IHS Markit™

Securities Finance Quarterly Review

Q1 2018

Welcome to the first Securities Finance Quarterly Review of 2018. The first quarter was anything but boring for capital markets and the low volatility which characterized 2017 is officially over. For securities lending that means increasing demand from short sellers as well as demand for safe haven assets. We've also seen an increasing interest in corporate bond data from traditionally equity focused clients on the buy side.

Our mission at IHS Markit is to empower clients with data and services to capture the present opportunity set for their businesses, while staying ahead of regulatory hurdles. We view ourselves as the independent global information powerhouse and continue to leverage the resources of our broader enterprise, as well as strategic partners in the industry, to best serve our Securities Finance franchise.

Progress with our design partners on the SFTR build continues apace and we look forward to a successful implementation in 2019. There have been some interpretation questions recently regarding the frequency of reporting, so it's important for market participants to stay in front of the shifting sands as the regulation takes shape. Other developments which we are excited about include intraday updates, short interest forecasting and borrower benchmarking. We are also continuing to explore ways to leverage our Dividend Forecasting, ETP and Bond Pricing datasets within the Securities Finance product.

With 2017 ending on a positive note, it's encouraging to see the revenue uptrend continue in 2018. The revenue drivers for the industry present in Q4 have only been enhanced by heightened volatility at the start of 2018 and if the next three quarters repeat the returns of Q1, the industry will set a post-crisis record revenue. Stay tuned for updates toward that end!

We'd love to hear feedback from you with suggestions for future editions or questions on methodology. Please drop us an email at MSF-media@markit.com and let us know what you think.

Regards,

Pierre Khemdoudi & Ed Marhefka

Managing directors and global co-heads of Securities Finance and Delta One products, IHS Markit

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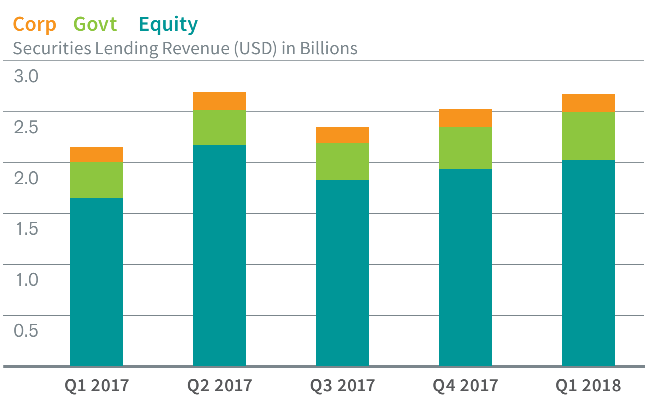
Global lending revenue update

Global securities lending revenue had the best Q1 since 2008, delivering a total of $2.6bn. Revenues grew 22% as compared with Q1 2017, and narrowly exceeded Q1 2016, which had previously held the title of best post-crisis quarter. The internals of that return are important however, with government bond lending representing 18% of Q1 2018 revenue, where the asset class only contributed 11% of Q1 2016 revenue. Corporate bond revenue has also grown as a percentage of all lending revenue, delivering 7% of the Q1 total. While fixed income lending has certainly been growing faster than equities in percentage terms, Q1 equity lending revenue grew by $530m as compared to Q1 2017, with the $2bn in revenue nearly equaling Q1 2016.

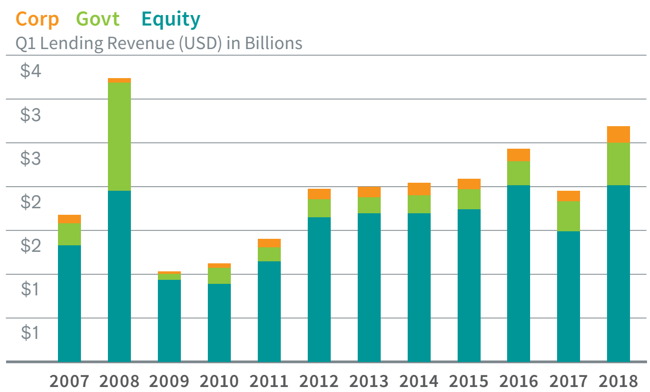
SECURITIES LENDING REVENUE BY QUARTER



The strong Q1 augurs well for the year overall, with Q1 very much setting the tone in each of the last two years. If the lending revenues for the next three quarters match their counterparts in 2017, total 2018 revenue will exceed $10bn for the first time since 2008, when the total was $12.2bn. That may well come to pass, however the industry will need to navigate Q2 given the critical upcoming earnings season, as well as tax reform issues.

The growth in equity lending revenue has been driven by Asia in recent years, with owners of Japanese equities enjoying Q1 revenue growth over 50% as compared with

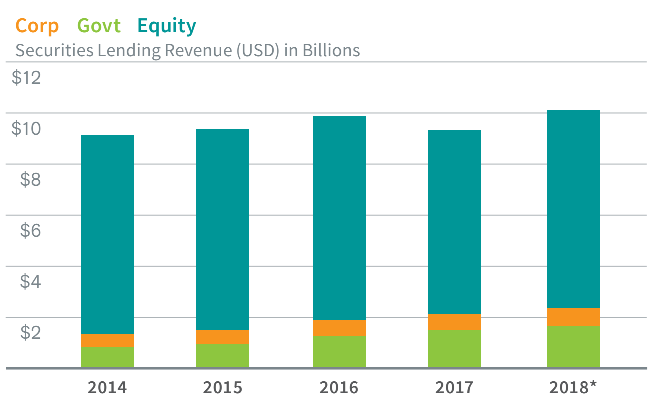
Q1 LENDING REVENUES



Q1 2017. The total Asia lending revenue of $518m was the highest level recorded (going back to 2006). This is the first Q1 on record where Asia has delivered higher total revenue than Europe.

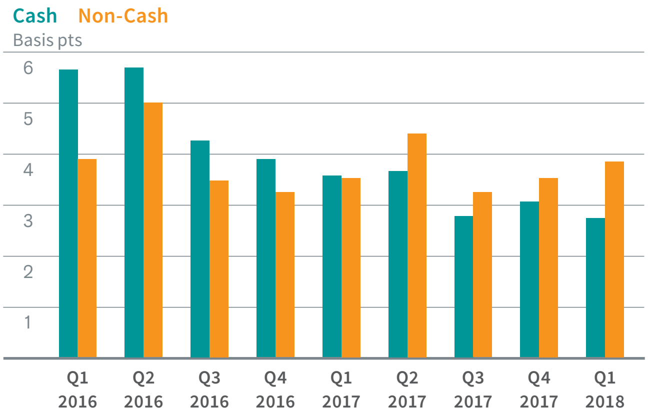
North American equities also showed solid growth, with the $843m in revenue being an improvement of more than 30% as compared with Q1 2017, though this falls well short of the $973m in Q1 revenue from 2016. It was a similar story for European equities, which delivered $437m, an 18% improvement over Q1 2017, though this is still well below the $488m in Q1 2016 revenue.

GLOBAL SECURITIES LENDING REVENUE TREND

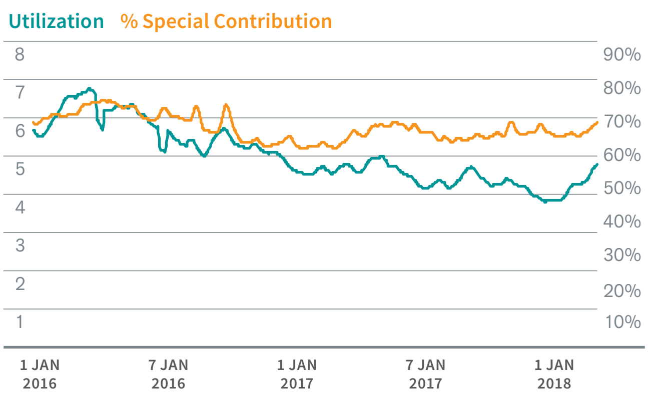


*EST FOR 2018

While a growing total pie is certainly a tailwind for beneficial owners, it is of no greater significance than the portion of that pie they are able to capture. A recurring theme in recent years has been declining equity utilization, and it makes sense that borrow demand would fail to keep pace with a relentless increase in equity valuations. The return to total lendable assets is therefore being pulled in two directions between increasing revenue and decreasing utilization.

