Securities Finance Quarterly Review

Q2 2019

Welcome to the mid-year quarterly review.

Overall global securities lending revenues for Q2 2019 totaled $2.6bn, 10% below the average Q2 revenue over the last three years. There were some bright spots and emerging opportunities for the remainder of 2019 which we'll discuss throughout this guide. Total loan balances fell 12% YoY, primarily driven by a declining demand for government bonds.

The first half of 2019 seems to have flown by, but nevertheless has been extremely busy and productive. With five releases, we have implemented a great deal of **new functionality and enhancements** across platforms, impacting all client segments. One **strategic priority** has been **data acquisition**. We have seen continued growth in both our end of day dataset, which now stands at $22.4 trillion of lendable inventory, as well as our **intra-day** functionality which has grown materially. Importantly, we have been relentless about maintaining **data quality**. As our client facing teams work toward adding marginal contributors, our dedicated content team of ten professionals is highly focused on improving quality.

I am pleased to report in conjunction with ISLA (the International Securities Lending Association) we helped launch an industry wide working group to review the world of relative **performance measurement for securities lending**. The working group has met on several occasions and identified key areas of focus with the overall aim of developing some global standards and improving confidence in securities lending performance measurement. We are pleased to be involved with this important industry wide initiative.

As part of our ongoing investment in the business we have added a number of **experienced employees to the product team**. We welcome them and the experience, insight and vision they bring. It has also been a quarter of **engagement with you our customers**. Our client facing teams are more focused and working harder than ever with a combination of face to face meetings and connecting at industry events.

As I look ahead, I am very pleased to announce we will be re-instating our **Forum** in North America, which will be held on September 17th in New York. For the remainder of the year we will be **focused on data acquisition**, **adding new features to our Bloomberg platform** and rolling out a **new look and feel to web-portal** greatly enhancing client experience.

One added source of this commentary in this edition is a global PMI snapshot from IHS Markit Chief Business Economist Chris Williamson, providing some global context for markets in the first half of the year. We look forward to having him join our Q2 review webcast on July 25th as well.

I look forward to further collaboration with our customers and the feedback which is invaluable. Have an enjoyable summer!

Regards,

Paul R. Wilson

Managing director and global head of Securities Finance, IHS Markit

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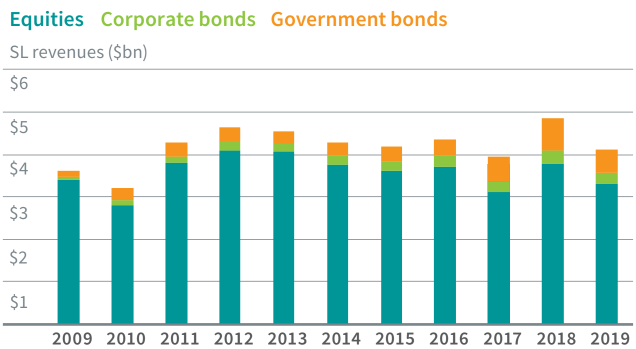
Securities Lending Q2 Update

$2.59bn in securities lending revenue

- Government bond balances and revenues decline
- Some bright spots for corporate bond lending
- IPOs boost US equity lending revenues

Global securities lending revenues for Q2 2019 came in at $2.59bn, 10% below the average Q2 revenue for the last three years. The largest contributor to the revenue shortfall was European equities, however within that asset class there were some bright spots such as specials demand for UK equities. Total loan balances fell 12% YoY, with the largest driver being declining demand for government bonds. There were some positive developments on the demand side, with an increase in special balances in some of the larger markets along with continued expansion in emerging asset classes.

H1 SECURITIES LENDING GLOBAL REVENUES



The first quarter of 2018 represented the post-crisis peak in demand for government bonds, with average loan balances greater than $1T. Each subsequent quarter has seen declining balances, with Q2 2019 balances averaging $815bn. A significant driver of demand has been the collateral needs of broker-dealers in relation to regulatory requirements for holding high quality liquid assets (HQLA). Increased issuance, reflected in additional holdings on broker-dealer balances sheets, may be contributing to the declining overall demand. Despite the cooling overall demand, there were some short-lived opportunities to generate lending revenue, most notably the UST 10Y bond in early June. Australian government bonds saw the largest growth in sovereign lending revenues, with their $4.9m in H1 revenues being the best on record. The competition for largest increase was limited however, given that only six countries saw increasing government bond lending revenues in Q2, totalling 1.3% of total sovereign lending revenues between them.

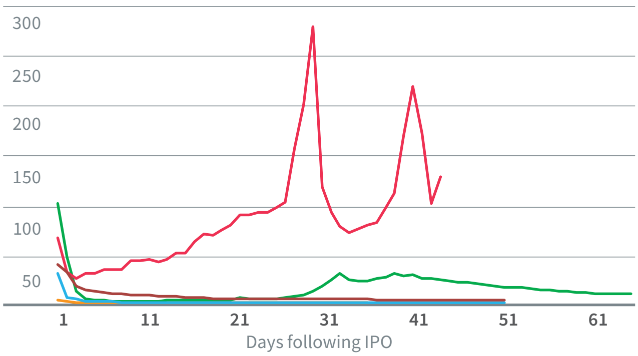
Corporate bond lending revenue fell 18% YoY, primarily driven by declining demand for dollar denominated credits. Revenues for EUR and CAD denominated bonds increased on the back of higher fees, despite lower loan balances. Overall revenues fell for both investment grade and non-investment grade issues, however within each there were some countertrends. The largest positive contribution to investment grade revenue growth was from the CAD denominated bonds; The largest positive contributions to non-investment grade revenue growth were EUR and GBP denominated issues. The persistent YTD credit rally has dented demand for corporate bond borrowing, however pockets of opportunity for lending some credits did emerge.

Equity lending revenues came in at $2.1bn, a decline of 17 percent compared with Q2 2018. Despite the overall decline in revenues, the second quarter did see some signs of life for specials demand after a challenging first quarter. The spate of recent US IPOs made an outsized contribution to equity special balances. The most notable was Beyond Meat, where fees for new borrows exceeded 300% during the 2nd week of June. Those lofty fees made the plant-based meat-alternative the most lending revenue generating security globally for Q2. The other significant revenue generator from the US IPO space was LYFT, which generated $31m in Q2 revenues. Lyft and Uber both attracted significant borrow demand, with loan balances greater than $1bn for each firm, however a larger float kept a lid on Uber fees.

IPO BORROW COSTS FROM FIRST SETTLEMENT DATE

UBER LYFT BYND PINS ZM

Annualized borrow cost %

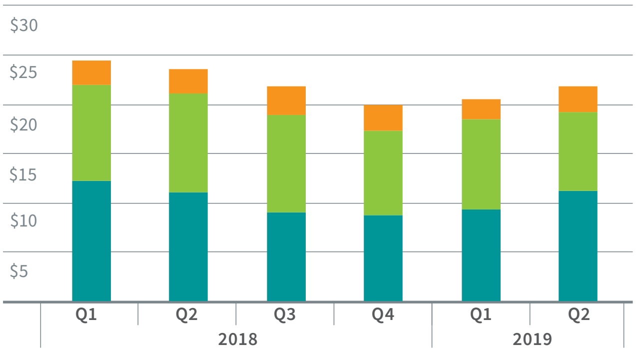


The pickup in equity specials demand in Q2 is encouraging, given the shortfall overall equity lending revenues YTD. That is particularly true given that the growth was in North America, where growth in specials balances had been largely in Asia in recent years. Aside from the recent IPOs, the Cannabis sector remains a key driver of NA equity special demand. Loan balances relating to the Cannabis sector averaged $4.5bn in Q2, with a weighted average fee of 10.9%.

GLOBAL SPECIALS BALANCES

NA Asia EMEA

Balances ($bn)



Asia equity lending revenues fell 14.6% compared with Q2 2018, the first YoY decline in quarterly revenues since Q3 2017. The YoY decline was entirely driven by lower fees, however balances remain elevated though they have fallen from record Q1 levels. Asian equities also contributed to ADR revenues, which were 9.5% higher than Q2 2018. ADR revenues failed to better the record revenue set in Q1.

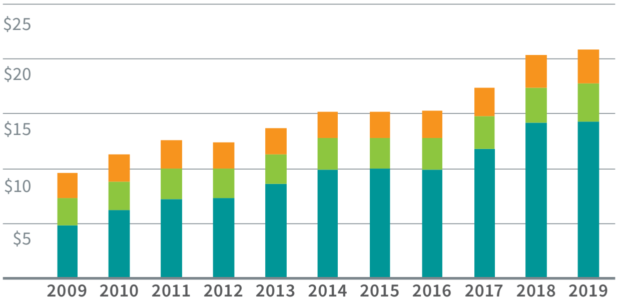
ETF lending revenues continue to underperform relative to 2018, primarily the result of lower fees and balances for high-yield bond funds. While revenues have varied with fees for a few hard to borrow, or create, ETFs, overall borrow demand for the exchange traded products remains robust. ETF loan balances grew 12% YoY and are on pace for highest balances on record through H1. The most revenue generating funds continue to be USD HY credit, broad US equity index, leveraged loans and emerging markets.

With demand dynamics in flux, one constant of the post-crisis era remains in place: Growth in lendable assets. Total lendable for all asset classes averaged more than $21T for Q2, the first such quarter on record and reached $22T for the first time in June. Equities had the largest YoY lendable asset growth in absolute terms, $450m, an increase of 3% compared with Q2 2018. Equities, corporate bonds and government bonds each reached an all-time high in lendable assets in Q2.

H1 AVERAGE LENDABLE ASSETS

Equities Corporate bonds Government bonds

Lendable assets ($T)



Wrap-up:

H1 global lending revenues came in at $5.0bn, failing to better the post-crisis record from H1 2018 of $5.9bn. The YTD revenue tally is 6% below the average for the last three years, reflecting reduction of demand in some asset classes and increasing lendable supply weighing on fees generally. The revenue shortfall in the first half of 2019 relative to 2018 appears rather large, however it's worth noting that H1 2018 was the best six-month span post-crisis, making for a tough comparison.

