

Securities Finance H2 2022 review





Greetings and welcome to the H2 2022 securities finance market review. As 2022 draws to a close, it feels as if most things have finally returned to pre-pandemic form. Like you, we've adapted to our new, hybrid work environments and have been delighted to resume our face-to-face meetings with you. All while remaining

laser-focused on delivering the best solutions, data, and analytics to you, our customers.

Judging from the full year returns of \$12.521bln, it appears that the securities finance market has also returned to its pre-pandemic levels of activity. After record-breaking revenues in the first half of 2022, H2 continued to exceed previous revenue tallies by generating \$6.417bln. There were a variety of drivers behind the strong performance, most notably the increase in both revenues and average fees commanded for corporate bonds and the strong demand for government bonds heading into December. As we saw during H1 2022, Americas equities generated strong revenues from ongoing market specials. This trend continued into H2 2022 culminating in new highs in Q3.

Americas ETPs, Americas equities, government bonds and corporate bonds all performed incredibly well throughout the second half of 2022. All these asset classes experienced their best performance in recent history and 2022 is likely to be referred to as the year they will need to beat going forward.

Our team had a busy year delivering great content and solutions to meet your securities finance needs. I would like to mention several highlights that demonstrate our commitment to bringing innovative, relevant, and timely solutions to you:

Repo Data & Analytics (RDA)

Our RDA offering, which we launched in Q3, has been very well-received by market participants looking for price discovery and liquidity metrics in the global repo markets. Volumes continue to grow, with over \$2.1trillion across more than 20,000 instruments providing market color, rates, tenors, and haircuts to help clients make more informed decision on their global repo activities.

Onboarding Accelerator Tool

The onboarding accelerator tool continues to gain traction among customers, addressing inefficiencies in the client onboarding process through an online platform that automates securities lending document

exchange and workflow. The tool has been touted as an efficient and timely way to prioritize account approvals based on portfolio attributes and improve mutual approval between borrowers and lenders.

New and improved distribution channels

As part of S&P Global Market Intelligence, we have been able to add to the depth and breadth of proprietary and third-party distribution channels carrying our data such as Snowflake, ClariFI and S&P Marketplace. Capital IQ and Capital IQ Pro (2023) are recent examples of how we are making it easier than ever for customers to access our data through their platform of choice. We are also committed to increasing the frequency of the data by adding intraday to the current end of day data, ensuring all platforms include multi-asset classes and upgrading capabilities with the most current and complete set of short interest data points.

ETF Collateral Lists

To meet the increasing demand for diversified collateral types, in December we launched our ETF Collateral List in the web portal. This tool screens equity and fixed income ETFs based on custom eligibility requirements. We expect to roll out this enhanced functionality more broadly to our customer base in the first quarter of 2023.

Thought leadership

We continued our return to in-person events by hosting a customer forum in September in New York. More than 100 customers and prospects joined us for an afternoon of lively discussion and thought-provoking debate on our industry's most important topics. We look forward to reconvening in New York again in the latter half of 2023. And, back by popular demand, we are reinstating our quarterly webinar series to provide an in-depth review of market revenues and drivers.

As we look ahead to the challenges of 2023 and beyond, I offer a sincere thank you for your continued trust in us. We remain very grateful for the opportunity to be your securities finance solutions partner. As always, your feedback is very welcomed, so please reach out to me with your thoughts.

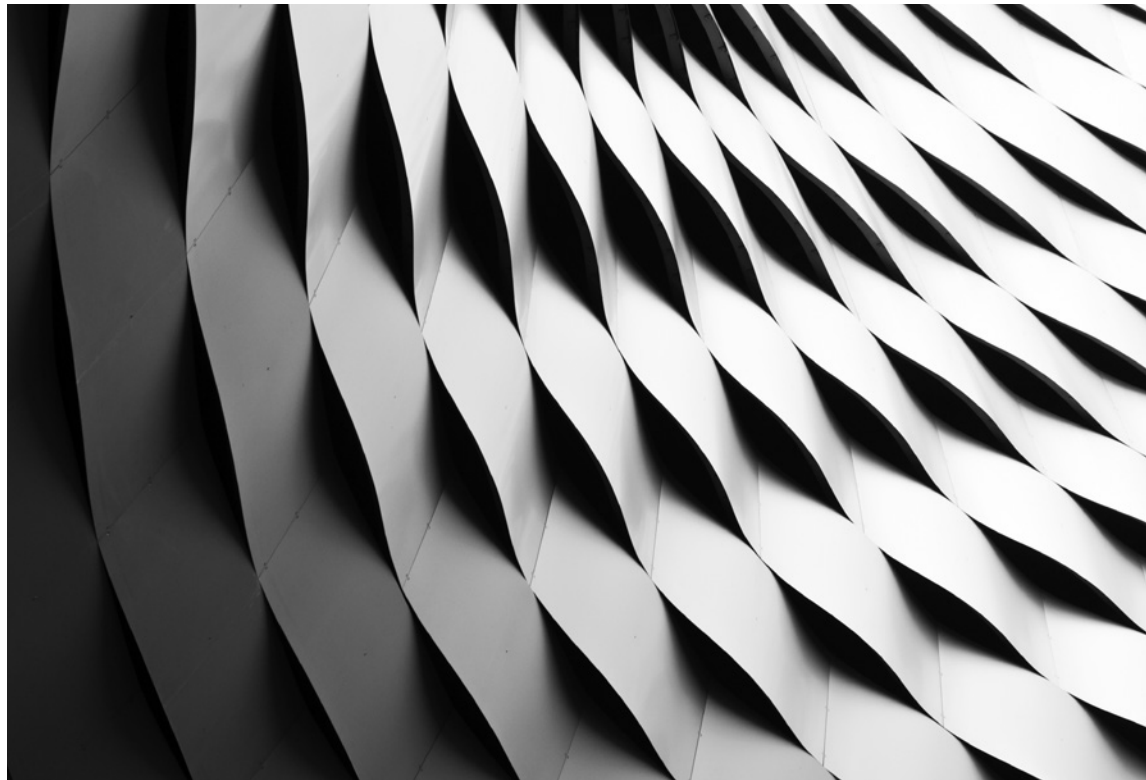
Kind regards,

Paul R. Wilson

Managing Director and Global
Head of Securities Finance
S&P Global Market Intelligence

Table of Contents

Securities Finance H2 2022 Snapshot	2
Asia Equities	4
European Equities	6
Americas Equities	8
Exchange Traded Products	10
Corporate Bonds	12
Government Bonds	14
Global View	16



Securities Finance H2 2022 Snapshot

\$6.4bln in securities finance revenues generated during H2 - 2022, the best performing year since 2008

- H2 revenues increased 17% YoY
- Specials activity in the US drives revenues higher
- Corporate bonds produce spectacular returns
- Government bonds experience a vintage year

Global Securities Finance Snapshot - H2 2022

Asset Class	H2 Revenue (\$M)	Rev YoY %Chg	Avg Balances (\$B)	Bal YoY %Chg	Avg Fee	Fee YoY %Chg	Avg Lendable (\$B)	Lendable YoY Chg	Avg Utilization	Util YoY %Chg
All Securities	\$6,417	17%	\$2,699	-3%	0.47%	21%	\$29,970	-15%	7.0%	9%
All Equity	\$4,848	12%	\$1,278	3%	0.75%	10%	\$22,010	-15%	4.2%	21%
Americas Equity	\$2,550	40%	\$694	4%	0.73%	35%	\$15,885	-13%	3.3%	18%
Asia Equity	\$1,012	-13%	\$207	-7%	0.97%	-6%	\$2,263	-18%	5.4%	18%
EMEA Equity	\$644	-9%	\$242	18%	0.53%	-22%	\$3,101	-21%	6.2%	59%
ADR	\$183	4%	\$28	-33%	1.30%	55%	\$223	-38%	9.2%	6%
ETP	\$394	20%	\$102	3%	0.76%	16%	\$427	-13%	11.8%	-6%
Government Bond	\$986	19%	\$1,136	-9%	0.17%	33%	\$3,825	-12%	24.1%	-6%
Corporate Bond	\$527	69%	\$260	0%	0.40%	71%	\$3,850	-20%	5.8%	21%

Note: Includes only transactions with positive fees
Source: SPGMI Securities Finance

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Following on from an impressive H1 2022, a remarkable H2 generated \$6.417bln in securities finance revenues. This represents a 17% increase YoY and places 2022 as the best year for securities finance revenues since 2008 (\$13.2bln) having produced a combined \$12.522bln over the full year.

Despite an 8% decline in balances when compared with H1 2022, revenues of \$6.417bln were still achieved in the six months to December, representing an increase of 5% over H1 2022. Average fees for the period increased by a respectable 21% when compared YoY and average utilization followed suit with an increase of 9% when compared with H2 2021. Average utilization for H2 for all securities was 7%.

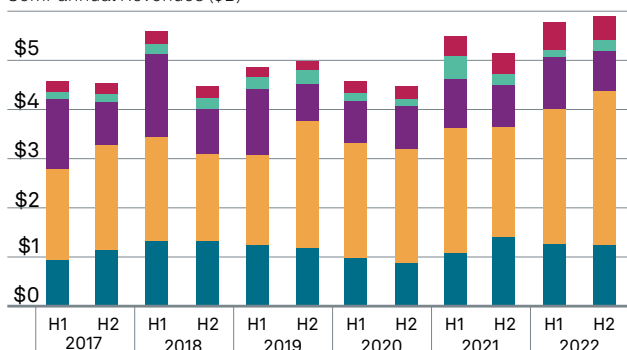
A combination of increased market volatility, a return of geopolitical risk and the aggressive rise in interest rates produced fertile ground for securities finance participants to generate strong returns across both fixed income and equity asset classes. Americas equities, ETPs, corporate bonds and government bonds all outperformed when compared with previous six-month periods, contributing to the impressive results seen over both the half year and the full year periods.