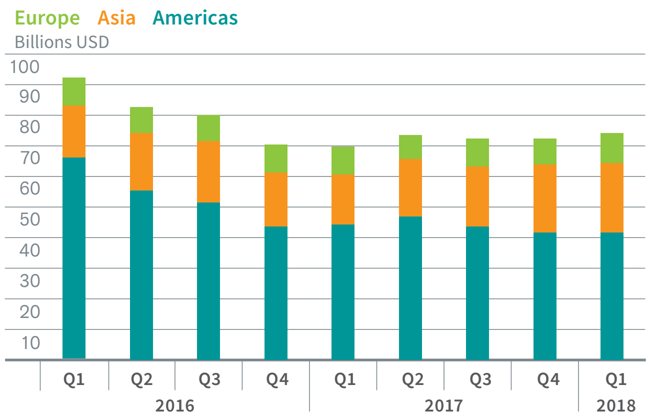


A key differentiator for GC lending is collateral flexibility, with lenders who accept non-cash (and particularly equities) seeing an uptrend in utilization and a return to lendable over the last three quarters. These returns are inclusive of reinvestment for cash collateral lenders.



With the rally hitting the pause button in Q1, overall equity utilization has seen a welcome uptrend from the low at the end of 2017. Part of the story has been the demand for specials, which has been robust particularly in Asia, though the revenue contribution from specials was lower in Q1 2018 than it was in Q1 2016.

The tailwinds for the industry that we noted in the Q4 review remain intact, with equity GC and specials demand robust, corporate bond short demand back at post-crisis highs and demand for HQLA continuing its rapacious increase. The market volatility in Q1 has only enhanced these trends: with equity specials demand in US still well below levels observed in Q1 2016, there may be more improvement ahead, though the challenges experienced by short sellers in that year may be causing some reticence. There is further discussion of demand drivers in the closing section of this review, where we have a deep dive on equity and corporate bond ETF flows and constituent short demand.



The increase in Q1 revenue highlights a key benefit of participating in securities lending: revenues increase in times of market volatility. It's no coincidence that the high-revenue comps for Q1 were 2008 and 2016. This reflects the parallel value of securities lending for beneficial owners and long-short managers, namely both sides of the industry benefit tremendously from the increase in marginal returns during times of market stress.

Asia Equity

The hot streak continues

The first quarter of 2018 delivered $519m in revenue for equities in Asia, a massive 45% increase compared with the first quarter of 2017. This growth couples increasing loan balances (up 27%) as well as increasing fees, up 20bps. The revenue growth was seen across the region, with 7 of 9 countries registering greater than 25% increase in Q1 revenue.

The largest contribution to the revenue upswing was Japan, which pulled in more than $225 million during Q1, a 62% increase compared with Q1 2017. Of significance to beneficial owners, Japan also saw a 22% increase in utilization, meaning that the increasing revenue is also increasing the return on lendable assets. Sharp Corp was the highest revenue generating stock in Japan, with nearly 10% of all revenue in the country. Cyberdyne was the 2nd most revenue generating Japanese equity, though inventory growth did outpace demand, which took some pressure off borrow rates throughout the quarter. Japan Display saw borrow demand and fees continue to increase steadily throughout the quarter, which helped beneficial owners offset the 30% YTD share price decline. In 2017 Japan moved ahead of Canada to become the second highest revenue generating equity lending market, a title it defended in Q1.

Hong Kong equity lending revenue continued to increase in Q1, posting a 50% increase compared with Q1 2017. Increased specials revenue was driven by a surge in fees for Semiconductor Manufacturing International Corp., as well as a spike in fees and balances for Kingston Financial Group Ltd.

Overview

Quarterly Revenues
$519M ▲ 45%

Average Balances
$170B ▲ 27%

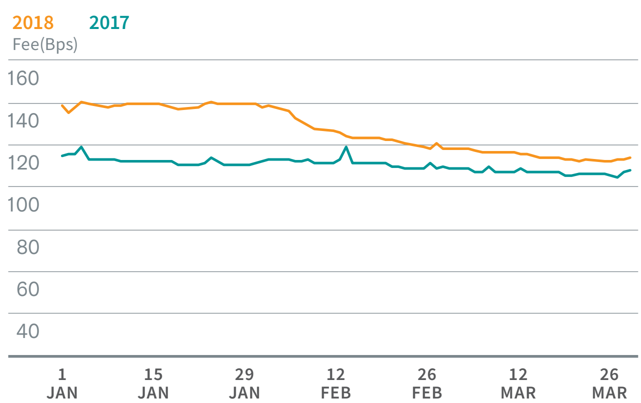
Weighted Average Fee
1.41% ▲ 14%

Average Inventory
$1.8T ▲ 44%

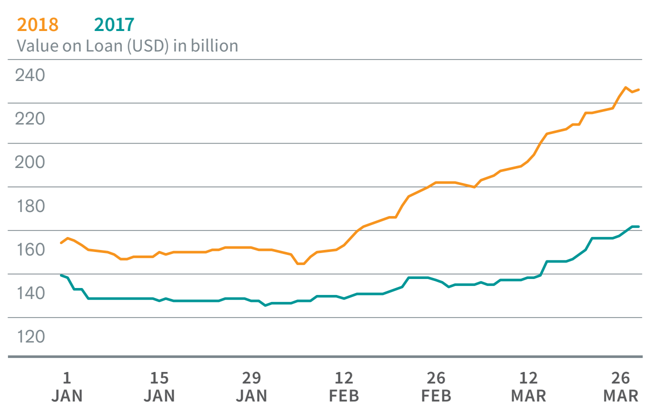
Utilisation
5.45% ▲ 4%

Celltrion continues to be the most revenue generating South Korean equity, with its $12m in Q1 revenue, though that's a far cry from Q1 2017 when the stock generated $22m. In Singapore, increasing specials demand helped to offset a decline in total loan balances for the country and drove 71% increase in Q1 revenues, the largest percentage increase in the region.

Q1 FEE TREND



Q1 BALANCE TREND



OVERVIEW

Best revenue Q1 in over a decade	Increasing utilization in Japan, NZ & S. Korea	Japan 2nd most revenue generating equity market	Increasing demand in semiconductor sector

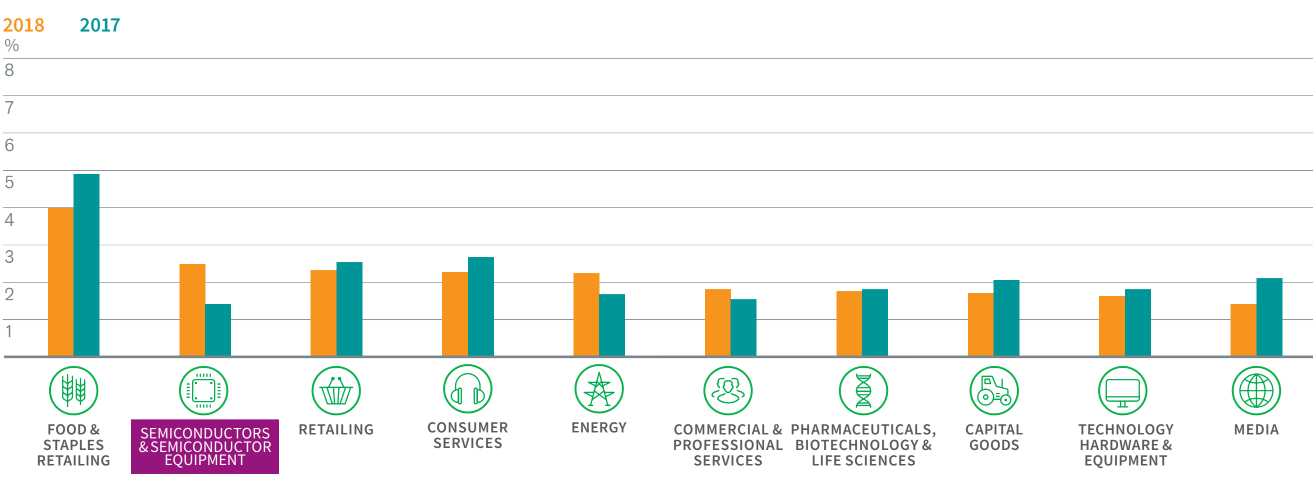
REGIONAL BREAKOUT

Country Details	Quarterly Securities Lending Income (USD M)	YoY Change	Average Value on Loan (USD Bn)	YoY Change	Weighted Fees	YoY Change	Average Lendable (USD Bn)	YoY Change	Average Utilisation	YoY Change
Australia	31.28	42.9%	20.55	6.0%	0.70%	35%	290.05	36.8%	5.05	-12.8%
Hong Kong	96.72	47.4%	30.31	40.8%	1.47%	5%	396.78	53.0%	5.65	-2.2%
Japan	225.55	57.1%	93.31	34.8%	1.11%	17%	866.45	43.8%	5.63	20.8%
Malaysia	5.72	-7.8%	0.69	-7.6%	3.80%	0%	14.45	53.1%	4.45	-40.6%
New Zealand	0.73	-10.3%	0.51	78.0%	0.67%	-50%	6.62	17.9%	5.44	42.8%
Singapore	6.79	66.4%	2.02	-20.8%	1.55%	110%	55.47	30.6%	2.80	-33.4%
South Korea	98.58	33.4%	12.97	21.2%	3.50%	10%	132.03	41.2%	5.41	4.3%
Taiwan	49.39	27.8%	8.50	4.4%	2.68%	22%	58.04	35.6%	7.08	-12.7%
Thailand	3.76	54.0%	0.92	21.3%	1.87%	27%	16.29	37.3%	4.01	-11.7%