For some perspective, the H1 2019 revenues were a 4% improvement compared with H1 2017. Against the broad trend of declining fees and balances some asset classes have presented opportunities to generate incremental income, notably including the Cannabis sector, emerging markets, ex-USD corporate bonds, US IPOs and HTB UK equities.

The blistering rally off the December lows made directional short selling particularly challenging in Q1, reflected in global outperformance of expensive to borrow equities. The volatility of the 2nd quarter was a more fertile ground for alpha on the short side, with HTB equities generally underperforming the share price returns of GC equities.

The 2nd commentary feature in this review is from the IHS Markit PMI team, detailing the global slowdown in economic growth revealed by their surveys in the first half of 2019. The June survey suggests that Q2 had the lowest quarterly global economic growth since 2013. It is interesting to contrast the lacklustre economic data with the YTD rally in financial asset prices. If the cooling of global growth continues, and is reflected in corporate earnings, the opportunities to generate securities lending returns should pick up in the second half of 2019.

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PMI surveys indicate global economic growth stuck at three-year low

- Global PMI™ holds at lowest since June 2016
- Downside risks to outlook as future expectations hit new survey low
- Weakness spread across developed and emerging markets

The pace of global economic growth remained stuck at a three-year low in June, according to the latest PMI surveys from IHS Markit, rounding off the worst quarterly expansion since the second quarter of 2016. Both employment growth and cost pressures also hit the weakest since 2016, while future business expectations sank to a new survey low.

A disappointing run of developed world PMI surveys for June concluded the slowest quarter of growth since 2013, with falling output in the UK accompanied by lacklustre growth in the US, Japan and Eurozone, albeit with the latter enjoying the strongest upturn.

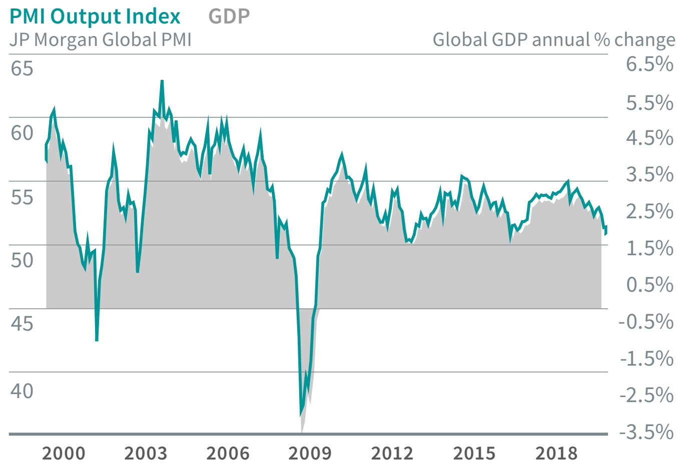
Emerging market growth meanwhile hit a three-year low amid a broad-based deterioration in performance among the largest developing economies. Output fell in Brazil and Russia while slower expansions were seen in both China and India.

Slowest global growth since June 2016

The JPMorgan Global PMI™, compiled by IHS Markit, held steady at 51.2 in June, signalling the slowest rate of expansion of global output since June 2016 during the past two months. The survey data are consistent with worldwide GDP rising at an annual pace of approximately 1.8% (at market prices) in the second quarter, down from 2.4% in the first quarter.

Both the PMI and official GDP data indicate that the pace of global economic growth peaked at 2.9% at the end of 2017 and has since slowed gradually, led by a steady weakening of worldwide trade flows.

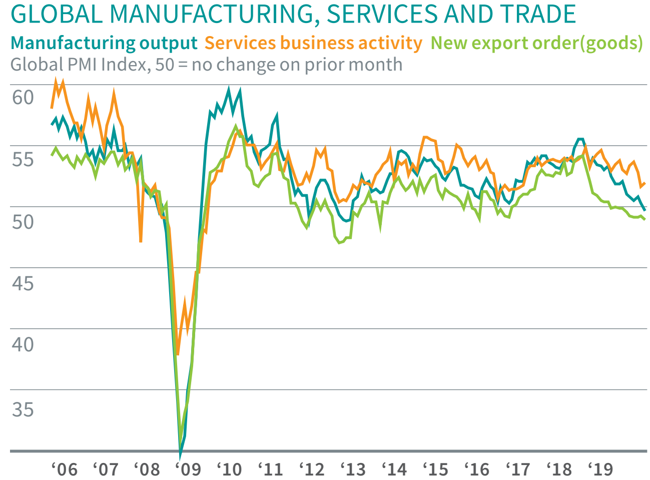
GLOBAL PMI AND ECONOMIC GROWTH



Manufacturing remained the main area of weakness in June, with output falling for the first time since October 2012. Global goods exports fell for a tenth successive month, dropping at the steepest rate since September 2015.

Although service sector growth perked up slightly during the month, the rise in activity was still among the weakest seen over the past three years. The sluggish services expansion adds to signs that the sector has seen growth weaken markedly in the second quarter alongside the manufacturing malaise.

GLOBAL MANUFACTURING, SERVICES AND TRADE



It is possible to dig deeper to see the main growth drags and drivers via the detailed sector PMI numbers, which provide unique economic indicators for some 26 sectors globally (as well as for Europe, Asia and - to a broader degree - the US).

Of the 26 global sectors, the number reporting lower output eased from 11 in May to nine in June, but some of those sectors remaining in contraction sent especially worrying signals about the health of the global economy.

Two sectors in particular are machinery & equipment and technology equipment manufacturing, as these are key indicators of business investment. Both have trended sharply lower in recent months.

Falling business investment

Production of machinery and equipment fell in June to an extent exceeded only once (last February) since detailed global sector PMI data were first available in late-2009. Output of this sector has fallen continually so far this year, representing the worst performance since the global financial crisis.

Production of tech equipment meanwhile dropped at the sharpest pace since November 2012, down for the third time over the past four months.

A broader PMI gauge of global investment goods production showed a similar weakness, with output down for a sixth month in June. Although some easing in the rate of decline was evident in the latest month, the average drop in output in the three months to June was the steepest calendar quarter decline since the final three months of 2012 (a downturn which was subsequently followed by a drop in official global fixed capital investment data).

Official data have already shown annual global business investment growth cooling sharply up to the first quarter of the year, running at less than half the pace seen a year earlier, closely following the trend in the PMI data. The survey data therefore point to a further moderation in the second quarter.

The downturn in capex spend signalled by the global PMI data highlights the extent to which rising geopolitical uncertainty has led to a broad pull-back in business spending which is likely to subdue economic growth. However, with business investment being a major determinant of future productivity and profitability, the drop in capex spend signalled is a particular red flag for future corporate earnings.

Auto sector woes deepen

One sector of concern is automobiles, which sat at the foot of the global sector PMI rankings in June as output fell at the second-steepest rate since 2009.

The survey data indicate that car sector output has now fallen continually since last September. However, whereas declines late last year were in part caused by temporary disruptions such as new emissions regulations in Europe (which many therefore saw as being temporary), the ongoing weakness in 2019 paints a more worrying picture of weakening demand for autos.

Other indicators added to the auto sector gloom: the sector's PMI new orders index signalled a further steep decline in business inflows, leading to a sharp drop in car industry order book backlogs.

Such a weakening of orders books often leads to cuts in employment, so it was little surprise to see employment falling in the autos sector in June, with jobs being lost globally at the sharpest rate for over two years.

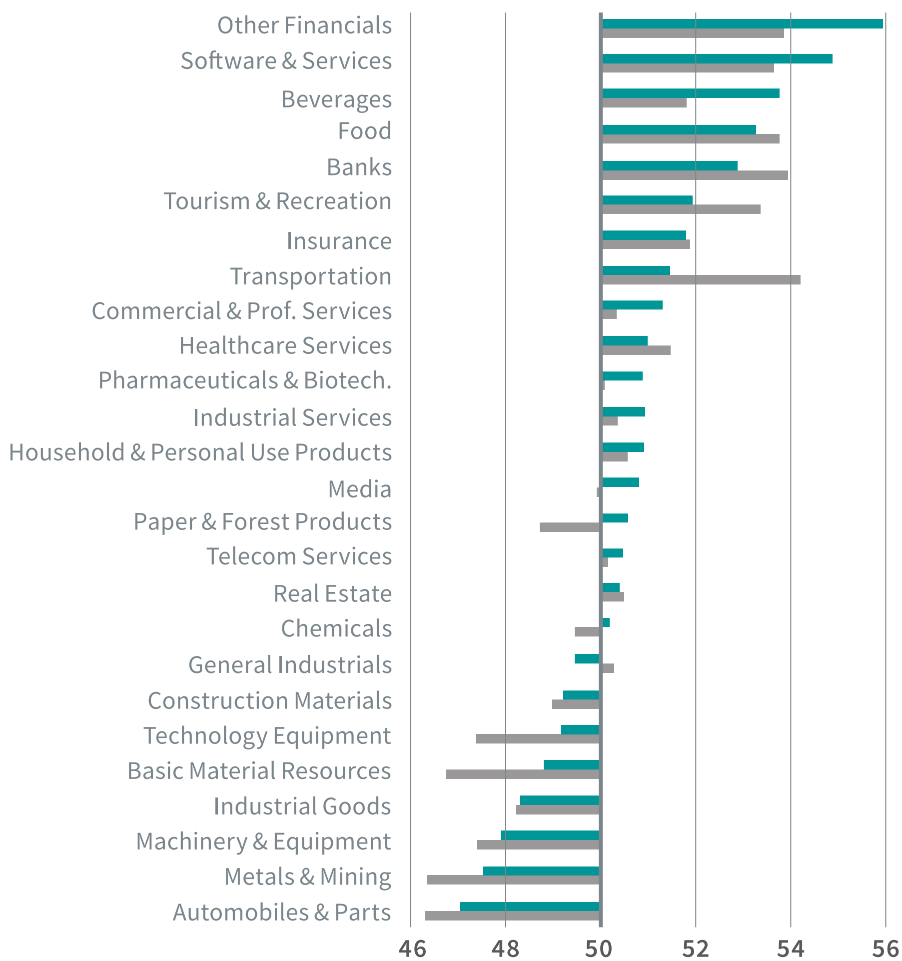
With the June survey also seeing a record drop in input buying by auto makers, a further cut in production is indicated for July.

