

Structured Notes

Technology Issue



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First Quarter Had Some Bright Patches

By VIREN VAGHELA and CAROLINA WILSON

For many sellers of structured notes in the first quarter, it was one to forget, with global sales tumbling from a year earlier. But pockets of the market still saw growth, particularly in regions where volatility kicked up or interest rates remained depressed.

Global sales in the first quarter got off to their worst start since at least 2006, sinking 9.7 percent from a year earlier to \$40.3 billion, according to data compiled by Bloomberg. In the U.S., the picture was rosier, with issuance climbing by around 8 percent to reach \$11.2 billion, the data show.

Speculation that U.S. President Donald Trump would cut taxes and boost spending led to a global risk-on rally that sent the S&P 500 Index to an all-time high of 2,396 on March 1. U.S. Treasury yields fell after the Federal Reserve indicated it would pursue three rate hikes this year, not four, but investors still spent most of the quarter watching the Fed from the sidelines, according to Steve Cocco, managing director of structured-product trading and origination at CG Capital Markets LLC.

"We've seen a bit of a slowdown across all fixed-income products," said Cocco. Also, U.S. stocks "seem to have taken a lot of buyers' focus away from our market."

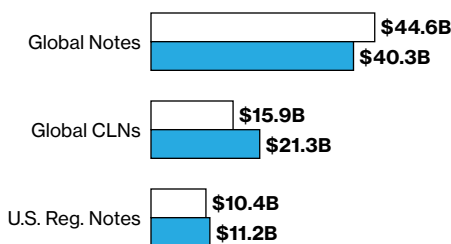
Sales of SEC-registered equity-linked notes climbed 10 percent to \$10 billion, led by securities tied to international stocks. Two of the quarter's five largest deals were tied to European shares, including a \$76 million note from Bank of Nova Scotia linked to the Euro Stoxx 50 Index, according to the data. The index has a price to book ratio of 1.6, compared with 3.08 for the S&P 500 Index, the data show.

"Europe has become even less expensive and even more undervalued relative to the U.S.," said Rod Jones, head of North America at Stoxx Ltd. "It's become much more appealing for structured-product providers to put these products in the marketplace."

Higher volatility and dividend yields compared with U.S. shares led to "better outright terms on a note

Global Note Issuance Sank 10% to \$40.3 Billion

□ 1Q 2016 Sales ■ 1Q 2017 Sales



Source: Bloomberg

linked to the Euro Stoxx than on a note just linked to the S&P 500," said Chris Loudon, director for structured solutions at Alex Brown Inc. Structured notes also use options that remove the effect of currency conversions, allowing investors to avoid the risk of reduced returns when they convert their profit back.

Issuance of rate-linked notes in the U.S. wasn't quite so buoyant, diving by 49 percent from a year earlier to \$119 million, according to data compiled by Bloomberg. Investors were more interested in scooping up the securities in the secondary market on the cheap than buying newly issued notes, said CG's Cocco.

Some brokers in Europe reported robust activity in the quarter, particularly in notes tied to local shares, mirroring the U.S. market. "We noticed a tangible trend on tech stocks and we saw trades on European banks," said Pierre-Yves Breton, co-founder of HPC Investment Partners Ltd. "Quarter two should be interesting for the industry, either with new flows coming from a reinvestment of redeemed notes, or with a long awaited correction that could bring volatility and lower entry points for current cash-only investors."

In Asia, Japanese uridashi notes tied to the country's Nikkei 225 benchmark surged nearly 50 percent to reach \$3.4 billion in the quarter. Investors put money into the products after their previous notes were redeemed early, or "knocked out," at the end of 2016, according to a March 23 report from Societe Generale SA. The Japanese stock gauge soared 16.2 percent during the last three months of the year to as much as 19,495.

Stubbornly low interest rates in South Korea drove investors to seek alternatives to bank deposits. At 19.9 trillion won (\$16.9 billion), issuance of equity-linked securities through March was 11 percent higher than the previous quarter, according to data from Samsung Securities Co.

The Bank of Korea has kept the seven-day repurchase rate at a record-low 1.25 percent since June 2016, making yield hard to come by. Low volatility also pushed investors to so-called worst-of products on multiple indexes or stocks, according to Seunghyuk Baek, an equity derivatives trader at Mirae Asset Daewoo Co. in Seoul.