TOP 10 REVENUE GENERATING STOCKS

Instrument Name	Ticker	Sector	Country	Revenue Generated ($M)
Sharp Corp	6753	Consumer Durables & Apparel	Japan	20.7
Celltrion Inc	068270	Pharmaceuticals, Biotechnology & Life Sciences	S Korea	12.3
Byd Co Ltd	1211	Automobiles & Components	Hong Kong	12.1
Cyberdyne Inc	7779	Health Care Equipment & Services	Japan	10.5
Semiconductor Manufacturing International Corp	981	Semiconductors & Semiconductor Equipment	Hong Kong	9.2
Celltrion Healthcare Co Ltd	091990	Health Care Equipment & Services	S Korea	7.5
Japan Display Inc	6740	Technology Hardware & Equipment	Japan	5.5
Kingston Financial Group Ltd	1031	Diversified Financials	Hong Kong	4.5
Fullshare Holdings Ltd	607	Real Estate	Hong Kong	3.4
Jig-Saw Inc	3914	Software & Services	Japan	3.0

AVERAGE % OF SHARES ON LOAN



European Equities

Demand for specials drives revenue growth

After ending 2017 on a positive note, European equities delivered $438m in Q1 lending revenues, an improvement of 15% compared with Q1 2017. The revenue uptick also represented a similar sequential improvement over Q4 2017. Increasing borrow demand from short sellers has helped buffer revenue, a revenue driver which may take on greater significance, with the uncertainty over how changes to German tax code will impact Q2 revenues.

UK equities delivered $63m in Q1 revenues, nearly a 40% improvement compared with Q1 2017. That result was largely driven by specials demand, particularly Purplebricks and Telit Communications, which both delivered more than $3m in revenues. Anglo American also added $3m of revenue as the result of fund managers hedging the convertible bonds. There was also revenue contribution from large balances in relatively low fee consumer related firms, such as J Sainsbury and Greene King. The general uptrend in demand for UK equities started in March of last year and has extended through Q1.

Revenue for German equities was driven by specials demand. K&S and Nordex each delivered over $7m in Q1 revenue, a combined 18% of all German equity lending revenue. It's also encouraging to see Germany post a modest utilization increase compared with Q1 2017, the first quarterly increase in over a year.

Revenue in the Netherlands reached $16m in Q1, a 46% increase compared with Q1 2017. Nearly a third of that revenue was generated by Altice, which narrowly missed the top 10 revenue generating stocks in the EU. Dutch semiconductor stock ASML saw a $700m increase in Q1 balances, the largest increase in the country.

Overview

Quarterly Revenues
$438M ▲ 15%

Average Balances
$225B ▲ 27%

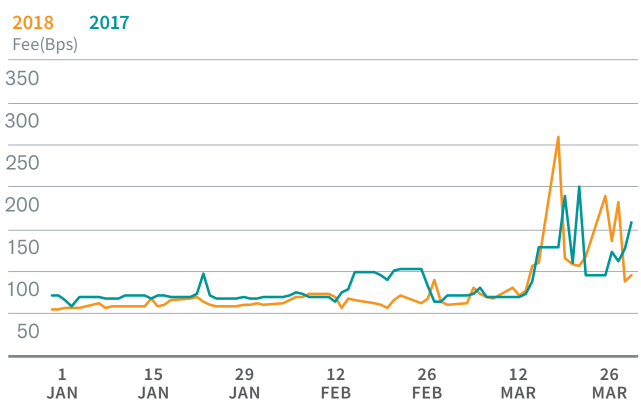
Weighted Average Fee
0.90% ▼ 9%

Average Inventory
$2.7T ▲ 31%

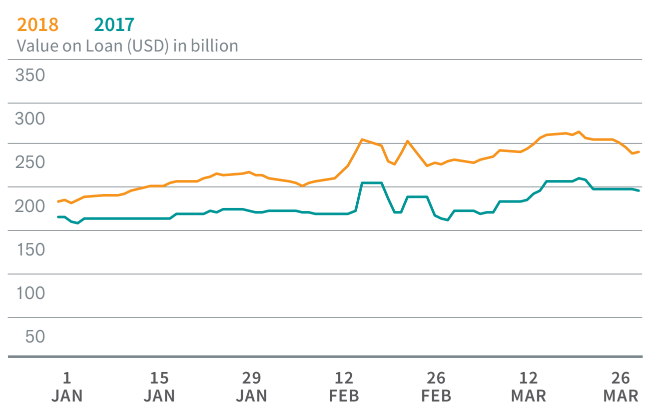
Utilisation
5.48% ▲ 1%

Eight EU countries, including Germany, saw increasing utilization in Q1 compared with only 3 in Q4 2017. The challenge for lenders in recent years has been the dramatic outpacing of lendable growth, primarily as the result of asset appreciation, but also partly by individual program decisions to start lending again. With the equity rally stalling in Q1, and short demand increasing, it's no surprise that utilization in the region notched the first increase in quarterly utilization in over a year, albeit by a very narrow margin.