The PMI data tally closely with official data on auto production. According to industry data collected by IHS Markit, global light vehicle production fell in year-on-year terms throughout much of the second half of 2018 and continued to slide in the first quarter of 2019.

Estimates based on partial data point to the rate of decline having accelerated in April before easing somewhat in May. Encouragingly, the forecast model points to a stabilisation of production in the second half of 2019 and modest return to growth in 2020. However, the PMI data will need to turn sharply higher in coming months for growth to stabilise, suggesting some downside risk to the brighter near-term outlook.

GLOBAL OUTPUT BY DETAILED SECTOR

Latest 3 months Jun-19



Financial services lead second quarter expansion

Looking at the best performers, the global PMI sector rankings were led in the three months to June by 'other financials' (which covers all financial firms other than banks and insurance companies) followed by software & services. With banking services and insurance also in the top seven sectors, financial services as a whole notched up the best performance of all the broad industry sectors in the second quarter.

The best performing manufacturing sectors were food and drink, with pharmaceutical & biotech coming next at eleventh place, all of which are widely seen as typical 'defensive', non-cyclical sectors.

Developed world sees worst quarter since 2013

Growth lifted slightly higher in the developed world, but the improvement failed to prevent the rich-world economies enduring the worst calendar quarter since the start of 2013. The sustained weak PMI reading in June reflected a fourth consecutive monthly decline in manufacturing output and the second-smallest service sector expansion seen over the past 33 months. Jobs growth in the developed world also moderated to the joint-lowest since late-2016 and future expectations deteriorated to a new low.

Among the largest advanced economies, the Eurozone saw the strongest PMI for the second successive month, with growth accelerating to the highest since last November as an improved service sector expansion helped offset an ongoing manufacturing downturn. Growth also edged higher in the US but eased markedly over the second quarter, as the slowdown broadened out from manufacturing to services.

Growth also remained stuck in a low gear in Japan thanks mainly to falling manufacturing output, running close to the weakest seen over the past three years.

However, the worst performance among the biggest developed countries was the UK, where the PMI surveys indicated the first contraction of business activity since the 2016 EU referendum, as Brexit-related uncertainty exacerbated the wider economic slowdown.

Emerging market PMI at three-year low

Emerging market growth was meanwhile the weakest for three years amid a broad-based deterioration in performance. Manufacturing stagnated while the service sector grew at the slowest pace for just over one-and-a-half years. Emerging market employment dropped for a second successive month and future expectations sank to the lowest since January 2016.

Looking at the four largest developing economies, both Brazil and Russia recorded falling output in June, the former reporting the second successive monthly decline while the latter saw the first downturn since the start of 2016. Both China and India continued to expand, but rates of growth slowed to eight- and 13-month lows respectively.

If you would like to see more research from the IHS Markit PMI team, please visit their commentary and analysis website below:
https://ihsmarkit.com/research-analysis/pmi.html

APAC Equity

Revenues below 2018 peak, still pretty good

Asian equity lending delivered $472m in Q2, down 15% from Q2 2018, but still the 2nd best Q2 on record. The lower revenues were driven by a reduction in average fees, while loan balances notched a slight increase. The increase in balances was focused on the developed markets, Japan and Australia, which have lower fees than the emerging markets.

Q2 was the first quarter since Q3 2017 where revenues failed to outperform their YoY comparable. As noted in our Q1 review, the uptrend in revenue for Asian equities appears to be losing momentum. While Q1 revenues did grow YoY and QoQ, the sequential decline in fees continues to drag on returns.

Japanese equity revenues totaled $184 million for Q2, a 15% decline compared with Q2 2018 and the lowest quarterly revenue since Q2 2017. Loan balances saw a small increase YoY, making the revenue shortfall purely the result of lower fees. Tokai Carbon Co generated the most Q2 revenue for Japanese equities, $7.8m, with fees and borrow demand extending an uptrend which has been in place since last June.

South Korean equities moved back ahead of Hong Kong as the 2nd most revenue generating country for Asian equity lending, a title most recently held in Q4 2018. The Q2 revenues came in at $98.4m, a 23% decline compared with Q2 2018. Sillajen Inc delivered the most revenue for SK equities in Q2, $11.8m, which was also the most for any Asian equity. The combination of the three top revenue generating stocks, Sillajen along with Samsung Electro-Mechanics and Celltrion, equals 25% of South Korean equity lending revenues. While Celltrion is still among the most revenue generating stocks in the region, the decline in balances and fees over the last year have had a notable impact on total South Korean revenues. Celltrion generated 8% of South Korea equity lending revenues in H1 2019, down from 21% in H1 2018.

Overview

Quarterly Revenues
$472M ▼ 15%

Average Balances
$179B ▲ 1%

Weighted Average Fee
1.06% ▼ 16%

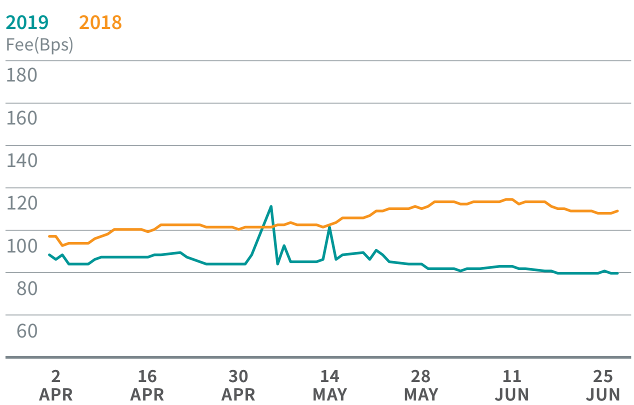
Average Lendable
$1.8T ▼ 2%

Utilization
5.31% ▼ 4%

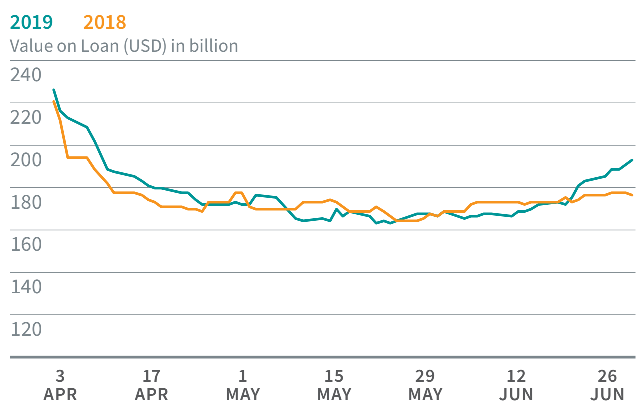
Hong Kong equity lending revenues came in at $87.9m, down 8% from Q2 2018. The shortfall was more significant compared to the Q1 revenue of $118m; the difference is entirely attributable to the decrease in balances and fees for Meituan Dianping, which delivered nearly $30m less revenue in Q2 than in Q1, and still remains the most revenue generating HK equity. Average HK equity specials balances, those with fees greater than 500bps, were down $860m in Q2 relative to Q1, 43% of which was Meituan Dianping.

Singapore was the only Asian equity market to see increased YoY revenues. The revenue growth was supported by an increase in demand for Bestworld International and Sembcorp Marine.

Q2 FEE TREND



Q2 BALANCE TREND



OVERVIEW

Singapore is only market with YoY increase in lending revenues

Revenues decline with lower fees, balances increase 1% YoY

Increasing balances in developed markets

Taiwan only country in region with increasing average fees

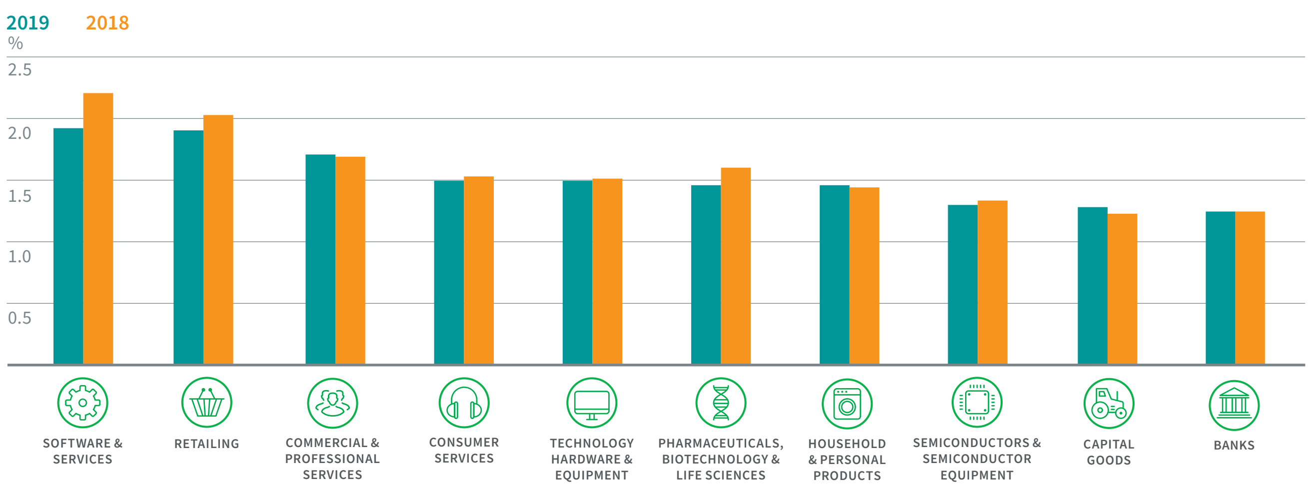
COUNTRY DETAILS

Country	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 Utilization	YoY Change
Japan Equity	184.67	-15.0%	98.57	2.4%	0.8%	-17.0%	801.61	-8.8%	5.57	-1.0%
South Korea Equity	98.42	-23.3%	12.87	-8.7%	3.1%	-16.0%	123.15	-8.7%	5.02	-8.8%
Hong Kong Equity	87.87	-8.5%	31.41	-0.2%	1.1%	-9.0%	428.94	2.8%	5.31	-3.8%
Taiwan Equity	52.63	-8.9%	7.98	-14%	3%	6%	58.81	-0.8%	5.37	-32.5%
Australia Equity	31.04	-10.9%	23.76	16.3%	0.5%	-24.0%	335.18	16.5%	5.36	1.3%
Singapore Equity	7.90	7.1%	2.12	-3.9%	1.3%	-9.0%	50.37	-9.3%	3.33	8.6%
Malaysia Equity	4.70	-30.8%	0.62	-21.1%	2.9%	-15.0%	14.25	-6.2%	3.35	-29.0%
Thailand Equity	3.49	-20.1%	0.82	-16.4%	1.7%	-4.0%	16.98	2.8%	3.58	-13.0%
New Zealand Equity	0.76	-17.3%	0.60	-5.9%	0.5%	-13.0%	8.49	27.2%	5.19	-17.6%