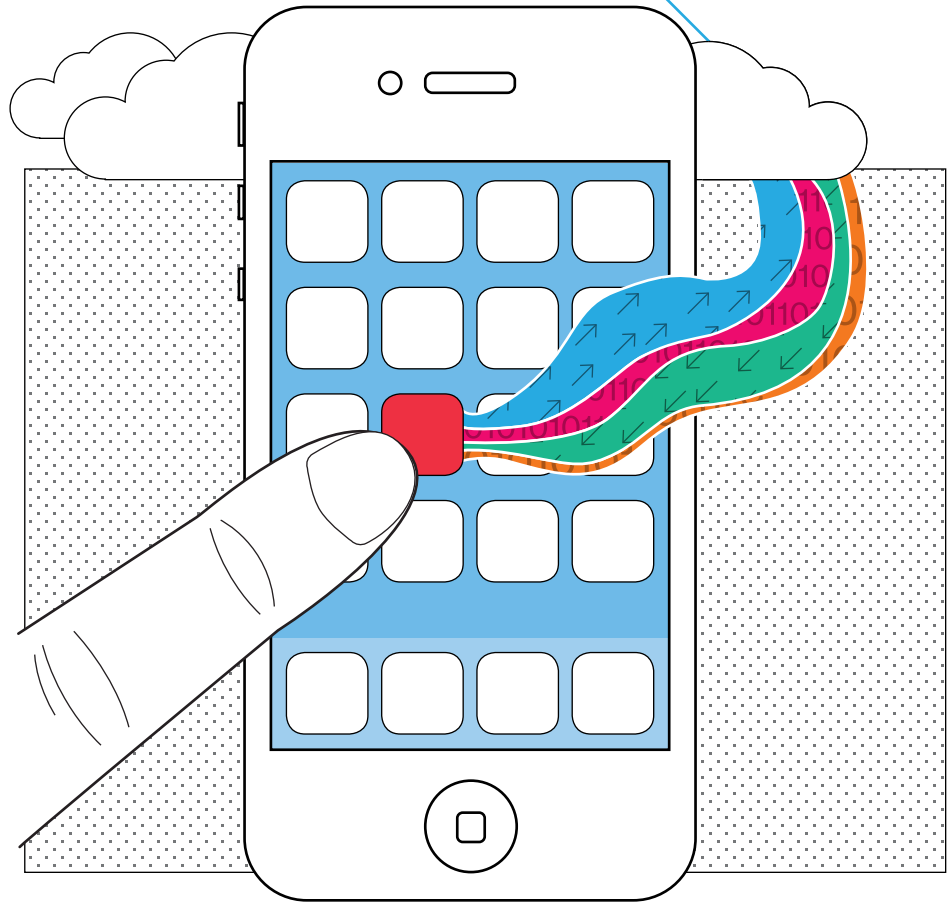
"People are still looking for equity-linked securities," he said. "Even though coupons are lower than previously, they are still higher than deposit rates in Korea."

90%

Proportion of SEC-registered structured notes that were linked to equities in the first quarter.

Private Bankers Turn to Mobile Apps to Price Structured Notes

By VIREN VAGHELA



PRIVATE BANKERS IN Asia now have a mobile app to price exotic products as they compete for business from the region's growing number of millionaires.

Singapore-based financial software firm FinIQ Consulting Pte went live with what it calls the world's first mobile app for structured products during the first quarter, it said in a press release. Deutsche Bank Wealth Management, a unit of the German lender, started using the app in February for equity-linked notes, according to Akshay Prasad, managing director and head of structured products for Asia at the unit in Singapore.

The Asia-Pacific region now leads the world with the most high-net-worth individuals, fueling demand for investment products tailored to their needs. Assets held by wealthy people in the region grew 9.9 percent in 2015 to \$17.4 trillion, according to a report by CapGemini SA. Nearly half of the region's wealth managers would consider leaving their firm due to digital capabilities not being strong enough, the report said.

"Meetings don't always happen when a banker is at his desk," said Prasad in a telephone interview. "The ability to price on the spot and have materially better conversations with clients is strong. The app helps to empower relationship managers as they can offer product solutions more efficiently."

