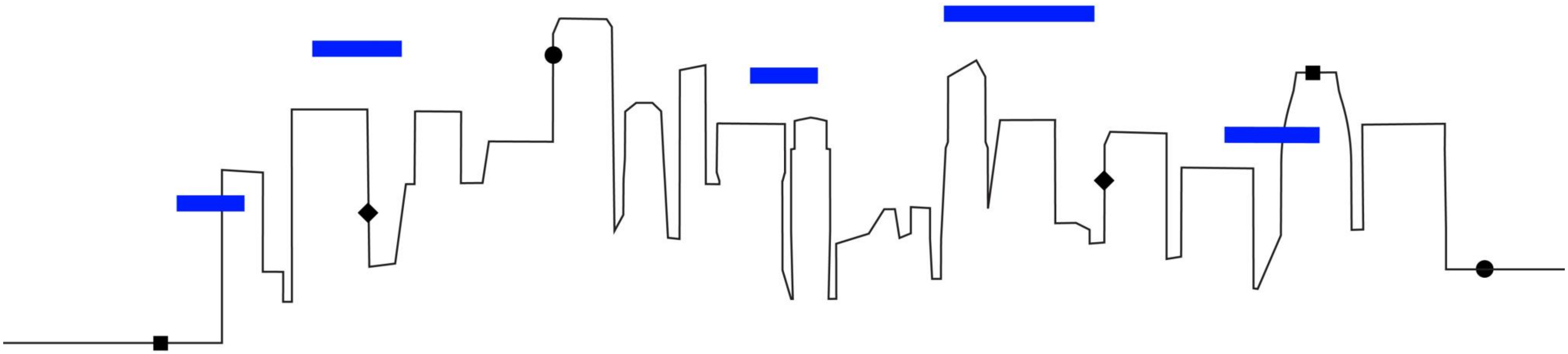
Global Debt Capital Markets Review

FIRST HALF 2022 | MANAGING UNDERWRITERS



Global Debt Capital Markets Review

First Half 2022 | Managing Underwriters

Global Deals Intelligence

GLOBAL DEBT CAPITAL MARKETS ACTIVITY DOWN 14% TO US$4.8 TRILLION
Overall global debt capital markets activity totaled US$4.8 trillion during the first half of 2022, down 14% compared to first half 2021 and slowest opening period for DCM activity since the first half of 2019. The number of new offerings brought to market during first half 2022 totaled 14,143, a 7% decline compared to a year ago and a two-year low. DCM issuance during the second quarter of 2022 has decreased 19% compared to the first quarter of this year and decreased 5% by number of issues.

INVESTMENT GRADE CORPORATE DEBT ISSUANCE DOWN 7%
Global Investment Grade corporate debt offerings totaled US$2.3 trillion during the first half of 2022, a 7% decrease compared to 2021 levels and the slowest first half for global high-grade corporate debt since 2019. Investment Grade debt issuance totaled US$952.1 billion during the second quarter of 2022, a 29% decline compared to the first quarter of the year and the first sub-US$1 trillion quarter for new offerings since the fourth quarter of 2020.

GLOBAL HIGH YIELD DEBT FALLS 78% TO 13-YEAR LOW
Global High Yield debt activity during the first half of 2022 totaled US$91.9 billion, a decrease of 78% compared to the first half of 2021 and the slowest opening half for global high yield issuance since 2009. High yield offerings from issuers in the United States, United Kingdom, Netherlands and Australia accounted for 74% of first half 2022 issuance, up from 70% during the same time last year.

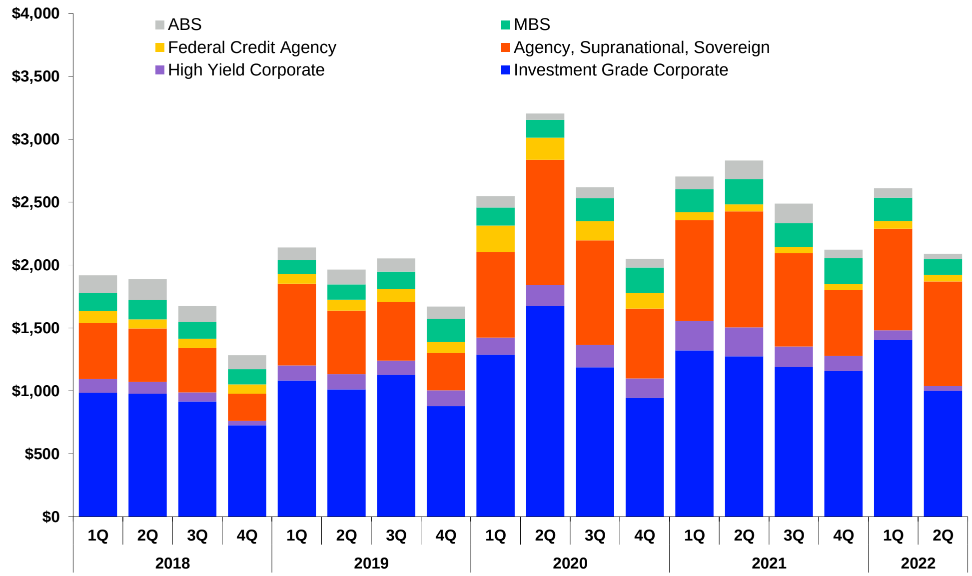
GREEN BONDS ISSUANCE DECLINES 5%; AGENCY & SOVEREIGN DEBT FALLS 5%
According to figures compiled by Refinitiv and The Climate Bonds Initiative, green bond issuance totaled US$229.0 billion during the first half of 2022, an 5% decrease compared to year ago levels. The second quarter of 2022 marked the sixth consecutive quarter to surpass US$100 billion. Debt issuance from agency, sovereign and supranational issuers totaled US$1.6 trillion during the first half of 2022, down 5% from a year ago.

FINANCIALS, GOVERNMENT & AGENCIES ACCOUNT FOR 79% OF GLOBAL ISSUANCE
DCM activity from Financials, Government & Agency issuers accounted for 79% of issuance during the first half of 2022, up from 73% during the first half of 2021. Global debt issuance, excluding financials and governments & agencies, totaled US$1.0 trillion during the first half of 2022, down 33% compared to 2021 levels and accounted for 22% of overall issuance, down from 28% a year ago.

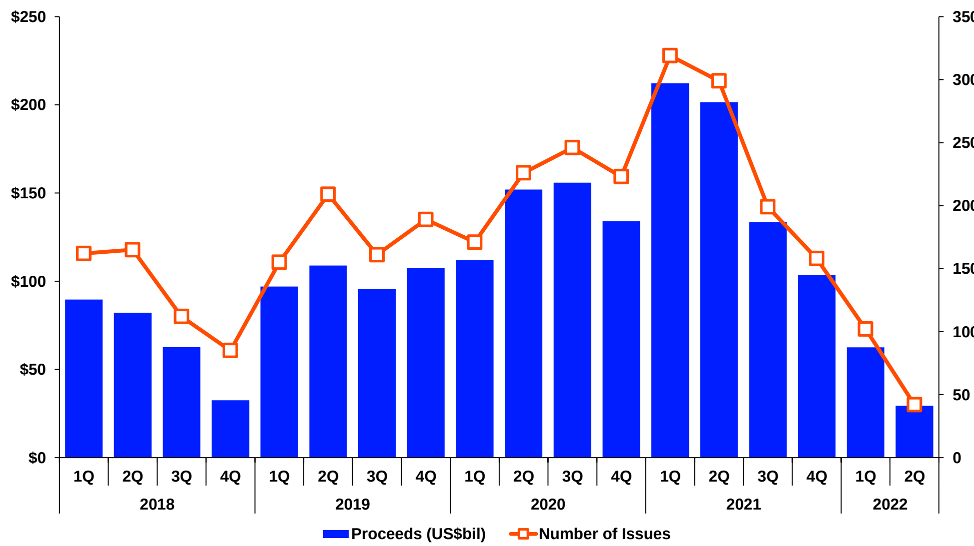
INTERNATIONAL BOND OFFERINGS DOWN 28%; EMERGING MARKETS DOWN 48%
International bond offerings totaled US$2.2 trillion during the first half of 2022, a 28% decrease compared to a year ago. Debt from emerging market corporate issuers totaled US$120.0 billion during the first half of 2022, down 48% compared to a year ago. Corporate debt issuers from India, Thailand, Brazil and Malaysia accounted for 61% of emerging markets activity during the first half.

RECORD ASIA LOCAL CURRENCY DEBT; JAPANESE YEN DEBT HITS SIX-YEAR LOW
Asia local currency bond offerings totaled US$1.9 trillion during the first half of 2022, a 23% increase compared to a year ago and the strongest first half for issuance since records began in 1980. China Yuan offerings have increased 30% compared to a year ago. Japanese Yen offerings have decreased 21% compared to first half 2021, totaling JPY10.1 trillion and a six-year low.

Global Debt Capital Markets - Issue Type Composition (US$bil)



Global High Yield Corporate Debt - Quarterly Issuance



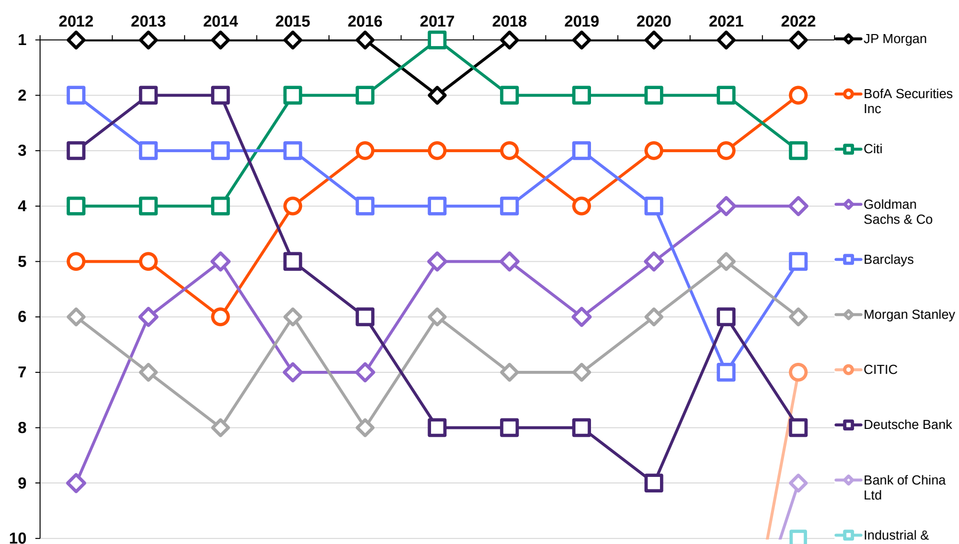
REFINITIV

An LSEG Business

Global Insights

First Half 2022 | Debt Capital Markets | Managing Underwriters

Global Debt Rankings by Proceeds

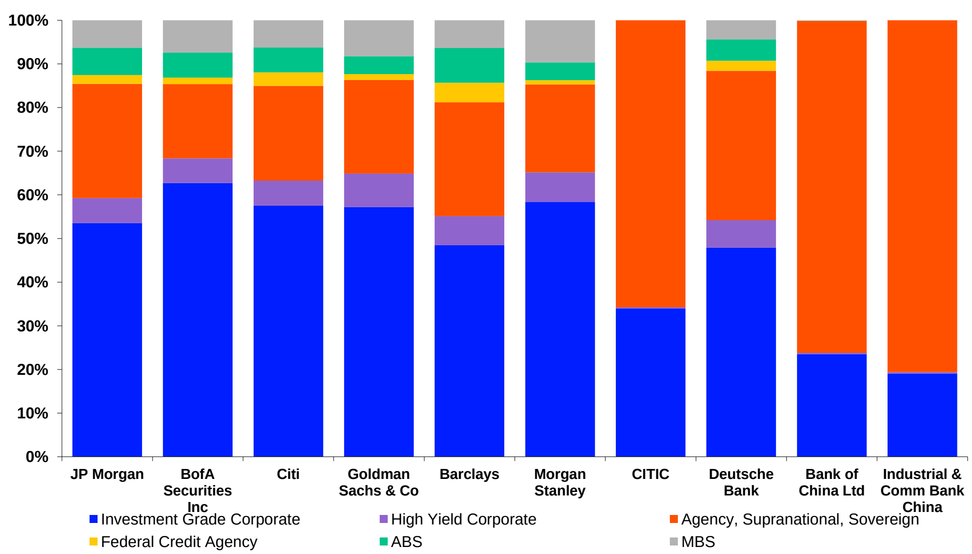


*League Table positions reflect consolidation within the banking sector. Rankings are as of the current quarter end in each calendar year.