TOP 10 REVENUE GENERATING STOCKS

Instrument Name	Ticker	Sector	Country	Revenue Generated ($)
Sillajen Inc	215600	Pharmaceuticals, Biotechnology & Life Sciences	KR Equity	11.81
Samsung Electro-Mechanics Co Ltd	009150	Technology Hardware & Equipment	KR Equity	9.03
Meituan Dianping	3690	Retailing	HK Equity	8.24
Byd Co Ltd	1211	Automobiles & Components	HK Equity	8.13
Tokai Carbon Co Ltd	5301	Materials	JP Equity	7.85
Yageo Corp	2327	Technology Hardware & Equipment	TW Equity	6.92
Celltrion Inc	068270	Pharmaceuticals, Biotechnology & Life Sciences	KR Equity	6.23
Harmonic Drive Systems Inc	6324	Capital Goods	JP Equity	6.14
Walsin Technology Corp	2492	Technology Hardware & Equipment	TW Equity	5.96
China Literature Ltd	772	Media	HK Equity	5.70

AVERAGE % OF SHARES ON LOAN



EMEA Equities

UK shines amidst Eurozone declines

European equity lending revenue was $703m for Q2, a 25% decline compared to Q2 2018. The Q2 revenues more closely resemble 2017, when EU equity lending revenues came in at $765m. The revenue shortfall was primarily driven by a 22% YoY decline in loan balances. There were some markets which saw increasing borrow demand, and resulting revenues, notably including UK equities.

Sirius Minerals delivered $6.6m in Q2 revenues, the most for any UK equity. Hedging activity related to the firm's convertible bonds drove a portion of the borrow demand, however the timeline to profitability for the firm's potash mine may also be the cause of directional short bets. Metro Bank had the second highest revenue for a UK equity with $4.3m. The lender's share price has declined more than 50% YTD amid concerns regarding classification of commercial loans. A decline in utilization in early June put some downward pressure on lending fees for Metro, regardless, it remains one of the most expensive to borrow UK equities. Other UK equity specials in Q2 included Amigo Holdings, Victoria Plc & Iqe Plc.

The first half of 2019 was the best on record for lending Greek equities, with Q2 delivering $4m in revenues, up 50% compared with Q2 2018. The revenue upswing was led by the banking sector based on higher loan balances. Most of the country's equities are hard to borrow, a fact reflected in the 12% average lending fee, easily the highest for any country globally.

Intrum AB was again the most revenue generating Swedish equity, with $9.5m in Q2 revenue, despite a steady downtrend in average fees throughout the quarter. The debt collection specialist delivered 23% of all Swedish equity lending revenue in the first half of 2019, up from 13% for 2018. That was a meaningful uptick for beneficial owners of Intrum, who saw the share price decline 10% during the quarter.

Overview

Quarterly Revenues
$703M ▼ 25%

Average Balances
$231B ▼ 22%

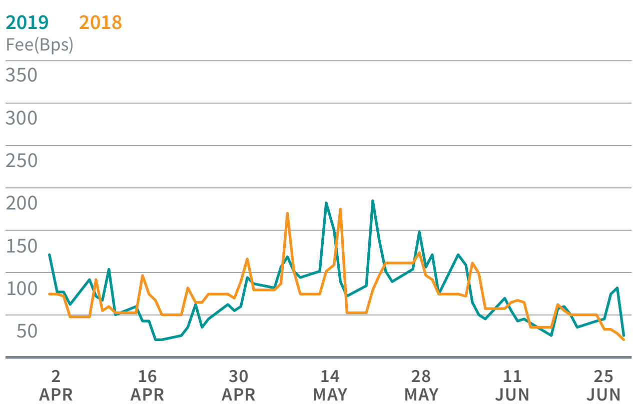
Weighted Average Fee
1.22% ▼ 3.47%

Average Inventory
$2.5T ▼ 5%

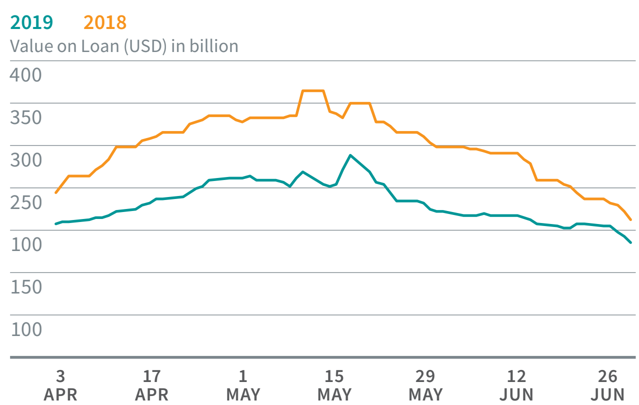
Utilization
6.45% ▼ 13%

Wirecard, following cessation of the short sale ban, was the most revenue generating German equity in Q2 despite a decline in borrow demand. The few bright spots notwithstanding, it was a challenging quarter for EU equity lending revenues. France generated more revenue than any other EU country, with $257m in Q2 revenues, however that was 24% below Q2 2019.

Q2 FEE TREND



Q2 BALANCE TREND



OVERVIEW

- UK equity specials boost revenue
- Utilization declines in top 10 markets by revenue
- Greek equities deliver 2nd highest quarterly revenue on record
- H1 revenues decline by 23% compared with 2018

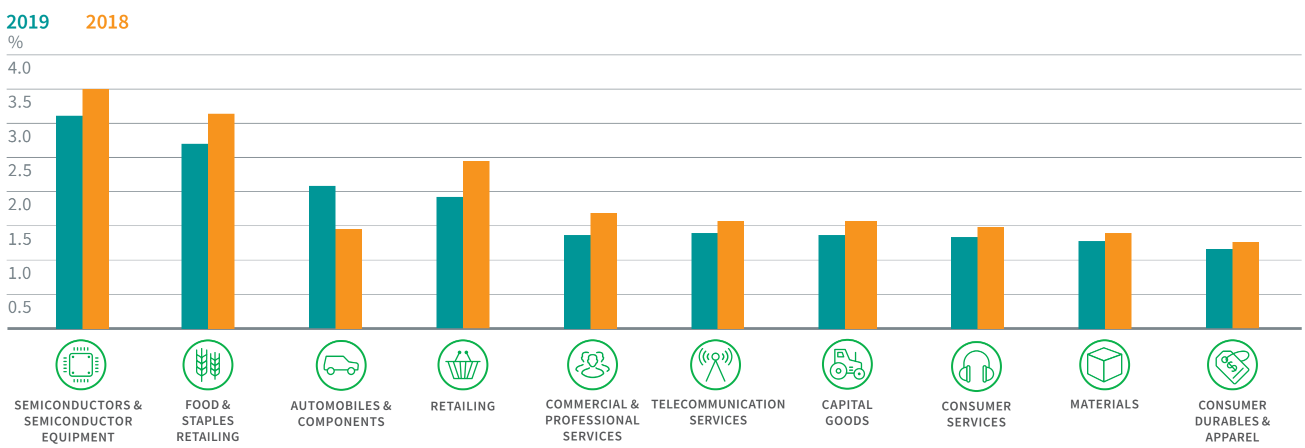
COUNTRY DETAILS

Country	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 Utilization	YoY Change
France Equity	257.56	-23.8%	59.50	-23.2%	1.74%	-0.86%	393.30	-3.1%	10.59	-11.9%
Germany Equity	77.33	-38.0%	27.56	-25.2%	1.13%	-17.13%	291.82	-15.0%	5.98	-8.0%
Sweden Equity	63.70	-27.2%	15.87	-23.1%	1.61%	-5.44%	114.38	-2.6%	9.74	-12.1%
UK Equity	59.15	0.6%	41.00	-18.3%	0.58%	23.16%	762.15	-4.6%	4.17	-13.3%
Italy Equity	52.15	-8.2%	13.76	-24.6%	1.52%	21.76%	93.26	-18.7%	9.28	-5.0%
Switzerland Equity	45.48	3.0%	26.16	1.6%	0.70%	1.38%	360.45	16.5%	5.07	-11.1%
Finland Equity	34.23	-36.6%	5.14	-32.9%	2.67%	-5.55%	40.54	-11.5%	8.80	-13.9%
Norway Equity	30.38	-31.9%	5.07	-32.8%	2.40%	1.27%	35.13	-8.4%	10.26	-19.8%
Netherlands Equity	23.74	-31.1%	10.37	-42.5%	0.92%	19.82%	137.34	-6.7%	4.79	-41.6%
Belgium Equity	19.85	-42.7%	5.90	-31.4%	1.35%	-16.38%	48.43	-27.9%	8.55	-1.2%
Spain Equity	16.81	-43.4%	9.47	-32.6%	0.71%	-16.05%	102.20	-9.9%	6.45	-15.8%
South Africa Equity	13.74	-4.0%	6.17	3.5%	0.89%	-7.24%	59.98	-7.4%	4.93	17.6%
Denmark Equity	6.64	-9.4%	7.21	0.1%	0.37%	-9.45%	64.28	-3.8%	8.32	21.1%
Turkey Equity	4.69	-37.3%	0.75	-6.6%	2.52%	-32.83%	6.26	-36.5%	8.28	34.9%
Greece Equity	4.09	51.8%	0.13	18.9%	12.77%	27.64%	2.05	-9.3%	5.17	30.4%
Austria Equity	2.88	-22.8%	1.58	7.5%	0.73%	-28.16%	12.60	-21.0%	8.28	36.0%
Portugal Equity	2.22	-35.9%	0.61	-33.4%	1.47%	-3.85%	7.71	-8.5%	5.52	-18.9%
Poland Equity	1.05	-49.1%	0.54	-37.2%	0.78%	-18.92%	9.93	-12.9%	4.39	-20.0%

