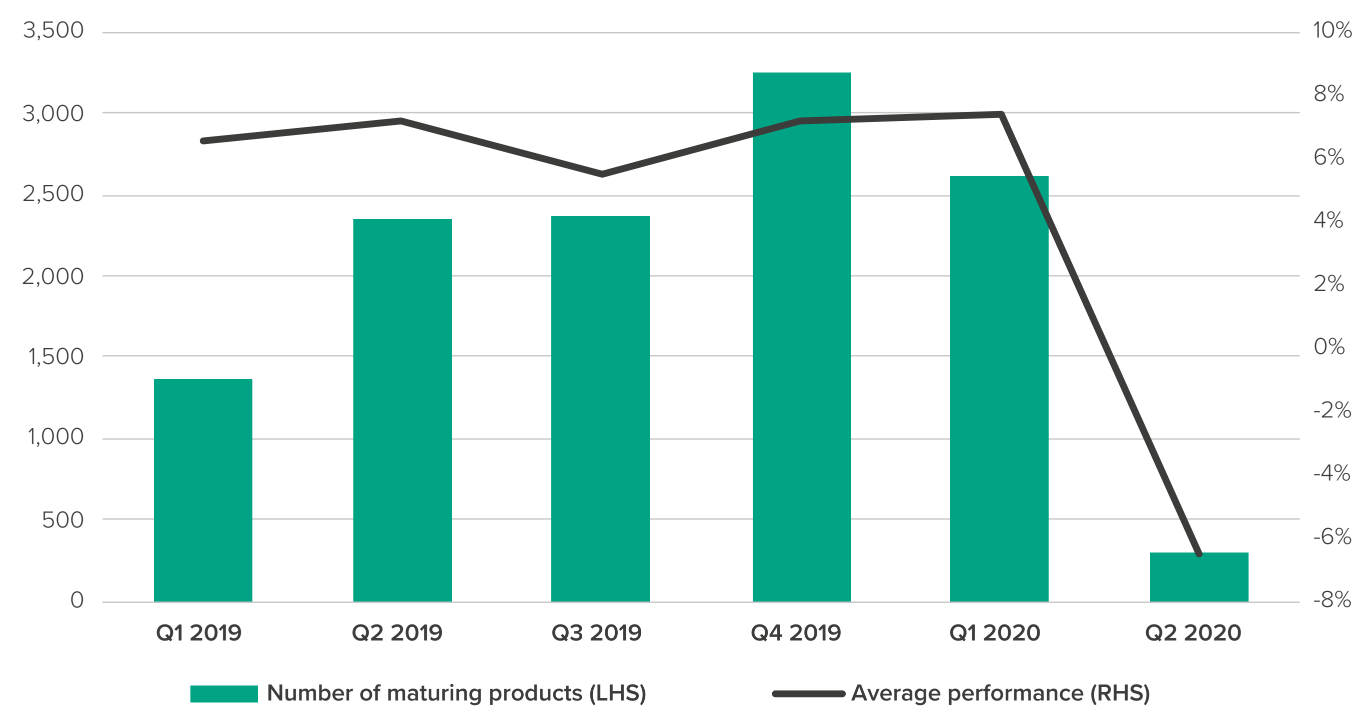
US Performance Review 2020: tech stocks deliver hefty returns, beat S&P 500

As 2020 comes to an end, we look back at the performance of structured products in the US market during an 18-month period by underlying, asset class and payoff type.

The US structured products market continues to be one of the fastest growing markets across the world and has seen an increase in issuance (four percent) and sales (11.5%) year-on-year.

SRP data shows that public offering products linked to single underlyings bought by retail investors maturing over the last 18 months* have delivered a 6.6% average return for products linked to single underlyings and 6.5% for products including baskets – this is based on 27,573 maturing products of which 12,229 have performance.

USA: historical performance of structured products (Jan 2019 to Jun 2020)



Source: StructuredRetailProducts.com

FEATURE

USA: Top 10 underlyings by issuance* (Jan 2019 to June 2020)

Underlying	Number of products	Sales US$m	Average annualised return (%)
S&P 500	[redacted]	[redacted]	8.31
Eurostoxx 50	[redacted]	[redacted]	4.22
Russell 2000	[redacted]	[redacted]	5.09
Amazon	[redacted]	[redacted]	9.80
Netflix	[redacted]	[redacted]	11.54
Apple	[redacted]	[redacted]	9.49
iShares MSCI Emerging Markets ETF	[redacted]	[redacted]	1.66
Nvidia	[redacted]	[redacted]	10.01
MSCI EAFE	[redacted]	[redacted]	0.54
Alibaba ADR	[redacted]	[redacted]	8.89
Others	[redacted]	[redacted]	3.62
Total	[redacted]	[redacted]	**6.52**

Source: StructuredRetailProducts.com

USA: Average annualised return by asset class (Jan 2019 to Jun 2020)

Asset class	Number of products	Sales US$m	Average annualised return (%)
Equity (Single Index)	[redacted]	[redacted]	5.08
Equity (Single Share)	[redacted]	[redacted]	7.07
Equity (Index Basket)	[redacted]	[redacted]	7.88
Equity (Share Basket)	[redacted]	[redacted]	7.45
Commodities	[redacted]	[redacted]	3.14
FX Rates	[redacted]	[redacted]	4.15
Hybrid	[redacted]	[redacted]	1.80
Real Estate	[redacted]	[redacted]	8.01
Interest Rate	[redacted]	[redacted]	-0.35
Equity (Index Basket), Equity (Share Basket)	[redacted]	[redacted]	20.30
Credit	[redacted]	[redacted]	4.80
Equity (Share Basket), Equity (Single Index)	[redacted]	[redacted]	8.71
Total	[redacted]	[redacted]	**6.52**

Source: StructuredRetailProducts.com

USA: average annualised return by payoff (Jan 2019 to June 2020)

Payoff	Number of products	Sales US$m	Average annualised return (%)
Knock Out	[illegible]	[illegible]	7.94
Capped Call	[illegible]	[illegible]	4.39
Digital	[illegible]	[illegible]	5.62
Enhanced Tracker	[illegible]	[illegible]	3.69
Bull Bear	[illegible]	[illegible]	6.71
Fixed Upside	[illegible]	[illegible]	0.85
Uncapped Call	[illegible]	[illegible]	2.32
Reverse Convertible	[illegible]	[illegible]	2.22
Protected Tracker	[illegible]	[illegible]	6.65
Worst of Option	[illegible]	[illegible]	7.65
Shark Fin	[illegible]	[illegible]	1.35
Accrual	[illegible]	[illegible]	1.55
Best of Option	[illegible]	[illegible]	13.37
Cliquet	[illegible]	[illegible]	7.53
Total	[illegible]	[illegible]	**6.52**

Source: StructuredRetailProducts.com

USA: average annualised return by capital protection (Jan 2019 to June 2020)

Capital protection	Number of products	Sales US$m	Average annualised return (%)
Equal to 0%	[illegible]	[illegible]	7.07
Above 0% and below 90%	[illegible]	[illegible]	5.48
Equal to 100%	[illegible]	[illegible]	2.15
Equal to 90% and below 100%	[illegible]	[illegible]	1.84
Above 100%	[illegible]	[illegible]	2.27
Total	[illegible]	[illegible]	**6.52**

Source: StructuredRetailProducts.com

Americas 2020: JP Morgan delivers highest yield with basket of Brazilian shares

As we swiftly approach the coming year, SRP reviewed some of the best-performing structured products in 2020 across the Americas with tech stocks, healthcare sciences, and short-term structured bonds emerging as evident winners among investors.

USA

Digital Notes - Worst of Option (48132FXD3) - 127.00%/108% pa

This registered unlisted note is tied to the Banco Bradesco Brazil ADR, Itau Unibanco ADR, and Vale ADR underlying as well as the bank and mining sectors. The growth product had an initial strike date of 4 October 2019 and reached maturity at the beginning of the year on 9 January 2020. The note was both issued and distributed by JP Morgan Chase Financial for US$400k.

The digital, worst of option structure promised to pay at maturity a capital return of 127% if the level of neither underlying is lower than its initial level. Capital was at risk one to one with the worst performing underlying.

Notes linked to common stock of Nvidia 097098222 - 137.68%/36.50% pa

This registered note (unlisted) was issued by Bank of America Finance with Merrill Lynch as its distributor and a sales volume of US$5m. It is classified under the equity (single share) asset class and is tied to the Nvidia underlying. The product had a tenor of just over a year and upon its maturity on 6 January 2020, offered a capital return of 137.67% and an annualised performance of 36.50% pa.

Canada

Autocallable Contingent Income Note Securities on Canadian market, Class F - 120.00%/43.57% pa

The product was wrapped as a security with a reverse convertible payoff and a short tenor of half a year. The investment was issued by National Bank of Canada and is tied to the iShares S&P/TSX 60 Index ETF underlying. It was classified under the equity (single index) asset class. With coupon strikes of -30.00% pa., the product matured on 30 January 2020.

Auto Callable Contingent Income Note Eurostoxx 50 Index, Class F - 119.50%/41.58% pa

The security investment was linked to the Eurostoxx50 index and had coupon strikes of -40.00% pa. Falling under the equity (single index) asset class, the product had a short tenor of six months with a maturity date of 18 February 2020. With National Bank of Canada as both its issuer and distributor, CIBC World Markets acted as a third-party distributor.