Q1 FEE TREND



Q1 BALANCE TREND



OVERVIEW

Highest Q1 revenue recorded since at least 2004

UK revenue up 39% compared with Q1 2017

Increasing demand in Retail sector

K&S and Nordex produce 18% of Q1 German equity revenue

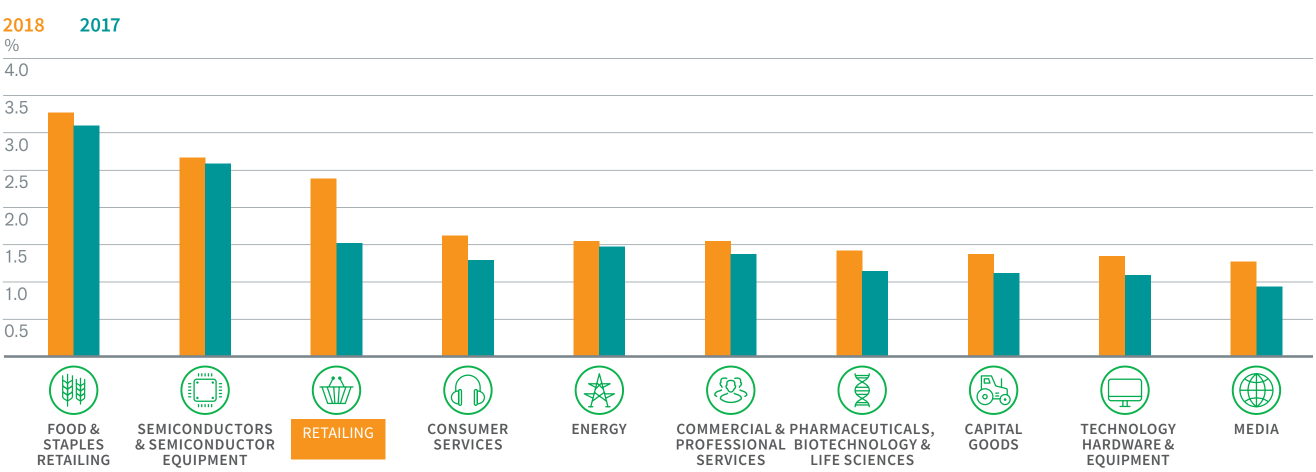
REGIONAL BREAKOUT

Country Details	Quarterly Securities Lending Income (USD M)	YoY Change	Average Value on Loan (USD Bn)	YoY Change	Weighted Fees	YoY Change	Average Lendable (USD Bn)	YoY Change	Average Utilisation	YoY Change
Austria	2.41	52.1%	1.24	16.1%	0.90%	31%	16.51	77.3%	4.69	-32.8%
Belgium	7.31	70.4%	4.99	26.7%	0.68%	35%	74.11	22.0%	4.22	26.6%
Denmark	5.31	-6.8%	6.82	48.6%	0.36%	-37%	71.57	41.0%	6.43	6.8%
Finland	17.59	9.9%	5.82	8.9%	1.39%	1%	44.90	38.6%	8.77	-21.2%
France	56.31	-24.9%	37.07	24.5%	0.70%	-40%	402.69	42.3%	5.54	-5.3%
Germany	77.96	74.0%	29.96	25.3%	1.20%	39%	341.08	14.4%	4.98	4.2%
Greece	1.98	463.4%	0.09	297.0%	10.18%	42%	2.41	76.9%	3.04	190.3%
Italy	30.23	-5.0%	14.74	42.6%	0.95%	-33%	117.11	63.0%	7.32	-16.3%
Netherlands	16.17	46.3%	12.21	33.4%	0.61%	10%	144.54	53.1%	5.32	0.5%
Norway	19.42	-25.1%	4.87	12.3%	1.84%	-33%	36.09	50.3%	7.91	-21.2%
Poland	1.92	-40.2%	0.93	-40.0%	0.95%	0%	12.65	50.3%	6.00	-57.0%
Portugal	0.79	-56.9%	1.02	132.4%	0.36%	-81%	8.29	36.8%	7.16	50.2%
Spain	14.80	-5.9%	9.62	30.2%	0.71%	-28%	115.44	37.4%	4.74	-8.8%
Sweden	77.30	23.8%	17.99	40.2%	1.98%	-12%	124.47	30.9%	9.22	10.8%
Switzerland	35.85	31.3%	24.70	9.2%	0.67%	20%	330.66	17.0%	5.11	-5.5%
Turkey	7.20	25.5%	0.94	13.2%	3.54%	11%	11.86	51.2%	5.66	-31.4%
UK	63.03	39.6%	51.18	32.5%	0.57%	5%	787.85	29.7%	4.98	11.5%

TOP 10 REVENUE GENERATING STOCKS

Instrument Name	Ticker	Sector	Country	Revenue Generated ($M)
Nordea Bank Ab	NDA SEK	Banks	Sweden	30.8
Total Sa	FP	Energy	France	21.4
Svenska Handelsbanken Ab	SHB A	Banks	Sweden	9.5
Swedbank Ab	SWED A	Banks	Sweden	7.8
Roche Holding Par	ROG	Pharmaceuticals, Biotechnology & Life Sciences	Switzerland	7.7
K&S Ag	SDF	Materials	Germany	7.1
Nordex Se	NDX1	Capital Goods	Germany	7.0
Salvatore Ferragamo Spa	SFER	Consumer Durables & Apparel	Italy	6.9
Vallourec Sa	VK	Energy	France	5.3
Tecnicas Reunidas Sa	TRE	Energy	Spain	5.3

AVERAGE % OF SHARES ON LOAN



Americas Equities

Revenues improve, still not great

North American equities posted a 25% improvement compared with Q1 2017. That is certainly positive, though revenues were 13% lower than Q1 2016. With that said, the uptrend in revenue is encouraging and the drivers of that uptick seem likely to remain in place. With the large cap market leadership showing some cracks, there has been an increase in borrow demand, however, this has largely been concentrated in easy to borrow stocks.

Last year US equity lending revenue suffered in comparison with 2016 largely as the result of Tesla making an outsized 2016 contribution. The early going in 2018 suggests that comparison may invert for this year. The revenues generated around proxy dates combined with the increased public scrutiny of the firm suggests TSLA revenue may get closer to the $60m mark in Q1 2016 revenue, though the $21m in revenue was enough to rank as third highest in Q1 2018. US equity specials which saw increasing balances included Match.com, Sirius XM, Under Armour and Dillard's.

Revenue from lending Canadian equities increased 18%, driven by increasing specials revenues as balances actually fell 9% overall. As the marijuana industry expansion continues to be rapid, skeptics of the equity valuations have confidently paid up for borrows in Canopy Growth, Aphria and Aurora Cannabis, the top three revenue generating stocks, which combined for over 30% of the country's equity revenue.

Overview

Quarterly Revenues
$843M ▲ 25%

Average Balances
$464B ▲ 6%

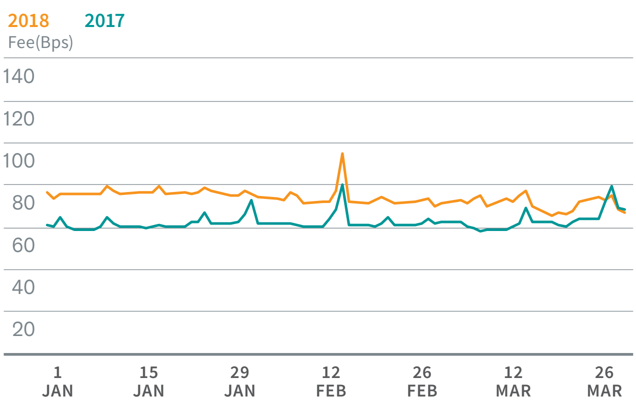
Weighted Average Fee
0.84% ▲ 17%

Average Inventory
$8.9T ▲ 27%

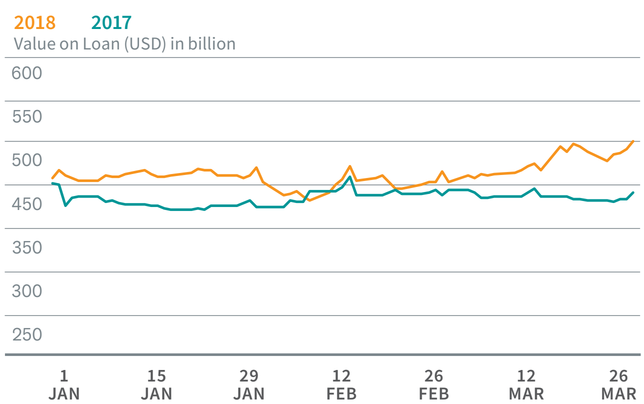
Utilisation
4.15% ▼ 16%

The revenue generated from lending out ADRs continues to be a bright spot. Q1 2018 quarter improved on its comparable quarter from 2017 for a whopping increase of 81%. Part of the increase was the emergence of Qudian, which generated $14m in Q1 revenue. Alibaba maintains its title as the highest borrow balances for any security globally through its ADR, with $28bn on loan at the end of Q1.

Q1 FEE TREND



Q1 BALANCE TREND



OVERVIEW

- US equity revenue increases
- Marijuana stocks drive CA specials demand
- Tesla climbing back up revenue rankings
- Increasing demand in semiconductor sector

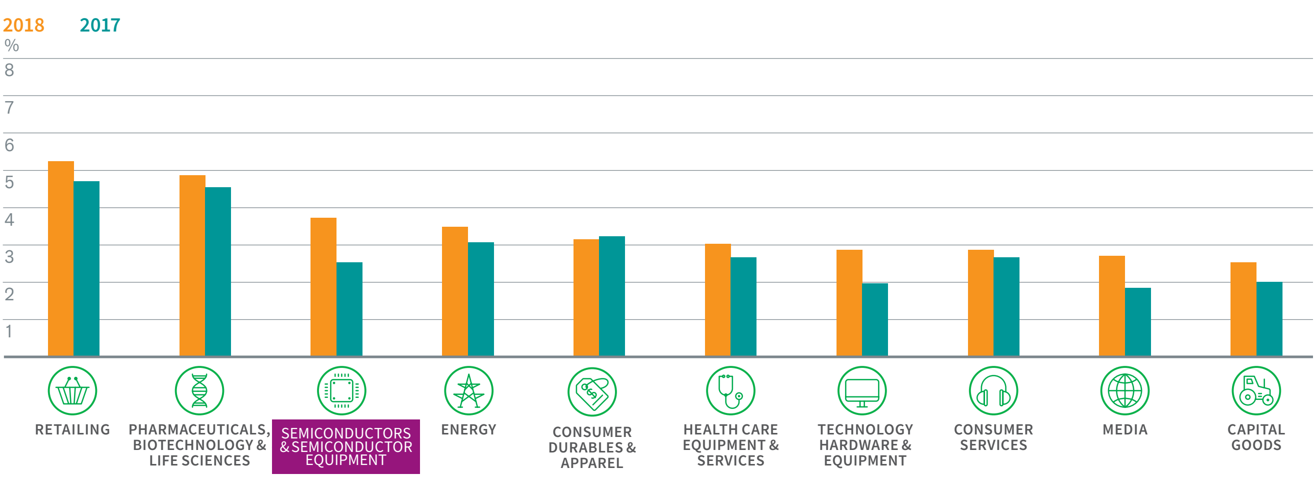
REGIONAL BREAKOUT

Country Details	Quarterly Securities Lending Income (USD M)	YoY Change	Average Value on Loan (USD Bn)	YoY Change	Weighted Fees	YoY Change	Average Lendable (USD Bn)	YoY Change	Average Utilisation	YoY Change
Brazil	2.57	42.0%	0.82	71.7%	1.44%	-21%	3.05	10.5%	6.29	-7.0%
Canada	128.36	18.8%	40.68	-9.3%	1.45%	31%	504.67	11.2%	6.66	-23.0%
Mexico	1.31	-4.4%	1.17	41.0%	0.52%	-32%	27.06	18.8%	3.40	6.0%
USA	710.57	26.0%	421.68	7.9%	0.78%	17%	8,403.96	27.7%	4.00	-14.2%
ADRs	78.11	81.2%	55.83	68.3%	0.64%	8%	230.99	46.5%	18.73	13.1%