TOP 10 REVENUE GENERATING STOCKS

Instrument Name	Ticker	Sector	Country	Revenue Generated ($)
Axa Sa	CS	Insurance	FR Equity	22.20
Sanofi Sa	SAN	Pharmaceuticals, Biotechnology & Life Sciences	FR Equity	21.58
Bnp Paribas Sa	BNP	Banks	FR Equity	20.77
Wirecard Ag	WDI	Software & Services	DE Equity	15.24
Eurofins Scientific Se	ERF	Pharmaceuticals, Biotechnology & Life Sciences	FR Equity	10.75
Casino Guichard Perrachon Sa	CO	Food & Staples Retailing	FR Equity	10.75
Intrum Ab	INTRUM	Commercial & Professional Services	SE Equity	9.49
Orange Sa	ORA	Telecommunication Services	FR Equity	7.57
Daimler Ag	DAI	Automobiles & Components	DE Equity	7.07
Renault Sa	RNO	Automobiles & Components	FR Equity	7.01

AVERAGE % OF SHARES ON LOAN



Americas Equities

IPOs and Cannabis

Overview

Quarterly Revenues
$747M ▼ 11%

Average Balances
$491B ▼ 5%

Weighted Average Fee
0.61% ▼ 7%

Average Inventory
$9.7T ▲ 7%

Utilization
4.06% ▼ 10%

North American equities posted $747m Q2 lending revenue, an 11% YoY decline. The YoY decline is almost equally explained by lower balances and lower fees.

Specials balances in the region grew 19% compared with Q1 2019, with just over $11bn in balances with fees greater than 500bps. Recent IPOs were significant contributors to the upswing in special balances. Most notable were LYFT with a Q2 average fee of 11.45% and average fee of $1.1bn, and Beyond Meat with an average fee of 68% and average balance of $440m.

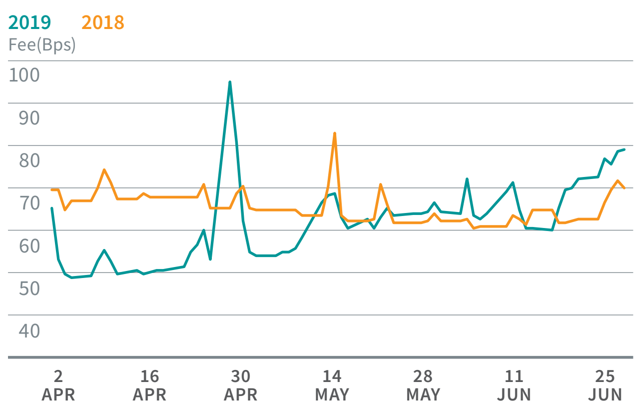
No corporate actions were able to match the magnitude of the Eli Lilly exchange offer for Elanco shares in Q1, however shares of Coty Inc generated more than $10m of lending revenue in Q2, due to the tender offer for shares. Arbitrageurs were able to purchase shares of Coty with the aim of tendering them and then buy put options to hedge the shares which weren't accepted, generating borrow demand to hedge the synthetic short exposures.

The Cannabis sector remains popular with short sellers, which has driven outsized returns given the relatively low floats of many constituents. The sector's $98m in Q2 revenues for lending NA Cannabis stocks was slightly greater than Q1 at $95m, however there was some internal fluctuation on which stocks generated the revenues. Aurora Cannabis saw the largest QoQ revenue increase, with total revenues coming in at $35m. The largest decline was Tilray, though the perceived value in the borrow over the lockup expiry in January generated significant lending revenue which was a tough act to repeat in Q2.

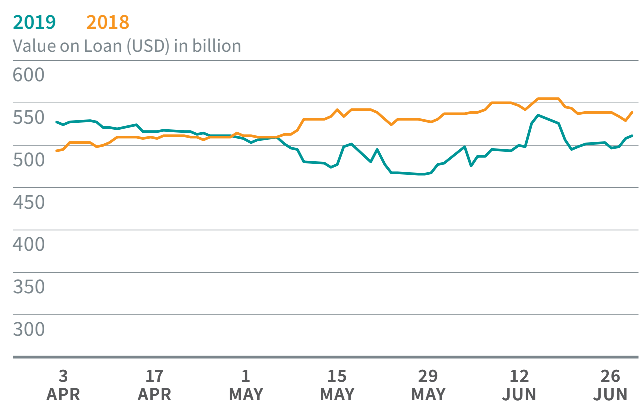
Canadian equity lending revenue totaled $142m, an increase of 28% compared with Q2 2018. The revenues from CA Cannabis stocks came in at $79m in Q2, a 26% increase from Q2 2018. The Cannabis sector has been a significant contributor to lending revenue growth for Canadian equities, however it's notable that for Q2 the YoY revenue percentage increase ex-Cannabis was a slightly higher.

ADR revenues came in well short of Q1, as a result of declining fees for Chinese automaker Nio Inc, however the general uptrend in revenues remains in place with 9.5% YoY growth compared with Q2 2018. The Nio downtick contributed to Chinese ADRs generating only 51% of all ADR revenue in Q2, down from 70% in Q1.

Q2 FEE TREND



Q2 BALANCE TREND



OVERVIEW

Elevated fees for recent IPOs deliver significant Q2 revenues	Retailing sector sees increasing borrow demand	Average balances fall in each market	Cannabis stocks support CA revenue growth

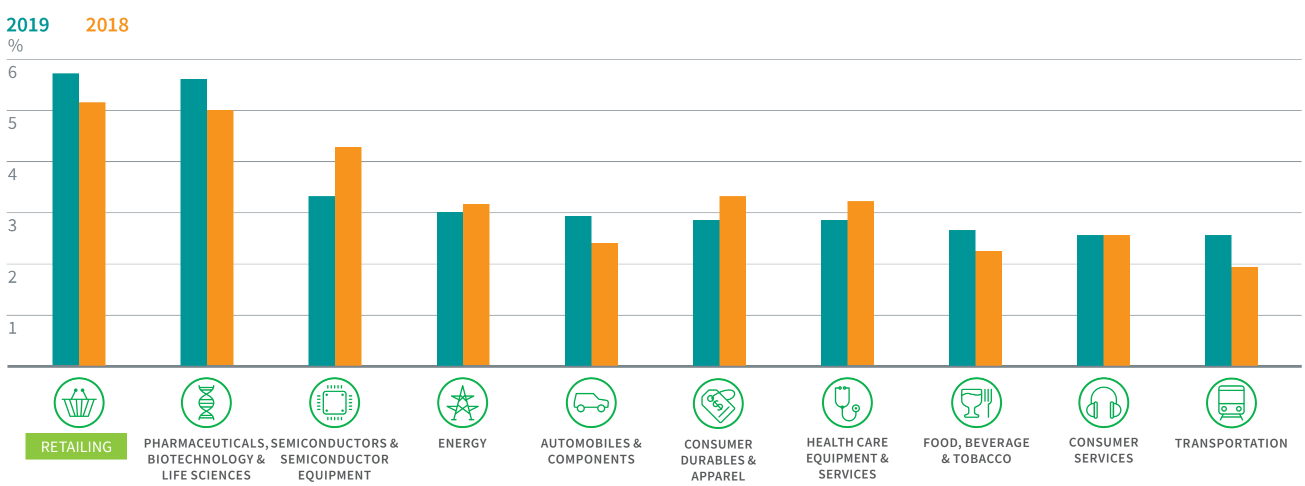
COUNTRY DETAILS

Country	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 Utilization	YoY Change
USA Equity	601.99	-17.4%	449.16	-4.9%	0.54%	-13%	9,171.83	7.5%	3.93	-10.5%
Canada Equity	142.34	28.3%	40.08	-5.4%	1.42%	36%	509.92	-1.8%	6.51	-7.0%
Brazil Equity	2.13	50.0%	0.40	-9.9%	2.13%	67%	1.83	-29.7%	7.21	38.1%
Mexico Equity	0.88	-49.5%	0.92	-12.6%	0.38%	-42%	27.75	-2.3%	2.59	-12.2%
American Depository Receipts	83.42	9.5%	41.46	-31.1%	0.81%	59%	222.20	-3.0%	13.74	-30.0%

TOP 10 REVENUE GENERATING STOCKS

Instrument Name	Ticker	Sector	Country	Revenue Generated ($)
Beyond Meat Inc	BYND	Food, Beverage & Tobacco	US Equity	50.76
Aurora Cannabis Inc	ACB	Pharmaceuticals, Biotechnology & Life Sciences	CA Equity	35.48
Lyft Inc	LYFT	Transportation	US Equity	31.39
Canopy Growth Corp	WEED	Pharmaceuticals, Biotechnology & Life Sciences	CA Equity	24.87
Gtt Communications Inc	GTT	Software & Services	US Equity	16.05
Accelerate Diagnostics Inc	AXDX	Pharmaceuticals, Biotechnology & Life Sciences	US Equity	14.06
Sociedad Quimica Adr Rep 1 Srs B Ord	SQM	Materials	ADR	12.65
Coty Inc	COTY	Household & Personal Products	US Equity	10.32
Tilray Inc	TLRY	Pharmaceuticals, Biotechnology & Life Sciences	US Equity	10.20
Trupanion Inc	TRUP	Insurance	US Equity	9.69

AVERAGE % OF SHARES ON LOAN



Exchange Traded Funds

Lower fees for credit ETFs weigh on revenues

2018 was the best year on record for ETF lending with more than $398m in revenue, which was evenly split between H1 and H2. The first half of 2019 yielded $150m, a shortfall of 25% YTD.