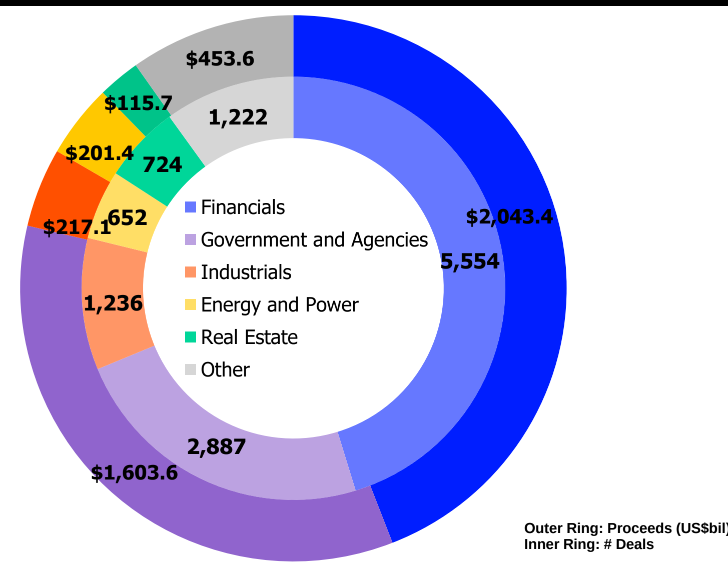
Global Scorecard

	1/1/2022- 6/30/2022		1/1/2021 - 6/30/2021		YoY %
	Proceeds ($mil)	# of Deals	Proceeds ($mil)	# of Deals	Chg. ($)
All Global Debt (B1)	**4,818,700**	**14,143**	**5,583,344**	**15,250**	**-14%** ▼
Global Long-term Debt (B2)	4,634,795	12,275	5,365,850	13,493	-14% ▼
Global Long-term Debt ex MBS, ABS & Munis (B3	4,104,333	11,261	4,732,638	12,339	-13% ▼
Global High Yield Corporate Debt (B4)	91,945	144	413,809	618	-78% ▼
Global Investment Grade Corporate Debt (B7)	2,301,655	7,714	2,468,185	8,390	-7% ▼
US Federal Credit Agency Debt (B8)	68,968	401	66,529	330	4% ▲
Global Agency, Sovereign & Supranational (B9)	1,604,504	2,941	1,685,586	2,833	-5% ▼
Global Mortgage-backed Securities (B10)	310,266	590	385,212	635	-19% ▼
Global Asset-backed Securities (B11)	220,197	424	248,000	519	-11% ▼
Global Short-term Debt (B14)	205,698	1,998	243,984	1,909	-16% ▼
Global Emerging Markets Corporate Debt (B15)	119,869	595	229,649	780	-48% ▼
All US Debt (F1)	**1,526,645**	**2,241**	**2,020,632**	**3,070**	**-24%** ▼
US Long-term Debt (F2)	1,455,838	1,379	1,917,498	2,233	-24% ▼
US Long-term Straight ex MBS, ABS & Munis (F3)	1,071,611	1,497	1,479,482	2,210	-28% ▼
US Federal Credit Agency Debt (F7)	61,878	387	57,569	308	7% ▲
US High Yield Corporate Debt (F8)	73,162	101	289,679	394	-75% ▼
US Investment Grade (F9)	737,281	499	827,631	679	-11% ▼
Agency, Sovereign & Supranational Debt (F10)	162,142	475	242,791	728	-33% ▼
US Mortgage-backed Securities (F11)	270,035	460	340,901	509	-21% ▼
US Asset-backed Securities (F14)	184,999	284	200,249	351	-8% ▼
US Taxable Municipal Debt (F15)	19,644	397	24,388	603	-19% ▼
US Short-term Debt - including MBS, ABS (F16)	70,807	862	103,134	837	-31% ▼

Top 10 Global Debt Bookrunners by Proceeds - Issue Type Composition



Global Debt Capital Markets - Macro Industry Composition



Outer Ring: Proceeds (US$bil)
Inner Ring: # Deals

REFINITIV

An LSEG Business

Global Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

Global Debt (B1)

YoY Change ($) -14% QoQ Change ($) -19%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	246,108	5.1	-1.4	772
BofA Securities Inc	2	3	200,571	4.2	-0.4	656
Citi	3	2	200,246	4.2	-0.7	681
Goldman Sachs & Co	4	4	161,590	3.4	-0.6	477
Barclays	5	7	134,702	2.8	-0.4	547
Morgan Stanley	6	5	134,663	2.8	-1.1	587
CITIC	7	14	127,300	2.6	0.8	1,938
Deutsche Bank	8	6	117,819	2.5	-0.8	550
Bank of China Ltd	9	13	115,529	2.4	0.6	1,791
Industrial & Comm Bank China	10	16	112,839	2.3	0.6	1,719
HSBC Holdings PLC	11	9	110,661	2.3	-0.3	545
BNP Paribas SA	12	8	109,670	2.3	-0.6	467
China Construction Bank	13	19	105,261	2.2	0.7	1,752
Wells Fargo & Co	14	11	102,700	2.1	-0.2	463
Agricultural Bank of China	15	22	95,443	2.0	0.6	1,579
Bank of Communications Co Ltd	16	23	85,291	1.8	0.5	1,484
China Securities Co Ltd	17	24	84,690	1.8	0.5	1,293
Credit Suisse	18	10	81,454	1.7	-0.8	350
RBC Capital Markets	19	12	80,547	1.7	-0.2	494
Credit Agricole CIB	20	15	76,380	1.6	-0.1	397
Huatai Securities Co Ltd	21	33	70,347	1.5	0.7	1,339
Mizuho Financial Group	22	17	66,657	1.4	-0.2	497
Societe Generale	23	20	64,224	1.3	-0.2	252
Nomura	24	18	63,690	1.3	-0.3	311
China International Capital Co	25	37	62,005	1.3	0.6	1,199
Industry Total			**4,818,700**	**100.0**		**14,143**

Global Investment Grade Corporate Debt (B7)

YoY Change ($) -7% QoQ Change ($) -29%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	111,806	4.9	-0.9	349
BofA Securities Inc	2	2	105,785	4.6	-0.4	338
Citi	3	3	91,776	4.0	-0.1	322
Goldman Sachs & Co	4	4	77,590	3.4	-0.2	199
CITIC	5	7	72,345	3.1	0.6	816
HSBC Holdings PLC	6	8	65,295	2.8	0.4	332
Morgan Stanley	7	5	64,106	2.8	-0.7	248
BNP Paribas SA	8	6	56,440	2.5	-0.1	298
China Securities Co Ltd	9	13	53,545	2.3	0.4	604
Barclays	10	9	48,333	2.1	-0.2	210
Deutsche Bank	11	10	44,917	2.0	-0.2	234
Wells Fargo & Co	12	12	43,029	1.9	0.0	153
Mizuho Financial Group	13	11	40,284	1.8	-0.4	252
Bank of China Ltd	14	18	38,700	1.7	0.2	369
Credit Agricole CIB	15	17	38,059	1.7	0.2	220
RBC Capital Markets	16	16	36,444	1.6	0.1	181
Credit Suisse	17	14	35,266	1.5	-0.2	162
Guotai Junan Securities	18	22	34,840	1.5	0.3	429
Societe Generale	19	15	32,974	1.4	-0.1	157
China International Capital Co	20	24	31,656	1.4	0.3	392
Industrial & Comm Bank China	21	21	29,546	1.3	0.1	256
Mitsubishi UFJ Financial Group	22	20	29,401	1.3	0.0	146
UBS	23	23	29,298	1.3	0.2	154
Huatai Securities Co Ltd	24	27	28,255	1.2	0.2	339
Santander Corp & Invest Bkg	25	26	24,966	1.1	0.1	131
Industry Total			**2,301,655**	**100.0**		**7,714**

Global Agency, Sovereign Corporate Debt (B9)

YoY Change ($) -5% QoQ Change ($) 3%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Industrial & Comm Bank China	1	5	80,314	5.0	1.4	1,430
China Construction Bank	2	6	80,251	5.0	1.4	1,428
Agricultural Bank of China	3	9	76,240	4.8	1.5	1,356
Bank of China Ltd	4	7	74,729	4.7	1.1	1,385
Bank of Communications Co Ltd	5	10	66,560	4.2	1.1	1,237
JP Morgan	6	1	60,300	3.8	-1.2	146
CITIC	7	21	48,504	3.0	1.2	1,020
Citi	8	3	45,206	2.8	-1.1	94
Deutsche Bank	9	2	43,026	2.7	-1.3	139
Huatai Securities Co Ltd	10	28	40,405	2.5	1.5	965
Barclays	11	13	37,244	2.3	-0.6	82
BNP Paribas SA	12	8	36,986	2.3	-1.3	80
BofA Securities Inc	13	14	34,670	2.2	-0.6	83
HSBC Holdings PLC	14	4	33,564	2.1	-1.6	107
Goldman Sachs & Co	15	11	32,975	2.1	-0.9	78
China International Capital Co	16	47	27,940	1.7	1.3	769
China Securities Co Ltd	17	24	27,520	1.7	0.5	631
Industrial Bank Co Ltd	18	22	27,286	1.7	0.2	559
Morgan Stanley	19	12	27,072	1.7	-1.3	111
RBC Capital Markets	20	19	24,953	1.6	-0.5	112
Credit Agricole CIB	21	15	24,237	1.5	-0.9	74
TD Securities Inc	22	16	23,211	1.5	-0.8	103
Societe Generale	23	20	21,878	1.4	-0.5	42
Nomura	24	18	21,617	1.4	-0.7	97
BMO Capital Markets	25	27	20,063	1.3	0.2	67
Industry Total			**1,604,504**	**100.0**		**2,941**

Global MBS (B10)