Users of the app can purchase structured products from nine issuers, and an additional five banks are in the process of joining the mobile service, according to Mahesh Bulchandani, chief executive officer for Asia Pacific at FinIQ. Investors can select which shares underpin their notes and customize

the maturity dates. They can also add features such as an automatic call, according to Bulchandani.

"The mobile app is a game changer," he said by phone. "Before online airline platforms, you could sit for hours in an agent's office booking flights and now you can do so on your mobile – it's the same for structured products."

In Europe, Vontobel Holding AG also rolled out an app that allows investors in Switzerland and Germany to build custom structured notes using their smartphones. Once a product is chosen, an email is sent to a relationship manager who buys the product on the client's behalf, according to a March 30 release.

"This means users can select, issue and track their product portfolio on their iPhone, whenever they want, wherever they are," said Roger Studer, head of investment banking at Vontobel. The aim is "bringing the worlds of structured products and mobile communications together," he said.

Buying structured notes has evolved from investors having to gather quotes over the phone from several banks, to receiving them via email, to online services providing prices from a dozen banks at once, and now to smartphone apps. FinIQ introduced its multi-issuer service in Asia in 2014, while Contineo Ltd. started a similar offering in 2015. The next stage in Asia will be for investors to use the mobile app themselves, albeit still with the aid of a private banker, according to Bulchandani.

"I can see private banks giving their high-net worth customers an app to price their own products, and I can see this happening in the next 18 months," he said. "You still need a human to make sure the client understands the risks before he buys, and I would think that regulators would prefer that, too."

Technology Is Critical for Banks Contending With Regulations: SIX Executives

Yakob Peterseil interviewed Phil Lynch, head of markets, products and strategy, and Beatrice Kessler, senior delivery manager, of data provider SIX Financial Information on March 16. Comments have been edited and condensed for clarity.

- Upcoming regulations – PRIIPs and MiFID II – have different requirements for what note issuers must disclose
- To solve this problem, banks are partnering with service providers to generate “on-the-fly” marketing documents

Q: European issuers face two new regulations in 2018: the Packaged Retail and Insurance-based Investment Products (PRIIPs) rule and the Markets in Financial Instruments Directive II (MiFID II). How do they differ?

PL: The requirements of PRIIPs, which has a strong focus on structured products, are somewhat dynamic. A lot of the reporting requirements for MiFID II are more static types of attributes and things that don't change as frequently.

Q: What is the difficulty banks face in producing their marketing documents?

PL: The approach people have been taking with MiFID II – creating these documents, putting them out on the web and then every once in a while updating them – would create a huge problem, because the data would easily come out of sync with the data you use for PRIIPs. Most people have realized that the only solution to dealing with the PRIIPs regulation is to create these documents on demand, because then and only then are you sure that all of the information is up to date. You have to make sure what you're putting in your PRIIP key information documents is the same thing you're putting in your MiFID II documents.

Q: How can technology and data providers help here?

PL: We have a document generator and a document hub. The generator is for issuers and it enables you to create documents on the fly. The hub is a distribution mechanism for issuers to get the documents out to wealth managers, and for wealth managers to consolidate and have one place to get all the documents integrated into their workflows. We built it with the on-the-fly model because we need to for our marketplace.



Q: Couldn't the banks do this themselves instead of outsourcing it to others?

PL: They definitely could. In fact, many of them are.

BK: I think scaling is a very important aspect. Think about a hub which connects the buy-side and the sell-side. If a distributor would have to connect to all the manufacturers – let's take a medium-sized bank

– that's about between 100 and 200 manufacturers they would have to build up connectivity with.

Q: Isn't there a danger in outsourcing legal documents to outside firms?

PL: Banks have to retain oversight. Your in-house counsel can be checking those documents, or even if you have an outside firm, they can be checking those documents, but they're not starting from scratch. And they're able to use the templates. They're starting at a much higher level and they're able to scale the limited resources that they have.

Q: What message do you have for banks that haven't yet thought about these issues?

PL: If I had one message I would say: you need to be up and running and ready in September, not December. Most customers have a technology shutdown in the last month of the year. That's why so many of them are looking to do the testing now. They want to make sure everything's in place.