Revenues generated by lending ETFs totaled $68m in Q2 2019, a decline of 31% compared with Q2 2018. Although the YoY revenue decline was greater both in nominal and percentage terms, they did share a common driver: declining fees for high-yield ETFs. The combined revenue from lending shares of HYG and JNK came in at $3.7m for Q2, down from $24m in Q2 2018. Average loan balances for the two USD credit ETFs fell by 10%, most of the revenue shortfall was driven by lower fees. This was the first quarter since Q1 2017 that JNK failed to make the list of top 10 most revenue generating ETFs. Total fixed income ETF lending revenue was down YoY 46% in Q2.

On the equity side revenues fell 10%, matching the Q1 YoY decline. Similar to single stock revenues in North America, the Cannabis sector made a few appearances in the top 10 revenue generating funds list via the Alternative Harvest ETF, MJ and the Horizons Marijuana Life Sciences Index ETF, HMMJ. The most revenue generating equity ETF, IWM, saw increased borrow demand and fees in Q2 relative to Q1.

Global ETF AUM reached $5T one year ago in Q2 2018. After declining with market valuations in Q4, global exchange traded product AUM again surpassed $5T in Q1 2019. That once significant threshold has now been left in the dust with ETP AUM ending Q2 at $5.7T. The increase in use by institutional investors is reflected by the growth of lendable assets in securities lending. Global ETF lendable assets reached $300bn for the first time in Q2, ending June just below that mark at $299.8bn.

Overview

Quarterly Revenues
$68M ▼ 31%

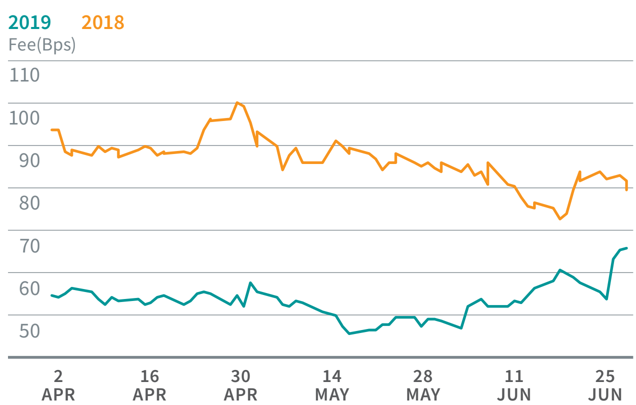
Average Balances
$51B ▲ 12%

Weighted Average Fee
0.53% ▼ 38%

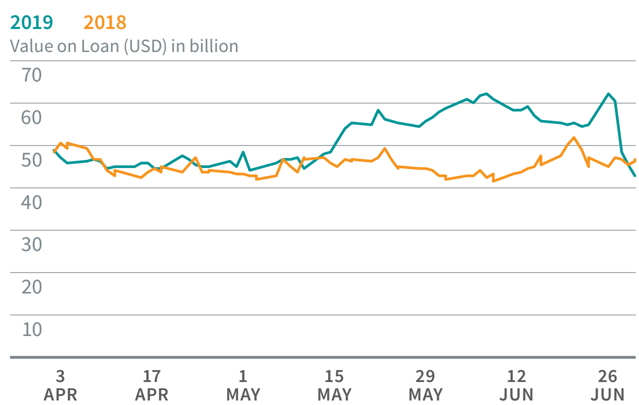
Average Inventory
$299.9T ▲ 6%

Utilization
9.76% ▲ 1%

Q2 FEE TREND



Q2 BALANCE TREND



OVERVIEW

ETF lending revenues fail to keep up with 2018 record	HYG remains most revenue generating ETF despite fee decline	Lendable assets at all-time high	Equity ETFs deliver 72% of revenues

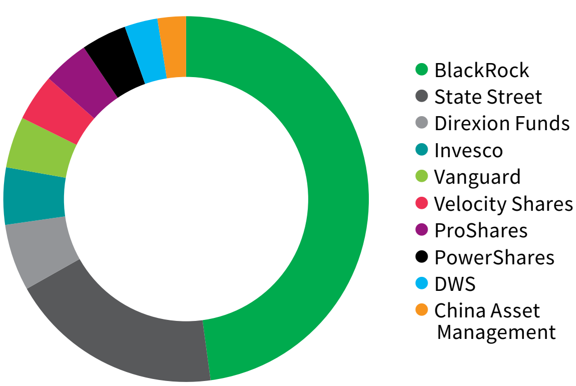
COUNTRY DETAILS

Country	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 Utilization	YoY Change
Americas ETF	48.72	-33.0%	45.99	16.7%	0.42%	-43%	190.28	10.0%	14.03	0.1%
European ETF	13.14	-31.6%	3.55	-23.7%	1.48%	-10%	53.30	1.5%	3.72	-17.7%
Asian ETF	4.05	12.7%	1.11	24.4%	1.46%	-9%	2.09	-6.2%	17.76	49.9%

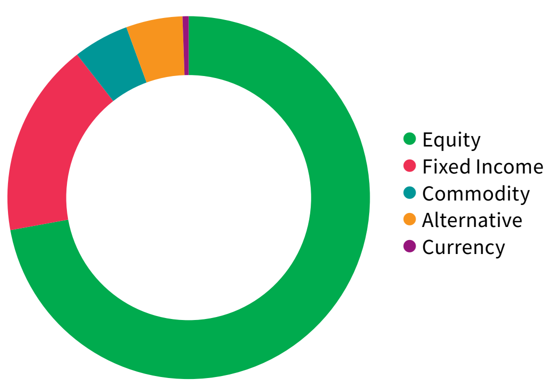
TOP 10 REVENUE GENERATING FUNDS

Instrument Name	Ticker	Listing Country	Asset Class	Q4 Revenue Generated ($)
Ishares Iboxx $ High Yield Corporate Bond Fund	HYG	US ETF	Credit	$3.1
Ishares Russell 2000 Etf	IWM	US ETF	Equity	$2.1
Spdr S&P 500 Etf Trust	SPY	US ETF	Equity	$1.8
Invesco Senior Loan Etf	BKLN	US ETF	Loans	$1.6
Etfmg Alternative Harvest Etf	MJ	US ETF	Equity	$1.4
Chinaamc Csi 300 Index Etf	3188	HK ETF	Equity	$1.3
Invesco Qqq Trust Series 1	QQQ	US ETF	Equity	$1.1
Horizons Marijuana Life Sciences Index Etf	HMMJ	CA ETF	Equity	$1.1
Alerian Mlp	AMLP	US ETF	MLP	$0.8
Ishares High Yield Corp Bond Ucits Etf Eur(Dist)	IHYG	IE ETF	Credit	$0.8

LENDING REVENUES BY ISSUER



LENDING REVENUES BY ASSET CLASS



Corporate Bonds

USD credit revenues underwhelm

Borrow demand for corporate bonds has been steady, with loan balances hovering around $200bn globally since Q1 2018. The overall balance stability belies internal changes which have put downward pressure on total revenues. Q2 corporate bond lending revenues came in at $154m, an 18% decline compared with Q2 2018. After a 10% revenue decline in Q1, corporate bonds are on pace for the first YoY decline in annual revenue since 2013.

USD denominated credits continue to be the most in demand, with average daily loan balances of $105bn in Q2, an increase of $7bn YoY. USD credit revenues were down 28% YoY, the shortfall primarily driven by lower fees. While USD issues are still the most revenue generating currency of issuance, their significance to global corporate lending revenues is in decline. In 2016 USD denominated issues generated 64% of all corporate bond lending revenues; That figure has declined each year since, only 52% in Q2 2019. USD denominated issues are on pace to generate the least revenue since 2015.

CHF and EUR denominated credits all delivered increased lending revenues YoY, highlighting the increased significance of non-USD issues. While USD issues are facing multi-year low in revenues, non-USD are on pace for best revenues post-crisis.

Investment grade bond balances increased 1% YoY, however declining fees caused revenues to fall 9%. Non-Investment grade credit lending revenues were down 23%, almost entirely driven by declining USD denominated issues. NIG loan balances were down 11% YoY, the remainder of the shortfall driven by lower fees. NIG credits generated 60% of Q1 corporate bond revenue, down from 63% in Q2 2018.

Overview

Quarterly Revenues
$154M ▼ 18%

Average Balances
$190B ▼ 3%

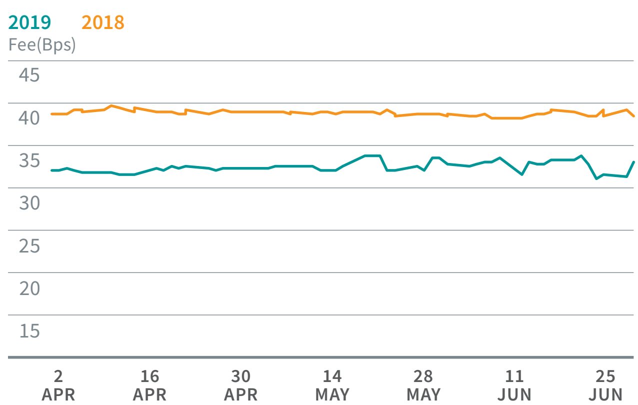
Weighted Average Fee
0.33% ▼ 16%

Average Inventory
$3.6T ▲ 12%

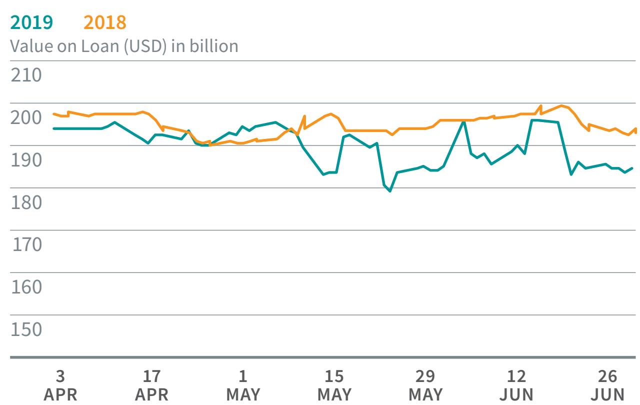
Utilization
4.69% ▼ 14%

Convertible bond lending revenues were down 30% YoY, mainly the result of lower fees. Booking Holdings convert was joined by Illumina's 2023 as the only convertible bonds in the top 10 most revenue generating corporate bonds in Q2; combined, they deliver 12% of all revenues associated with converts.