YoY Change ($) -19% QoQ Change ($) -33%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	36,415	11.7	-2.6	67
BofA Securities Inc	2	7	33,801	10.9	3.5	80
Goldman Sachs & Co	3	6	30,743	9.9	1.6	81
Citi	4	4	29,862	9.6	-1.3	75
Morgan Stanley	5	3	26,646	8.6	-2.8	84
Wells Fargo & Co	6	5	25,037	8.1	-0.6	58
Credit Suisse	7	2	21,975	7.1	-5.2	75
Barclays	8	9	14,805	4.8	1.0	71
Nomura	9	8	12,731	4.1	-0.6	36
Truist Financial Corp	10	49	11,049	3.6	3.5	12
Mizuho Financial Group	11	11	8,193	2.6	0.5	44
Deutsche Bank	12	10	6,811	2.2	0.1	41
Amherst Securities	13	13	6,483	2.1	0.8	17
BMO Capital Markets	14	14	5,824	1.9	0.7	18
National Australia Bank	15	15	4,881	1.6	0.6	27
BNP Paribas SA	16	16	2,634	0.9	0.0	13
Performance Trust Capital	17	37	2,459	0.8	0.6	21
Commonwealth Bank of Australia	18	25	1,858	0.6	0.3	14
Standard Chartered PLC	19	19	1,824	0.6	0.2	14
Cantor Fitzgerald LP	20	12	1,778	0.6	-0.8	7
Mitsubishi UFJ Financial Group	21	20	1,744	0.6	0.2	13
Sumitomo Mitsui Finl Grp Inc	22	18	1,588	0.5	-0.2	16
HSBC Holdings PLC	23	24	1,487	0.5	0.2	10
Credit Agricole CIB	24	43	1,475	0.5	0.4	2
Societe Generale	25	23	1,403	0.5	0.2	5
Industry Total			**310,266**	**100.0**		**590**

Global ABS (B11)

YoY Change ($) -11% QoQ Change ($) -11%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	19,437	8.8	1.1	68
Barclays	2	3	16,186	7.4	0.1	64
BofA Securities Inc	3	5	16,067	7.3	1.2	65
Citi	4	4	15,417	7.0	0.2	64
Wells Fargo & Co	5	6	14,963	6.8	1.2	65
Credit Suisse	6	2	13,815	6.3	-1.0	54
RBC Capital Markets	7	8	11,638	5.3	0.0	50
Deutsche Bank	8	7	10,926	5.0	-0.5	54
Mizuho Financial Group	9	11	10,602	4.8	0.3	79
Goldman Sachs & Co	10	10	10,066	4.6	0.1	40
BNP Paribas SA	11	9	8,989	4.1	-1.0	34
Morgan Stanley	12	12	8,221	3.7	0.0	28
Jefferies LLC	13	14	7,358	3.3	0.4	27
Mitsubishi UFJ Financial Group	14	13	6,975	3.2	0.2	27
Societe Generale	15	16	5,596	2.5	0.4	24
Credit Agricole CIB	16	20	3,705	1.7	0.3	16
TD Securities Inc	17	18	3,646	1.7	0.0	16
Guggenheim Securities LLC	18	19	3,037	1.4	-0.2	9
Santander Corp & Invest Bkg	19	21	2,845	1.3	0.0	11
BMO Capital Markets	20	17	2,607	1.2	-0.8	12
Truist Financial Corp	21	25	2,373	1.1	0.4	14
Lloyds Bank	22	27	2,089	1.0	0.4	8
Sumitomo Mitsui Finl Grp Inc	23	23	1,742	0.8	-0.3	10
UBS	24	-	1,491	0.7	0.7	2
Sumitomo Mitsui Trust Holdings	25	29	1,143	0.5	0.0	5
Industry Total			**220,197**	**100.0**		**424**

Global Debt and Loans Islamic Finance

YoY Change ($) -26% QoQ Change ($) -29%

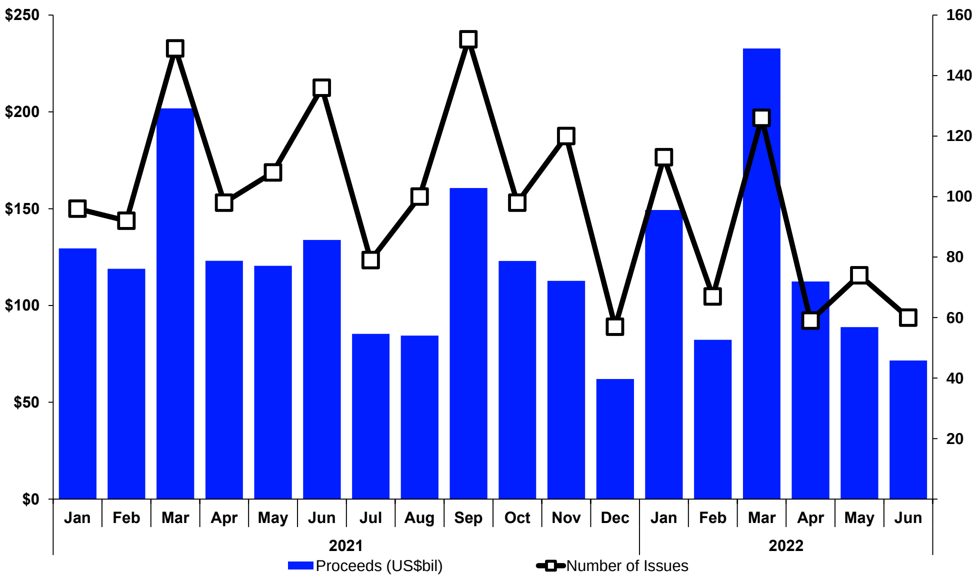
Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Emirates NBD PJSC	1	10	3,170	10.6	6.4	7
CIMB Group Holdings Bhd	2	2	2,815	9.4	1.2	33
HSBC Holdings PLC	3	1	2,347	7.9	-1.1	16
Dubai Islamic Bank PJSC	4	6	2,092	7.0	2.2	8
Malayan Banking Bhd	5	4	1,860	6.2	-0.1	29
Standard Chartered PLC	6	3	1,848	6.2	-1.1	11
Intl Islamic Trade Finance	7	5	1,591	5.3	0.1	4
RHB	8	9	1,519	5.1	0.8	26
Citi	9	8	1,244	4.2	-0.3	5
Kuwait Finance House	10	15	1,224	4.1	2.5	6
Deutsche Bank	11*	-	900	3.0	-	2
Gulf Finance House EC	11*	-	900	3.0	-	1
AMMB Holdings Bhd	13	16	875	2.9	1.4	18
Saudi National Bank SJSC	14	21	456	1.5	0.4	4
First Abu Dhabi Bank PJSC	15	11	320	1.1	-2.6	4
Sumitomo Mitsui Finl Grp Inc	16	38*	319	1.1	0.6	3
Affin Holdings Bhd	17	60	312	1.0	0.8	8
Riyadh Bank Ltd	18*	38*	278	0.9	0.4	2
BofA Securities Inc	18*	-	278	0.9	-	2
Societe Generale	20	19	269	0.9	-0.5	2
Alliance Bank (Malaysia)	21	68	269	0.9	0.8	1
Gulf International Bank	22	14	268	0.9	-0.7	2
Mizuho Financial Group	23	30	266	0.9	0.2	3
Sharjah Islamic Bank PJSC	24	-	264	0.9	-	4
Arab Banking Corporation	25*	53	261	0.9	0.6	2
Industry Total			**29,885**	**100.0**		**104**

*Indicates a Tie

United States Insights

First Half 2022 | Debt Capital Markets | Managing Underwriters

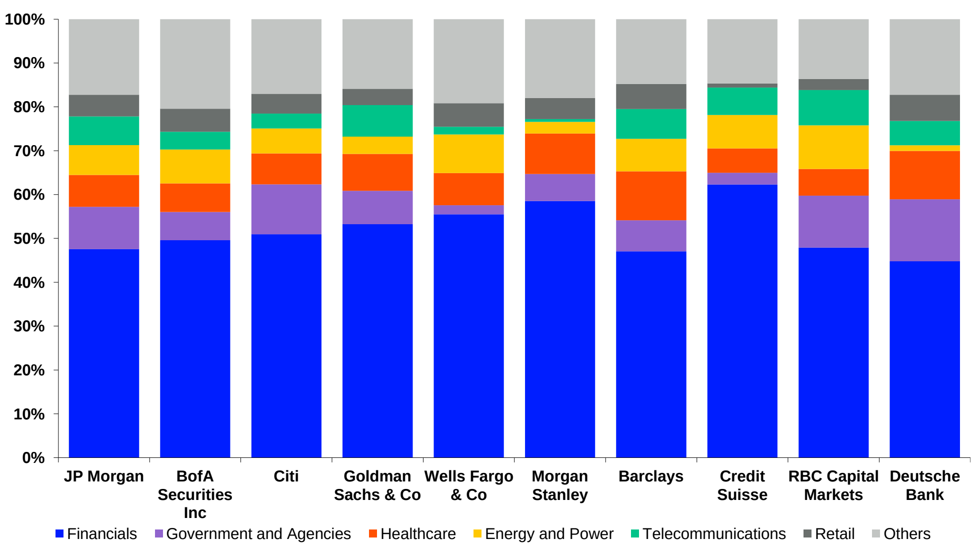
United States Marketed Monthly High Yield Volume



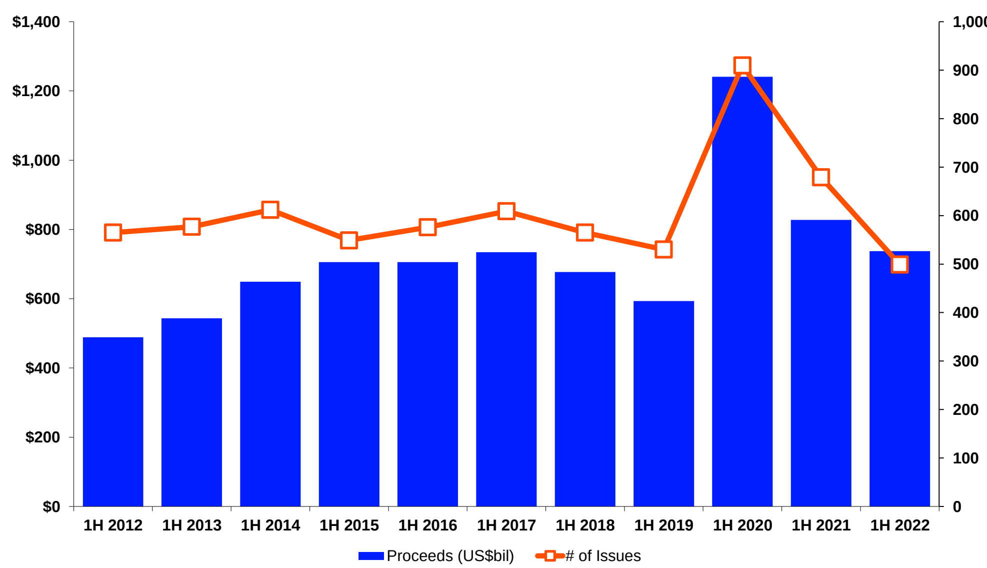
Top United States Investment Grade Corporate Deals