The National Bank of Canada has distributed all of the top five performing products in the Canadian structured products market this year.

Brazil

Brazilian provider XP Investimentos is behind best-performing products in the Brazilian structured products market in 2020.

Autocall-Apple, Alibaba, Netflix-31/08/2018 - 127.00%/17.33% pa

This certificate of structured operations was issued by Morgan Stanley and was linked to a basket containing Apple, Alibaba and Netflix. XP Investimentos acted as distributors for the product. Quarterly coupons ranged between 4.30% and 5.30%, and capital protection was 80%. The investment featured a tenor of one and a half years and matured on 28 February 2020.

MS Autocall Nintendo, SAP, Samsung and Tencent-2 year - 127.30%/17.30% pa

Issued by Morgan Stanley and distributed by XP Investimentos, the investment is linked to the hardware storage, software and services and technology underlying sector group. The growth product is tied to a basket of shares that contain Nintendo, SAP, Samsung Electronics and Tencent Holdings. Strike levels were BRL34500.00, BRL102.06, BRL44250.00, BRL325.80 respectively. The investment reached maturity on 18 February 2020.

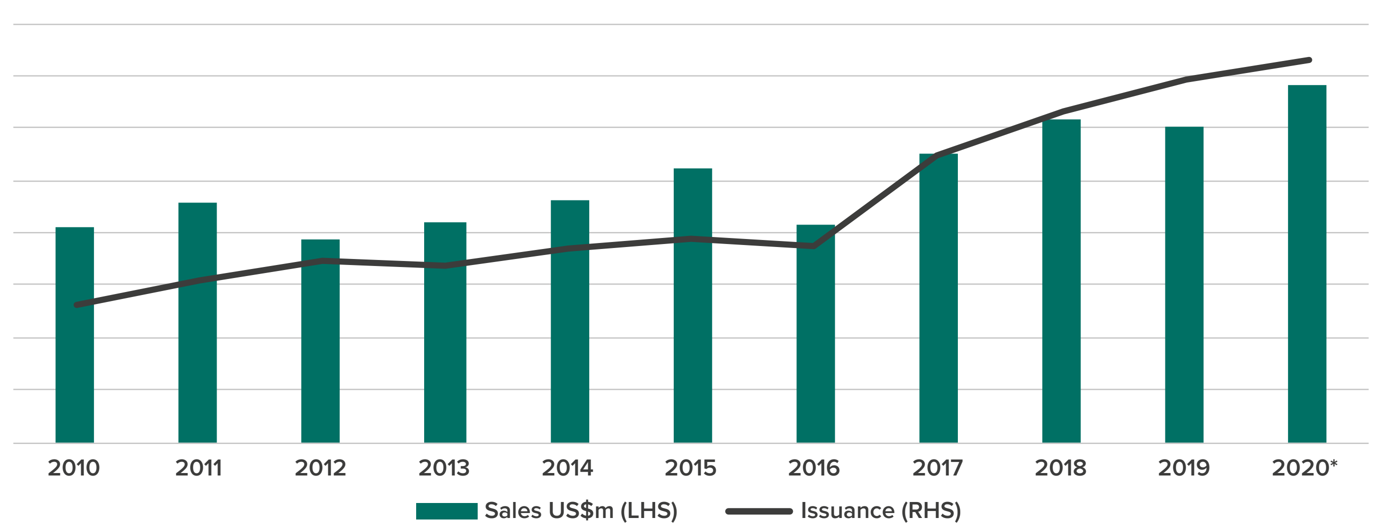
Mexico

In 2020, dual currency notes tied to the USD/MXN underlying have dominated the Mexican structured products market with Monex emerging as the most prominent distributor.

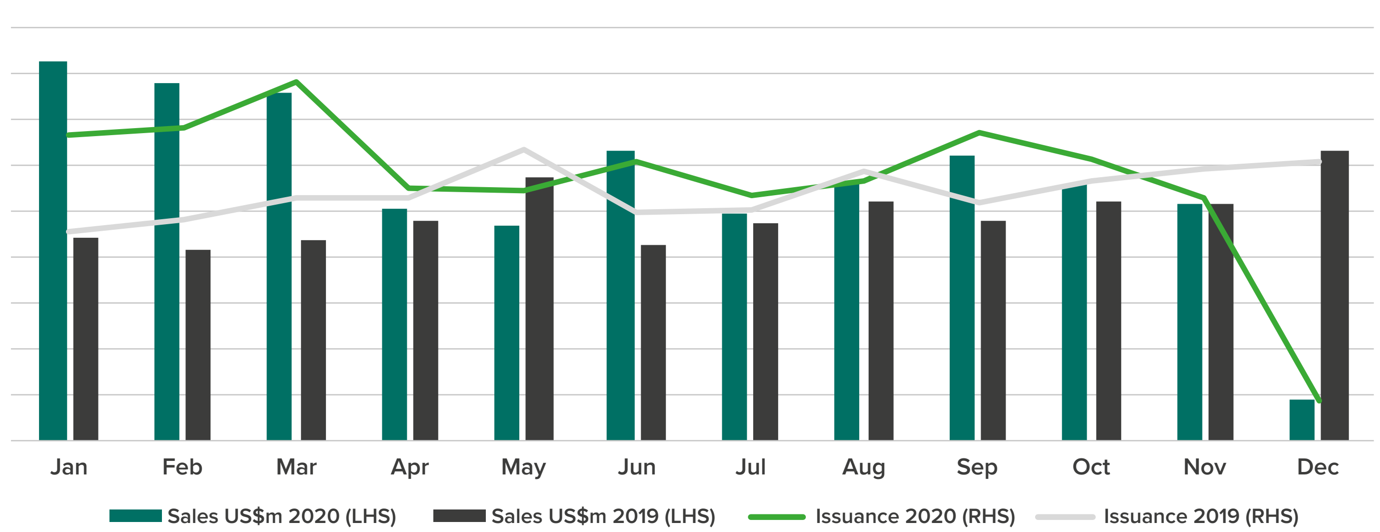
USA 2020 market overview: highest ever annual growth

In the second part of our US structured products market overview, we look at the issuer and distributor league tables, issuance levels and sales volumes, the underlyings driving most of the activity as well as the payoff profiles favoured by retail investors and the preferred investment terms.

USA: sales and issuance by year



USA: sales and issuance by month* (2020 vs 2019)



*As of 8 December 2020

Source: StructuredRetailProducts.com

USA: Top 10 distributor groups by market share 2020*

Distributor group	Number of products	Sales US$m	Average annualised return (%)
Morgan Stanley	[illegible]	[illegible]	19.04%
UBS	[illegible]	[illegible]	18.77%
Non-public	[illegible]	[illegible]	15.86%
Bank of America	[illegible]	[illegible]	12.37%
Goldman Sachs	[illegible]	[illegible]	11.24%
JPMorgan	[illegible]	[illegible]	8.64%
Incapital	[illegible]	[illegible]	4.19%
First Trust Portfolios	[illegible]	[illegible]	3.71%
Raymond James	[illegible]	[illegible]	2.29%
Wells Fargo	[illegible]	[illegible]	1.46%
Others	[illegible]	[illegible]	2.43%
Total	[redacted]	[redacted]	**100%**

USA: Top 10 issuer groups by market share 2020*

Issuer group	Product issuance	Sales (US$m)	Market share
Barclays	[illegible]	[illegible]	12.86%
Goldman Sachs	[illegible]	[illegible]	11.71%
JP Morgan	[illegible]	[illegible]	11.46%
Citi	[illegible]	[illegible]	11.40%
Morgan Stanley	[illegible]	[illegible]	11.28%
UBS	[illegible]	[illegible]	8.45%
Credit Suisse	[illegible]	[illegible]	7.81%
HSBC	[illegible]	[illegible]	4.53%
Scotiabank	[illegible]	[illegible]	3.92%
RBC	[illegible]	[illegible]	3.77%
Others	[illegible]	[illegible]	12.81%
Total	[redacted]	[redacted]	**100%**

*As of 8 December 2020

Source: StructuredRetailProducts.com

USA: Top 10 payoff by market share 2020*

Payoff	Issuance	Sales US$m	Market Share
Knock Out, Reverse Convertible	[illegible]	[illegible]	15.87%
Knock Out, Reverse Convertible, Worst of Option	[illegible]	[illegible]	15.38%
Callable, Reverse Convertible, Worst of Option	[illegible]	[illegible]	11.46%
Capped Call, Enhanced Tracker, Protected Tracker	[illegible]	[illegible]	10.49%
Capped Call, Enhanced Tracker	[illegible]	[illegible]	7.50%
Digital, Protected Tracker	[illegible]	[illegible]	4.96%
Knock Out, Protected Tracker, Worst of Option	[illegible]	[illegible]	3.80%
Enhanced Tracker, Protected Tracker	[illegible]	[illegible]	3.45%
Uncapped Call	[illegible]	[illegible]	2.46%
Callable, Reverse Convertible	[illegible]	[illegible]	2.28%
Others	[illegible]	[illegible]	22.35%
Total	[illegible]	[illegible]	100%

*As of 8 December 2020

Source: StructuredRetailProducts.com

There were 96 unique payoff combinations used in 2020. The knock out featured in 47% of all products issued, and it was mostly used in combination with a reverse convertible and worst of option feature. In 2019, 43% of all products issued had a knock outoption.