In the equity markets revenues over the period increased 12% YoY to \$4.848bln. Average fees increased 10% to 75bps and utilization increased 21% to 4.2%. The increase in revenues over the period was the result of a fervent specials market in the US. Specials activity in the region peaked during July when 3.9% of the balance in Americas equity contributed over 80% of the regions revenues. Over the period the automobile and components, retail and media and entertainment sectors were all in demand. These sectors remained popular throughout the year.

In the EMEA equity markets Sweden, Switzerland, Netherlands, Turkey, Finland, and Austria all saw impressive increases in revenues. Sweden became the third most profitable market in the region for lenders generating \$108m in revenues. Real estate and media and entertainment stocks remained the focus of borrowers in this market. Across the region revenues declined 9% YoY. Average fees also declined (-22%) but utilization increased 59%.

Equity Finance Revenue by Region

APAC Americas EMEA ADR ETF
Semi-annual Revenues (\$B)



Source: SPGMI Securities Finance

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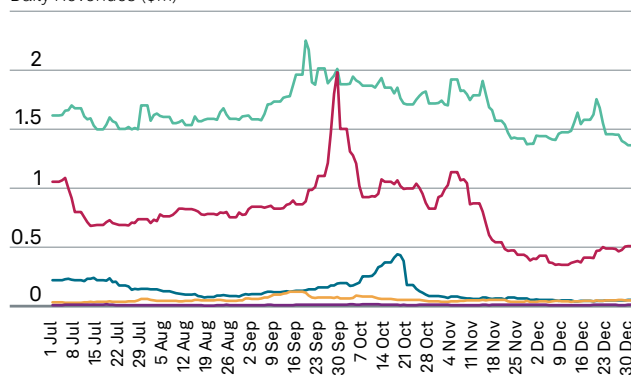
In APAC, YoY revenues decreased 13% to \$1.012bn. The only two markets in the region that experienced increases in revenues were Japan and Australia. Australia was the market that shined in APAC throughout the period with revenues increasing 50%, average fees increasing 62% and utilization increasing 3% YoY. Equities in the materials sector remained popular borrows throughout the period. Across other APAC markets, revenues declined significantly in both South Korea and Malaysia along with average fees. Japan was the most important market in the region in terms of revenues contributing 26% of the total figure. Utilization increased significantly in this market over the period to 6.5%.

ETPs experienced a bumper six months. \$394m in revenues were generated over the period and balances increased 3%. Most of the revenues were derived from Americas ETPs which contributed 85% of the total. Despite utilization falling 6%, average fees increased by 16% when compared YoY. Nine of the top ten revenue generating ETPs were US ETFs. Popular borrows followed the trend seen across the first six months of the year. Corporate bond related ETFs such as the iShares Iboxx High Yield Bond ETF (HYG) and main index equity ETFs such as the SPDR S&P 500 ETF (SPY) remained the most popular borrows.

Corporate bonds continued their impressive run throughout the second half of 2022 increasing revenues over each quarter. \$527m was generated from the asset class over the period which represents an increase of 69% YoY. Over the period, average fees increased 70% to 40bps and utilization increased 21% to 5.8%. Corporate bond borrowing increased throughout the period as the rate of interest rate rises continued at pace. Falling prices and a decrease in market liquidity increased demand which has yet to show signs of dissipating.

Daily ETP Finance Revenues by Asset Class

Alternative Commodity Currency Equity Fixed Income
Daily Revenues (\$M)



Source: SPGMI Securities Finance

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Fee based revenue for government bond lending came in at \$986m over H2, the largest over several half year periods and an increase of 19% YoY. US treasury borrowing generated \$565m over the period and European government bonds contributed \$365m, representing increases YoY of 10% and 32% respectively. Both asset classes profited from impressive increases in average fees. Emerging market government bonds also experienced a strong six-month period. Revenues increased 110% over the period and average fees increased to 47bps representing a 114% increase YoY. Government bonds experienced sustained demand over H2 with a steady increase in fees to December. Short-dated government bonds remained popular as market liquidity dried up across this maturity bucket. Looking towards 2023, without any major change in current market conditions, borrowing activity across this asset class is predicted to remain strong.

Conclusion

2022 was an outstanding year for securities finance revenues. Demand was spread across multiple asset classes with fixed income assets in particular experiencing widespread borrowing interest. Despite a decrease in balances over the period, a strong increase in both average fees and utilization meant that revenues continued to outperform previous half year periods. The simultaneous fall in asset prices across both fixed income and equities throughout 2022 has proved difficult for many investors to successfully navigate. The securities finance markets have played an important role throughout this period, not only in their ability to add value to investors through the generation of increasingly important returns but by providing essential liquidity to financial markets during periods of stress and uncertainty.

APAC Equities

Australia - You little ripper...

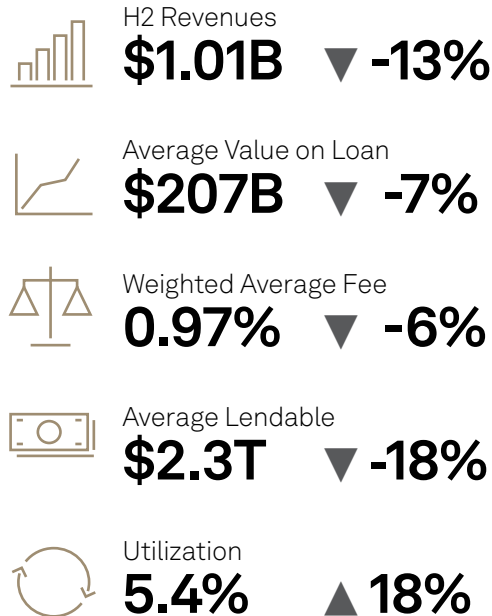
APAC equities maintained their momentum as revenues exceeded 1 bn in the second half of the year. The major contributors in H2 were Japan (26.52%), Taiwan (25.90%), and Hong Kong (21.82%). Markets were on track to record earnings, but short selling restrictions in both Taiwan and South Korea resulted in a 2.5% decline in overall revenue from H1 2022.

Regulators in South Korea forbade short selling on "overheated" equities, while Taiwanese regulators restricted borrowing securities for short selling on any stock with a price decline of more than 3.5% in a day. Following the restrictions, revenues in both markets experienced a decline from H1 (22% South Korea and 8% in Taiwan). Taiwan and South Korea have historically been important drivers of revenues in the APAC region so any restrictions in these markets do tend to have a pronounced impact upon regional revenues.

Revenues in Japan and Hong Kong rebounded after an uneventful H1 2022. Revenues in Japanese markets increased by 6.43% (to \$268.51m) as a volatile JPY created opportunities and China (Japan's largest trading partner) continued its zero-COVID policy. The impact of China's zero-COVID policy appears to have buoyed Hong Kong's revenues, which increased 14.76% to \$220.8m. When looking at the top ten revenue generating stocks over the period, Hong Kong stocks represent 40% of the names on the list. Borrowing activity in this market has remained very stock specific over the period given the market's negative performance.

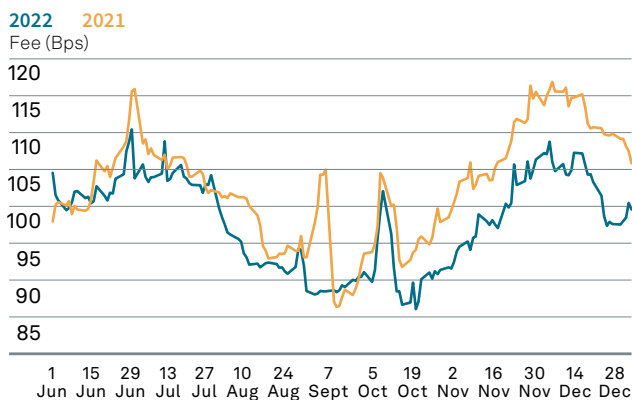
Australia was the market to watch over H2 as it continued its upward trajectory in terms of both revenues and average fees. Monthly revenues were on average 10-15% greater in H2 2022, with several specials (Lake Resources Inc, Perpetual Inc and Magellan

Overview



Financial Group). Over the half year period, revenues increased by 50% YoY with average fees increasing by an incredible 62%. Average fees topped 1% over Q3 and overall revenues from this market reached their highs in Q4. Australia has gone from strength to strength over the course of 2022 as its mining and mineral stocks have increased in attractiveness to borrowers.

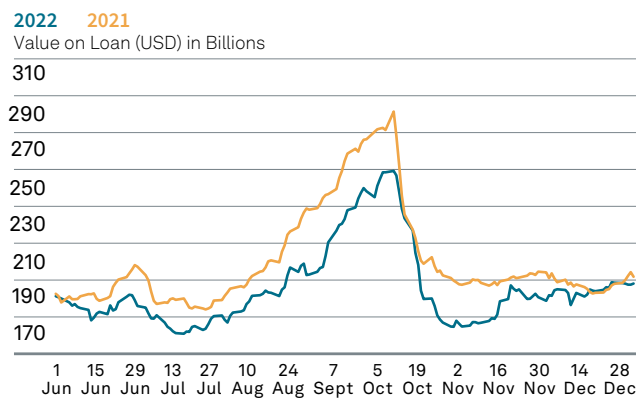
H2 Fee Trend



Source: SPGMI Securities Finance

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H2 Balance Trend



Source: SPGMI Securities Finance

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APAC revenues decline 13% YoY but still top \$1bln