Issue Date	Issuer	Domicile Nation	Deal Size (US$mil)	Issue Type	Macro Sector
3/9/22	Magallanes Inc	United States	30,000	Investment Grade Corporate	Telecommunications
4/11/22	Amazon.com Inc	United States	12,718	Investment Grade Corporate	Retail
1/19/22	Goldman Sachs Group Inc	United States	12,000	Investment Grade Corporate	Financials
2/1/22	Bank of America Corp	United States	9,000	Investment Grade Corporate	Financials
4/21/22	Bank of America Corp	United States	8,750	Investment Grade Corporate	Financials
4/19/22	JPMorgan Chase & Co	United States	8,500	Investment Grade Corporate	Financials
5/12/22	Intercontinental Exchange Inc	United States	7,965	Investment Grade Corporate	Financials
3/7/22	Rogers Communications Inc	Canada	7,016	Investment Grade Corporate	Telecommunications
4/18/22	Morgan Stanley	United States	7,000	Investment Grade Corporate	Financials
3/21/22	Gsk Consumer Healthcare	United Kingdom	6,967	Investment Grade Corporate	Healthcare
4/18/22	Wells Fargo & Co	United States	6,750	Investment Grade Corporate	Financials
3/31/22	Corebridge Financial Inc	United States	6,494	Investment Grade Corporate	Financials
1/19/22	Morgan Stanley	United States	6,000	Investment Grade Corporate	Financials

Top 10 United States DCM Bookrunners by Proceeds - Macro Industry Composition



United States Investment Grade - Proceeds



REFINITIV

An LSEG Business

United States Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

U.S. Debt (F1)
YoY Change ($) -24% QoQ Change ($) -35%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	175,175	11.5	-0.8	496
BofA Securities Inc	2	2	153,289	10.0	0.6	476
Citi	3	3	150,086	9.8	0.5	450
Goldman Sachs & Co	4	4	121,962	8.0	0.8	337
Wells Fargo & Co	5	6	94,992	6.2	0.5	406
Morgan Stanley	6	5	91,903	6.0	-0.8	329
Barclays	7	8	70,022	4.6	-0.1	317
Credit Suisse	8	7	61,148	4.0	-1.3	221
Deutsche Bank	9	9	49,146	3.2	-0.5	211
RBC Capital Markets	10	10	48,320	3.2	0.3	238
HSBC Holdings PLC	11	13	36,038	2.4	0.3	109
Mizuho Financial Group	12	11	34,597	2.3	-0.1	169
BNP Paribas SA	13	12	31,729	2.1	0.0	145
TD Securities Inc	14	14	30,162	2.0	-0.1	142
Mitsubishi UFJ Financial Group	15	15	29,981	2.0	0.3	136
BMO Capital Markets	16	17	26,134	1.7	0.3	98
Truist Financial Corp	17	21	24,073	1.6	0.6	166
Nomura	18	16	20,514	1.3	-0.3	87
Societe Generale	19	20	18,075	1.2	0.2	69
UBS	20	23	16,867	1.1	0.2	57
Industry Total			**1,526,645**	**100.0**		**2,241**

U.S. High Yield Corporate Debt (F8)
YoY Change ($) -75% QoQ Change ($) -50%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	7,623	10.4	-0.7	51
Citi	2	4	6,063	8.3	2.3	45
BofA Securities Inc	3	2	5,551	7.6	-1.6	54
Goldman Sachs & Co	4	5	4,713	6.4	0.5	43
Wells Fargo & Co	5	3	3,941	5.4	-0.7	41
Credit Suisse	6	7	3,499	4.8	-0.4	30
Barclays	7	6	3,343	4.6	-1.2	35
Morgan Stanley	8	8	3,263	4.5	-0.4	29
Deutsche Bank	9	9	2,517	3.4	-1.4	24
Truist Financial Corp	10	11	1,927	2.6	-0.1	20
Jefferies LLC	11	12	1,909	2.6	0.0	12
RBC Capital Markets	12	10	1,795	2.5	-1.9	23
PNC Financial Services Group	13	22	1,711	2.3	1.2	18
Mitsubishi UFJ Financial Group	14	15	1,489	2.0	-0.1	22
BNP Paribas SA	15	14	1,429	2.0	-0.4	17
Fifth Third Bancorp	16	21	1,426	2.0	0.8	15
HSBC Holdings PLC	17	17	1,326	1.8	0.3	17
Mizuho Financial Group	18	13	1,119	1.5	-0.9	15
Societe Generale	19	28	1,090	1.5	0.8	8
Capital One Financial Corp	20	33	993	1.4	0.9	7
Industry Total			**73,162**	**100.0**		**101**

U.S. Investment Grade Debt (F9)
YoY Change ($) -11% QoQ Change ($) -41%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	91,312	12.4	-0.8	240
BofA Securities Inc	2	2	88,296	12.0	-0.2	247
Citi	3	3	75,261	10.2	1.2	201
Goldman Sachs & Co	4	4	65,382	8.9	0.9	136
Morgan Stanley	5	5	48,278	6.6	-0.6	141
Wells Fargo & Co	6	6	41,147	5.6	0.3	142
Barclays	7	7	26,459	3.6	-0.3	93
HSBC Holdings PLC	8	12	25,195	3.4	0.9	64
Mitsubishi UFJ Financial Group	9	11	22,001	3.0	0.4	91
RBC Capital Markets	10	14	21,195	2.9	0.5	94
Deutsche Bank	11	8	19,289	2.6	-0.9	71
Mizuho Financial Group	12	9	18,702	2.5	-0.7	91
Credit Suisse	13	10	18,217	2.5	-0.2	55
BNP Paribas SA	14	13	17,058	2.3	-0.2	82
TD Securities Inc	15	15	13,682	1.9	-0.1	57
US Bancorp	16	21	12,354	1.7	0.6	67
Sumitomo Mitsui Finl Grp Inc	17	16	10,971	1.5	-0.3	64
Societe Generale	18	17	8,887	1.2	-0.2	31
Credit Agricole CIB	19	20	8,655	1.2	0.0	41
UBS	20	18	8,516	1.2	0.0	18
Industry Total			**737,281**	**100.0**		**499**

U.S. MBS (F11)
YoY Change ($) -21% QoQ Change ($) -33%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	35,576	13.2	-2.9	63
BofA Securities Inc	2	7	31,815	11.8	4.2	71
Goldman Sachs & Co	3	6	30,350	11.2	2.0	78
Citi	4	3	27,512	10.2	-1.3	62
Wells Fargo & Co	5	5	25,037	9.3	-0.5	58
Morgan Stanley	6	4	24,231	9.0	-1.9	80
Credit Suisse	7	2	21,811	8.1	-5.7	73
Barclays	8	9	11,676	4.3	0.7	62
Truist Financial Corp	9	31	11,049	4.1	4.0	12
Nomura	10	8	10,215	3.8	-1.1	34
Industry Total			**270,035**	**100.0**		**460**

U.S. ABS (F14)
YoY Change ($) -8% QoQ Change ($) -9%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	18,067	9.8	0.6	64
Wells Fargo & Co	2	6	14,963	8.1	1.2	65
Barclays	3	3	14,501	7.8	0.4	58
BofA Securities Inc	4	5	13,152	7.1	0.0	55
Credit Suisse	5	2	13,142	7.1	-1.2	52
Citi	6	4	12,657	6.8	-0.6	54
RBC Capital Markets	7	7	10,921	5.9	-0.1	45
Deutsche Bank	8	8	10,131	5.5	0.3	48
Goldman Sachs & Co	9	9	10,066	5.4	0.6	40
Morgan Stanley	10	11	7,940	4.3	0.9	27
Industry Total			**184,999**	**100.0**		**284**

U.S. ABS ex Self & CDOs (F14b)
YoY Change ($) 3% QoQ Change ($) 5%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	3	13,038	8.9	0.6	52
Barclays	2	2	12,053	8.2	-0.1	51
Citi	3	5	11,547	7.9	1.2	51
Wells Fargo & Co	4	8	10,702	7.3	1.2	49
RBC Capital Markets	5	7	9,619	6.6	0.3	42
Credit Suisse	6	1	9,542	6.5	-2.3	44
BofA Securities Inc	7	4	9,208	6.3	-1.1	45
Deutsche Bank	8	6	7,050	4.8	-1.7	42
Mizuho Financial Group	9	9	6,693	4.6	0.2	28
Mitsubishi UFJ Financial Group	10	11	5,836	4.0	0.0	19
Industry Total			**146,900**	**100.0**		**225**

U.S. Securitizations (ex CMBS, Agency, CMO, Self-Funded & CDOs (F20a)
YoY Change ($) -5% QoQ Change ($) -9%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Barclays	1	4	16,856	8.8	0.8	89
Credit Suisse	2	1	16,578	8.7	-1.9	89
Citi	3	3	15,479	8.1	-0.4	62
JP Morgan	4	5	14,405	7.6	-0.1	61
BofA Securities Inc	5	2	13,508	7.1	-1.7	65
Wells Fargo & Co	6	6	11,911	6.2	0.0	55
Goldman Sachs & Co	7	7	11,330	5.9	0.7	58
Morgan Stanley	8	12	10,855	5.7	2.7	54
RBC Capital Markets	9	9	9,783	5.1	0.5	43
Deutsche Bank	10	8	9,404	4.9	-0.2	65
Industry Total			**190,820**	**100.0**		**343**

*Indicates a Tie

US Residential MBS (F13b)
YoY Change ($) -29% QoQ Change ($) -41%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Credit Suisse	1	2	7,036	15.1	1.8	45
Goldman Sachs & Co	2	1	6,633	14.2	0.8	33
Morgan Stanley	3	6	5,497	11.8	3.2	37
Barclays	4	8	5,093	10.9	4.5	39
BofA Securities Inc	5	4	4,300	9.2	-1.5	20
Citi	6	3	3,932	8.4	-4.3	11
Deutsche Bank	7	12	2,354	5.0	3.6	23
Wells Fargo & Co	8	7	2,304	4.9	-1.8	9
Performance Trust Capital	9	13	2,283	4.9	4.0	19
Nomura	10	5	1,867	4.0	-6.5	16
Industry Total			**46,683**	**100.0**		**125**

All Federal Credit Agency Debt (H1)
YoY Change ($) 10% QoQ Change ($) -21%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Wells Fargo & Co	1	2	5,978	10.2	1.0	82
Barclays	2	1	5,405	9.2	-2.1	43
Citi	3	3	4,815	8.2	-0.4	34
TD Securities Inc	4	6	4,520	7.7	2.1	38
Daiwa Securities Group Inc	5	5	3,773	6.4	0.7	54
Nomura	6	4	2,967	5.1	-2.3	28
Loop Capital Markets	7	12	2,707	4.6	2.0	38
Jefferies LLC	8	15	2,305	3.9	1.7	32
JP Morgan	9	9	2,213	3.8	0.2	29
Academy Securities Inc	10	10	2,127	3.6	0.8	33
Industry Total			**58,782**	**100.0**		**384**

International Debt & ESG Bonds Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