The US investor continued their preference for high-risk structures, even more so than in 2019, with 78% of all products putting full capital at risk (FY2019: 66%). At the same time, full or partially capital-protected products, showed a downward trend, with just 6.2% of issuances offering minimum 90% capital return (FY2019: 17%).

USA: asset class by year

	2020*			2019		
Asset class	Issuance	Sales (US$m)	Market share	Issuance	Sales (US$m)	Market share
Equity (Single Index)	[illegible]	[illegible]	38.97%	[illegible]	[illegible]	45.91%
Equity (Index Basket)	[illegible]	[illegible]	35.09%	[illegible]	[illegible]	33.48%
Equity (Single Share)	[illegible]	[illegible]	16.91%	[illegible]	[illegible]	11.69%
Equity (Share Basket)	[illegible]	[illegible]	6.36%	[illegible]	[illegible]	4.55%
Hybrid	[illegible]	[illegible]	1.68%	[illegible]	[illegible]	2.62%
Commodities	[illegible]	[illegible]	0.65%	[illegible]	[illegible]	0.71%
Interest Rate	[illegible]	[illegible]	0.15%	[illegible]	[illegible]	0.54%
Alternatives	[illegible]	[illegible]	0.05%	[illegible]	[illegible]	0.03%
Real Estate	[illegible]	[illegible]	0.01%	[illegible]	[illegible]	0.04%
Fund	[illegible]	[illegible]	0.00%	[illegible]	[illegible]	0.01%
Others	[illegible]	[illegible]	0.12%	[illegible]	[illegible]	0.32%
Total	[illegible]	[illegible]	100%	[illegible]	[illegible]	100%

USA: Top 10 underlyings by market share 2020*

Underlying	Issuance	Sales (US$m)	Market Share
S&P 500	[illegible]	[illegible]	24.90%
Nasdaq 100, Russell 2000, S&P 500	[illegible]	[illegible]	4.94%
Russell 2000, S&P 500	[illegible]	[illegible]	4.56%
DJ Industrial Average Index, Russell 2000, S&P 500	[illegible]	[illegible]	4.03%
Eurostoxx 50, Russell 2000, S&P 500	[illegible]	[illegible]	2.45%
Eurostoxx 50	[illegible]	[illegible]	2.31%
Russell 2000	[illegible]	[illegible]	2.22%
DJ Industrial Average Index, Nasdaq 100, Russell 2000	[illegible]	[illegible]	2.19%
Eurostoxx 50, FTSE 100, Hang Seng Index, Nikkei 225, S&P/ASX 200, SMI	[illegible]	[illegible]	1.36%
DJ Industrial Average Index	[illegible]	[illegible]	1.57%
Others	[illegible]	[illegible]	49.23%
Total	[illegible]	[illegible]	100%

*As of 8 December 2020

Source: StructuredRetailProducts.com

USA: Top 10 best-selling products 2020*

Distributor	Product name	Sales (US$m)	Strike Date
BofA Securities	Cash-Settled Equity Linked Notes - Charter Communications	[illegible]	22/01/2020
Non-public	Cash-Settled Equity-Linked Notes - Visa	[illegible]	12/02/2020
Non-public	Cash-Settled Equity-Linked Notes - Microsoft	[illegible]	23/01/2020
Merrill Lynch	Autocallable Market-Linked Step Up Notes - S&P 500	[illegible]	02/04/2020
Merrill Lynch	Accelerated Return Notes - S&P 500	[illegible]	27/02/2020
Merrill Lynch	Accelerated Return Notes - S&P 500	[illegible]	25/06/2020
Merrill Lynch	Leveraged Index Return Notes DJ Industrial Average Index	[illegible]	26/03/2020
Merrill Lynch	Accelerated Return Notes - S&P 500	[illegible]	30/01/2020
Merrill Lynch	Accelerated Return Notes - S&P 500	[illegible]	30/07/2020
UBS Financial Services	Market-Linked Notes - S&P 500	[illegible]	27/03/2020

The best-selling underlying, as a single underlying or in a basket, is the S&P 500. The US benchmark was linked to almost 9,000 products. The Russell 2000 and the Eurostoxx 50 were also in high demand. Another index that caught the eye was the proprietary J.P. Morgan Balanced Value Dividends 5 Index, which aims to provide a dynamic, rules based allocation to the First Trust Value Line Dividend Index Fund and the Pimco Active Bond ETF. The index was delivered via structured notes sold by First Trust Portfolios.

"[This index] shows a confluence of a theme that was relevant to clients, collaboration with a distribution partner First Trust and best-in-class ETFs, and our ability to deliver indices and issue structured products," said Brandon Igyarto, managing director of structured investments distribution at JP Morgan.

Marex: mini-futures played an important role in 2020

Marex Financial entered the structured products market in early 2019 as the first non-bank affiliated structured notes issuer and a digital challenger to investment banks.

The UK-based firm, part of Marex Solutions, the specialist derivative solutions division of Marex Spectron, has established itself as a growing force in the market following the launch of its structured notes programme in 2019.

SRP caught up with Marex Solution's chief executive Nilesh Jethwa (left) and the head of Marex Financial Products, Joost Burgerhout (right), to discuss the firm's progress over the last year.

"The growth of Marex Financial Products this year has been a success story," says Jethwa. "We have always been incredibly ambitious about Marex FP but were positively surprised - not only in terms of volumes, but also on the take-up and client acceptance. As a new issuer, we have established a competitive product offering, developed our technology and expanded our trading capabilities."

Jethwa notes that despite the market volatility and the challenging environment for sales and trading desks, Marex FP's sales team has received a number of plaudits from the market, while its trading team performed brilliantly in the face of unprecedented market moves.

"Any structured notes business requires the warehousing of some degree of market risk," says Jethwa, adding that the firm's foundations allowed the team to sustain high levels of client service even at the height of the pandemic uncertainty.

"We never pulled back on pricing, we helped clients restructure and reorient their exposure and provided dependable secondary market liquidity. We showed our clients innovative ideas and new ways to navigate the market. We have supported our clients and established our business as a reliable long-term partner in the structured products market."

Burgerhout notes that demand for standard product activity remained high with yield enhancement products being the most popular product type. However, the firm's mini-futures range have played an important role this year.

"Our mini-futures were heavily traded during and after the market crash," he says. "When volatility increases, some investors look to take advantage and trade more frequently. The uptake in February and March was significant and went on pretty much until the summer."

This is one of the areas where Marex has substantially increased its market share as it was able to capitalise on its technology with the world's only click-and-trade mini future platform, enabling clients to capture opportunities as they presented themselves. Two elements were important after the market disruption post lockdown.

"The first was the lack of investor panic – in contrast to what we saw 10-12 years ago - there was no panic selling or people trying to get out of the market entirely at all cost," says Burgerhout. "We saw demand for yield enhancement products but no panic requests for bids which demonstrated investors were comfortable with our issuer risk and we were able to provide consistent secondary market levels across our products."

Tech stocks have been a major driver, but we have also seen demand for gold stocks too - Joost Burgerhout

The second element was increased demand for the firm's mini-futures, which provided an efficient instrument for investors seeking to bid on a rebound of the market.

"These products have an element of hedging and investment," says Burgerhout. "We have seen recent moves in the market surprise investors, so having structured products that can help investors capitalise on those dislocations, or even sideways swings, is an advantage – we had requests for twin-win variations on autocall payoffs and the typical long play certificates."

The underlying exposure has remained very equity focused during this period mainly around single indices and stocks.

"Tech stocks have been a major driver, but we have also seen demand for gold stocks too," he says.

Going forward, Marex is looking to capitalise on increasing demand for new underlyings and structures to complement its offering.

"Clearly ESG and QIS are two important topics for the market and where we see value and potential for 2021," says Burgerhout (right). "AMCs are also an important topic among our clients. But this is an area where you have to offer a platform and build the infrastructure to support the product, which is a slightly different approach to structured products. We're developing our capabilities with an AMC platform planned for the start of 2021."

As some issuers retreat and review their activities following heavy losses on their trading desks, new opportunities have opened up for smaller issuers to fill up the gap and gain market share.

"Investment banks continue to review and assess their activities to see where they can generate the most value for their clients and generate sufficient RoE," says Jethwa. "Structured notes require increasing investment driven by changing regulation, the need to keep up in a competitive market and the fast evolution of new technologies."

Faced with a large and growing technology investment requirement coupled with losses some of the banks have suffered in 2020, questions are being asked in these banks whether this business makes sense in its current form.

"You almost can't spend enough and that creates an RoE challenge," concludes Jethwa. "Given the amount of technical debt many banks have, we are convinced it is easier and cheaper to build a high-quality offering on a blank canvass. That has been one of our advantages."

> **When volatility increases, some investors look to take advantage and trade more frequently.**
>
> **Joost Burgerhout,** head of **Marex Financial Products**

Marex: partial downside equity risk is paying off for investors

In the second part of an interview, **Nilesh Jethwa** chief executive at Marex Solution's and **Joost Burgerhout**, head of Marex Financial Products talk about the company's edge in the market, the role of technology and its plans going forward.