APAC utilization increases 18%

Average fees rise considerably in Australia

Japan leads APAC revenues

Country Details

Country	H2 Revenue (\$M)	Rev YoY %Chg	Avg Balances (\$B)	Bal YoY %Chg	Avg Fee	Fee YoY %Chg	Avg Lendable (\$B)	Lendable YoY Chg	Avg Utilization	Util YoY %Chg
Japan Equity	\$269	2%	\$117	2%	0.44%	2%	\$960	-21%	6.5%	32%
Taiwan Equity	\$262	-16%	\$20	-17%	2.63%	2%	\$86	-16%	10.2%	9%
Hong Kong Equity	\$221	-13%	\$31	-25%	1.40%	16%	\$516	-23%	4.6%	4%
South Korea Equity	\$143	-37%	\$15	-17%	1.88%	-24%	\$141	-28%	5.8%	35%
Australia Equity	\$94	50%	\$20	-5%	0.95%	62%	\$437	-3%	3.8%	3%
Malaysia Equity	\$7	-66%	\$0.39	-34%	3.50%	-45%	\$11	-10%	3.2%	-21%
Singapore Equity	\$9	-27%	\$3	69%	0.67%	-55%	\$60	5%	3.7%	64%
Thailand Equity	\$7	-38%	\$1	6%	1.81%	-41%	\$17	3%	4.3%	14%
New Zealand Equity	\$1	-63%	\$0.29	-65%	0.76%	6%	\$9	-19%	2.8%	-50%

Note: Includes only transactions with positive fees
Source: SPGMI Securities Finance

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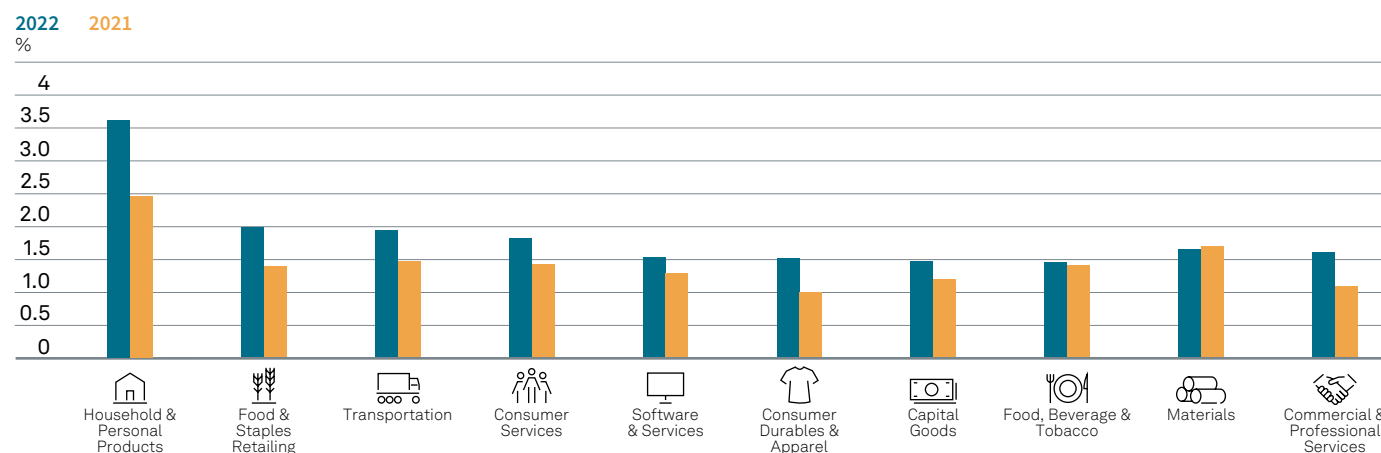
Top 10 Revenue Generating Stocks

Top Earning Assets	Ticker	Sector	Country	Revenue Generated (\$M)
Wiwynn Corp	6669	Asia Technology Hardware & Equipment	TW Equity	\$17.46
Koolearn Technology Holding Ltd	1797	Asia Consumer Services	HK Equity	\$14.81
Lake Resources NL	LKE	Australasia Materials	AU Equity	\$12.94
United Microelectronics Corp	2303	Asia Semiconductors & Semiconductor Equipment	TW Equity	\$12.32
Cansino Biologics Inc	6185	Asia Pharmaceuticals, Biotechnology & Life Sciences	HK Equity	\$11.44
Lg Energy Solution Ltd	373220	Asia Capital Goods	KR Equity	\$10.58
Haichang Ocean Park Holdings Ltd	2255	Asia Consumer Services	HK Equity	\$8.56
Tianneng Power International Ltd	819	Asia Automobiles & Components	HK Equity	\$8.50
Snow Peak Inc	7816	Japan Consumer Durables & Apparel	JP Equity	\$8.11
Nan Ya Printed Circuit Board Corp	8046	Asia Technology Hardware & Equipment	TW Equity	\$7.89

Source: SPGMI Securities Finance

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\$ Short Loan Value as a % of Market Cap



Source: SPGMI Securities Finance

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EMEA Equities

Utilization increases 59%

Securities finance revenues across EMEA equities totaled \$644m during the second half of 2022. This is a decrease of 9% when compared with H2 2021 and a decrease of 24% when compared to the first half of the year.

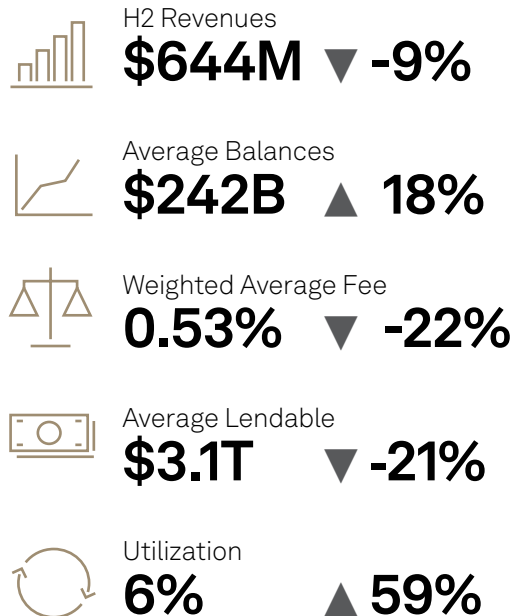
EMEA equities have been exposed to many challenges over 2022. The ECB and BOE increased interest rates to levels not seen for many years to try and tame inflationary pressures, the continent was exposed to an energy crisis because of the Ukraine war and political instability engendered financial markets in the UK to question the credit worthiness of it's government bonds.

Despite these challenges average utilization across the region increased by an impressive 59% over the last six months of the year when compared with the same period during 2021. A 22% decline in the average fee (YoY) over the period affected revenues despite an 18% increase (YoY) in balances.

Germany, France, and Sweden were the highest revenue generating markets within the region. German equities continued to be the most popular when looking at utilization followed by Turkey and Sweden. Whilst average balances in Turkey remained relatively low at \$1bln, revenue increased an impressive 169% YoY and average fees increased a remarkable 47% to 477bps. On loan balances in the country also increased by an impressive 79% YoY.

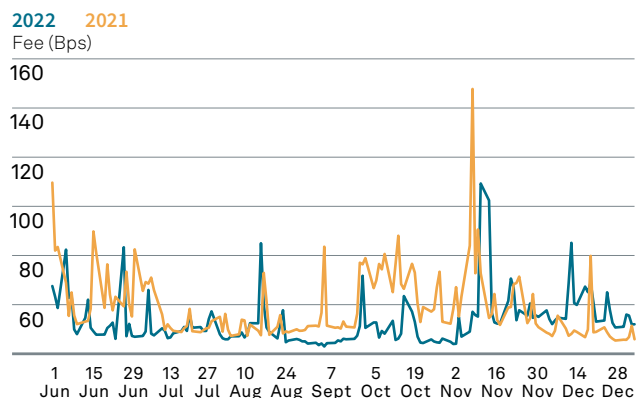
Sweden has been one of the standout markets throughout 2022 in the EMEA region. The country's equities have remained attractive to borrowers throughout the year as the OMX was perceived to have high exposure to economically sensitive cyclical companies with high valuations. Revenues generated in the country increased 34% YoY during H2 equaling those of France. Average fees were 111bps for the period and utilization increased 69% YoY to 9.4%.

Overview



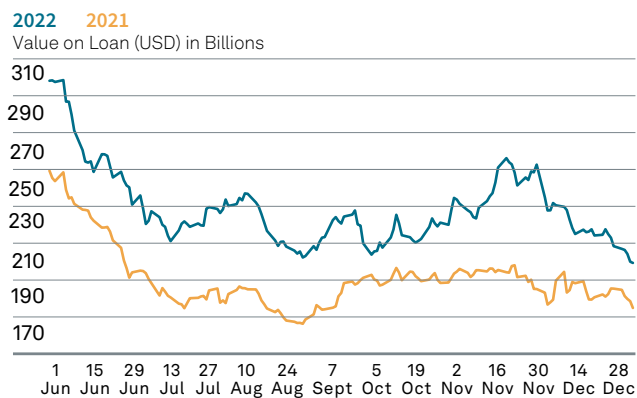
Borrowing activity also picked up in the Netherlands over the period with revenues increasing 84% YoY to \$39m. Average fees increased 51% over the period to 51bps and average utilization increased 112% to 6.3%. Popular stocks over the six months in this market included Asml Holding Nv, Koninklijke Philips Nv, and Nn Group Nv.