TOP 10 REVENUE GENERATING STOCKS

Instrument Name	Ticker	Sector	Country	Revenue Generated ($M)
Sirius Xm Holdings Inc	SIRI	Media	United States	22.3
Roku Inc	ROKU	Consumer Durables & Apparel	United States	21.8
Tesla Inc	TSLA	Automobiles & Components	United States	21.8
Ubiquiti Networks Inc	UBNT	Technology Hardware & Equipment	United States	20.0
3D Systems Corp	DDD	Technology Hardware & Equipment	United States	18.1
Canopy Growth Corp	WEED	Pharmaceuticals, Biotechnology & Life Sciences	Canada	16.1
Frontier Communications Corp	FTR	Telecommunication Services	United States	15.4
Qudian Adr Rep Cl A Ord	QD	Diversified Financials	CN ADR	14.2
Mimedx Group Inc	MDXG	Pharmaceuticals, Biotechnology & Life Sciences	United States	14.2
Applied Optoelectronics Inc	AAOI	Technology Hardware & Equipment	United States	13.6

AVERAGE % OF SHARES ON LOAN



Exchange Traded Funds

Corp bond funds lead growth

ETF owners continue to see increasing lending revenue, with Q1 revenue of $100m, an increase of 29% compared with Q1 2017. US ETFs led the increase, largely on the back of funds holding high-yield corporate bonds. Three of the highest revenue generating ETFs held HY corp bonds, contributing a combined 20% of all ETF lending revenue in Q1. As we'll discuss further in subsequent sections, the short demand for corporate debt is at a post-crisis high. This is a boon for holders of credit ETFs, as the creation of HY ETFs is more costly than their equity counterparts, so borrowers seek ETFs first during periods of heightened demand. In the final section of this review, we further examine investor sentiment, as expressed via ETF long flows and borrow trends.

The iShares iBoxx High Yield ETF, HYG, continues to deliver the most revenue, generating 14% of all ETF lending revenue in Q1. The iShares Investment Grade ETF, LQD, just missed the top revenue generating ETFs, coming in 11th. Given the growth in demand on the short side combined with the outflows from the products suggests that holders will continue to see solid returns to lending.

Revenue for European ETFs continued to increase in Q1, generating a quarter of all ETF revenue. EU ETFs were also the only region to improve utilization as compared with Q1 2017.

Overview

Quarterly Revenues
$102M ▲ 29%

Average Balances
$45B ▲ 21%

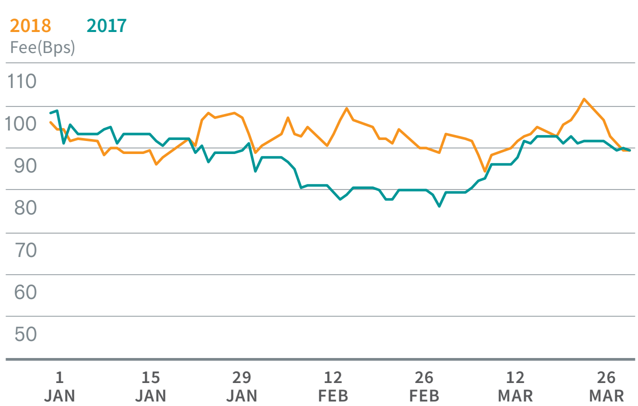
Weighted Average Fee
1.04% ▲ 7%

Average Inventory
$287B ▲ 53%

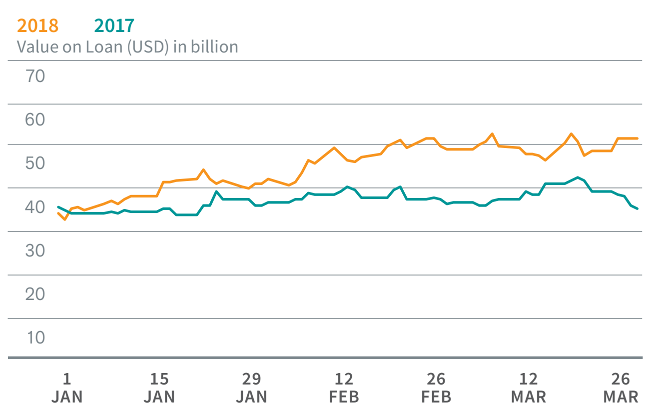
Utilisation
8.86% ▼ 23%

The growth in ETF adoption, combined with the appreciation of many underlying asset classes, has driven inventory to an all-time high that is north of $280 billion, an increase of 53% compared with Q1 2017. Borrow demand has failed to keep pace which resulted in a utilization decline of 23% over the same period.

Q1 FEE TREND



Q1 BALANCE TREND



OVERVIEW

European ETFs fastest growing region	Corp bond funds drive revenue growth	Two China ETFs in top 10 revenue generators	Fixed income ETFs generate 30% of revenue

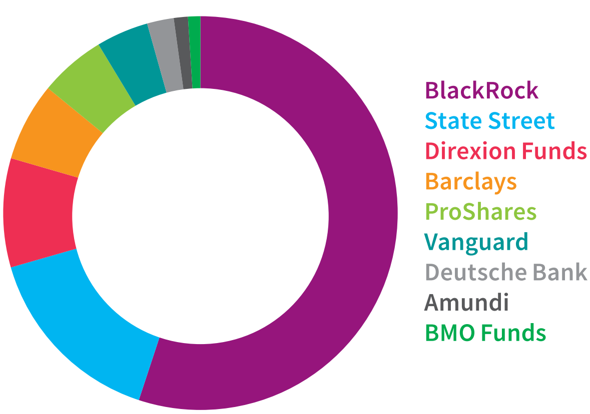
REGIONAL BREAKOUT

Country Details	Quarterly Securities Lending Income (USD M)	YoY Change	Average Value on Loan (USD Bn)	YoY Change	Weighted Fees	YoY Change	Average Lendable (USD Bn)	YoY Change	Average Utilisation	YoY Change
North America	72.73	31.0%	38.93	18.2%	0.86%	6%	175.66	43.7%	8.92	-33.3%
Asia	3.21	-40.7%	0.86	31.3%	1.73%	-57%	2.52	105.3%	13.16	-32.7%
Europe	24.38	50.5%	4.88	35.3%	2.30%	6%	53.51	55.0%	14.25	3.2%

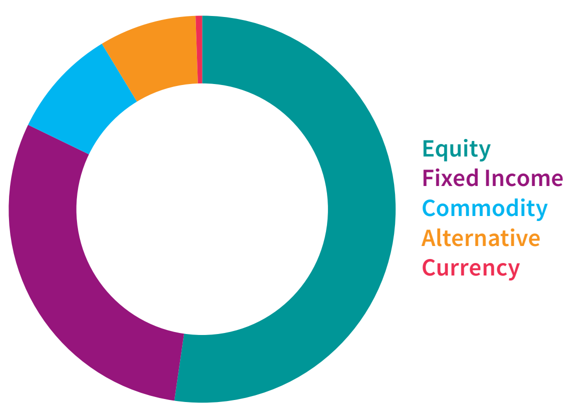
TOP 10 REVENUE GENERATING FUNDS

Instrument Name	Ticker	Listing Country	Asset Class	Q3 Revenue Generated ($M)
Ishares Iboxx $ High Yield Corporate Bond Fund	HYG	United States	Corp Bond	14.4
Spdr Bloomberg Barclays High Yield Bond Etf	JNK	United States	Corp Bond	4.5
Ishares Russell 2000 Etf	IWM	United States	Equity	2.1
Ishares High Yield Corp Bond Ucits Etf Eur(Dist)	IHYG	Ireland	Corp Bond	1.2
Spdr S&P Biotech Etf	XBI	United States	Equity	1.1
Ishares Msci Mexico Etf	EWW	United States	Equity	1.1
Ishares Lehman 20 Year	TLT	United States	UST	1.0
Xtrackers Hvst Csi 300 China A-Shs Etf	ASHR	United States	Equity	0.8
Spdr S&P 500 Etf Trust	SPY	United States	Equity	0.8
Ishares China Large-Cap Etf	FXI	United States	Equity	0.7

LENDING REVENUES BY ISSUER



LENDING REVENUES BY ASSET CLASS



Corporate Bonds

Demand for Corp Bonds at post-crisis high

Similar to Govt Bonds, every metric is up for corporate bonds as compared with Q1 2017. Increasing short demand combined with reduced dealer inventories continues to drive increasing lending revenue for bond holders. The $183 million in Q1 revenue represents a 30% increase compared with Q1 2017. That's the best Q1 corporate bond revenue on record, going back to at least 2002. The borrow balances continue to climb, with current balances back at the highest level seen post-crisis. Global corporate bond balances passed $200 billion globally at the end of Q1, a mark it nearly hit in March of 2016, before falling with the rally in energy credit. The current uptrend in corporate bond demand started just after the US presidential election in the fall of 2016.