What is Marex FP's edge in the market?

Joost Burgerhout: Our edge is our state-of-the-art infrastructure, based on the most recent technology, allowing us to quickly deliver our products and services to investors. We can price quickly, generate the documentation, execute the trade and soon also provide tools for clients to see the lifecycle events of their products.

Our prices are generally attractive and the fact that we are a non-bank issuer also resonates with many investors looking to diversify their exposure.

To grow from one person to 100 people in under four years, we have had to be agile and adaptable - Nilesh Jethwa

Nilesh Jethwa: Another differentiating factor for us is the ability to attract high quality and committed talent from the industry. Today we have built a very strong team across sales, trading, support and control, with people that know and understand these products.

We are lucky to have the backing of a serious, large global group, but retain a startup entrepreneurial mentality.

To grow from one person to 100 people in under four years, we have had to be agile and adaptable. This would have been much harder in a less entrepreneurial setup. This agility and adaptability remain central to our business today and enable us to continue our growth trajectory. We're already issuing about 100 customised structured notes per week and the number is growing each month.

How important is the technology aspect in the structured products market? Has the role of technology increased to keep the market alive during the lockdown triggered by the pandemic?

Nilesh Jethwa: This is demonstrated by our Agile mini-future click-and-trade web platform, which is an extension of our proprietary Agile technology suite and was built in response to the demand for mini-futures during the pandemic. Since then, US$1 billion of notional has been traded through the platform.

Moreover, we recently launched our notes pricing platform for distributors, which has already had significant uptake.

Rolling out our web pricer and our web-based tools for our clients is also part of our plan; we also want to grow the number of issuers using our platform. So far, we have been raising liquidity and providing a source of revenue for Marex, but we're also looking at white-labelling to other issuers and we're in discussions with a number of them.

A large part of this year's flows have come from the EEA and Switzerland - Joost Burgerhout

Joost Burgerhout: Our platform technology has also allowed us to service our clients whenever markets are opened even if we are not in the office. We can execute orders, and amend or adjust limits for clients at any time.

The traditional structured notes business, where Marex is the issuer, has performed very well but we are also growing our OTC business, which is also a good complement for us - we had 5,000 issuances so far with a notional of US$2.5bn.

We remain very technology driven. Having a pricing tool is normal for this business but we're also rolling out our web pricer to clients, simplifying things. We know that you have to provide a good user experience, which is absolutely fundamental to our approach.

Do you have plans to expand Marex FP's footprint in other markets and target market?

Joost Burgerhout: Most of our activity is based in the UK but we opened a Paris office earlier this year, which suits our business as a large part of this year's flows have come from the EEA and Switzerland. Next year we are looking to develop our business in APAC. We have successfully positioned Marex Financial Products as a new issuer, and that has increased awareness of our brand and new business.

Since early 2020 our business has grown which has been a staggering achievement, with October and November our best months to date.

Apac is a region where we think there are opportunities and we're aiming at having a presence there by the second half of next year. The immediate focus will be on strategic European markets and Latin America.

Markets Are Everywhere: it's important that people know exactly what they are buying

In the first of a two-part interview, Jean-Paul van Oudheusden, owner at Markets Are Everywhere, talks to SRP about his latest initiative, and explains why he still holds a special place for turbos. *By Marc Wolterink*

"In the Netherlands about 20% of all private transactions are currently still in a turbo

Van Oudheusden is someone you can rightly call an industry veteran. He was one of the driving forces behind the introduction of innovative investment products such as the turbos, AEX bonds and various other structured solutions in the Netherlands.

Van Oudheusden started his career in 1997 at ABN Amro, where he was responsible for the rollout of turbos in the Benelux. In 2008, after ABN Amro was acquired by Royal Bank of Scotland (RBS), he moved, with his team, to RBS where he was managing director at the British bank's markets division, before joining Binck Bank in 2013 where he oversaw the launch of the online broker's own turbo range.

Investment advice is hardly available unless you are a private banking client

These days, Van Oudheusden runs Markets Are Everywhere, an investor education platform that was launched in April 2020.

"I started with turbos at ABN Amro in 2004, and from the beginning we focused on education," said Van Oudheusden. "When you bring something new, it is important that people know exactly what they are buying, so that no misunderstandings arise."

Over the past 15 years, he has spent a lot of time and effort on education, and although right now he is not specifically associated with a party that issues turbos, he has noticed a lot of new people coming to the stock markets since the Covid-19 induced market crash of mid-March.

"That is nothing new. The moment the financial market takes a big hit, you will traditionally see that the number of new investment accounts increases excessively and we saw that again this year.

"I think it is important that those people receive a good education. Sure enough, 15 years ago you could just walk into a bank branch and there were investment advisers who you could have a chat with. Nowadays, you see that much less. Investment advice is hardly available unless you are a private banking client.

"There is a lot of information available about investing, but the fundamentals – why it is a good idea to invest and how to go about it – I think there is room to add to that. For that I have set up Markets Are Everywhere," said Van Oudheusden.

The spectrum of the platform is pretty broad.

"I focus on anyone who wants to use my 30 years of knowledge and expertise in the field of investing, not just retail investors," he said.

On the one hand, there is a younger target group, who, over the years, have always been drawn to the stock market, and who could benefit from someone with grey age hair who has seen it all.

"I've been through three bull markets and three major crises and thanks to that experience, participants in my courses can learn faster," said Van Oudheusden.

In the Netherlands, from 1 January 2021, savers will receive half a percent penalty interest at almost all major banks if they have assets of more than € 250,000 in their account.

"That does not mean that everyone should start investing, but it does ensure that there is suddenly more interest in the stock market among that target group, generally people who are a bit older, who have earned good money and who are not necessarily financially educated.

"I can certainly add value for that target group as well," said Van Oudheusden. In the Netherlands about 20% of all private transactions are currently still in a turbo.

The platform broadcasts a weekly investor's journal, called 'turbo news,' which is also interesting for people who do not invest in turbos.

"The main part is investing for the long term and within that you naturally have your personal preference, said Van Oudheusden. "As someone who has been involved with turbos in the Netherlands from the start, I still have a special place for that product. The turbo market in the Netherlands has clearly grown again this year compared to last year. I do feel that it is a market that has been set up well."

The question remains as to whether turbos are suitable for everyone, with the Dutch Authority for the Financial Markets (AFM) holding a consultation on measures to restrict the marketing, distribution or sale of these products in the Netherlands.

"In the Netherlands about 20% of all private transactions are currently still in a turbo: people come into contact with this product and then it is very important that they are properly informed," said Van Oudheusden.

Markets Are Everywhere offers a course called Wise investing with turbos, where it emphasises that if you are new to turbos, make sure to limit the leverage.

"You should never be above 10. Personally, I think a leverage of 10 is still very high, but certainly don't go above that. That is the message we propagate in that area," he said.

Semi-professional day-traders, however, should be allowed access to higher leverage products, according to Van Oudheusden. "Stop-loss levels for them should not be too far away from the reference price to mitigate gap risk."

"The moment the financial market takes a big hit, you will traditionally see that the number of new investment accounts increases excessively and we saw that again this year.

Jean-Paul van Oudheusden, CEO, **Markets Are Everywhere**

Markets Are Everywhere: EU investors are heavily underweight in China

In the second of a two-part interview, **Jean-Paul van Oudheusden**, owner at investor education platform Markets Are Everywhere, looks at the main investment themes for 2021, and why investors in ETFs won't touch turbos.

Investors in turbos and ETFs are two different target groups, according to Van Oudheusden.

"Turbos are for people who are consciously looking for some extra risk. I myself am a fan of a turbo with a leverage factor of two. You invest with the idea that an individual share or an index is going up and if the outcome is that you are right, it is nice if you participate once, but it is of course even more fun if you participate twice. At the same time, the higher the leverage, the higher the chances are that you reach your stop-loss," he said.

Most issuers of ETFs focus on the large institutional clients, not on the small retail clients. However, there is a much larger group that sticks to index investing and the market for exchange-traded funds has grown enormously in the past 10 years.

"These are people who invest in index trackers. They don't want to know anything about leverage, they don't even think about it. They see ETFs as a cheap way to enter the financial markets," said Van Oudheusden.

There are index trackers on the AEX, Nasdaq, and Eurostoxx 50, but especially for retail investors with an execution only account who want to have a portfolio with ETFs, they have nowhere to go.

"The bank is not helping these investors, and neither are the brokers. People are told to 'go and check Morningstar,' but if you look for an ETF on European stocks [on Morningstar], you will get so many hits, that the retail investor doesn't know what to do anymore," said Van Oudheusden.

Often, potential investors are overloaded with jargon, such as Ucits ETFs and so on, and for many investors it is difficult to know whether they have selected the fund that is right for them.

Markets Are Everywhere has compiled a number of portfolios based on the best price-quality ratio, by using the current information available in the market.

"For the average retail investor, an ETF is an extremely suitable instrument, but most issuers of ETFs focus on the large institutional clients, and not on the small retail clients," said Van Oudheusden. "There I see room for Markets Are Everywhere to show people, 'it is not difficult, it is not scary', and how you can select easily.

"So yes, ETFs are for a different target group. They particularly suit people who have a very long investment horizon. People who actually invest as how investing is intended, with a horizon of 15-20 years as an extra on your pension, or just for later.