H2 Fee Trend



Source: SPGMI Securities Finance © 2023 S&P Global Market Intelligence

H2 Balance Trend



Source: SPGMI Securities Finance © 2023 S&P Global Market Intelligence

Revenues decline
9% YoY

Average lending
fees decline 22% YoY

Sweden continues
to produce strong
returns

Varta Ag produces
strong revenues
for lenders

Country Details

Country	H2 Revenue (\$M)	Rev YoY %Chg	Avg Balances (\$B)	Bal YoY %Chg	Avg Fee	Fee YoY %Chg	Avg Lendable (\$B)	Lendable YoY Chg	Avg Utilization	Util YoY %Chg
Germany Equity	110	6%	48	48%	0.46%	-28%	352	-25%	11.3%	130%
France Equity	108	-53%	59	47%	0.36%	-65%	514	-16%	9.2%	80%
Sweden Equity	108	34%	19	6%	1.11%	34%	158	-33%	9.4%	69%
UK Equity	75	15%	33	6%	0.46%	9%	854	-17%	2.8%	28%
Switzerland Equity	49	25%	27	-1%	0.36%	26%	472	-17%	4.6%	25%
Norway Equity	42	16%	5	29%	1.55%	-6%	49	-8%	8.1%	46%
Netherlands Equity	39	84%	17	33%	0.45%	51%	230	-31%	6.3%	112%
Italy Equity	29	-41%	10	-8%	0.55%	-36%	106	-27%	7.9%	42%
Turkey Equity	24	169%	1	79%	4.77%	49%	5	6%	10.9%	42%
South Africa Equity	23	-68%	3	-31%	1.25%	-32%	46	-14%	4.8%	-16%
Spain Equity	17	-22%	7	-22%	0.44%	0%	102	-17%	5.6%	-6%
Finland Equity	11	46%	4	-6%	0.52%	56%	52	-18%	6.1%	21%
Belgium Equity	9	-36%	3	-11%	0.52%	-27%	43	-17%	6.5%	16%
Denmark Equity	8	-11%	4	-22%	0.35%	15%	102	-25%	3.6%	10%
Austria Equity	5	61%	1	-5%	0.75%	74%	11	-35%	6.7%	7%
Poland Equity	5	10%	1	-9%	1.11%	22%	7	-34%	9.0%	41%
Greece Equity	1	-69%	0.02	-68%	10.72%	-2%	3	-4%	0.8%	-68%
Portugal Equity	1	-26%	1	-2%	0.27%	-24%	12	-2%	6.7%	3%

Note: Includes only transactions with positive fees
Source: SPGMI Securities Finance

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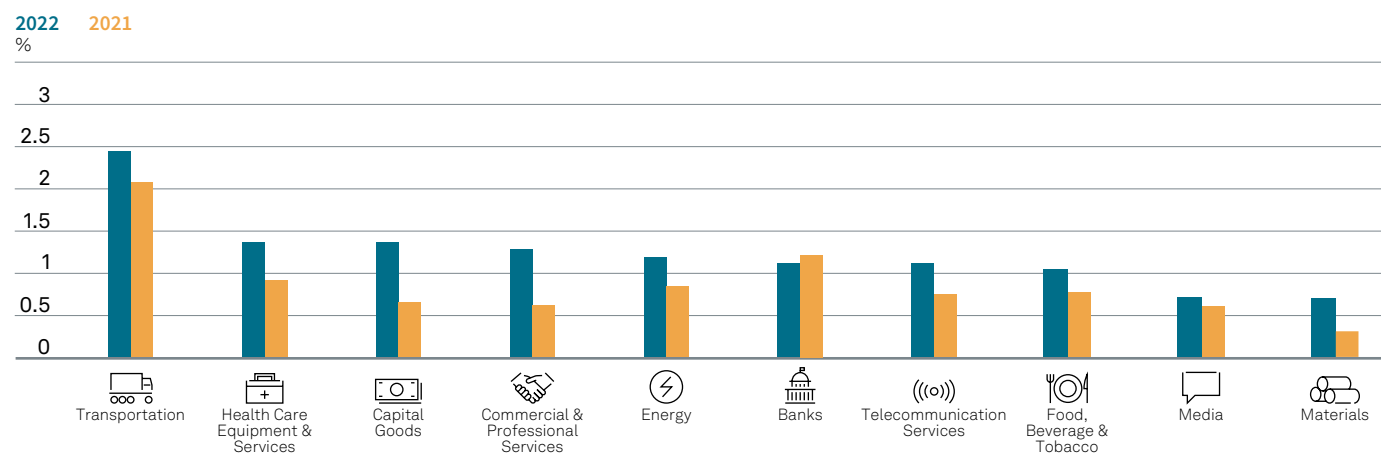
Top 10 Revenue Generating Stocks

Top Earning Assets	ASML	Sector	Country	Revenue Generated (\$M)
Totalenergies Se	TTE	EMEA Energy	FR Equity	\$28.35
Varta Ag	VAR1	EMEA Capital Goods	DE Equity	\$23.81
Samhallsbyggnadsbolaget I Norden Ab	SBB B	EMEA Real Estate	SE Equity	\$21.61
International Consolidated Airlines Group Sa	IAG	EMEA Transportation	UK Equity	\$19.91
Asml Holding Nv	ASML	EMEA Semiconductors & Semiconductor Equipment	NL Equity	\$19.12
Volvo Car Ab	VOLCAR B	EMEA Automobiles & Components	SE Equity	\$13.10
Equinor Asa	EQNR	EMEA Energy	NO Equity	\$10.95
Idorsia Ltd	IDIA	EMEA Pharmaceuticals, Biotechnology & Life Sciences	CH Equity	\$10.77
Embracer Group Ab	EMBRAC B	EMEA Media and Entertainment	SE Equity	\$9.10
Sas Ab	SAS	EMEA Transportation	SE Equity	\$8.82

Source: SPGMI Securities Finance

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\$ Short Loan Value as a % of Market Cap



Source: SPGMI Securities Finance

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Americas Equities

Specials activity continues to dominate

During a year where the main US indices have shed more value than at any other point in time since the financial crisis in 2008 (DJIA -8.78%, NASDAQ -33.1%, S&P 500 -19.44%) securities finance revenues for the region remained very strong. During the second half of 2022, securities finance activity in the region generated \$2.55bln in revenues which is an increase of 40% YoY. Average balances also increased 4% despite the large declines in equity valuations. Average utilization grew by 18% to 3.3%.

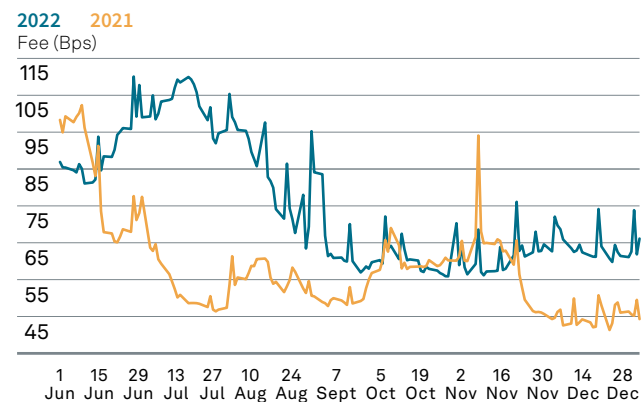
Specials activity remained strong in the region and was a large contributor to overall returns. Specials activity peaked throughout July and August which are traditionally the quieter months of the year. Specials revenues during these two months contributed 80.8% and 75.1% of all monthly Americas equities revenues respectively. These proportions declined to circa 65% of all revenues for the remaining months of Q3 and Q4.

Q3 and Q4 were the highest revenue generating quarters of 2022 for Americas equities, collectively contributing 54% of the year's revenues. Q3 was particularly strong for the region generating \$1.49bln in revenues which was an increase of 67.6% YoY. Average fees started the quarter above one percent for the first time since January 2021. Average fees subsequently declined throughout the remainder of the year finishing December at 64bps. The average fee in H2 for Americas equities was 73bps which is 3bps higher than the full year average.

The Americas was the region that produced the top ten highest revenue generating stocks of 2022. US equities (with one US ETF) took up the top 17 places of all the highest revenue generating stocks of year. The top ten generating stocks in the Americas equities region produced \$1.423bln in revenues alone during the year and \$867.8m during H2.

Revenues across Canada, Mexico and Brazil also increased significantly over the six-month period. All three countries experienced increases in balances, fees and utilization.

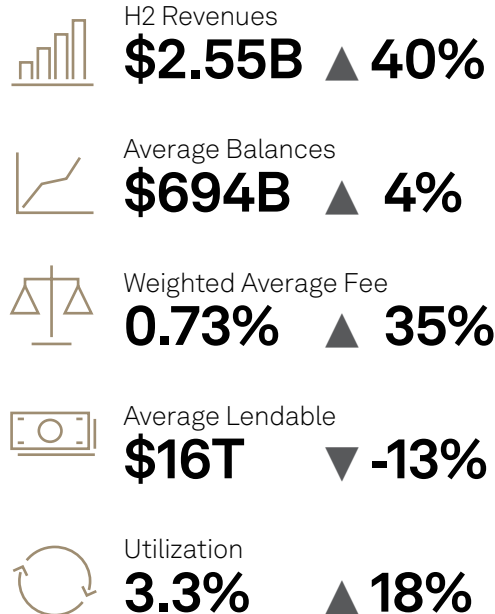
H2 Fee Trend



Source: SPGMI Securities Finance

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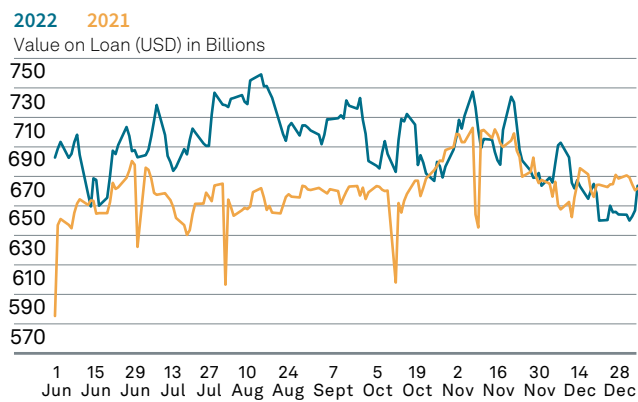
Overview



ADRs fared well during second half of 2022 when compared with the same period during 2021. The asset class has been subjected to numerous headwinds throughout the year. Ongoing issues between the Chinese and US governments in relation to transparency requirements and accounting practices have decreased demand for the asset class. Despite this, revenues increased 4% YoY, average fees increased 55% and average utilization increased 6%.

ADR revenues peaked during Q3 of 2022 breaking \$100m. Average fees also peaked during Q3 at 146bps. This market is traditionally driven by specials activity. During the year, depositary receipts linked to the electric vehicle sector have been very popular borrows. Polestar Automotive Hld Cl A Ads (PSNY) was the highest revenue generating ADR of 2022 generating \$45.6m in revenues over the year (\$44.1m in H2).