Tesla is the only firm to appear on the top 10 revenue generating equity and bond tables, and given the increasing fees for the bonds, they may continue to move up in the rankings. Other firms where we saw cross-asset borrow demand included Frontier Communications and Booking Holdings.

Borrow demand for the converts has continued to increase, delivering $19 million in Q1 revenue, which represented a 64% increase as compared with Q1 2017.

Corporate bond lending revenue increased during each quarter of 2017, and Q1 2018 was the 3rd consecutive quarter to see revenue, loan balances, fees, inventory and utilization all increase. We'll further discuss corporate bond short demand in the closing section of this review.

Overview

Quarterly Revenues
$183M ▲ 30%

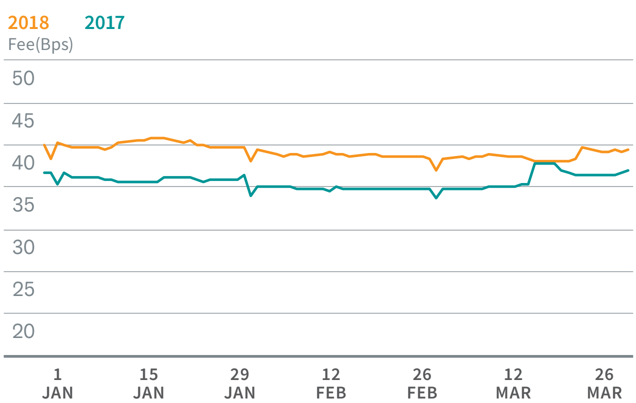
Average Balances
$190B ▲ 18%

Weighted Average Fee
0.44% ▲ 10%

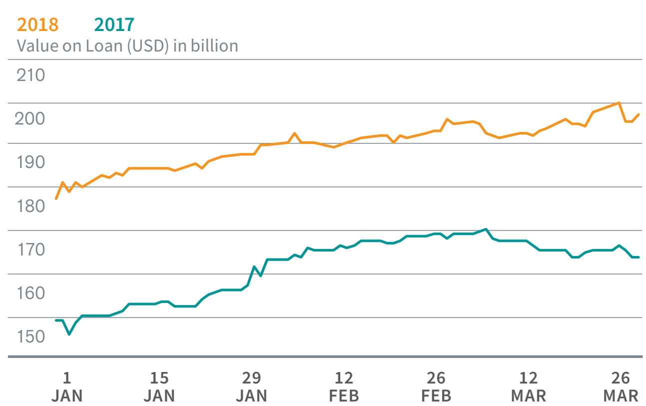
Average Inventory
$3.2T ▲ 11%

Utilisation
5.23% ▲ 7%

Q1 FEE TREND



Q1 BALANCE TREND



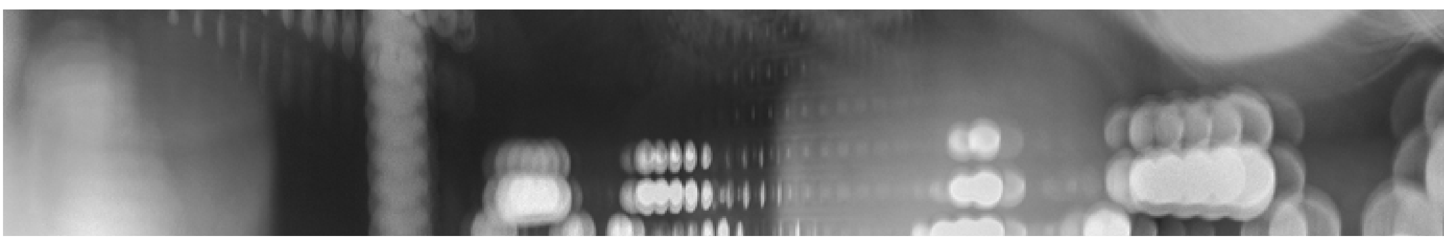
OVERVIEW

Best revenue Q1 in over 10 years	Borrow demand extends upward trend	Utilization increased despite increasing supply	Tesla in top 10 revenue for equity and corp bond

Country Details	Quarterly Securities Lending Income (USD M)	YoY Change	Average Value on Loan (USD Bn)	YoY Change	Weighted Fees	YoY Change	Average Lendable (USD Bn)	YoY Change	Average Utilisation	YoY Change
Asset Backed Securities	0.15	33.3%	0.33	34.0%	0.21%	-1%	229.42	5.1%	0.14	27.4%
Conventional Bonds	163.07	26.8%	182.79	17.9%	0.41%	8%	2,956.99	12.0%	5.54	6.4%
Convertible Bonds	19.42	64.3%	6.80	16.1%	1.32%	42%	44.50	4.2%	11.04	16.1%

TOP 10 REVENUE GENERATING BONDS

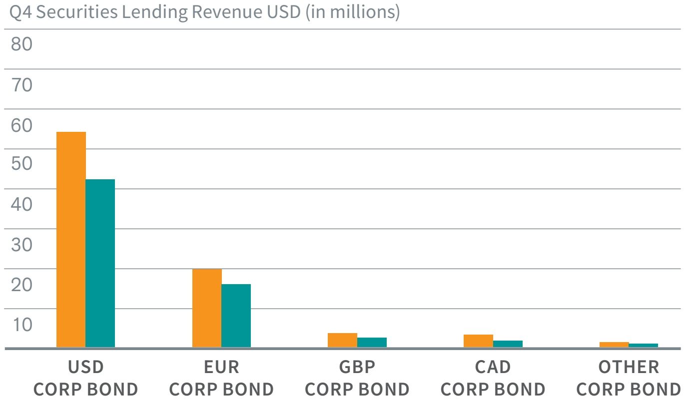
Instrument Name	Cusip	Listing Currency	Rating	Revenue Generated ($M)
Booking Holdings Inc (0.9% 15-Sep-2021)	741503AX4	USD	Non-Investment Grade	6.7
Chs/Community Health Systems Inc (7.125% 15-Jul-2020)	12543DAQ3	USD	Non-Investment Grade	2.4
Tenet Healthcare Corp (6.75% 15-Jun-2023)	88033GCN8	USD	Non-Investment Grade	2.1
Teva Pharmaceutical Finance Company Llc (6.15% 01-Feb-2036)	88163VAD1	USD	Non-Investment Grade	1.3
Astaldi Spa (7.125% 01-Dec-2020)	T0538FAB2	EUR	Non-Investment Grade	1.3
Amc Entertainment Inc (5.75% 15-Jun-2025)	00165AAH1	USD	Non-Investment Grade	1.2
Chs/Community Health Systems Inc (6.875% 01-Feb-2022)	12543DAV2	USD	Non-Investment Grade	1.2
Noble Holding International Ltd (7.75% 15-Jan-2024)	65504LAP2	USD	Non-Investment Grade	1.2
Nabors Industries Inc (5.5% 15-Jan-2023)	62957HAC9	USD	Non-Investment Grade	1.1
Tesla Inc (5.3% 15-Aug-2025)	88160RAE1	USD	Priv Placement	1.0



Q1 SECURITIES LENDING REVENUES BY DENOMINATION

2018 2017

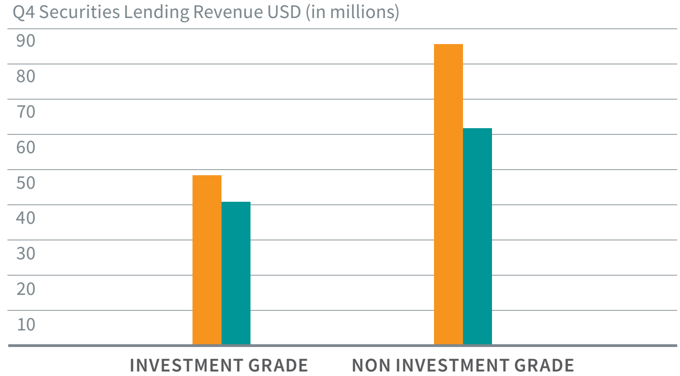
Q4 Securities Lending Revenue USD (in millions)



Q1 SECURITIES LENDING REVENUES BY RATINGS CATEGORY

2018 2017

Q4 Securities Lending Revenue USD (in millions)



Government bonds

Supply, demand, revenue & utilization: Up

Following the best post-crisis year for lending government bonds, 2018 is off to an even better start, delivering $460m in Q1 revenues. The growth came entirely from North America and EU issuers, as rapacious demand for HQLA continues. The title of this section says it all, with lendable balances, on-loan balances, fees and utilization all increased.