China is already out of the corona crisis, they are in full swing

"In the current low interest rate on the savings account, that is just a very good idea. I am not saying people shouldn't save anymore but I'm saying people should save and invest," he said.

What are the important investment themes for the coming year?
Jean-Paul van Oudheusden: China is certainly a theme. A fast-growing economy – number two in the world. China is already out of the corona crisis, they are in full swing. Basically all European investors are heavily underweight in China. I think China is and will remain a theme.

Another theme are the big platforms, you can call that Big Tech. On the one hand, stocks such as Amazon, Apple and Google have become kind of benchmark investments because they still have double digit growth that doesn't seem to end. They also have plenty of growth options. On the other hand, the regulators and governments worldwide in all regions now believe that there is a need to put a stop to it. That is also a theme. Nobody knows which way it is going now. These Big Tech platforms have increasing profits, increasing prices, but there is also an increasing chance of a significant correction.

Climate change is of course also a big theme. In 2020, it seems that everything that has 'green' in it will be bought. We know that from the past, of course. I have been involved with solar energy and wind energy, as early as 2009 and 2010. For those who look back, they see that when those shares were popular, they also went down considerably because new producers came and did everything at a much cheaper price. However, climate change itself, Biden has that as the number one priority, the European Union too, and China also wants to combat climate change, so there is no doubt that this is one of the most important themes going forward.

Product wrap: Goldman, UBS partner on Russell value play

In the final wrap of the year, we look at a selection of structured products with strike dates between 13-31 December 2020.

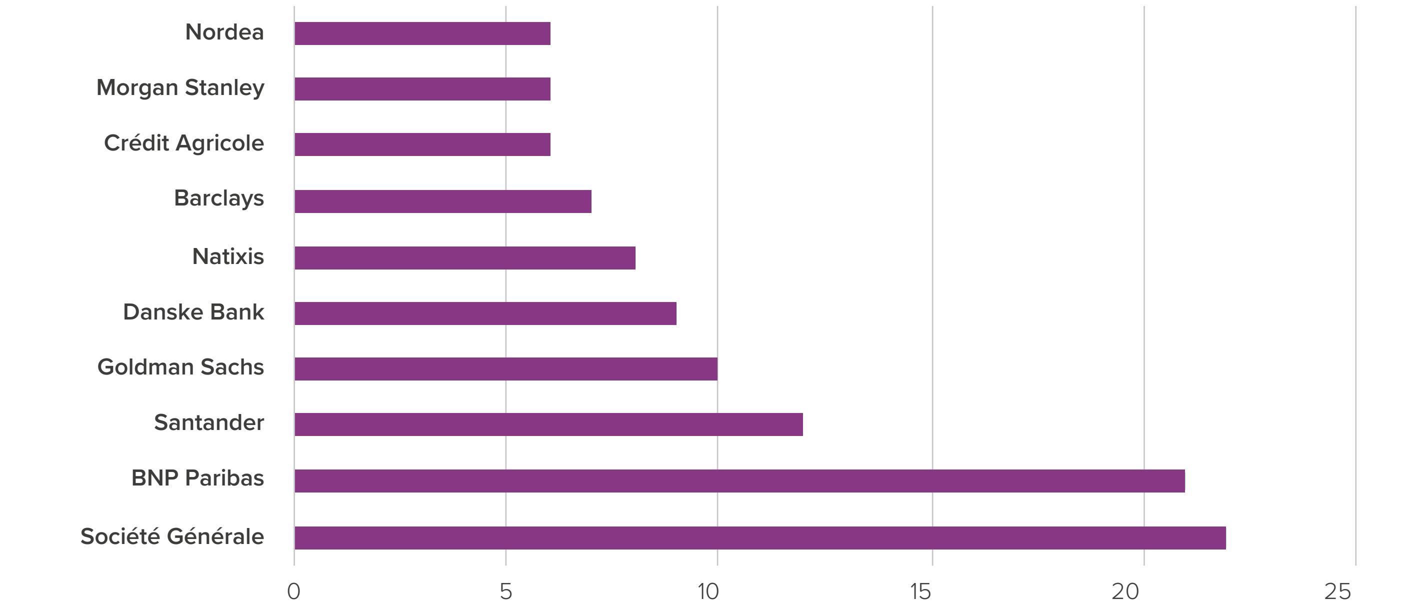
EUROPE

Crelan is distributing ESG Minimum Redemption 2029 in Belgium. The 8.5-year medium-term note (MTN), denominated in Norwegian kroner and issued on the paper of Société Générale, guarantees a minimum capital return of 103% at maturity. However, if the performance of the underlying Solactive ESG Big Data Europe Low Volatility AR 5% Index is positive, the investor participates 100% in the average performance of the index (based on 24-months backend averaging), subject to a minimum of 10%. The issue price is 100% and include total costs of maximum 5.95%. An entrance fee of up to 2.50% is not included.

Privalto launched Privilège Transatlantique Decembre 2020 in France. The 10-year MTN, accessible via a life insurance policy, can be redeemed early (monthly, after the first year of investment), if the Euronext Transatlantic ESG Leaders 60 EW Decrement 5% Index closes at or above its initial level on the valuation date. In that case, the product offers 100% capital return plus a coupon of 0.5% for each month elapsed. The product is issued via BNP Paribas Issuance BV and listed in Luxembourg for an issued amount of €30m.

Strukturinvest collaborated with Credit Suisse for 2352 Marknadswarrant Ny Teknik in Sweden. The five-year securities participate 100% in the upside performance of the Swedish Technology Fund 15% ER Index, a proprietary index for which Credit Suisse International is the administrator. Application will be made for the securities to be listed on the NGM Nordic MTF. The product is issued at 15% (SEK15,000) and a fee of three percent is added to the issue price.

Europe: Top 10 issuer group by issuance 13-31 December 2020*



*Excl. flow and leverage

Source: StructuredRetailProducts.com

Novo Banco dos Açores is selling NBA ESG Infraestrutaras in Portugal. The two-year deposit is linked to the shares of Vinci, Enel, and E.on, which are currently part of the Stoxx Global ESG Impact Index and are largely exposed to investment in infrastructure. At maturity, if all shares are above, or equal to their initial level, the investor receives 100% capital return plus a coupon of 1.7%, or 0.05% otherwise. There is an entrance fee of 0.15%.

Broker Solutions is marketing issue two of the Solid Gold Bond in Ireland. The five-year bond is tied to the afternoon gold fixing price (per troy ounce of gold for delivery in London through a member of the London Bullion Market Association). The product is 90% capital-protected and the maximum return is 48.99%. BNP Paribas Issuance BV is the issuer and BNP Paribas acts as guarantor. Broker Solutions will receive a commission of 3.86% and out of this amount, it will pay two percent to its appointed financial brokers for introducing clients to the bond. The product is listed in Luxembourg.

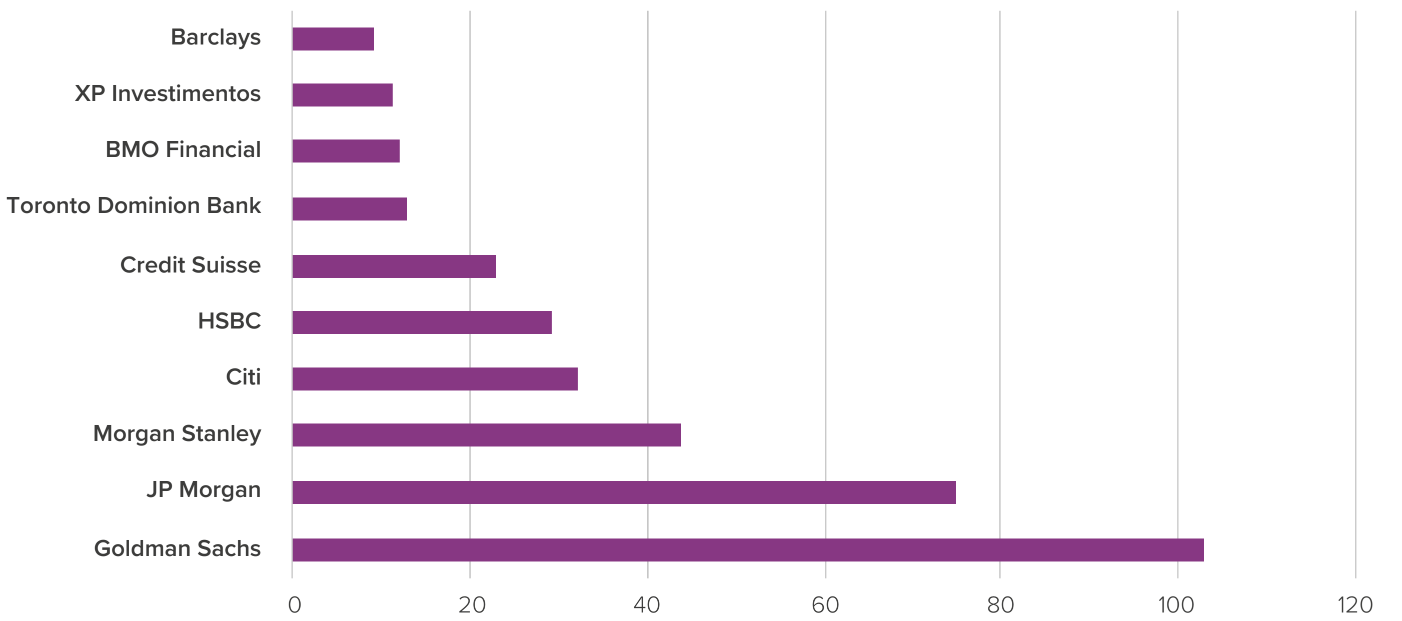
NORTH AMERICA

Desjardins launched series 60 of its Global Equity Principal Protected Notes in Canada. The capital-protected product has a four-year tenor and participates 100% in the rise of an equally weighted basket comprising 20 global stocks. The basket return is subject to a maximum of 6.66%. There is a selling commission equal to C$1.10 for each note sold and the notes are eligible for registered retirement savings plans (RRSP), deferred profit sharing plans (DPSP), and tax free saving accounts (TFSA), among others.