H2 Balance Trend



Source: SPGMI Securities Finance

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Specials activity drives Americas equities revenues higher

Average on loan balances increase 4% YoY

Average fees increase 35% YoY

Meme stocks continue to produce returns

Country Details

Country	H2 Revenue (\$M)	Rev YoY %Chg	Avg Balances (\$B)	Bal YoY %Chg	Avg Fee	Fee YoY %Chg	Avg Lendable (\$B)	Lendable YoY Chg	Avg Utilization	Util YoY %Chg
USA Equity	2,346	41%	629	3%	0.74%	38%	15,175	-13%	3.1%	16%
Canada Equity	189	31%	61	23%	0.61%	6%	674	-8%	7.2%	28%
Brazil Equity	12	103%	2	23%	0.93%	56%	2	-40%	21.3%	360%
Mexico Equity	3.7	165%	1	18%	0.88%	129%	35	2%	2.2%	22%
ADR	182.9	4%	28	-33%	1.30%	55%	223	-38%	9.2%	6%

Note: Includes only transactions with positive fees
Source: SPGMI Securities Finance

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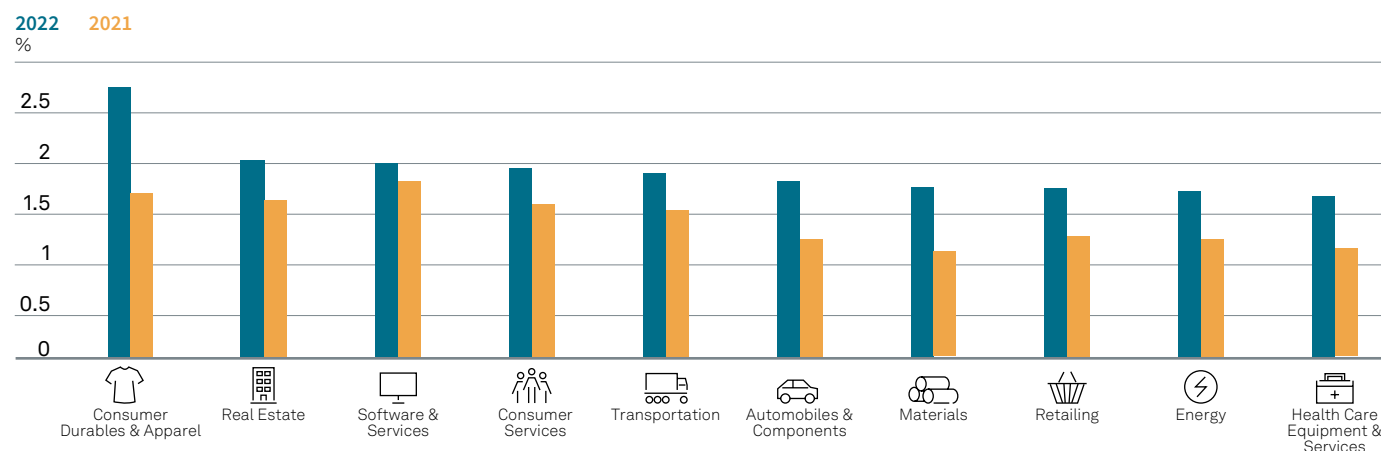
Top 10 Revenue Generating Stocks

Top Earning Assets	Ticker	Sector	Country	Revenue Generated (\$M)
Gamestop Corp	GME	North America Retailing	US Equity	\$150.87
Beyond Meat Inc	BYND	North America Food, Beverage & Tobacco	US Equity	\$133.94
Lucid Group Inc	LCID	North America Automobiles & Components	US Equity	\$117.86
Amc Entertainment Holdings Inc	AMC	North America Media and Entertainment	US Equity	\$93.40
Sirius Xm Holdings Inc	SIRI	North America Media and Entertainment	US Equity	\$82.60
Microstrategy Inc	MSTR	North America Software & Services	US Equity	\$75.75
Upstart Holdings Inc	UPST	North America Diversified Financials	US Equity	\$66.55
Cassava Sciences Inc	SAVA	North America Pharmaceuticals, Biotechnology & Life Sciences	US Equity	\$59.14
Fisker Inc	FSR	North America Automobiles & Components	US Equity	\$50.55
Polestar Automotive Hld Cl A Ads	PSNY	North America Automobiles & Components	SE ADR	\$44.15

Source: SPGMI Securities Finance

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\$ Short Loan Value as a % of Market Cap



Source: SPGMI Securities Finance

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Exchange Traded Products

Bumper year for ETPs

ETPs continued their impressive performance throughout the second half of 2022. Revenues over the period increased 20% YoY to \$394m. The revenues continued to be dominated by Americas ETPs which contributed over 85% of the final figure. When compared with H1 2022 revenues for the asset class declined 13% (H1 2022 revenues \$453m). Despite this, revenues outperformed 2021 during every month of 2022 by an average of 36%. Most of this increase was driven by Americas ETPs which outperformed each month by an average of 47% when compared with 2021 (European ETPs +9.4%, Asian ETPs -369.7%).

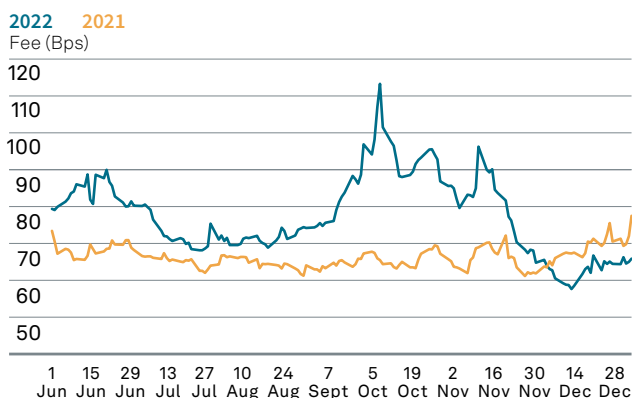
Average balances increased by 3% to an average of \$102bn during the second half of 2022. This is a 13% decrease when compared with H1 2022. Average fees also increased (+16%) over the period to 76bps. This is a slight decrease when compared with H1 2022 where the average fee was 78bps.

Americas ETPs dominated the borrowing activity for the period, contributing 85% of all revenues. Monthly revenues declined towards the end of the year as borrow demand and average borrow fees started to decline for the iShares iBoxx High Yield Bond Etf (HYG). HYG was the top ETP revenue generator over the second half of the year producing \$45.5m in revenues. The ETF generated \$107.5m in revenues over the course of 2022.

European ETPs generated \$45m in securities finance revenues throughout the H2 which is an increase of 4% YoY. Revenues declined over the second half of 2022 in line with Americas ETPs. Q4 revenues declined 9.3% when compared with Q4 2021. Average fees peaked during Q3 at an average of 177bps making European ETPs the most expensive to borrow.

Revenues for Asian ETPs declined 42% YoY along with average fees (-24%), average balances (-25%) and average utilization (-34%). Asian ETPs struggled to maintain the revenues that they achieved throughout 2021 with

H2 Fee Trend



Source: SPGMI Securities Finance

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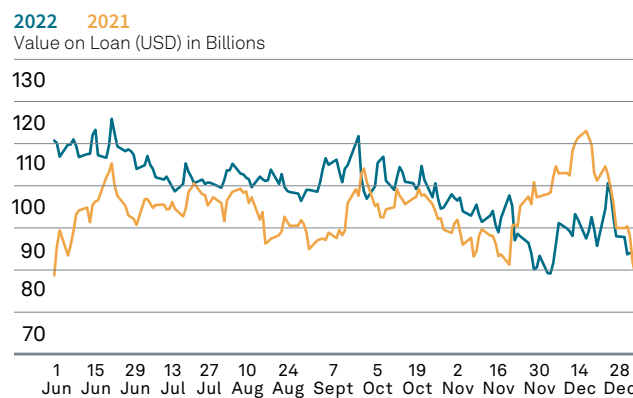
Overview



declines seen YoY across all months apart from January and July. Revenues of \$8m are the lowest experienced for several years. The highest revenue generating Asian ETP during the period was the Cam Csi300 (B4LF1K8) which generated \$1.2m in revenues over the period.

ETPs have benefited greatly from the market dynamics seen during 2022. The hawkish interest rate environment has boosted borrowing activity in both fixed income and equity based ETPs. Corporate bond tracker ETPs have been very popular throughout the year. The impact of steep interest rate rises on the price of corporate bonds has increased their popularity as end users look to take advantage of downward movement in asset prices. Sharp declines in equity indices throughout the year have made index tracking ETPs popular borrowers. The Spdr S&P 500 ETF (SPY), the iShares Russell 2000 ETF (IWM) have seen sustained widespread demand along with Ark Innovation ETF (ARKK) following the recent sell off in Tech stocks.