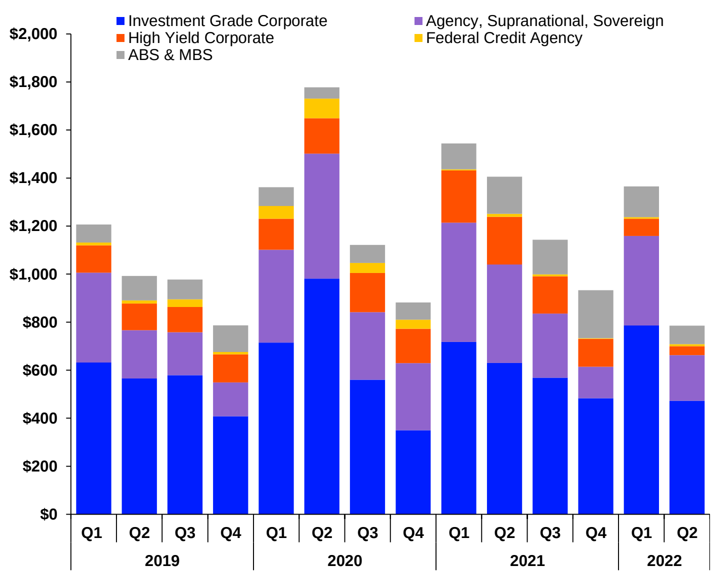
All International Bonds (J01) YoY Change ($) -28% QoQ Change ($) -43%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	1	186,948	8.6	-0.2	577
Citi	2	3	156,784	7.2	0.6	511
BofA Securities Inc	3	2	156,590	7.2	0.5	511
Goldman Sachs & Co	4	4	123,986	5.7	0.3	362
Barclays	5	5	104,060	4.8	-0.2	414
BNP Paribas SA	6	7	100,648	4.6	-0.3	413
Morgan Stanley	7	6	95,385	4.4	-0.6	342
HSBC Holdings PLC	8	9	94,660	4.4	-0.1	406
Deutsche Bank	9	8	93,010	4.3	-0.6	365
Credit Agricole CIB	10	10	61,941	2.9	0.0	305
Societe Generale	11	12	59,558	2.8	0.3	226
Credit Suisse	12	11	56,183	2.6	-0.2	255
RBC Capital Markets	13	13	49,525	2.3	0.0	234
Wells Fargo & Co	14	14	47,198	2.2	-0.1	223
TD Securities Inc	15	16	37,554	1.7	-0.1	170
UniCredit	16	15	35,683	1.7	-0.3	139
Santander Corp & Invest Bkg	17	20	33,872	1.6	0.2	150
Mitsubishi UFJ Financial Group	18	22	30,813	1.4	0.1	154
Nomura	19	18	29,645	1.4	-0.3	116
Mizuho Financial Group	20	17	29,586	1.4	-0.3	195
NatWest Markets	21	19	29,286	1.4	-0.1	130
Natixis	22	21	27,725	1.3	-0.1	137
BMO Capital Markets	23	25	27,133	1.3	0.3	116
UBS	24	27	25,062	1.2	0.2	111
Commerzbank AG	25	24	22,738	1.1	0.1	100
Industry Total			**2,166,832**	**100.0**		**2,641**

All Bonds In Euros (N01) YoY Change ($) -20% QoQ Change ($) -43%

Bookrunner	Rank 2022	Rank 2021	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
BNP Paribas SA	1	1	61,451	8.3	-0.1	220
JP Morgan	2	2	50,992	6.9	0.1	156
Deutsche Bank	3	3	44,372	6.0	-0.1	160
Credit Agricole CIB	4	5	40,996	5.5	0.4	162
Barclays	5	8	38,796	5.2	0.2	131
Societe Generale	6	7	38,666	5.2	0.2	151
HSBC Holdings PLC	7	4	36,622	4.9	-0.4	148
UniCredit	8	6	31,259	4.2	-0.9	133
Citi	9	10	31,240	4.2	-0.3	120
BofA Securities Inc	10	12	29,729	4.0	0.0	101
Goldman Sachs & Co	11	9	29,440	4.0	-0.7	93
Morgan Stanley	12	11	23,270	3.1	-1.0	82
Natixis	13	13	22,642	3.0	0.3	109
Commerzbank AG	14	14	18,534	2.5	0.2	84
Santander Corp & Invest Bkg	15	16	18,193	2.4	0.3	88
ING	16	19	14,951	2.0	0.3	85
NatWest Markets	17	15	14,843	2.0	-0.2	60
Landesbank Baden-Wurttemberg	18	20	14,429	1.9	0.2	85
DZ Bank	19	17	14,116	1.9	-0.2	67
Danske Bank	20	24	11,920	1.6	0.6	50
Nomura	21	21	10,327	1.4	-0.2	24
Nordea	22	26	8,284	1.1	0.4	34
UBS	23	25	8,016	1.1	0.4	40
BBVA	24	22	7,409	1.0	-0.4	37
TD Securities Inc	25	28	7,079	1.0	0.4	23
Industry Total			**744,616**	**100.0**		**775**

International Bonds - Issue Type Composition (US$bil)



All Global ESG Bonds (GESG1) YoY Change ($) -26% QoQ Change ($) -4%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
BofA Securities Inc	1	7	20,237	5.7	1.2	85
HSBC Holdings PLC	2	4	19,470	5.4	0.2	95
JP Morgan	3	2	18,909	5.3	-0.5	87
BNP Paribas SA	4	1	17,958	5.0	-1.1	93
Credit Agricole CIB	5	5	15,739	4.4	-0.5	88
Citi	6	3	14,771	4.1	-1.2	92
Deutsche Bank	7	6	14,397	4.0	-0.9	72
Barclays	8	9	12,961	3.6	0.1	53
Societe Generale	9	8	11,009	3.1	-0.5	40
Goldman Sachs & Co	10	11	10,331	2.9	-0.6	53
Morgan Stanley	11	12	10,051	2.8	-0.5	67
NatWest Markets	12	10	8,631	2.4	-1.1	34
Natixis	13	13	8,386	2.3	-0.6	37
Mizuho Financial Group	14	23	6,892	1.9	0.7	73
Danske Bank	15	20	6,701	1.9	0.4	48
Nomura	16	16	6,526	1.8	0.0	37
TD Securities Inc	17	19	6,286	1.8	0.2	29
ING	18	21	5,952	1.7	0.2	37
Santander Corp & Invest Bkg	19	22	5,125	1.4	0.0	30
Bank of China Ltd	20	33	5,016	1.4	0.7	57
RBC Capital Markets	21	25	4,669	1.3	0.2	28
Sumitomo Mitsui Finl Grp Inc	22	36	4,622	1.3	0.6	43
Standard Chartered PLC	23	26	4,416	1.2	0.2	45
DZ Bank	24	14	4,205	1.2	-0.9	14
Commerzbank AG	25	18	4,125	1.2	-0.4	18
Industry Total			**358,431**	**100.0**		**731**

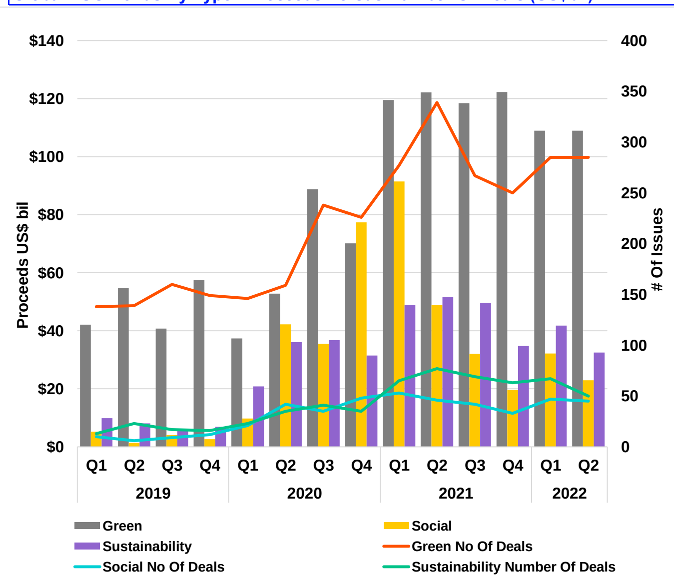
*Indicates a Tie

All Global Green Bonds (GR01)** YoY Change ($) -5% QoQ Change ($) 10%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
BofA Securities Inc	1	7	12,248	5.4	2.0	58
BNP Paribas SA	2	3	11,580	5.1	-0.9	70
JP Morgan	3	1	10,568	4.6	-1.6	57
HSBC Holdings PLC	4	5	10,336	4.5	0.3	63
Credit Agricole CIB	5	4	9,399	4.1	-1.1	63
Citi	6	2	8,799	3.8	-2.3	65
Deutsche Bank	7	6	8,199	3.6	-0.4	51
Barclays	8	8	6,880	3.0	0.1	31
NatWest Markets	9	9	5,687	2.5	-0.4	19
Danske Bank	10	10	5,498	2.4	-0.4	44
Societe Generale	11	12	5,095	2.2	0.0	25
Natixis	12	19	5,034	2.2	0.6	28
Goldman Sachs & Co	13	11	5,003	2.2	-0.3	35
Bank of China Ltd	14	26	4,704	2.1	1.0	52
Morgan Stanley	15	16	4,575	2.0	0.3	35
ING	16	15	4,238	1.9	0.1	29
DZ Bank	17	18	3,425	1.5	-0.1	12
CITIC	18	41	3,414	1.5	1.0	52
Credit Suisse	19	14	3,362	1.5	-0.4	27
Mizuho Financial Group	20	31	3,020	1.3	0.3	46
SEB	21	20	3,013	1.3	-0.2	29
China International Capital Co	22	75	3,010	1.3	1.1	40
TD Securities Inc	23	21	2,987	1.3	-0.1	15
UniCredit	24	13	2,986	1.3	-0.7	18
RBC Capital Markets	25	29	2,752	1.2	0.1	16
Industry Total			**229,033**	**100.0**		**523**

**Totals are compiled in partnership with Climate Bonds Initiative; www.climatebonds.net

Global ESG Bonds By Type - Proceeds Versus Number Of Deals (US$bil)



An LSEG Business

REFINITIV

High Yield Corporate Debt Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

Global High Yield Debt (B4) YoY Change ($) -78% QoQ Change ($) -53%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	1	8,626	9.4	-0.4	58
Goldman Sachs & Co	2	3	6,828	7.4	1.4	54
Citi	3	6	6,638	7.2	2.1	49
BofA Securities Inc	4	2	6,053	6.6	-1.1	58
Credit Suisse	5	7	4,920	5.4	0.5	38
Barclays	6	4	4,103	4.5	-1.4	43
Deutsche Bank	7	5	4,025	4.4	-1.0	36
Morgan Stanley	8	8	3,951	4.3	-0.3	36
Wells Fargo & Co	9	9	3,941	4.3	-0.1	41
BNP Paribas SA	10	11	2,421	2.6	-0.6	28
RBC Capital Markets	11	10	2,108	2.3	-1.0	25
HSBC Holdings PLC	12	12	2,059	2.2	-0.7	25
Jefferies LLC	13	15	1,938	2.1	0.2	13
Truist Financial Corp	14	14	1,927	2.1	0.2	20
PNC Financial Services Group	15	29	1,711	1.9	1.1	18
Mitsubishi UFJ Financial Group	16	17	1,652	1.8	0.0	23
Fifth Third Bancorp	17	26	1,426	1.6	0.7	15
Societe Generale	18	23	1,407	1.5	0.5	13
Credit Agricole CIB	19	16	1,140	1.2	-0.6	13
Mizuho Financial Group	20	13	1,130	1.2	-0.8	16
Capital One Financial Corp	21	45	993	1.1	0.7	7
Scotiabank	22	30	940	1.0	0.3	11
BMO Capital Markets	23	21	931	1.0	-0.1	12
Citizens Financial Group	24	43	909	1.0	0.6	9
TD Securities Inc	25	19	878	1.0	-0.1	11
Industry Total			**91,945**	**100.0**		**144**