Driven by regulation, that demand for high quality liquid assets has shown no signs of slowing, with NA, EU and Asia issuers all seeing greater than 20% demand growth compared with Q1 2017. Increasing short term interest rates and flattening yield curves have also led to more trading opportunities as well. Demand for EU and Asia issues have grown faster, however the US remains the largest with nearly 60% of balances.

While an increasing number of German issues appear in the top ten revenue generators, it's worth noting revenue from German issues was flat compared with Q1 2017, while UK and France both increased revenue by over 40%.

Utilization remains elevated at just over 28%, the highest for a major asset class, despite inventory continuing its uptrend. That any scarcity value exists for government debt may be a bewilderment to some, but banking regulations combined with a desire for liquidity in relative safe assets continues to drive the demand phenomenon.

Overview

Quarterly Revenues
$460M ▲ 29%

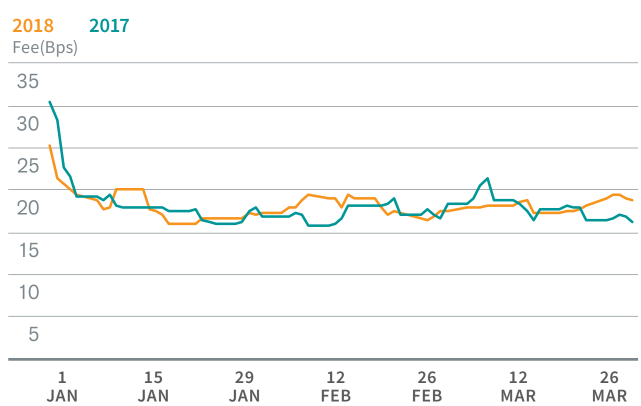
Average Balances
$1T ▲ 28%

Weighted Average Fee
0.20% ▲ 1%

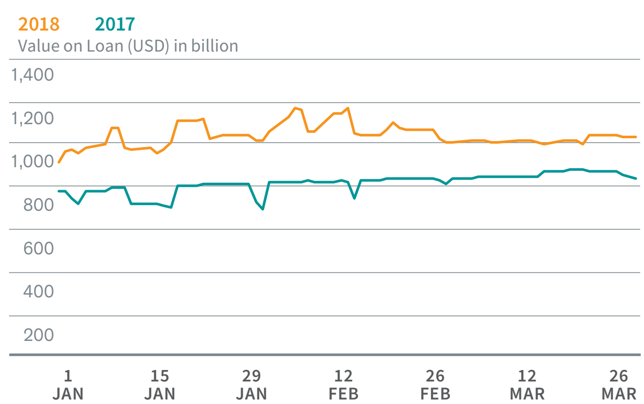
Average Inventory
$2.9T ▲ 21%

28.32% ▲ 5%

Q1 FEE TREND



Q1 BALANCE TREND



OVERVIEW

Best Q1 revenue since 2008

Revenue growth resumes uptrend

Three German issue in top 10

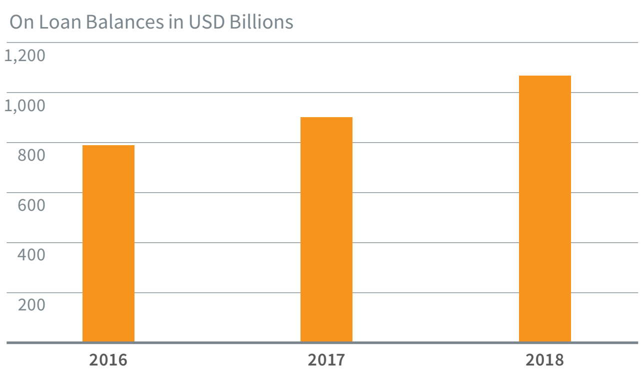
Loan volumes increase globally

Country Details	Quarterly Securities Lending Income (USD M)	YoY Change	Average Value on Loan (USD Bn)	YoY Change	Weighted Fees	YoY Change	Average Lendable (USD Bn)	YoY Change	Average Utilisation	YoY Change
Americas	278.29	36.1%	592.01	23.6%	0.22%	10%	1,852.10	21.2%	27.08	0.6%
Asia	9.08	-7.6%	37.28	67.2%	0.11%	-45%	66.43	52.4%	9.83	-0.6%
Europe	172.23	20.8%	408.86	31.6%	0.19%	-8%	993.68	19.1%	31.87	15.2%
Emerging Market Bonds	16.22	-14.5%	18.29	17.8%	0.41%	-27%	221.35	29.6%	7.66	-2.6%

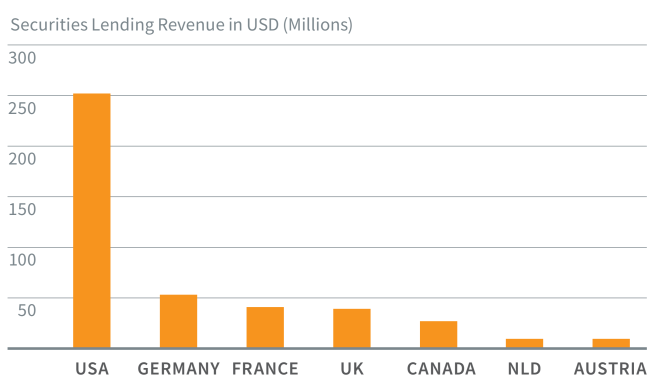
TOP 10 REVENUE GENERATING BONDS

Instrument Name	Cusip	Currency	Issuer	Revenue Generated ($M)
United States Treasury (2.75% 15-Nov-2047)	912810RZ3	USD	United States	2.7
Germany, Federal Republic Of (Government) (4.75% 04-Jul-2040)	D20659KP8	EUR	Germany	2.6
Germany, Federal Republic Of (Government) (1.5% 15-May-2023)	D20658T97	EUR	Germany	2.5
United States Treasury (2.25% 29-Feb-2020)	9128283Y4	USD	United States	2.3
United States Treasury (1.25% 30-Apr-2019)	912828ST8	USD	United States	2.3
United States Treasury (2% 15-Feb-2023)	912828UN8	USD	United States	2.3
Germany, Federal Republic Of (Government) (1.5% 15-Feb-2023)	D206588X7	EUR	Germany	2.1
United States Treasury (1.375% 30-Sep-2019)	9128282X7	USD	United States	2.0
United States Treasury (1.875% 15-Dec-2020)	9128283L2	USD	United States	2.0
United States Treasury (1.125% 31-Jan-2019)	912828V56	USD	United States	1.9

GOVERNMENT BOND BALANCES



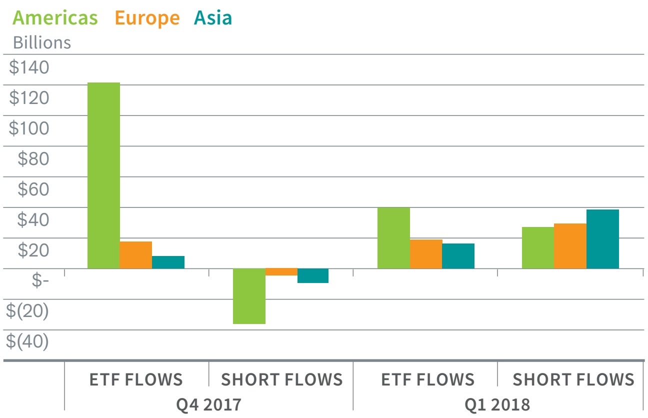
Q1 REVENUES BY ISSUERS



ETF flows and short demand

After the remarkable calm of 2017, a year best defined by the popularity of the short volatility and long bitcoin trades, some storm clouds have emerged and the ability of markets to shrug off geopolitical, regulatory and fiscal risks seems to be somewhat diminished. While that narrative fits the facts, the blistering rally in January meant that a modest mean reversion felt like a crash, where in reality most equity indices ended the quarter changed by less than 250bps since the start of the year. The dip-buying impulse is not dead, but a change in overall market sentiment seems to have set in.