Q: From what you have seen, are issuers dragging their feet?

PL: Unfortunately, yes. People saw the extra year and it reminds me of myself back in high school – if the teacher said we had an extra week, that meant I didn't have to study until next week. As I've gotten more mature, I realize that approach is not the best.

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Electronic Note Services Proliferate in the U.S.

By CAROLINA WILSON

Lower costs, faster execution times and increased price transparency are some of the factors driving a shift to electronic trading in the banking industry, according to Jason Goldberg, a banking analyst at Barclays Plc. The U.S. structured notes business is no different, with a number of electronic services available for buying the products. Bloomberg reached out to several providers to ask what makes their service unique. Here's what they had to say. Responses were collected between March 31 and April 4. Comments have been edited and condensed for clarity.

Goldman Sachs

Name: **SIMON**
Launch: **1Q 2015**

Multi-issuer? Yes.

Customization? Ten different payouts across a variety of underliers with ability to adjust features like barriers and caps.

Fee? Varies according to issuer and distributor.

Most popular notes? Equity-linked.

What's cool about it? Recently expanded the product line-up to cover single stocks, third-party thematic indexes and internal and external proprietary content.

Users: 15,000 across 43 distribution networks.

Source: Jason Broder, head of private investor products group in the Americas.

Societe Generale

Name: **SG Markets**
Launch: **2013**

Multi-issuer? No.

Customization? Users can customize notes to their exact requirements.

Fee? None.

Most popular notes? Autocallables linked to equities.

What's cool about it? Recently added "stress testing" tool. Will soon launch an "optimizer" tool to help users find products specific to their needs.

Users: Over 3,000 from private banks, broker dealers and independent asset managers

Source: David Wood, head of the electronic trading business.

BNP Paribas

Name: **SMART Derivatives**
Launch: **2013**

Multi-issuer? Yes.

Customization? Can create an ad hoc new payoff for client in a few hours.

Fee? None.

Most popular notes? Autocallables, buffered notes, reverse convertibles.

What's cool about it? For selected clients, there is a click-and-trade tool, as well as backtesting and forward-testing.

Users: About 250 firms in the U.S. from private banks, retail distributors, asset managers and hedge funds.

Source: Thomas Guillot, head of secondary market and eBusiness for equity derivatives.

Halo Investing

Name: **HALO**
Launch: **Nov. 2016**

Multi-issuer? Yes.

Customization? Two core products, with 6,000 variations available.

Fee? Declined to say.

Most popular notes? Single indexes, basket of indexes and stock baskets.

What's cool about it? Artificial intelligence feature that tailors the experience to each user; portfolio optimization tools.

Users: Declined to specify a number, but made up of RIAs, broker-dealers and other institutions.

Source: Jason Barsema, co-founder and president.

JPMorgan

Name: **TBD**
Launch: **Mid 2017?**

JPMorgan is said to be planning to start a U.S. structured notes platform as soon as the middle of this year, according to people with knowledge of the matter, Bloomberg reported on Dec. 15. The bank has hired IBM Corp. to help build it, the people said. Current plans suggest it's being designed to sit on the desktop of a broker or registered investment adviser and will help with buying, customizing and tracking the performance of notes, one of the people said.

Source: Bloomberg News.

Dual Directional Notes Can Pay Off Whether You're a Bull or a Bear

By MARK BOARDMAN, Application Specialist, Bloomberg LP

“DUAL DIRECTIONAL” structured notes can help both bullish and bearish investors take advantage of stock rallies like the one that followed the U.S. presidential election in November.

Bears who feel that a market rally will retreat, but not by more than a set amount, can earn a positive return on the absolute return leg of a dual directional note. Bulls who think the rally will continue can earn a leveraged return up to a cap on the upside return leg of the note.

The risk: if stocks fall below the note's downside trigger barrier, investors can lose their entire investment.