H2 Balance Trend



Source: SPGMI Securities Finance

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US ETFs dominate the revenue table

Corporate bond ETFs drive revenues throughout H2

Small and mid-cap ETF trackers remain popular borrows

Average fees for Americas ETFs peak during October at 86bps

Regional Details

Regional	H2 Revenue (\$M)	Rev YoY %Chg	Avg Balances (\$B)	Bal YoY %Chg	Avg Fee	Fee YoY %Chg	Avg Lendable (\$B)	Lendable YoY Chg	Avg Utilization	Util YoY %Chg
Americas ETFs	336	26%	95	5%	0.70%	20%	296	-11%	15.6%	-8%
European ETFs	45	4%	6	-15%	1.60%	22%	76	-13%	4.5%	-1%
Asia ETFs	8	-42%	1	-25%	1.50%	-24%	4	-15%	8.3%	-34%

Note: Includes only transactions with positive fees
Source: SPGMI Securities Finance

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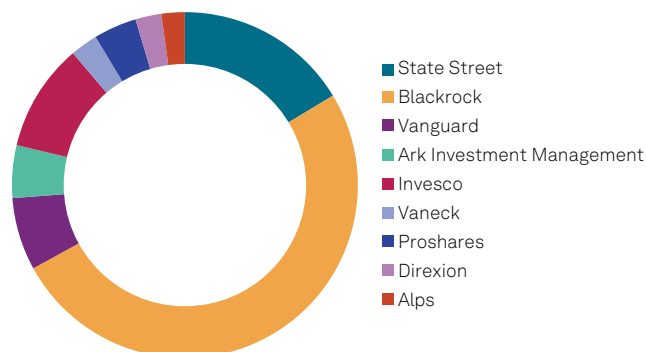
Top 10 Revenue Generating Stocks

Top Earning Assets	Ticker	Sector	Country	Revenue Generated (\$M)
Ishares Iboxx High Yield Bond Etf	HYG	US ETF	Fixed income	\$41.56
Spdr S&P 500 Etf	SPY	US ETF	Equity	\$17.33
Invsc Senior Loan Etf	BKLN	US ETF	Fixed income	\$14.39
Ishares Russell 2000 Etf	IWM	US ETF	Equity	\$14.21
Ark Innovation Etf	ARKK	US ETF	Equity	\$11.48
Spdr Blackstone Senior Loan Etf	SRLN	US ETF	Fixed income	\$7.37
Alps Alerian Mlp Etf	AMLP	US ETF	Equity	\$6.92
Invsc Qqq Trust Srs 1 Etf	QQQ	US ETF	Equity	\$6.87
Is Msci China A Ucits Usd (Acc) Etf	CNYA	IE ETF	Equity	\$6.55
Ishares Iboxx Inv Grade Bond Etf	LQD	US ETF	Fixed income	\$6.11

Source: SPGMI Securities Finance

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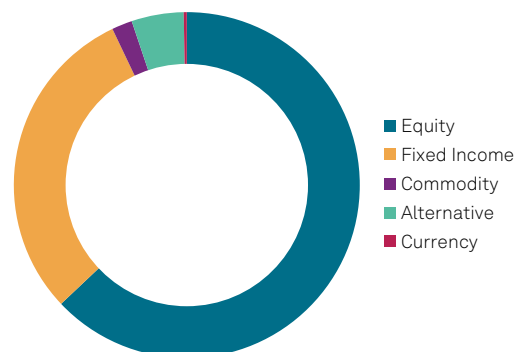
Lending Revenues by Issuer



Source: SPGMI Securities Finance

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Lending Revenues by Asset Class



Source: SPGMI Securities Finance

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Corporate Bonds

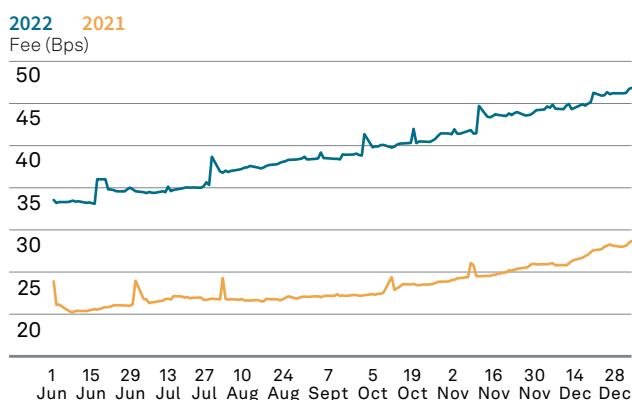
Impressive returns continue through H2

Corporate bonds have remained under pressure throughout 2022, as central banks have continued to increase interest rates at a speed not witnessed in recent history. As bond yields have increased, the asset class has lost its natural hedging ability, as both bond and equity prices have declined in tandem. Borrowing activity has therefore been very active throughout the year and corporate bonds have seen one of their most active periods in recent history.

Corporate bonds generated \$527m in securities finance revenues over the period which is an increase of 69% YoY. In relation to H1 2022, revenues also increased by 22%. Revenues continued to climb throughout 2022 with Q4 being the highest revenue generating quarter of the year. Average fees followed the same trend with corporate bonds becoming more expensive as the year progressed. Average fees for 2022 as a whole and H2 were 40bps. This compares with an H1 average of 31bps.

All types of corporate bonds remained popular across the six-month period. Conventional bonds, convertible bonds and asset backed securities all witnessed increases YoY in average revenues, fees and utilization. Convertibles bonds saw an increase in revenues of 13% when compared with H1 2022. The average fee for convertibles bonds over 2022 was 165bps which is an incredible 106% increase on the average fee registered for 2021. Demand for convertible bonds has been strong as borrowers have taken advantage of the increased value of the embedded options during a volatile and uncertain period for equity markets. Convertibles bonds have dominated the top revenue table for corporate bonds throughout H2 as a result. Booking Holdings Inc (0.75% 01-May-2025) (US09857LAN82), Microchip Technology Inc (0.125% 15-Nov-2024) (US595017AU87) and Dexcom Inc (0.25% 15-Nov-2025) (US252131AK39) have been popular borrows throughout Q3 and Q4 2022. Combined, these three issues have generated over \$15m in revenues for their asset owners. Other popular

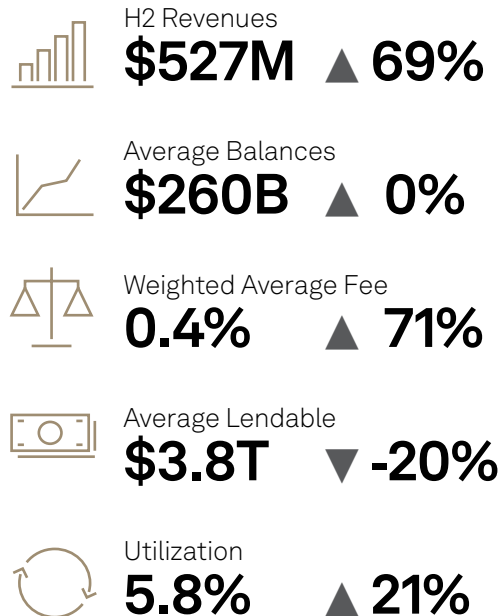
H2 Fee Trend



Source: SPGMI Securities Finance

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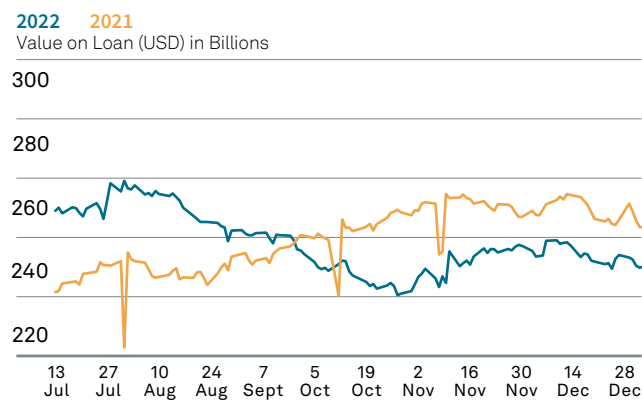
Overview



borrows have resided in the private placement bonds that have been issued as borrowers pay a premium for liquidity in bonds that are not widely available.

Fertile market conditions for corporate bond lending have produced a vintage year for this asset class. Decreases in asset prices and a fall in general market liquidity have increased activity and produced substantial revenues. As mentioned, corporate bond returns have remained popular into Q4 of 2022 and if current market conditions remain comparable, are likely to continue to do so heading into 2023.

H2 Balance Trend



Source: SPGMI Securities Finance

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Revenues increase
69% YoY

Convertibles bond
revenues increase
41% YoY

Average fees increase
71% YoY to 40bps

Q4 best performing
quarter

Asset Class Details

Asset Class	H2 Revenue (\$M)	Rev YoY %Chg	Avg Balances (\$B)	Bal YoY %Chg	Avg Fee	Fee YoY %Chg	Avg Lendable (\$B)	Lendable YoY Chg	Avg Utilization	Util YoY %Chg
Conventional Bonds	\$489	73%	\$255	1%	0.38%	74%	\$3,453	-21%	6.3%	21%
Convertible Bonds	\$35	41%	\$4	-31%	1.65%	106%	\$40	-38%	7.6%	21%
Asset Backed Securities	\$1	6%	\$0	5%	0.19%	3%	\$350	-16%	0.1%	19%

Note: Includes only transactions with positive fees
Source: SPGMI Securities Finance

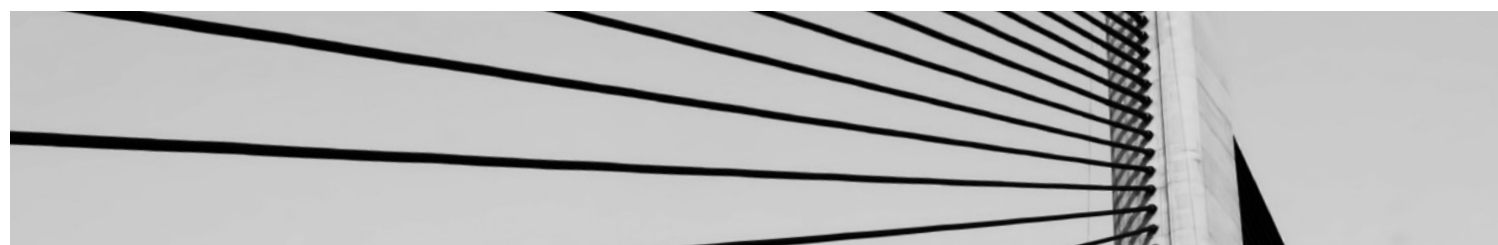
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Top 10 Revenue Generating Bonds