Q2 FEE TREND



Q2 BALANCE TREND



OVERVIEW

USD issues see declining demand	Lendable inventory averaged a post-crisis peak of $3.6T in Q2	NIG credits deliver 60% of corporate bond revenues	Fourth consecutive quarter with QoQ revenue decline

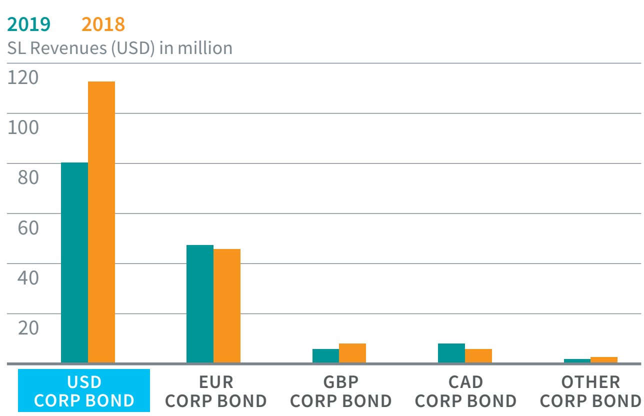
ISSUE TYPE DETAILS

Issue Type	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 Utilization	YoY Change
Conventional Bonds	173.89	-17.4%	182.95	-2.7%	0.31%	-15%	3,227.35	10.2%	5.08	-12.2%
Convertible Bonds	14.66	-30.7%	6.17	-0.9%	0.66%	-30%	48.67	8.2%	8.82	-12.4%
Asset Backed Securities	0.56	4.6%	0.97	10.7%	0.25%	-5%	320.67	41.5%	0.15	-12.8%

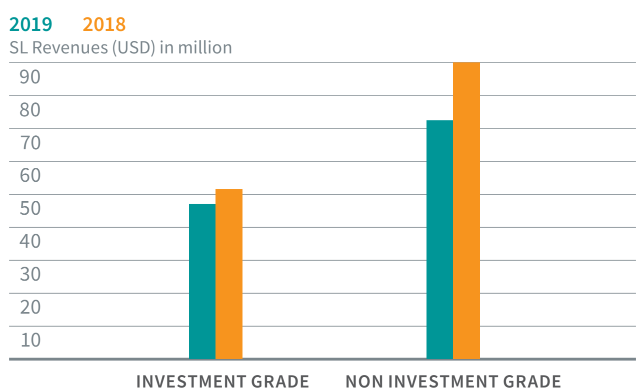
TOP 10 REVENUE GENERATING BONDS

Top Earning Assets	Cusip	Denomonation	Aseet Class	Revenue Generated ($)
Tereos Finance Groupe I Sa (4.125% 16-Jun-2023)	TERES	EUR	Non-Investment Grade	$2.4
Mallinckrodt International Finance Sa (5.75% 01-Aug-2022)	MNK	USD	Non-Investment Grade	$2.0
Chesapeake Energy Corp (8% 15-Jan-2025)	CHK	USD	Non-Investment Grade	$1.8
Antero Resources Corp (5% 01-Mar-2025)	AR	USD	Non-Investment Grade	$1.4
Centurylink Inc (7.5% 01-Apr-2024)	CTL	USD	Non-Investment Grade	$1.2
Party City Holdings Inc (6.625% 01-Aug-2026)	PRTY	USD	Non-Investment Grade	$1.0
Realogy Group Llc (4.875% 01-Jun-2023)	RLGY	USD	Non-Investment Grade	$1.0
Booking Holdings Inc (0.9% 15-Sep-2021)	BKNG	USD	Convertible	$0.9
Illumina Inc (0% 15-Aug-2023)	ILMN	USD	Convertible	$0.9
Wepa Hygieneprodukte Gmbh (3.75% 15-May-2024)	WEPIN	EUR	Non-Investment Grade	$0.8

Q2 SECURITIES LENDING REVENUES BY DENOMINATION



Q2 SECURITIES LENDING REVENUES BY RATINGS CATEGORY



Government bonds

Declining balances & revenues

Government bond lending revenues were $326m for Q2, a 24% YoY decline. This was the fifth consecutive quarter with declining revenues, following the post-crisis record in Q1 2018. The revenue shortfall has primarily been driven by lower balances, however average fees have also declined.

The primary driver of declining revenues was the drop in US debt lending, which fell 23% YoY. There were a few short-lived opportunities to lend the 10Y Treasury at special rates in June, making it the most revenue generating government bond by a fair margin.

One explanation for the general decline in borrow demand may be the increased number of primary dealer US Treasury inventories, reported by the Federal Reserve Bank of New York; this could be reducing the need to borrow in HQLA collateral. The primary dealer holdings of non-agency treasuries increased by 32% YoY in Q2, which may have reduced the need for collateral upgrade transactions. The Q2 decline in interest rates may also be stifling demand for treasury borrowing, with the bond rally making short positions in rates instruments untenable.

Of the largest 10 markets in revenue terms, Australia was the only country whose debt saw a YoY revenue increase in Q2. The increase in Asia revenues was entirely driven by Australia, with every other market seeing a YoY decline. Of the top five markets by revenue, Canada was the only one to do better than a double-digit YoY decline in Q2.

Overview

Quarterly Revenues
$326M ▼ 24%

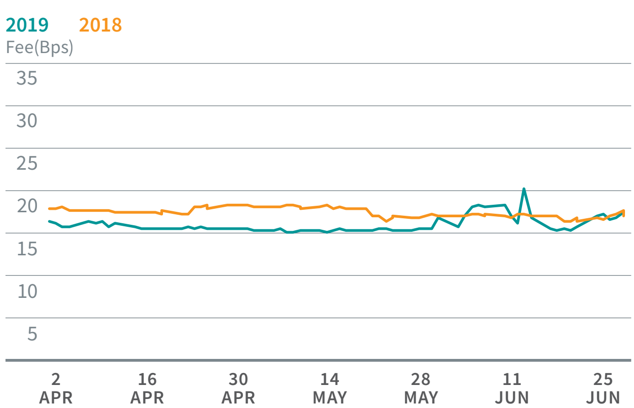
Average Balances
$816B ▼ 18%

Weighted Average Fee
0.16% ▼ 8%

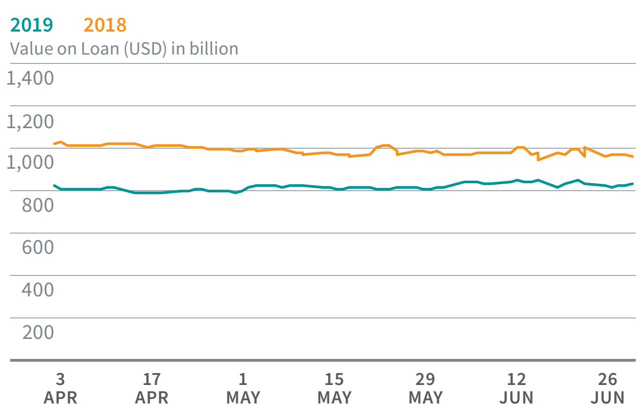
Average Inventory
$3.1T ▲ 8%

Utilization
20.68% ▼ 21%

Q2 FEE TREND



Q2 BALANCE TREND



OVERVIEW

Lowest Q2 revenue since 2016	Balances decline in all regions	H1 revenues decline YoY for first time since 2013	UST securities generate 53% of revenue

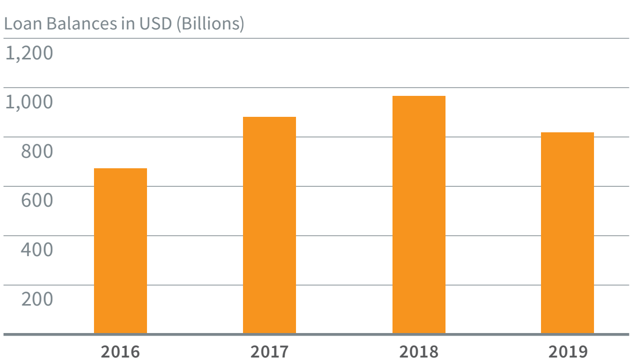
REGIONAL DETAILS

Country	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 Utilization	YoY Change
Americas Bonds (Govt)	200.90	-21.3%	485.31	-11.2%	0.17%	-11%	2,094.27	11.9%	19.06	-20.9%
Asian Bonds (Govt)	9.44	3.0%	20.59	-49.3%	0.18%	103%	75.66	11.7%	11.24	25.0%
European Bonds (Govt)	115.89	-30.3%	309.74	-22.9%	0.15%	-10%	969.37	-0.5%	24.92	-21.5%
Emerging Market Bonds	11.45	-30.8%	16.79	-5.9%	0.27%	-26%	258.80	13.3%	6.03	-17.7%