Global High Yield Debt USD Denominated (B5) YoY Change ($) -77% QoQ Change ($) -49%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	1	7,623	10.2	-0.2	51
Citi	2	3	6,063	8.1	2.4	45
BofA Securities Inc	3	2	5,551	7.4	-1.1	54
Goldman Sachs & Co	4	4	4,863	6.5	1.0	44
Wells Fargo & Co	5	5	3,941	5.3	-0.2	41
Credit Suisse	6	7	3,572	4.8	-0.4	31
Barclays	7	6	3,354	4.5	-1.0	36
Morgan Stanley	8	9	3,273	4.4	-0.3	30
Deutsche Bank	9	8	2,517	3.4	-1.5	24
Truist Financial Corp	10	11	1,927	2.6	0.1	20
Jefferies LLC	11	12	1,909	2.6	0.3	12
RBC Capital Markets	12	10	1,795	2.4	-1.6	23
PNC Financial Services Group	13	24	1,711	2.3	1.3	18
Mitsubishi UFJ Financial Group	14	16	1,489	2.0	0.1	22
BNP Paribas SA	15	14	1,429	1.9	-0.4	17
Fifth Third Bancorp	16	22	1,426	1.9	0.8	15
HSBC Holdings PLC	17	15	1,408	1.9	-0.1	19
Mizuho Financial Group	18	13	1,130	1.5	-0.8	16
Societe Generale	19	28	1,090	1.5	0.8	8
Capital One Financial Corp	20	36	993	1.3	0.8	7
BMO Capital Markets	21	18	931	1.2	-0.1	12
Citizens Financial Group	22	37	909	1.2	0.7	9
TD Securities Inc	23	17	878	1.2	-0.2	11
Scotiabank	24	26	869	1.2	0.3	11
KeyBanc Capital Markets Inc	25	31	791	1.1	0.6	8
Industry Total			**74,806**	**100.0**		**109**

Top High Yield Corporate Deals

Issue Date	Issuer	Domicile Nation	Proceeds US$mil	Coupon %	Macro Sector
4/27/22	Carvana Co	United States	3,275.0	10.250	Retail
1/27/22	Intelsat Jackson Holdings SA	United States	3,000.0	6.500	Telecommunications
1/27/22	Athenahealth Inc	United States	2,500.0	6.500	High Technology
1/6/22	VZ Secured Financing B.V.	Netherlands	2,357.0	5.000	Financials
1/12/22	Fertitta Entertainment LLC	United States	2,250.0	6.750	Media and Entertainment
2/3/22	McAfee Corp	United States	2,020.0	7.375	High Technology
6/1/22	Tenet Healthcare Corp	United States	2,000.0	6.125	Healthcare
1/5/22	Ford Motor Credit Co	United States	2,000.0	2.300	Financials
2/10/22	NCL Corp Ltd	Hong Kong	1,600.0	5.875	Industrials
2/10/22	Castor Spa	Ireland-Rep	1,593.8	Floats	Consumer Products and Services
3/30/22	Clydesdale Acq Hldg Inc.	United States	1,542.0	Varies	Materials
1/20/22	Community Health Systems Inc	United States	1,535.0	5.250	Healthcare
4/6/22	FMG Resources(August 2006)Pty	Australia	1,500.0	6.125	Materials

Global High Yield Debt Non-USD Denominated (B6) YoY Change ($) -80% QoQ Change ($) -65%

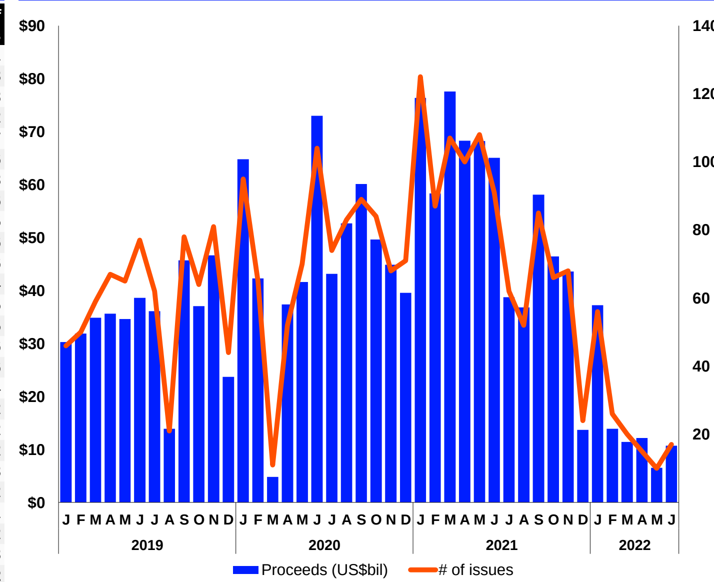
Bookrunner	Rank 2022	Rank 2021	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
Goldman Sachs & Co	1	1	1,771	11.5	3.9	12
Deutsche Bank	2	4	1,375	8.9	1.6	13
Credit Suisse	3	10	1,242	8.1	4.3	8
BNP Paribas SA	4	5	894	5.8	-0.5	12
JP Morgan	5	2	883	5.7	-1.8	8
UniCredit	6	9	683	4.4	0.3	6
Barclays	7	3	673	4.4	-3.0	8
Morgan Stanley	8	8	597	3.9	-0.4	8
HSBC Holdings PLC	9	6	592	3.8	-2.1	7
Credit Agricole CIB	10	11	568	3.7	0.1	6
Citi	11	12	518	3.4	0.2	5
BofA Securities Inc	12	7	449	2.9	-2.0	6
Nordea	13	33	424	2.8	2.2	6
NatWest Markets	14	17	358	2.3	0.7	3
IMI - Intesa Sanpaolo	15	18	357	2.3	0.7	5
Natixis	16	16	311	2.0	0.2	5
RBC Capital Markets	17	24	285	1.9	0.9	4
Societe Generale	18	14	283	1.8	-0.2	6
Swedbank	19	-	239	1.6	1.6	3
DNB ASA	20	42	232	1.5	1.2	6
SEB	21	31	218	1.4	0.7	3
UBS	22	29	218	1.4	0.5	2
Lloyds Bank	23	21	215	1.4	0.3	2
Mediobanca	24	27	182	1.2	0.2	2
ING	25	13	178	1.2	-1.7	3
Industry Total			**15,415**	**100.0**		**37**

*Indicates a Tie

Global High Yield Debt EURO Denominated (B06b) YoY Change ($) -80% QoQ Change ($) -64%

Bookrunner	Rank 2022	Rank 2021	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
Goldman Sachs & Co	1	2	1,480	11.1	2.7	11
Deutsche Bank	2	3	1,307	9.8	2.1	13
Credit Suisse	3	10	1,095	8.2	4.3	8
BNP Paribas SA	4	4	894	6.7	-0.3	12
JP Morgan	5	1	808	6.0	-2.4	7
UniCredit	6	7	683	5.1	0.3	6
Morgan Stanley	7	11	597	4.5	0.7	8
Credit Agricole CIB	8	9	568	4.3	0.3	6
Citi	9	12	518	3.9	0.6	5
BofA Securities Inc	10	8	449	3.4	-1.4	6
HSBC Holdings PLC	11	6	382	2.9	-1.9	6
Nordea	12	31	364	2.7	2.1	4
IMI - Intesa Sanpaolo	13	17	357	2.7	0.9	5
Natixis	14	16	311	2.3	0.2	5
Barclays	15	5	307	2.3	-2.7	6
Societe Generale	16	14	283	2.1	-0.1	6
RBC Capital Markets	17	26	217	1.6	0.6	4
Swedbank	18	-	215	1.6	1.6	2
SEB	19	29	194	1.5	0.7	2
Mediobanca	20	24	182	1.4	0.3	2
ING	21	13	178	1.3	-1.9	3
Banca Akros SpA	22	27	169	1.3	0.3	2
KKR & Co Inc	23	71	163	1.2	1.2	1
Nomura	24	25	160	1.2	0.1	2
DNB ASA	25	48	160	1.2	1.0	3
Industry Total			**13,361**	**100.0**		**32**

Global High Yield Corporate Debt Issuance



Emerging Markets Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

All International Emerging Market Bonds (L1)

YoY Change ($) -49% QoQ Change ($) -44%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Citi	1	3	21,712	9.3	1.3	101
JP Morgan	2	1	17,878	7.7	-0.5	82
HSBC Holdings PLC	3	2	15,593	6.7	-1.5	123
BNP Paribas SA	4	6	10,140	4.4	0.1	64
Standard Chartered PLC	5	4	9,119	3.9	-1.5	93
Deutsche Bank	6	9	7,926	3.4	0.5	38
BofA Securities Inc	7	5	7,743	3.3	-1.4	53
Barclays	8	12	6,566	2.8	0.8	30
Goldman Sachs & Co	9	7	6,043	2.6	-1.2	29
Credit Agricole CIB	10	11	6,014	2.6	0.1	76
Mizuho Financial Group	11	14	5,774	2.5	0.7	63
Societe Generale	12	13	5,626	2.4	0.5	35
Bank of China Ltd	13	16	3,816	1.6	-0.1	81
Sumitomo Mitsui Finl Grp Inc	14	20	3,806	1.6	0.3	40
Santander Corp & Invest Bkg	15	17	3,773	1.6	0.0	13
UBS	16	15	3,677	1.6	-0.1	31
CITIC	17	21	3,245	1.4	0.2	99
Mitsubishi UFJ Financial Group	18	18	3,185	1.4	-0.2	25
DBS Group Holdings	19	19	3,063	1.3	-0.1	49
Bank of Communications Co Ltd	20	28	3,058	1.3	0.6	60
Industry Total			**232,634**	**100.0**		**469**

EMEA Emerging Market Bonds (L2)

YoY Change ($) -43% QoQ Change ($) -36%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Citi	1	2	6,455	14.4	5.5	18
JP Morgan	2	1	5,002	11.2	-1.0	20
Deutsche Bank	3	12	4,295	9.6	6.8	10
Goldman Sachs & Co	4	8	3,719	8.3	4.0	11
BNP Paribas SA	5	3	3,117	7.0	-0.6	10
HSBC Holdings PLC	6	5	2,603	5.8	0.7	9
Erste Group	7	15	2,311	5.2	3.2	11
ING	8	19	2,148	4.8	3.5	6
Societe Generale	9	6	1,566	3.5	-1.2	7
Barclays	10	9	1,070	2.4	-1.2	5
Commerzbank AG	11	41	893	2.0	1.6	4
Sumitomo Mitsui Finl Grp Inc	12	16	788	1.8	-0.2	5
Kuwait Finance House	13*	-	750	1.7	1.7	1
Dubai Islamic Bank PJSC	13*	29	750	1.7	0.9	1
FirstRand Bank	15	27	743	1.7	0.8	3
Santander Corp & Invest Bkg	16	35	671	1.5	1.0	4
Nedbank Capital	17*	-	600	1.3	1.3	1
Absa Group Ltd	17*	52	600	1.3	1.2	1
UniCredit	19	11	593	1.3	-2.3	6
PKO Bank Polski SA	20	-	452	1.0	1.0	2
Industry Total			**44,831**	**100.0**		**47**