Top Earning Assets	CUSIP	Denomination	Asset Class	Revenue Generated (\$M)
Booking Holdings Inc (0.75% 01-May-2025)	09857LAN8	USD	I.G. Conv Bond	\$7.30
Wolverine Escrow Llc (9% 15-Nov-2026)	97789LAB2	USD	Priv. Placemt Corp Bond	\$4.56
Microchip Technology Inc (0.125% 15-Nov-2024)	595017AU8	USD	N.I.G. Conv Bond	\$4.30
Dexcom Inc (0.25% 15-Nov-2025)	252131AK3	USD	N.I.G. Conv Bond	\$3.43
Mph Acquisition Holdings Llc (5.75% 01-Nov-2028)	553283AC6	USD	Priv. Placemt Corp Bond	\$3.34
Cstn Merger Sub Inc (6.75% 15-Aug-2024)	21925AAE5	USD	Priv. Placemt Corp Bond	\$2.93
United States Steel Corp (6.875% 01-Mar-2029)	912909AU2	USD	N.I.G. Corp Bond	\$2.69
Fluor Corp (4.25% 15-Sep-2028)	343412AF9	USD	N.I.G. Corp Bond	\$2.60
Cleveland-Cliffs Inc (4.875% 01-Mar-2031)	185899AL5	USD	Priv. Placemt Corp Bond	\$2.58
American Airlines Group Inc (3.75% 01-Mar-2025)	02376RAE2	USD	Priv. Placemt Corp Bond	\$2.56

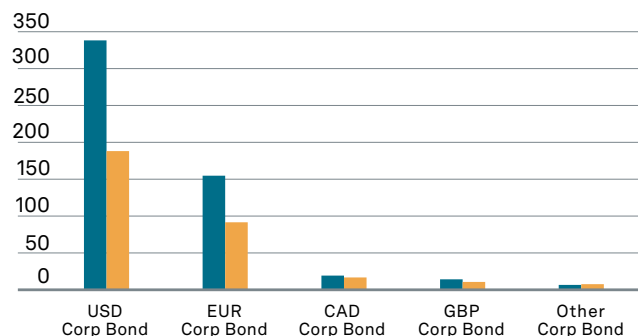
Source: SPGMI Securities Finance

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H2 Revenues by Denomination

2022 2021
SL Revenues (USD) in Millions

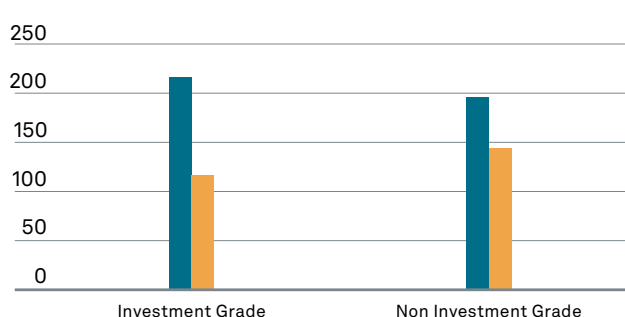


Source: SPGMI Securities Finance

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H2 Revenues by Ratings Category

2022 2021
SL Revenues (USD) in Millions



Source: SPGMI Securities Finance

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Government Bonds

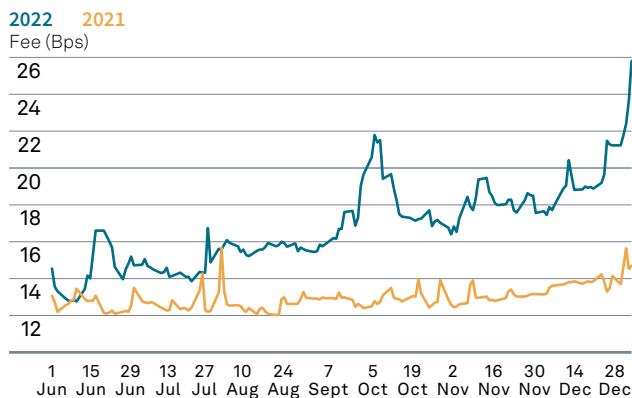
A vintage year

Securities finance revenues generated by government bonds increased 19% YoY. This increase in revenues was derived mainly from an increase in average fees of 33%. Borrowing activity in government bonds remained strong throughout H2 because of the ongoing volatility experienced in the bond markets. As interest rate increases were announced on an almost monthly basis, duration risk increased, and bond prices fell. Political uncertainty in the UK sparked a sell off in UK Gilts and the simultaneous talk of the increasing likelihood of a recession and central bank balance sheet reduction spooked investors. Given the hawkish interest rate environment, government bonds lost their ability to act as a balance for diversified investors as asset prices fell at the same pace as equity markets. During Q3, the final phase of the Uncleared Margin Requirements (UMR) was implemented in Europe driving the requirements for HQLA higher.

Revenues across all regions increased over the period. The lion's share of the revenues were generated by European and US government bonds, together they accounted for 94% of all revenues. Fees also increased across all regions. Average fees for European bonds reached 19bps over the six-month period. Fees for European bonds reached a high in Q4 of 21bps, making them significantly more expensive than US treasury bonds which had a Q4 average fee of 17bps. Utilization in European government bonds increased 5% YoY over the period to 28.7%. The reverse was seen in US treasuries however with utilization falling 10% to 23%. The expansion in European bond borrowing was due to the increased demand for UK Gilts which grew 45% when compared with 2021, producing over \$100m in revenues during H2 2022.

Emerging market government bonds produced significantly greater revenues YoY. Q4 was the highest revenue generating quarter of the year for the asset class despite a 10% decrease in average balances. This growth in revenues benefited from a 135% increase in average fees during the quarter (Q4 average fee was 51bps) which helped to push 2022 returns to \$56.8m (110% increase YoY).

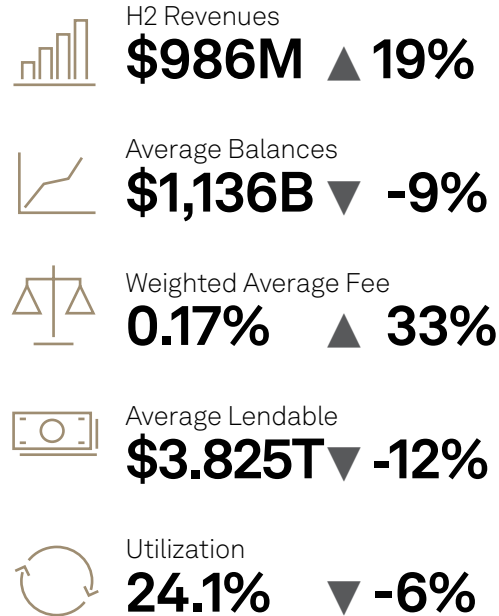
H2 Fee Trend



Source: SPGMI Securities Finance

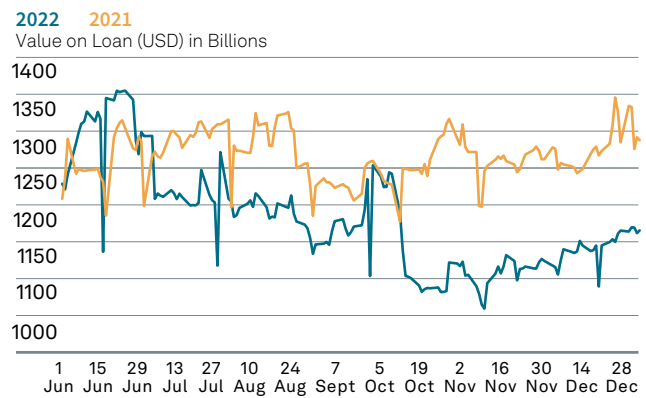
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Overview



Heading into 2023, despite initial figures showing that inflation may be falling, benchmark interest rates will need to keep rising to bring it back down to the 2% target. If a soft landing cannot be achieved and economies fall into recession, government borrowing is likely to increase and bond issuance will therefore rise. If central banks also proceed with quantitative tightening, liquidity in government bond markets is likely to improve. This has the potential to soften government bond borrowing heading into the second half of 2023. For the first half of 2023, government bonds are likely to continue to command ever increasing fees however and liquidity remains patchy across maturities presenting further opportunities for lenders.

H2 Balance Trend



Source: SPGMI Securities Finance

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EM government bond revenues increase 110% YoY

Average government bond borrowing fee reaches 17bps

Short-dated government bonds in demand

UK Gilt borrowing increases YoY

Issuer Region Details

Region	H2 Revenue (\$M)	Rev YoY %Chg	Avg Balances (\$B)	Bal YoY %Chg	Avg Fee	Fee YoY %Chg	Avg Lendable (\$B)	Lendable YoY Chg	Avg Utilization	Util YoY %Chg
Americas	565	10%	714	-11%	0.16%	25%	2,757	-6%	23.0%	-10%
Europe	365	32%	375	-8%	0.19%	45%	1,282	0%	28.7%	5%
Asia	55.9	49%	47	17%	0.24%	29%	124	9%	15.3%	4%
Emerging Market Bonds	56.8	110%	24	-1%	0.47%	114%	271	-24%	7.9%	23%

Note: Includes only transactions with positive fees
Source: SPGMI Securities Finance

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Top 10 Revenue Generating Bonds

Top Earning Assets	CUSIP	Denomination	Country	Revenue generated (\$M)
United States Treasury (3.25% 31-Aug-2024)	91282CFG1	USD	USA	\$14.86
United States Treasury (4% 15-Nov-2042)	912810TM0	USD	USA	\$9.01
United Kingdom Of Great Britain And Northern Ireland (Government) (1% 22-Apr-2024)	G4527HDX6	GBP	UK	\$8.74
Germany, Federal Republic Of (Government) (0.25% 15-Feb-2029)	D2R8H4DU0	EUR	Germany	\$6.59
Germany, Federal Republic Of (Government) (0% 15-Dec-2023)	DE0001104867	EUR	Germany	\$6.27
United States Treasury (3.375% 15-Aug-2042)	912810TK4	USD	USA	\$5.67
United States Treasury (1.125% 15-Feb-2031)	91282CBL4	USD	USA	\$5.06
United Kingdom Of Great Britain And Northern Ireland (Government) (4.25% 07-Jun-2032)	G92450GQ5	GBP	UK	\$4.95
Germany, Federal Republic Of (Government) (0.5% 15-Feb-2025)	D206584S2	EUR	Germany	\$4.84
United States Treasury (0% 23-Mar-2023)	912796U31	USD	USA	\$4.81