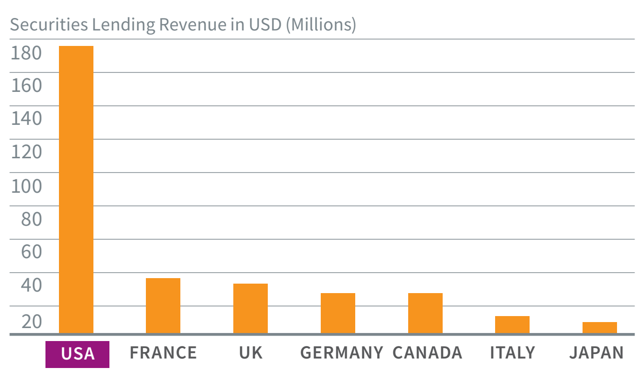
TOP 10 REVENUE GENERATING BONDS

Instrument Name	ISIN	Currency	Issuer	Revenue Generated ($)
United States Treasury (2.375% 15-May-2029)	9128286T2	USD	US	7.91
United States Treasury (3% 15-Feb-2049)	912810SF6	USD	US	2.01
United States Treasury (1.5% 15-Aug-2026)	9128282A7	USD	US	1.88
United States Treasury (2.625% 31-Aug-2020)	9128284Y3	USD	US	1.86
United States Treasury (2% 31-Jul-2022)	912828XQ8	USD	US	1.54
United States Treasury (1% 30-Jun-2019)	912828TC4	USD	US	1.51
United States Treasury (1.875% 31-May-2022)	912828XD7	USD	US	1.43
United Kingdom Of Great Britain And Northern Ireland (1.625% 22-Oct-2028)	G4527HBW0	GBP	UK	1.32
Canada (2.75% 01-Dec-2048)	135087D35	CAD	CA	1.24
United States Treasury (2.75% 15-Aug-2021)	9128284W7	USD	US	1.21

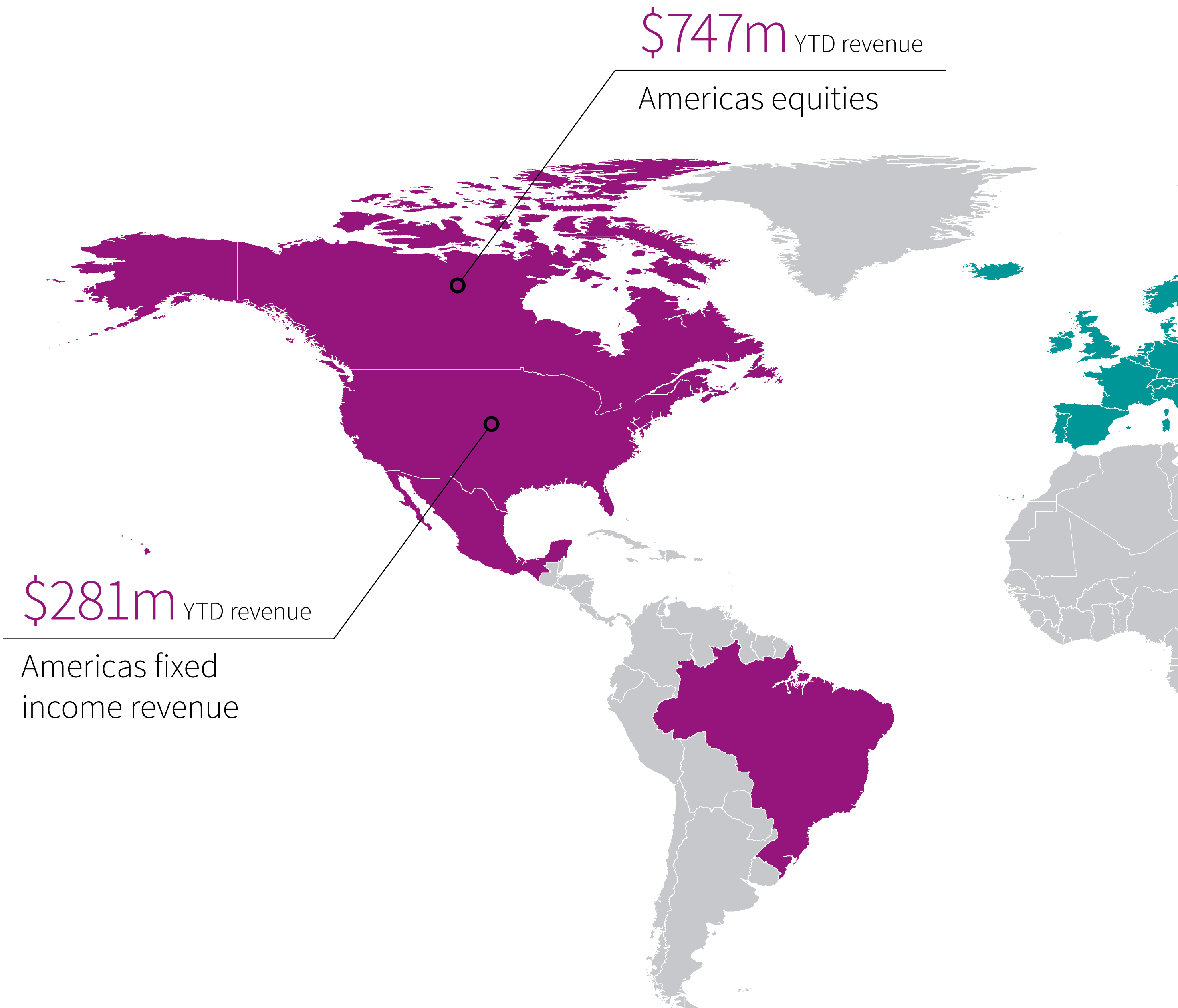
GOVERNMENT BOND BALANCE TREND



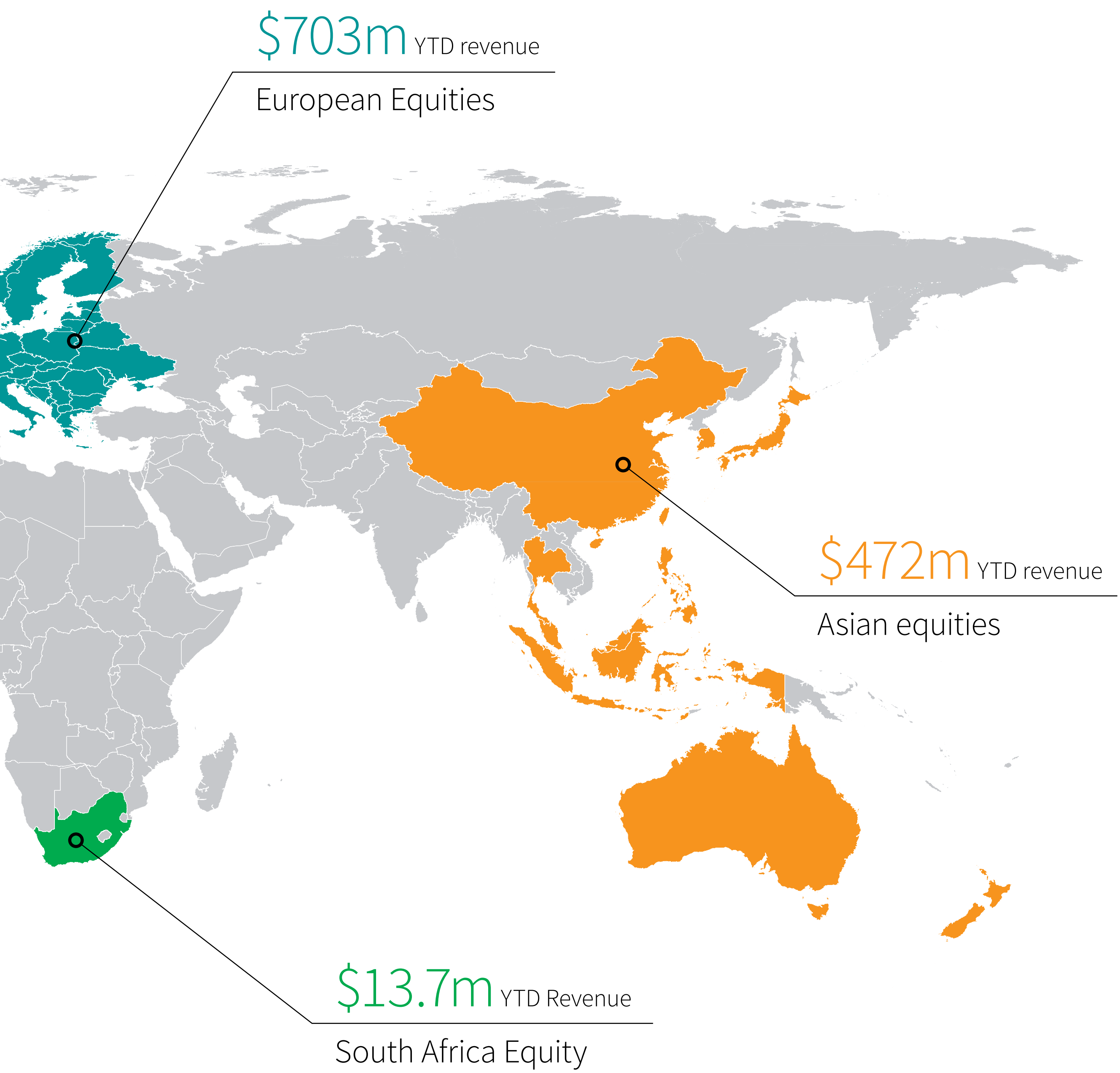
Q2 REVENUES BY ISSUER



Global snapshot



Asset Class	Lendable Assets ($T)	Loan Balance ($T)	% Non-Cash	Utilization (%)	SL Fee
All Securities	$21.7	$2.0	67%	7	0.51%
Government Bonds	$3.1	$0.8	77%	21	0.16%
Corporate Bonds	$3.2	$0.2	48%	5	0.31%
Equities	$14.1	$0.9	61%	5	0.86%
Depository Receipts	$0.2	$0.0	51%	14	0.83%
Exchange Traded Funds	$0.3	$0.1	33%	10	0.54%


$703m YTD revenue
European Equities
$472m YTD revenue
Asian equities
$13.7m YTD Revenue
South Africa Equity

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373891910-0719-YJ

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