Latin America Emerging Market Bonds (L3)

YoY Change ($) -51% QoQ Change ($) -81%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Citi	1	2	6,489	16.7	6.4	16
JP Morgan	2	1	5,641	14.5	1.4	18
BofA Securities Inc	3	3	3,452	8.9	-1.4	14
Santander Corp & Invest Bkg	4	4	3,018	7.7	-0.5	7
Barclays	5	14	2,651	6.8	4.4	5
Scotiabank	6	12	2,426	6.2	3.8	10
BBVA	7	9	1,735	4.5	0.8	3
HSBC Holdings PLC	8	6	1,332	3.4	-4.0	3
BNP Paribas SA	9	8	1,122	2.9	-0.9	5
Credit Agricole CIB	10	13	976	2.5	0.1	3
Goldman Sachs & Co	11	7	960	2.5	-4.5	7
Mizuho Financial Group	12	18	877	2.3	1.1	3
Morgan Stanley	13	5	836	2.1	-5.9	7
Credit Suisse	14	11	831	2.1	-1.2	5
RBC Capital Markets	15*	22	792	2.0	1.5	2
BMO Capital Markets	15*	25	792	2.0	1.6	2
Itau Unibanco	17	10	742	1.9	-1.6	7
Societe Generale	18	-	709	1.8	1.8	2
Boustead Securities LLC	19	-	500	1.3	1.3	1
Truist Financial Corp	20	-	494	1.3	1.3	1
Industry Total			**38,968**	**100.0**		**38**

Asia Pacific Emerging Market Bonds (L4)

YoY Change ($) -41% QoQ Change ($) -33%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
HSBC Holdings PLC	1	1	9,737	7.2	-1.5	98
Citi	2	2	8,544	6.3	-0.2	64
Standard Chartered PLC	3	3	8,285	6.1	0.3	82
JP Morgan	4	4	6,973	5.1	-0.4	41
BNP Paribas SA	5	6	5,489	4.0	0.3	47
Credit Agricole CIB	6	10	4,848	3.6	0.6	70
Mizuho Financial Group	7	16	4,629	3.4	1.2	55
Bank of China Ltd	8	9	3,686	2.7	-0.4	80
BofA Securities Inc	9	5	3,573	2.6	-1.4	35
CITIC	10	14	3,245	2.4	0.0	99
Industry Total			**136,129**	**100.0**		**352**

Middle East Emerging Market Bonds (L5)

YoY Change ($) -75% QoQ Change ($) -25%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
HSBC Holdings PLC	1	1	2,345	12.5	1.8	15
Citi	2	3	1,523	8.1	-2.3	6
JP Morgan	3	4	1,442	7.7	-0.8	6
Standard Chartered PLC	4	2	1,407	7.5	-2.9	10
First Abu Dhabi Bank PJSC	5	6	1,081	5.8	2.0	9
Barclays	6	16	977	5.2	3.3	4
Abu Dhabi Commercial Bank PJSC	7	33	775	4.1	3.6	6
Credit Suisse	8	11	733	3.9	1.3	4
Robert W Baird & Co Inc	9*	40*	651	3.5	3.1	3
Cantor Fitzgerald LP	9*	40*	651	3.5	3.1	3
Industry Total			**18,784**	**100.0**		**35**

All Global Debt, by Brazilian Issuers (BR1)

YoY Change ($) -41% QoQ Change ($) 54%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Itau Unibanco	1	1	3,457	23.2	7.8	39
Banco BTG Pactual SA	2	5	1,800	12.1	4.8	12
Banco Bradesco SA	3	2	974	6.5	-3.0	12
Mizuho Financial Group	4	19	877	5.9	4.7	3
XP Investimentos	5	12	837	5.6	3.4	8
Barclays	6*	15*	792	5.3	4.0	2
RBC Capital Markets	6*	15*	792	5.3	4.0	2
BMO Capital Markets	6*	15*	792	5.3	4.0	2
Santander Corp & Invest Bkg	9	3	640	4.3	-4.6	8
BofA Securities Inc	10	11	580	3.9	0.7	4
Industry Total			**14,905**	**100.0**		**73**

Domestic Brazilian Debt, in Reals (BR2)

YoY Change ($) 0% QoQ Change ($) 131%

Bookrunner	Rank 2022	Rank 2021	Proceeds R$mil	Market Share	Mkt. Sh. Chg	# of Deals
Itau Unibanco	1	1	20,286	44.7	13.8	41
Banco BTG Pactual SA	2	2	9,009	19.9	5.3	11
Banco Bradesco SA	3	5	6,157	13.6	2.9	13
XP Investimentos	4	10	3,965	8.7	7.0	7
Santander Corp & Invest Bkg	5	3	2,032	4.5	-7.5	5
UBS	6	4	1,610	3.6	-7.5	5
Banco Safra SA	7	9	769	1.7	-1.1	2
Banco Votorantim	8	6	525	1.2	-3.9	2
Arab Banking Corporation	9	8	500	1.1	-1.8	1
Banco Modal	10	-	200	0.4	0.4	1
Industry Total			**45,376**	**100.0**		**79**

*Indicates a Tie

Global Debt, Mexican Issuers (MX1)

YoY Change ($) -52% QoQ Change ($) -90%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
BBVA	1	1	2,159	17.4	5.6	20
Santander Corp & Invest Bkg	2	3	2,038	16.4	6.5	11
Barclays	3*	9	1,860	14.9	10.1	3
BofA Securities Inc	3*	5	1,860	14.9	6.6	3
Casa de Bolsa Inverlat	5	13	638	5.1	2.7	18
Scotiabank	6*	-	542	4.4	4.4	3
JP Morgan	6*	4	542	4.4	-4.5	3
Citi	8	2	472	3.8	-7.6	6
Casas de Bolsa Bital, S.A.	9	14	360	2.9	0.8	10
Industry Total			**12,447**	**100.0**		**61**

Domestic Mexican Debt (MX3)

YoY Change ($) -56% QoQ Change ($) -12%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Casa de Bolsa Inverlat	1	4	638	25.3	14.3	18
BBVA	2	1	424	16.9	-9.6	17
Casas de Bolsa Bital, S.A.	3	3	360	14.3	-1.4	10
Santander Corp & Invest Bkg	4	2	345	13.7	-3.5	9
Citi	5	5	181	7.2	-0.7	4
Grupo Financiero Banorte-Ixe	6	6	141	5.6	-0.2	15
Multibanco Comermex SNC	7	7	81	3.2	-0.3	2
Casa De Bolsa ARKA SA de CV	8	18	75	3.0	3.0	6
Vector Casa de Bolsa SA de CV	9	11	73	2.9	1.7	11
NatWest Markets	10	-	58	2.3	2.3	1
Industry Total			**2,517**	**100.0**		**56**

Asia-Pacific Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

Asian G3 Bonds (ex-Japan & Australia) (AR2)

YoY Change ($) -42% QoQ Change ($) -33%

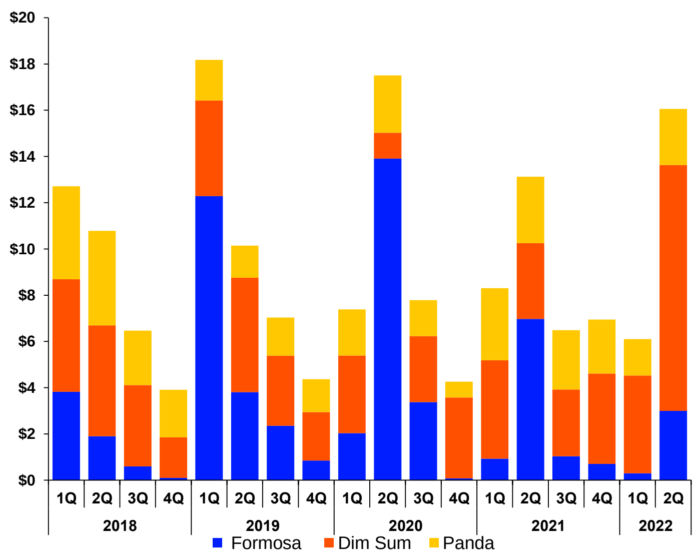
Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Citi	1	2	9,227	7.1	-0.2	63
Standard Chartered PLC	2	4	7,944	6.1	0.8	75
HSBC Holdings PLC	3	1	7,886	6.0	-2.1	64
JP Morgan	4	3	7,441	5.7	-0.4	35
BofA Securities Inc	5	5	5,457	4.2	-0.1	35
BNP Paribas SA	6	7	4,967	3.8	0.2	41
Deutsche Bank	7	6	4,394	3.4	-0.4	24
Credit Agricole CIB	8	9	4,142	3.2	0.2	55
Mizuho Financial Group	9	16	4,125	3.2	1.1	47
Bank of China Ltd	10	10	3,280	2.5	-0.3	73
CITIC	11	15	3,026	2.3	0.0	94
Morgan Stanley	12	8	2,869	2.2	-1.4	22
Goldman Sachs & Co	13	11	2,775	2.1	-0.6	11
DBS Group Holdings	14	14	2,708	2.1	-0.4	43
UBS	15	13	2,693	2.1	-0.5	22
China International Capital Co	16	17	2,689	2.1	0.1	83
Industrial Bank Co Ltd	17	32	2,644	2.0	1.1	92
Societe Generale	18	25	2,143	1.6	0.2	16
Sumitomo Mitsui Finl Grp Inc	19	27	2,131	1.6	0.4	28
Mitsubishi UFJ Financial Group	20	21	2,068	1.6	0.0	17
Industrial & Comm Bank China	21	20	2,013	1.5	-0.1	55
China Construction Bank	22	28	1,899	1.5	0.3	45
Nomura	23	31	1,833	1.4	0.5	10
Bank of Communications Co Ltd	24	23	1,830	1.4	0.0	56
Agricultural Bank of China	25	29	1,730	1.3	0.3	52
Industry Total			**130,528**	**100.0**		**269**

Asian G3 High Yield Bonds (ex Japan & Australia) (AR10)

YoY Change ($) -91% QoQ Change ($) -87%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Deutsche Bank	1	1	332	13.1	5.7	3
Barclays	2	18	255	10.0	8.0	3
JP Morgan	3	9	245	9.6	5.9	2
DBS Group Holdings	4	25	188	7.4	6.3	1
Arctic Securities ASA	5*	-	150	5.9	5.9	1
Pareto AS	5*	-	150	5.9	5.9	1
Goldman Sachs & Co	5*	24	150	5.9	4.5	1
HSBC Holdings PLC	8	3	140	5.5	-0.9	3
Credit Suisse	9	6	130	5.1	0.1	2
Bank of Communications Co Ltd	10	15	98	3.9	1.5	2
Industrial & Comm Bank China	11*	26	88	3.4	2.4	1
Bank of China Ltd	11*	14	88	3.4	1.0	1
Standard Chartered PLC	13	8	68	2.7	-1.2	2
Axis Bank Ltd	14	-	57	2.3	2.3	1
Shanghai Pudong Development Bk	15*	63*	40	1.6	1.5	2
CITIC	15*	2	40	1.6	-5.0	2
China International Capital Co	17*	10	30	1.2	-2.0	1
China Minsheng Banking Corp	17*	17	30	1.2	-0.9	1
China Everbright Bank	17*	50	30	1.2	1.0	1
Industrial Bank Co Ltd	17*	56	30	1.2	1.0	1
BOSC International Co Ltd	17*	48	30	1.2	1.0	1
Cntrl Wealth Sec Invest Ltd	17*	28	30	1.2	0.3	1
China Industrial Sec Intl	17*	79*	30	1.2	1.1	1
Shenwan Hongyuan Securities Co	17*	-	30	1.2	1.2	1
Industry Total			**2,540**	**100.0**		**8**