Axio Financial is distributing 1.5-year leveraged buffered notes linked to the Nasdaq 100 Technology Sector Index in the US. At maturity, if the index has not fallen by more than 10% from its initial level, the product offers a capital return of 100% plus the greater of zero percent and 150% of the rise, subject to a maximum overall return of 115%. GS Finance (the issuer) will pay a fee in connection with the distribution of the notes to Simon Markets, a broker-dealer affiliated with Goldman Sachs.

GS Finance was also the manufacturing company behind the Trigger Securities on the Russell 1000 Value Index, which are guaranteed by Goldman Sachs Group. The index, which was first launched on 31 December 1978, is predominately comprised of stocks issued by companies thought to be undervalued by the market relative to comparable companies. The product sold US$5.95m and guarantees the return of the nominal invested providing the index does not close below 73.4% of its strike level at maturity. UBS Financial Services, the selling agent, will receive a selling concession of up to 3.5%. The estimated value is equal to approximately US$9.34 per US$10 face amount.

Americas: Top 10 issuer group by issuance 13-31 December 2020*



*Excl. flow and leverage

Source: StructuredRetailProducts.com

LATIN AMERICA

XP Investimentos is offering XP Índice de Tecnologia Taxa Fixa ou Alta Ilimitada to investors in Brazil. The 5.5-year deposit is issued via Banco XP and linked the performance of the Solactive XP American Technology Stock Index. The index comprises of two components, the Invesco QQQ ETF, which tracks the Nasdaq 100, and fixed income assets. The allocation between the two classes is dynamic and the index is aiming at a maximum volatility of 19%.

MIDDLE EAST & AFRICA

Absa is targeting issue 22 of its Global Growth Basket (ZAR) at private banking investors in South Africa. The 100% capital-protected MTN participates 400% in the positive performance of the proprietary Credit Suisse Global Equity Multi-Factor 10% Risk Control Index, an investible long-only index which allocates between global equities and US treasuries according to a dynamic allocation mechanism. The maximum capital return is 180%.

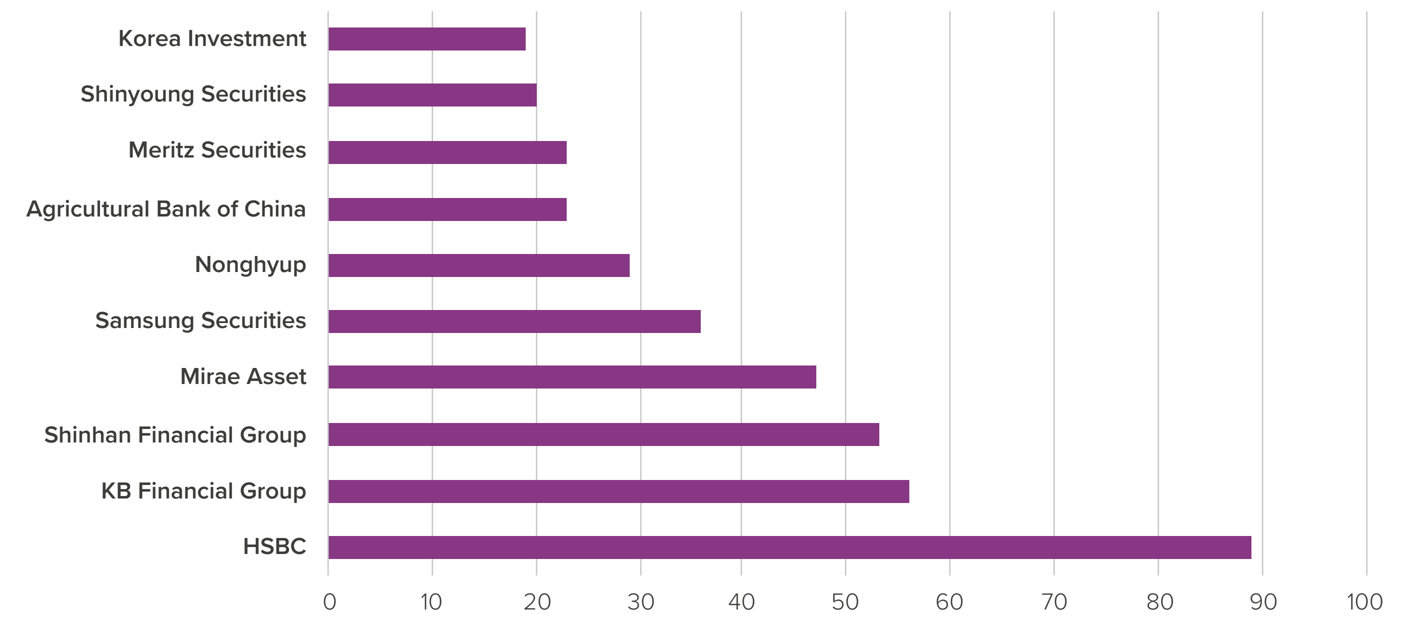
ASIA PACIFIC

HMC Investment Securities, a subsidiary of Hyundai Motor Group, is selling ELB 817 in South Korea. The one-year product is linked to the share of Korea Electric Power, and, if at maturity the price of the company is at or above 200% of its initial value, the capital return is 101.851%. Otherwise, the capital return is set at 101.850%.

Tokai Tokyo Securities collected JPY500m (US$4.8m) from Japanese investors with KI M20231221. The product offers a fixed annual coupon of seven percent for the first quarter, and a coupon of the same amount every quarter thereafter, providing the share of Sharp closes at or above 80% of its initial price on the valuation date. The securities have a maximum tenor of three years and are issued via Svensk Exportkredit. UBS is the derivatives manufacturer.

Agricultural Bank of China issued CNY S1218, a six-month deposit linked to the appreciation of the US dollar relative to the Japanese yen. At maturity, if the currency pair is within a predetermined range, the product offers 100% capital return plus a coupon of 3.2% pa. rwise, the coupon is 1.55% pa.

Asia Pacific: Top 10 issuer group by issuance 13-31 December 2020*



*Excl. flow and leverage

Source: StructuredRetailProducts.com

Meet the 'Greeks': first order sensitivities

This article is the first of two pieces looking at the importance and role of 'Greeks' in structured products and derivatives. Tim Mortimer - FVC

In this first part, we will consider Delta and Gamma. These quantities are both directly connected to movements in the underlying asset. In the second part of the article will examine Vega (volatility), Rho (interest rates) plus sensitivities to dividend yield, correlation and credit spread.

The terminology of the 'Greeks' was first adopted after the first usage of the Black Scholes model in the 1970s. This advance triggered an important change to pricing and trading vanilla (call and put) options on single stocks and other underlyings on exchanges. Since that time, there has been an explosion of academic literature, expertise within investment banks and increasingly sophisticated trading systems.

Most people in the industry take for granted the existence of a price of a structured product

Delta and Gamma are the most fundamental of these quantities and were the first names to be adopted because Alpha (outperformance) and Beta (ratio to the market) already had meaning within investment circles, applied to the measurement of underlying performance. This convention was continued through the other related quantities (not always with genuine Greek letters!) and so the mystical sounding nickname of the 'Greeks' has stuck ever since.

All 'Greeks' measure the sensitivity of option or structured product prices to the various parameters that affect them. The collective name of sensitivities is used as an alternative to 'Greeks'.

Traders use a variety of models for different asset classes, product types and underlying market assumptions to price and trade derivatives. Since structured products are a combination of derivatives, such models can also be combined or extended to price them.

Most people in the industry take for granted the existence of a price of a structured product. This price is understood to represent the (discounted) average payoff it is clear that this price exists at the start of the product, moving through its lifetime, converging at maturity to the final payoff outcome whatever that may be.

In most cases, the product sensitivities are calculated as the change in price when one parameter is changed by a standard prescribed amount, usually in isolation. These sensitivities are in fact themselves the derivative of the price (mathematical use of the word, not financial) with respect to each parameter.

Because the price of a structured product moves constantly throughout its lifetime, the trader needs to calculate and act on the various 'Greeks' to hedge the position and to execute the bank's risk management.

A simple example demonstrates why this is necessary.

Consider a structured product with initial price 100. Generally, the final payoff could be anything above or below its initial value with a minimum return of zero, such as 50, 100 or 150.