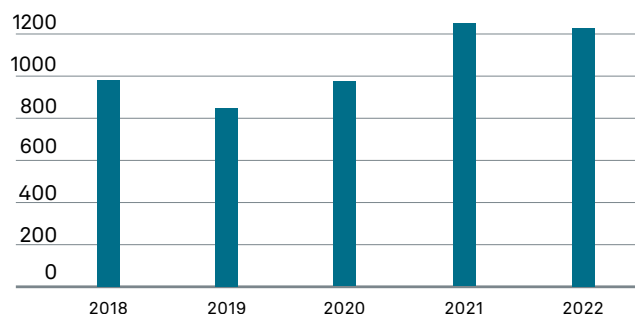
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Government Bond Balances

On Loan Balances (USD) in Billions

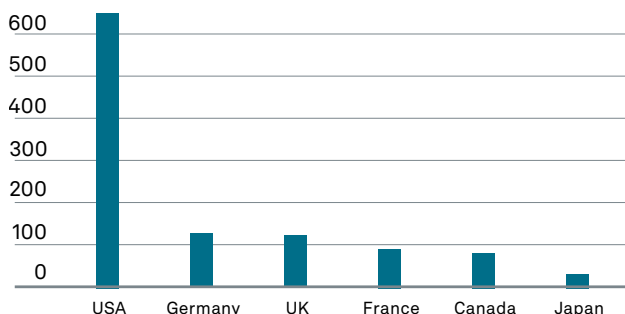


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H2 Revenues by Issuers

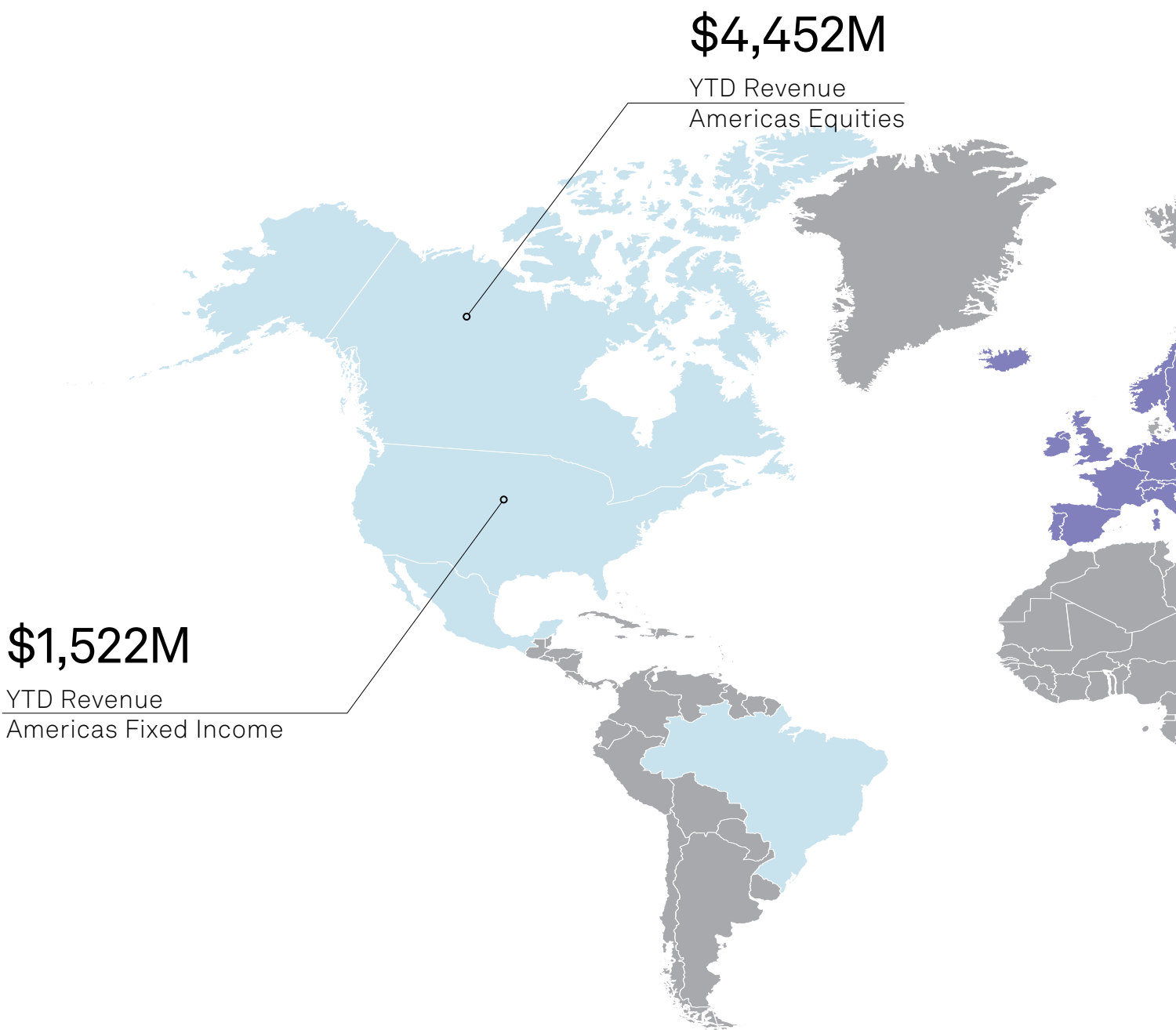
Securities Lending Revenue (USD) in Millions



Source: SPGMI Securities Finance

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Global Snapshot



Asset Class	Lendable Assets (\$T)	Loan Balance (\$T)	% Non-Cash	Utilisation (%)	SL Fee (Bps)
All Securities	\$30.0	\$2.7	67%	7.0%	47
Government Bonds	\$3.8	\$1.1	88%	24.1%	17
Corporate Bonds	\$3.9	\$0.3	48%	5.8%	40
Equities	\$22.0	\$1.3	52%	4.2%	75
Depository Receipts	\$0.3	\$0.3	34%	8.7%	147
Exchange Traded Funds	\$0.4	\$0.1	32%	11.8%	76

\$1,515M

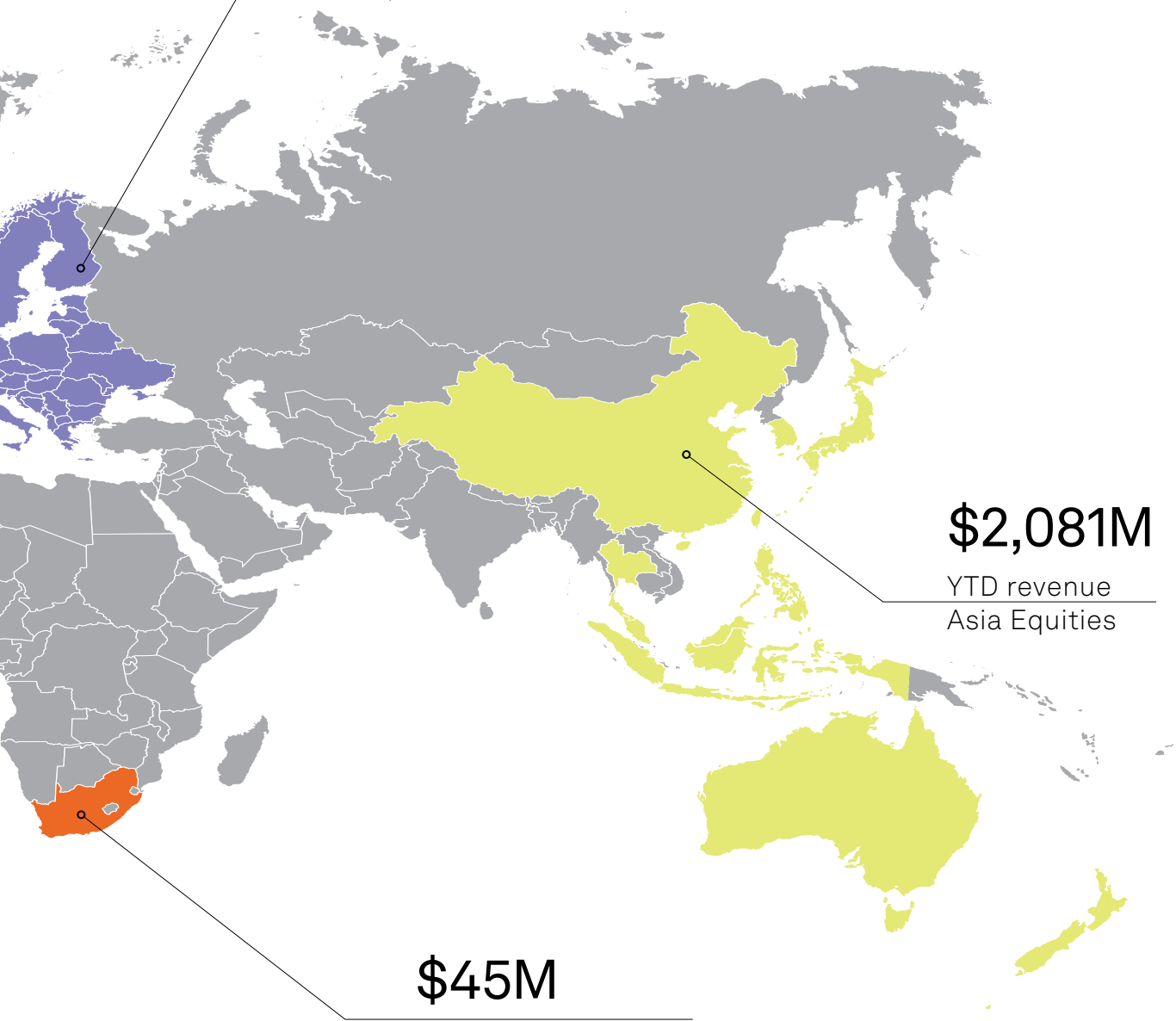
YTD Revenue
EU Equities

\$2,081M

YTD revenue
Asia Equities

\$45M

YTD Revenue
South Africa Equities



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