EQUITY ETF AND SHORT FLOWS



To look at how investors have adjusted positioning so far in 2018, we've examined equity and corporate bond ETF flows, along with the changes in short demand for the underlying constituents. Overall this paints a portrait of waning investor confidence across the capital structure.

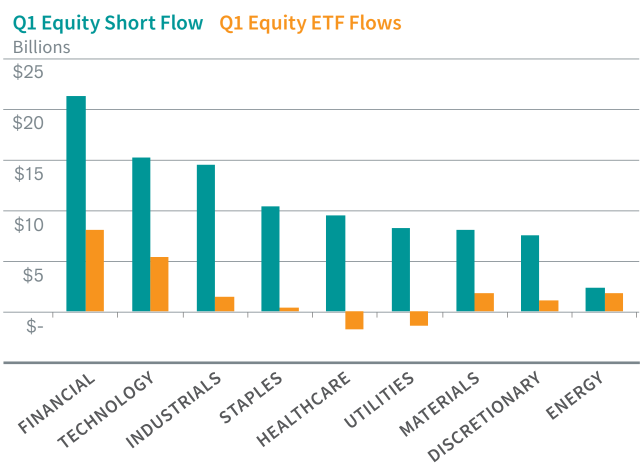
Global equity ETFs continued to see inflows in Q1, but only $77bn, the lowest quarterly inflow since Q2 2016 and half the inflow observed in Q4 2017, so this appears to be a relative low point in enthusiasm from ETF investors. To put that in context, equity ETFs have seen over $700bn of inflows since the start of 2016 and there is nothing to suggest that trend will change in 2018.

The Financials sector had the largest flows on the long and short side, with an ETF inflow of $8bn and an increase in equity short borrows of $20bn in Q1. Within Financials, Banks saw the largest increase in short demand, with some recent high-flyers attracting short sellers.

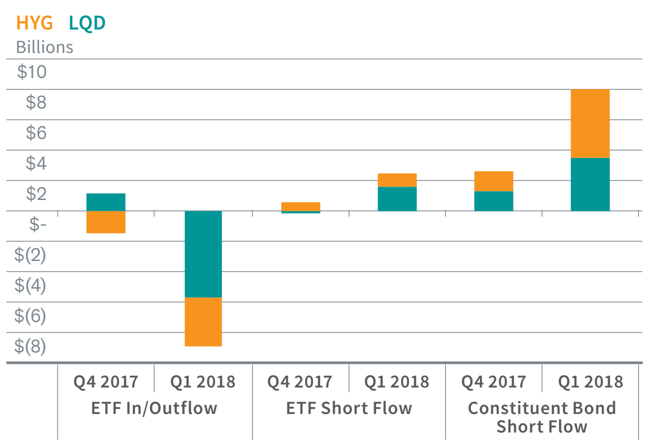
The Technology sector saw the 2nd largest Q1 inflow, again both for ETF inflows and increasing equity short balances. The $5bn in Tech ETF inflows (largely in January) matched the Q4 inflow, as investors chased the rally. Short sellers added $15bn to short positions in the sector during Q1, adding selectively to the large cap market leaders.

The increased volatility in Q1 worked to the benefit of the equity short sellers, with the most expensive to borrow stocks markedly underperforming the average equity return. For US Large-Cap in particular the comparison was stark, with the most expensive to borrow stocks underperforming the rest of the group by 300bps in March. That extends a period of solid returns to shorting the large cap stocks with special borrow rates, per IHS Markit Research Signals, which tracks a library of alternative quant factors. Previous periods of large cap HTB stocks underperforming to this extent were associated with the sell-off at the start of 2016, the US presidential election and the retail sell-off in the fall of 2017.

Q1 EQUITY ETF AND SHORT FLOWS



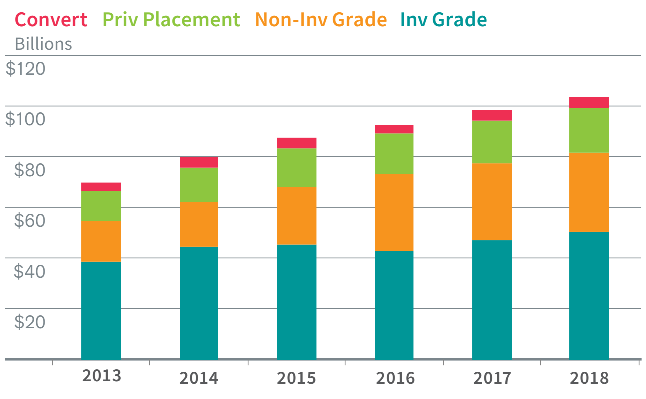
USD CORP BOND ETF AND SHORT FLOWS



Corporate bond shorts have also profited from volatility in early 2018, particularly in the Investment Grade space. The LQD ETF which tracks the iBoxx $ Liquid Investment Grade Corporate Bond index is down over 4% YTD. Investors on the long side have responded by pulling $5.6bn from the fund in Q1, the largest quarterly outflow on record. Short sellers added $1.6bn of shorts in the ETF as well as $3.4bn in shorts in the underlying bonds.

High-yield credit has seen a similar story in 2018, with the HYG ETF, which tracks the iBoxx $ Liquid High Yield Corporate Bond index, selling off in late Jan and early Feb, though notably performing better than the Investment Grade issues. Investors headed to the exits even with the relative outperformance, pulling $3.2bn from HYG in the first quarter, also a record outflow for the product. Short sellers increased positions in the ETF by $750m and added $4.5bn in short positions in the underlying bonds. The 2nd largest USD high yield ETF, JNK, also had a record outflow in Q1, $3.4bn.

USD CORP BOND SHORT BALANCES AT PAR



Similar to equities, the Q1 flows need to be put into the context of the 2016-2017, during which time LQD grew assets by $13bn and HYG grew assets by $2.9bn. While short demand for the ETFs increased during the quarter, it finished March well off the high balances observed in February, suggesting that tactical short positioning may be shifting away from the products.

As noted in the Corporate Bond section, global short demand climbed back above to $200bn in balances at the end of Q1, as the result of a $17.8bn increase during the quarter. Dollar denominated issues contributed over half of the increase, with Euro denominated bonds contributing 30%. The increase in demand is not purely the result of directional short positions, with rising interest rates creating trading opportunities as debt is refinanced. With that said, there is a large short position outstanding and the last credit short unwind in 2016 was not of the type short sellers were hoping for.

Is the so-called "Everything Bubble" at risk of popping? If so, a variety of factors are queuing up to be the pin, among them geopolitical and regulatory uncertainties which can pop up and dominate the news cycle. One key element of the late 2015/early 2016 risk-off event is notably absent, namely the risk to energy credit as the result of low oil prices. At the time the sharp decline in oil prices, with WTI Crude reaching lows in the mid-30s, caused a sell-off in related corporate bonds and threatened a contagion effect to those who funded their operations. That sent the broader market into a sell-off and caused short sellers to increase their bets across the capital structure. When oil prices rallied the fears abated, the market rally resumed and short sellers retreated, reducing balances leading up to the US election. Since then short sellers of equities and corp bonds have slowly increased positioning. And while low oil prices aren't the catalyst, it is worth noting that Energy HY credit saw short balances increase by $768m in Q1, sending a different signal from Energy equity demand which saw the smallest increase for any sector in Q1. The upcoming earnings season could be a tailwind to global equities, so long as the risks remain unrealized.

BIG SHORTS:

$200bn

in Corp Bond Shorts and

$900bn

in Equity Shorts at end of Q1 2018

Q1 SHORT INCREASE:

Equities

+$96Bn

Corp Bond

+$12bn

Equity ETF inflows are slowing down globally

Q1 2018:

$77bn

inflow versus

Q4 2017:

$144bn

inflow

Equity Short balances increase

$96bn

in Q1 2018, after falling

$50bn

in Q4

EQUITY:

All Sectors see increase in short demand,

Healthcare and Utilities

only sectors to see ETF outflows

EQUITY:

Financials sector had the largest flows on the long and short side, with an ETF inflow of $8bn and an increase in short borrows of $20bn in Q1

Corp Bond ETFs see largest quarterly outflow on record in Q1

CORP BOND:

Short demand for underlying corporate bonds at post-crisis high

EQUITY:

The Tech sector saw the 2nd largest Q1 inflow, again both for ETF inflows and increasing short balances. ETF inflows matched the $5bn Q4 inflow. Short sellers also increased exposure to Tech in Q1, adding $15bn in short borrows

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