The hedging process involves the trader running a series of hedges so that the initial purchase price plus the accumulated profit or loss from the hedging process equals the required final payout as closely as possible, irrespective of market movement. In fact, many trading desks can also make a significant profit by understanding pricing parameters and their movement, or by achieving favourable offsetting positions.

The principle of how 'Greeks' work can be seen from a simple example involving Delta, the sensitivity to the underlying asset. Suppose a structured product is issued with the underlying value at 1,000 and has an initial price of 100% as calculated by an option model. The same model can reprice the product if the underlying increases in value by one percent, ie it moves to 1010. The value of the structured product might in this instance now be 100.7%.

The Delta is generally defined as the change in structured product price for a one percent move in the underlying asset, giving in this case a value of 0.7, or 70%. This means that the sensitivity of this structured product to the underlying is positive but less than 100% which is what a direct delta one investment would have. This figure is typical for an at-risk product at the outset, rising to 100% towards the end of the product lifetime if markets rise and falling to zero if the product is out-of-the money and will just return a fixed amount.

Delta can sometimes be in excess of 100% in special situations where the price is very sensitive to moves (eg for a digital or autocall near their levels close to maturity), or for a leveraged product. Delta can also be negative for any product that has a bear style payoff.

The level of the Delta tells the trader how much of the underlying asset to hold. In the example above, holding 70% of the product notional amount (through stocks or futures) would mean that, if the underlying increases, then the profit from the hedge would offset exactly the increase in product value that the investor holds and the bank books as a liability. If instead the underlying falls then the hedge will lose money but the liability decreases by the same amount again leaving the trader with zero net change.

The rate of change of the value of Delta is known as the Gamma. The sign and level of Gamma tells the trader how quickly and in which direction the Delta will change when the underlying asset moves. Gamma is very important since the trader's main concern is when to rebalance a hedge. Volatile markets, sudden price moves or a lack of liquidity can be very challenging for a trader to avoid losses when the hedge cannot be updated in time.

Delta and Gamma are unique amongst the Greeks since these are driven by underlying asset movement in a way anticipated by standard models such as Black Scholes. The other Greeks that will be discussed in the next article are also important but arise when changes in market parameters such as volatility occur that were not directly accounted for by the model.

Although it is customary to take a pricing model as the driver and then bump or change parameters to calculate the Greeks, it should be remembered that there is a duality between pricing and hedging, one cannot exist without the other. The price formula is only correct because the theoretically feasible hedging strategy can be set up and funded.

The original Black Scholes paper explains the relationship between the two.

Disclaimer: The views, information or opinions expressed herein are those of FVC, and do not necessarily reflect the views of SRP.

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This advance triggered an important change to pricing and trading vanilla (call and put) options on single stocks and other underlyings on exchanges

Understanding the Greeks: all pricing parameters

This article is the second part of a survey on the importance and role of Greeks in structured products and derivatives.

In the first part (First order sensitivities), the concept of the Greeks (also known as sensitivities) was introduced, and how they give precise information about price changes of a structured product from movement in the underlying parameters.

The use of the Greeks serves two important complementary functions. The first is for the trading desk of the issuing bank to understand how to risk manage the structured product through its lifetime. Any structured product is a contractual obligation to deliver a certain defined return depending on the performance of the underlying assets. In order to meet that requirement, risk management performs a precise role akin to that of an investment manager tracking an index or algorithm by taking into account the changes in the product's price when market conditions change. The second group that finds the Greeks useful will be those who have bought structured products, such as a private bank or financial adviser. Greeks help them understand how the product's value will likely move in different scenarios and will indicate aggregate risk and concentrations in a portfolio of such instruments.

Today, capital-at-risk products are the most common and these lose value when volatility increases

In the first part, we looked at Delta and Gamma, two important quantities that govern price changes caused by movements in the underlying asset or assets. This second piece will examine the remaining major Greeks: Vega (Volatility), Rho (Interest Rates) plus sensitivities to dividend yield and correlation. Other quantities do also get examined by trading desks in particular but these tend to be more obscure or second order (such as the delightfully named Vomma and Vanna) and so we will not consider them here.

For all structured products, the payoff is usually defined in terms of direct performance of the underlying assets, such as upside return or fixed returns that come from satisfying autocall or barrier conditions. It is clear therefore that the secondary market price or fair value of the structured product will move when the underlying moves. This is because the price reflects the previous performance of the underlying asset together with the range of likely outcomes that may happen during the remaining life of the product. As the product approaches maturity, the in-life price will converge to the final payoff of the product.

However, many other variables will contribute to the array of Greeks even though they are not explicitly in the product's payoff formula. These include the parameters we will consider of volatility, dividend yield, interest rates and correlation. Option pricing models as used by investment banks take into account all relevant market variables that affect the cost of the required hedging strategy. This in turn will change the product price because of the dual relationship between the price and hedging.

In most standard equity option models, these parameters are assumed constant or deterministic. Volatility is the main exception and can have different treatments depending on the modelling approach of a bank and the complexity of the product being valued. However despite this assumption, parameters constantly change in value and so the sensitivity to them must be considered.

One of the most important Greeks is the sensitivity to volatility (Vega). Any product which has a long option position such as a protected growth product will have positive sensitivity to volatility whereas those where the investor has capital at risk (for example a reverse convertible) will generally have negative sensitivity. The value of Vega reflects the direction that the product price will take if volatility changes. From a trader's perspective, these sensitivities translate into practical consequences because as volatility increases the trader will generally have to do more rebalancing of the underlying as it moves around more. If those rebalances happen in a way that the trader will incur cost (because of being forced to buy the underlying when it goes up and selling when it goes down) then the trader is exposed to volatility increasing and the value of the Vega will indicate that. This is known as being short Gamma and short Vega - two related concepts. The reverse would be true for a long Vega position.

Volatility levels in the market can change significantly and quickly, as measured by quantities such as the VIX series and other indicators of both implied and historic volatility. If a trader has sold a product which will increase in price when volatility goes up then it will often be desirable to reduce risk either by entering into a transaction with opposite risk or by buying options on an exchange or from another bank. Both methods are often used.

Those acting on behalf of investors will also need to be aware of the Vega of different products as they can lead to significant short-term price swings. Today, capital-at-risk products are the most common and these lose value when volatility increases. In the early part of 2020, nearly all equity markets witnessed large falls in index and stock levels accompanied by sharp increases in volatility.

Most capital-at-risk products therefore suffered from Delta related price falls exacerbated by an additional Vega component. This can be unsettling and counterintuitive - for example, in situations where the product does not fall below its barrier level. When these two contributions to price changes are added it is possible that some structured products show falls bigger than the index to which they are linked. A 20% fall in the index might give rise to a Delta related price move of 16% and a Vega loss of six percent, combining to 22%. These swings are often short lived as was indeed experienced later in 2020. They can only be anticipated and understood by monitoring the Greeks carefully.

Rho is the usual name given to price sensitivity to Interest rates, and this tends to give the fewest problems to traders because of the easy availability of hedging instruments such as bonds and the fact that the value of Rho does not usually change as quickly as other Greeks.

The two final sensitivities that we will examine are those relating to dividend yields and correlation. Both of these caused major issues in 2020 because of big moves and because both can be very hard to hedge.

Nearly all structured products are long their respective underlyings in some way whether they be capital protected or capital at risk. Part of the associated long Delta hedge involves dividend exposure if the product is linked to a stock or an index on a price return basis. If dividend values fall, the product will increase in value and expected dividend payments to be received by those running the hedge will not materialise. Historically, the investment banks in the market have always been very exposed to falls in dividend yields since almost all products have the risk in the same direction and external hedging instruments such as dividend futures are not always feasible. The usual phenomenon that is seen therefore is that implied dividend yields settle at a lower level than most future consensus estimates. This is intended to create a risk buffer, but in 2020 this proved to be not nearly enough. Other solutions have been sought, most notably the use of fixed dividend indices which eliminate dividend risk from a product.

Correlation sensitivity is also important for any product that features more than one underlying asset. Correlation is even harder to hedge and the market also suffers from the one way position of risk given that the two most popular product types tend to have long basket options or short worst-of puts which line up the risk in the same direction. Because of these factors, the main approach is to also mark the correlation values higher than most estimates. This also failed to prevent significant losses in 2020. Investors would have been able to measure both these effects which were in their favour this year.

In summary we see that structured product pricing, hedging and monitoring depends on many factors and it is very important to give the Greeks full attention in any portfolio particularly during times of market turmoil.

> **Today, capital-at-risk products are the most common and these lose value when volatility increases**

People Moves

CITI OVERHAULS EQUITIES, STRUCTURED EQUITY SOLUTIONS TEAMS

The changes come as **Fater Belbachir** sets his plan in motion as the new global head of equities and cross asset structuring.

Citigroup has announced a series of senior management changes in its sales and trading teams to push its equities franchise and structured solutions business forward with a focus on implementing a 'client-centric model,' according to a memo signed by Belbachir (pictured).

As part of the reshuffle, Julia Raiskin will be in charge of Citi's equity sales activities in the Asia Pacific (Apac) region and will also be head of cash and derivatives equities trading in Apac.

Based in Singapore, Raiskin joined Citi in 2007 and has held a number of senior roles at the bank including head of investor sales and relationship management, Asia; head of G10 rates sales, Asia, and; head of retail sales, Asia and Asean fixed income sales. Prior to that she was head of corporate FX sales, Europe at J.P. Morgan in London. Raiskin was appointed head of equities and securities services, Asia, at Citi in 2019.