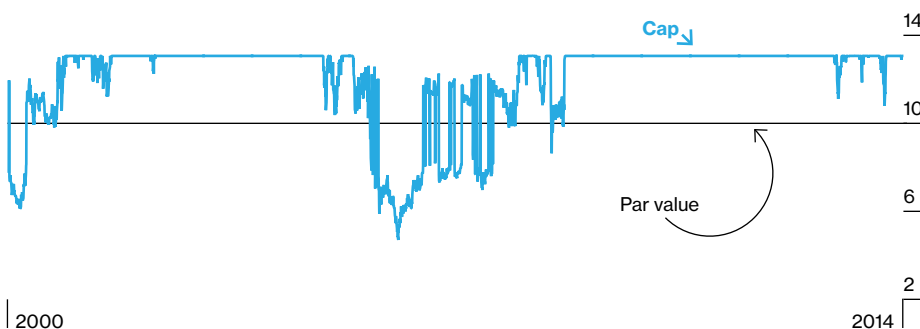
Let's look at a recently issued note as an example. On Feb. 15, Morgan Stanley sold \$8.79 million of dual directional notes tied to the Russell 2000 Index, according to Bloomberg data. The three-year securities pay two times the gains of the Russell up to a cap of 31.85 percent at maturity. If the index falls, but by no more than 20 percent, the notes pay the absolute value of the index return. For example, if the index has fallen by 10 percent, investors receive a 10 percent return. But if the index loses more than 20 percent, investors participate one-for-one in any losses up to their entire investment.

Investors who are curious to know how such notes have performed in the past can use DLIB <GO> on the Bloomberg terminal to see the back-tested historical performance. They can view the note's performance over either a long period that includes many investment cycles or a shorter period that the investor may feel is similar to today's market conditions.

The chart shows the amount the notes would have returned if they'd been issued between Jan. 1, 2000 and Jan. 27, 2014. The data show that over that period, investors would have lost money on 442 of 3,671 days, or 12 percent of the time. The average return

Notes Would Have Returned Maximum Amount 66% of Time: Backtest

Total return (\$)



Source: Bloomberg DLIB <GO>

of the notes on losing days would have been \$7.21 per \$10 face amount, or an average loss of \$2.79.

On 3,229 out of 3,671 days, or 88 percent, holders of the notes would have received \$10 or more at maturity. The average return on winning days would have been \$12.81, or an average gain of \$2.81. On 65.5 percent of days, the notes would have returned the maximum amount of \$13.185.

Investors may also wish to know the projected probabilities that certain barriers will be hit, especially the barrier that determines when investors in the notes start losing money.

Using Bloomberg volatility and market inputs and a Bloomberg model, we can arrive at the forecasts. These are

achieved using the Monte Carlo simulation process where 20,000 paths are created and a question asked on each of them – was the barrier triggered? A percentage of occurrences of those 20,000 paths is then presented as the probability of hitting the barrier on the note's valuation date.

The analysis shows that the probability of the index falling below the barrier level on Feb. 28, 2020, is 28.97 percent. The probability that it ends above its starting level and thus makes money for the investor is 53.16 percent. The chances that an investor makes money from the absolute return leg of the note, i.e. the index ends up between 80 and 100 percent of its starting level, is 17.87 percent.

Lastly, investors may be interested in knowing how the value of their note may be affected by various market conditions. The table shows what would happen to the note's value in different scenarios and time periods.

Scenario Simulation

Change in RTY	Change in RTY Implied Volatility	Note Value (6M)	Note Value (1Y)	Note Value (18M)
10%	-4%	\$10.14	\$10.36	\$10.60
5%	-2%	\$9.91	\$10.17	\$10.46
-5%	2%	\$9.86	\$10.13	\$10.42
-10%	4%	\$9.85	\$10.12	\$10.40

Source: Bloomberg DLIB<GO>

This story was written by a Bloomberg LP employee involved with sales-support, product-development, programming or another department and was edited by the news department. To suggest ideas or provide feedback, contact the editor for this story: Yakob Peterseil at +44-20-3525-9169 or ypeterseil@bloomberg.net.