The bank's head of equity derivative sales for Europe, the Middle East & Africa (Emea), Dirk Keijer, will be in charge of the equities team covering Emea. Keijer joined Citi in 2016 from Goldman Sachs where he was head of equity derivatives sales for Europe. He joined the US bank alongside Quentin Andre, former director and head of Emea equity & fund derivatives structuring & marketing, as well head of cross-asset systematic strategies at Goldman.

In addition, Cedric Pauwels will be responsible for the equities team covering the Americas. Pawels joined Citigroup's European interest rates sales business in London in 2008 alongside a team of six European bankers from the fixed income desk of Lehman Brothers, which was effectively closed as the bank's administrators failed to find a buyer for the business following its bankruptcy. He was then appointed head of rates sales for Europe and moved to New York in 2018 as head of prime, futures and securities service (PFSS) North America.

Antonin Jullier will leave his post as global head of equity sales 'to explore other opportunities'. Jullier was promoted to this role in 2017 after spending seven years as the bank's head of equity trading strategy, in London. He joined Citi from Talaris Capital in 2008 and held various senior positions at the bank including head of equity trading strategy at Citi since June 2011 and co-head of equity trading for Emea.

Structured equity solutions

Yesterday's memo also announced that Steve Roti will oversee sales for the structured equity solutions unit. Roti joined Citi in mid-2015 as managing director and global head of corporate equity derivatives in New York and was promoted to global head of structured equity solutions shortly after. He became global product head of strategic equity solutions in early 2019 as the bank started to cut loose a number of long-lasting executives in its equity derivatives and retail structured products business.

Under the new set-up, Quentin Andre and Eduardo Martinez Campos (right) will co-head the bank's global multi-asset group team with Andre alone taking responsibility for global derivatives and delta one sales.

Andre has been Citi's global head of equities structuring for investor clients, and global head of equity solutions sales since 2017; Martinez Campos led Citi's the organisation within its markets and securities services division launched in September 2017 to develop and implement a global retail client and product strategy, as global head of retail, markets and securities services, covering the structuring and distribution of all markets flow and non-flow products to retail.

In addition, Peter Lambrakis will head cash and derivatives equities trading in the Americas on an interim basis, and David Haldane will oversee the same activities in Emea while retaining his global head of derivatives role.

Other moves announced yesterday include the appointment of Ashley Matteo as head global in-business risk, and Rob Pitcher as head of risk architecture and product platform for derivatives and the delta one business. Chris Cox will continue to oversee both equities and securities services in Emea, and Ricardo Hesse will continue to lead the securities-services business in Latin America.

Belbachir joined Citigroup from Barclays earlier this year following the bank's decision to reorganise its equities and securities services business under a new structure led by a global head of equities and a global head of securities services.

Belbachir had a one-year stint as global head of equities and cross asset structuring at the UK bank. Prior to that, he spent 12 years at J.P. Morgan in a number of equities trading roles including global head of equity derivatives trading and structuring, and previously head of volatility trading and structuring for the Americas. He joined J.P. Morgan in 2007 from Credit Suisse where he was formerly an equities derivatives proprietary trader.

NOMURA POACHES SENIOR STRUCTURED PRODUCTS SPECIALIST FROM DEUTSCHE IN PB PUSH

The Japanese bank has embarked on a hiring spree as it seeks to bolster its private banking capabilities in Asia.

Nomura has appointed **Akshay Prasad** (pictured) as managing director within its Asian private banking team in Singapore to expand the bank's wealth management activities in the region.

Nomura's wealth management business in Asia ex-Japan was aligned under the firm's wholesale division in April. Under the new structure, global markets, investment banking and wealth management in Asia ex-Japan combined their investment products and solutions capabilities under one roof.

Prasad, formerly head of capital markets at Deutsche Bank Wealth Management (DBWM), was promoted to head of investment management, Global South Asia (GSA), in January, as the German bank's wealth management arm rolled out a comprehensive investment management proposition for all its clients across all GSA locations.

He was responsible for the team's investment managers and FX advisors. In this role, he reported to Amrit Singh, head of wealth management GSA and Bobby Abraham, regional head of institutional wealth partners in emerging markets.

Prasad's previous role was head of capital markets, wealth management for emerging markets, since 2017 with responsibility for structured products and derivatives, foreign exchange, cash fixed income and equities for Asia at Deutsche's wealth management arm.

Prasad joined the German bank from Citi in 2007 as a trader, structured products and derivatives, wealth management, and was promoted to director, head of structured products and derivatives, wealth management, in 2013.

WM push

Prasad will be reunited with **Ravi Raju** (right) who was appointed to the newly-created role of head of international wealth management by the Japanese bank in September. Both Prasad and Raju worked together at Deutsche after joining the German bank in 2007.

Based in Singapore, Raju was charged with expanding Nomura's wealth management business in Asia ex-Japan as the bank looks to capitalise on the growing ranks of wealthy individuals in the region. Heworks closely with the firm's global markets and investment banking businesses to develop product offerings and drive a unified solutions-led coverage effort, especially for entrepreneurs, family offices and external asset managers.

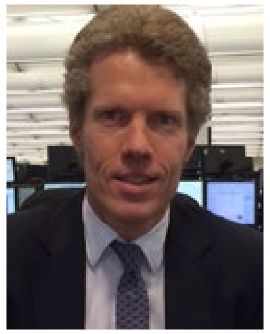
Raju reports to Rig Karkhanis, deputy head of global markets and head of global markets, Asia ex-Japan, with an additional reporting line into Steve Ashley, head of wholesale at the Japanese bank.

Raju has nearly three decades of experience in financial markets. Prior to joining Nomura, he was head of ultra-high net worth and global family office in Asia Pacific at UBS. Prior to that, he was with Deutsche Bank for 10 years based in Singapore and Hong Kong as head of wealth management, Asia-Pacific, leading its growth into a top private bank in the region.

At Deutsche, he had additional responsibility for its asset management division in Asia-Pacific for three years. Raju started his career with Citibank where he held several senior roles in Asia-Pacific and the Middle East.

Nomura declined to comment on Prasad's appointment.

BNPP NORDIC & NETHERLANDS DIRECTOR DEPARTS



Alexander Jansen (pictured) has left BNP Paribas. Jansen, who was based in London, had been managing director, head of Nordic & Netherlands institutional, private banking and distribution at the French bank since September 2018.

Prior to BNPP, he was employed by Goldman Sachs, where he spent more than 14 years, most recently as head of Nordic & Netherlands equity and structured derivatives. Jansen joined Goldman from Lehman Brothers, where he was a vice president for institutional and retail equity and structured derivatives, also in London. Before Lehman, he was a vice president in equity derivatives sales for the Nordics and the Netherlands at Merrill Lynch, after starting at Société Générale in equity derivatives sales. BNPP declined to comment.

ROYAL BANK OF CANADA

Royal Bank of Canada (RBC) is forming a new unit within its global markets group to bolster its push into private financing transactions, structured products and alternative investments.

The new Alternative & Private Capital Solutions unit will be led by **Rehana Kassam** and **Steven Andrews**.

Kassam and Andrews will report to Michelle Neal, head of RBC's US fixed income, currency and commodities business and its global head of senior relationship management. Andrews will have a dual reporting line to Eric Wise, head of alternative finance.

The unit will work with the newly formed global private capital group within RBC's investment banking division that was announced last month. The teams will work together on generating business, while the new team in the markets group also will assist with sourcing, structuring and placing deals.

Kassam, based in Toronto, joined RBC in 2009 and has held roles in the team that manages credit-valuation adjustments and the derivative solutions group, with a focus on Canadian investors for structured product solutions. Andrews, based in New York, joined RBC last year to focus on developing relationships with issuers and investors in structured credit and senior relationship management coverage for financial sponsors and alternative asset managers.

LEONTEQ

Alexandre Chesse, executive director, head of UK Ireland and Nordics sales, Leonteq, has left the Swiss structured products provider. Chesse joined Leonteq in 2012 from Société Générale CIB where he was sales associate for exchange-traded products and derivatives. Prior to that, he worked in equity derivatives sales at BNP Paribas. Chesse started his career at Exane as assistant trader.

LONDON STOCK EXCHANGE GROUP

The London Stock Exchange Group (LSEG) has announced that **Julia Hoggett** has been appointed as CEO of London Stock Exchange plc, a regulated subsidiary of LSEG. She will report to Murray Roos, group director, capital markets, LSEG and will start her position next year. Denzil Jenkins will continue as interim CEO of London Stock Exchange plc until Hoggett joins the Group.

Hoggett joins the exchange from the UK's Financial Conduct Authority (FCA) where she was most recently director of market oversight, having previously led the wholesale banking supervision department.

Prior to joining the FCA in 2014, Hoggett spent four years at Bank of America Merrill Lynch (Baml) as managing director and head of the FIG flow financing business for Europe, Middle East & Africa (Emea), head of covered bonds for Emea and head of short term fixed income origination in Emea. Before she joined Baml, she was board member and latterly CEO of Depfa ACS Bank and managing director and head of capital markets for the Depfa Bank Group. She began her career as an investment banker in debt capital markets at J.P. Morgan.

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