ISSUER RANKINGS: EUROPE

All Asset Classes

Structured Note Issuers*	Rank	Market Share	Volume (\$M)	Deal Count
DZ Bank AG	1	21.99%	3,217	108
Nordea Bank AB	2	12.15%	1,777	20
Societe Generale SA	3	6.25%	915	121
Liberty Global PLC	4	4.47%	654	1
HSBC Holdings PLC	5	4.13%	605	74
VIS Finance SA	6	3.91%	571	7
Telia Co AB	7	3.88%	568	1
Argentum Capital SA	8	3.74%	547	31
Credit Agricole Groupe	9	3.58%	524	108
Coop. Rabobank UA	10	3.42%	500	1
BNP Paribas SA	11	3.37%	493	106
Deutsche Bank AG	12	3.02%	441	55
Barclays PLC	13	2.76%	403	14
Erste Group Bank AG	14	2.06%	301	3
Standard Chartered PLC	15	1.93%	282	29
FCA Bank SpA	16	1.77%	259	1
Norddeutsche Landes.	17	1.68%	245	16
Sparkassen- und Girover.	18	1.61%	235	34
Belfius Bank SA/NV	19	1.35%	198	7
Credit Suisse Group AG	20	1.33%	195	84
Total (Jan. 1–March 31, 2017)	69	100.00%	14,632	954

Source: Bloomberg

*Based on data compiled by Bloomberg from filings and issuers. Reports from sources other than Bloomberg may not have not been verified. Excludes variable-principal redemption notes. Reflects reported issuance, not actual sales.

Credit-Linked

Structured Note Issuers*	Rank	Market Share	Volume (\$M)	Deal Count
DZ Bank AG	1	33.22%	2,484	93
Nordea Bank AB	2	23.77%	1,777	20
Societe Generale SA	3	7.95%	595	110
HSBC Holdings PLC	4	5.21%	390	63
BNP Paribas SA	5	4.23%	316	89
Argentum Capital SA	6	4.06%	304	16
Deutsche Bank AG	7	3.76%	281	36
VIS Finance SA	8	3.64%	272	2
Standard Chartered PLC	9	3.06%	229	24
Credit Agricole Groupe	10	2.66%	199	62
Credit Suisse Group AG	11	1.92%	143	73
ICBC Ltd	12	1.77%	132	11
Demeter Investments BV	13	0.66%	50	1
LBBW	14	0.58%	43	6
Royal Bank of Scotland	15	0.40%	30	1
ING Groep NV	16	0.35%	26	4
Nomura Holdings Inc	17	0.33%	25	2
Danske Bank A/S	18	0.33%	25	7
UniCredit SpA	19	0.32%	24	5
Avenir BV	20	0.31%	23	1
Total (Jan. 1–March 31, 2017)	30	100.00%	7,478	655

Source: Bloomberg

UNDERWRITER RANKINGS

Global Underwriters

Global Rates-Based Structured Note Underwriters*	Rank	Market Share	Volume (\$M)	Deal Count
DZ Bank	1	11.76%	3,397	114
Citigroup	2	9.75%	2,815	108
Nordea	3	6.44%	1,859	15
JP Morgan	4	4.33%	1,249	41
Credit Agricole CIB	5	4.10%	1,184	112
Credit Suisse	6	3.64%	1,050	76
Nomura	7	3.43%	990	13
Societe Generale	8	2.98%	859	117
KGS-Alpha Cap. Markets	9	2.46%	710	27
BNP Paribas	10	2.42%	700	103
Barclays	11	2.35%	678	26
UBS	12	2.25%	651	13
HSBC	13	2.25%	649	83
Banco Safra SA	14	2.02%	582	14
Goldman Sachs	15	1.93%	556	35
Morgan Stanley	16	1.92%	556	24
FTN Financial	17	1.86%	538	31
Jefferies	18	1.56%	450	17
Stifel	19	1.51%	436	17
Deutsche Bank	20	1.49%	431	45
Total (Jan. 1–March 31, 2017)	108	100.00%	41,165	1,676

Source: Bloomberg

*Based on data submitted to Bloomberg by banks. Includes Eurobond issues from all nations. Excludes variable-principal redemption, reverse convertibles, SEC-registered securities. Reflects reported issuance, not actual sales.

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How do I search for listed certificates and warrants?	CERT<GO> shows certificates and warrants listed in Europe and Asia by regions, product and exchange.
How do I search for U.S. exchange-traded notes?	FSRC<GO>. Use the following criteria: Market Status: Active, Fund Type: Exchange Traded Notes, Country of Domicile: United States, Fund Primary Share Class=Yes.
How do I search for uridashi notes that have been sold?	URID<GO> shows notes sold and top issuers.
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