Dim Sum, Panda and Formosa Bond Issuance (ex self-funded) (US$mil)



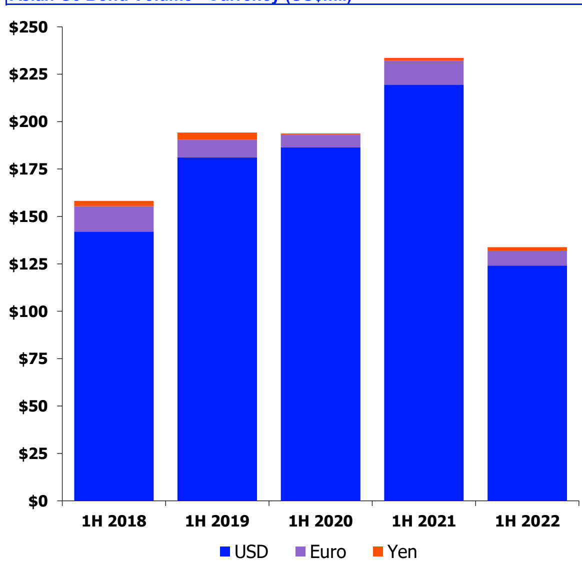
All Asian Currencies (ex Japan & Australia) (AS1)

YoY Change ($) 23% QoQ Change ($) 16%

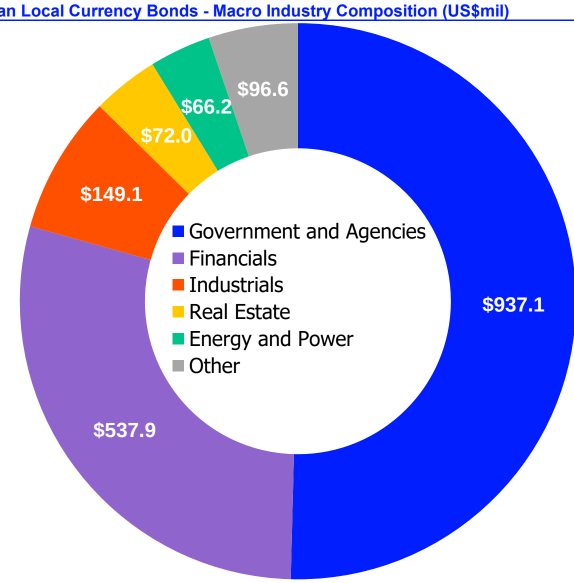
Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	1	124,000	6.7	0.5	1,843
Bank of China Ltd	2	2	110,012	5.9	-0.2	1,709
Industrial & Comm Bank China	3	3	109,840	5.9	0.0	1,656
China Construction Bank	4	4	103,307	5.6	0.2	1,709
Agricultural Bank of China	5	5	93,669	5.0	0.1	1,531
China Securities Co Ltd	6	6	83,730	4.5	-0.1	1,258
Bank of Communications Co Ltd	7	7	83,480	4.5	0.0	1,431
Huatai Securities Co Ltd	8	9	69,541	3.7	0.8	1,310
China International Capital Co	9	11	59,142	3.2	1.0	1,112
Guotai Junan Securities	10	10	52,711	2.8	0.2	849
Industrial Bank Co Ltd	11	8	50,099	2.7	-0.4	893
China Merchants Bank	12	12	42,368	2.3	0.2	650
Orient Securities Co Ltd	13	18	27,926	1.5	0.3	416
Shanghai Pudong Development Bk	14	15	27,652	1.5	0.0	523
Haitong Securities Co Ltd	15	13	27,028	1.5	-0.3	449
Everbright Securities Co Ltd	16	17	26,090	1.4	0.1	688
Postal Savings Bank Of China	17	14	23,927	1.3	-0.5	432
China Galaxy Securities Co	18	33	22,783	1.2	0.6	494
China Dvlp Bank Sec Co Ltd	19	54	22,595	1.2	0.9	481
China Minsheng Banking Corp	20	16	22,250	1.2	-0.3	406
China Everbright Bank	21	26	22,001	1.2	0.4	307
Bank of Beijing	22	35	18,302	1.0	0.4	227
Shenwan Hongyuan Securities Co	23	21	16,797	0.9	-0.2	262
China Merchants Securities Co	24	20	16,380	0.9	-0.2	192
HSBC Holdings PLC	25	28	15,048	0.8	0.1	219
Industry Total			**1,858,992**	**100.0**		**8,136**

*Indicates a Tie

Asian G3 Bond Volume - Currency (US$mil)



Asian Local Currency Bonds - Macro Industry Composition (US$mil)



Australia & China Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

All Australian Debt (ex self-funded) (AJ3a)

YoY Change ($) 4% QoQ Change ($) 6%

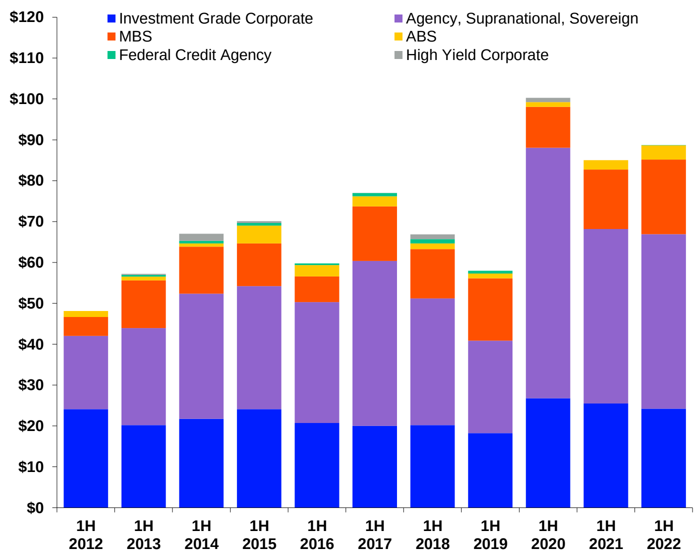
Bookrunner	Rank 2022	Rank 2021	Proceeds AU$mil	Market Share	Mkt. Sh Chg	# of Deals
National Australia Bank	1	2	17,321	19.5	6.9	56
Commonwealth Bank of Australia	2	1	13,279	15.0	0.5	44
ANZ Banking Group	3	4	10,691	12.1	0.4	45
Westpac Banking	4	3	9,333	10.5	-2.0	50
Deutsche Bank	5	6	6,899	7.8	-0.2	22
UBS	6	5	6,449	7.3	-1.0	19
RBC Capital Markets	7	8	3,099	3.5	-0.3	21
JP Morgan	8	11	2,687	3.0	0.6	14
TD Securities Inc	9	9	2,677	3.0	-0.6	22
Nomura	10	10	2,336	2.6	-0.8	15
Citi	11	7	1,279	1.4	-2.4	9
Sumitomo Mitsui Finl Grp Inc	12	16	1,192	1.3	-0.2	6
United Overseas Bank Ltd	13	-	1,169	1.3	1.3	5
BofA Securities Inc	14	13	981	1.1	-0.7	6
Daiwa Securities Group Inc	15	32	891	1.0	0.9	9
Barclays	16	31	859	1.0	0.9	6
Standard Chartered PLC	17	12	842	1.0	-0.8	6
Macquarie Group	18	14	830	0.9	-0.6	4
Morgans Financial Ltd	19	23	622	0.7	0.3	3
Mitsubishi UFJ Financial Group	20	18	608	0.7	-0.6	4
Industry Total			**88,743**	**100.0**		**136**

All Australian International Bonds (AJ7)

YoY Change ($) 51% QoQ Change ($) -38%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Citi	1	1	5,049	11.3	-4.8	11
HSBC Holdings PLC	2	4	4,557	10.2	2.1	16
BofA Securities Inc	3	2	4,193	9.4	-0.3	9
JP Morgan	4	5	3,792	8.5	1.1	6
National Australia Bank	5	8	2,692	6.0	2.0	8
RBC Capital Markets	6	9	2,464	5.5	1.7	6
Commonwealth Bank of Australia	7	16	1,995	4.5	2.6	6
BNP Paribas SA	8	7	1,606	3.6	-1.7	7
TD Securities Inc	9	18	1,463	3.3	1.8	5
Barclays	10	17	1,412	3.2	1.5	6
Morgan Stanley	11	3	1,384	3.1	-5.8	3
Goldman Sachs & Co	12	6	1,383	3.1	-2.4	4
Westpac Banking	13	10	1,368	3.1	-0.4	5
UBS	14	14	1,316	3.0	0.5	7
Societe Generale	15	19	1,311	2.9	1.9	5
Credit Suisse	16	15	1,283	2.9	0.9	5
ANZ Banking Group	17	21	835	1.9	0.9	3
Deutsche Bank	18	13	781	1.8	-0.7	3
Standard Chartered PLC	19	28*	738	1.7	1.3	2
NatWest Markets	20	20	727	1.6	0.6	3
Industry Total			**44,553**	**100.0**		**45**

All Australian Debt - Issue Type Composition (AU$mil)



China G3 Currency Bonds (AR5)

YoY Change ($) -48% QoQ Change ($) -17%

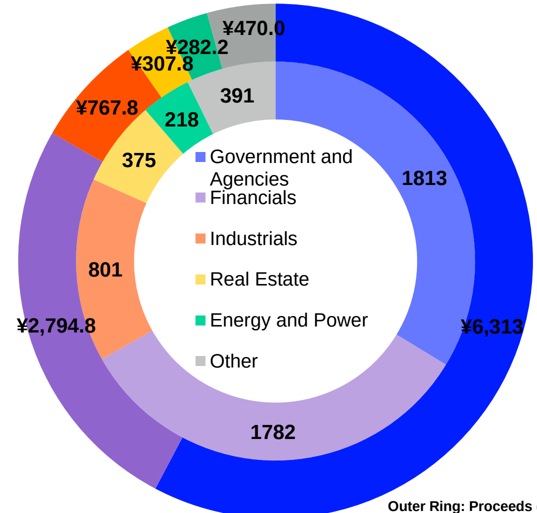
Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	3	2,447	5.8	1.3	77
Industrial Bank Co Ltd	2	23	2,253	5.3	3.4	81
China International Capital Co	3	5	2,238	5.3	1.0	69
Bank of China Ltd	4	4	1,945	4.6	0.3	54
Standard Chartered PLC	5	9	1,449	3.4	0.1	31
China Construction Bank	6	19	1,425	3.4	1.1	31
Industrial & Comm Bank China	7	12	1,341	3.2	0.1	39
Guotai Junan Securities	8	7	1,297	3.1	-0.8	48
China Merchants Bank	9	17	1,289	3.1	0.4	40
Haitong Securities Co Ltd	10	11	1,286	3.0	-0.2	56
Shanghai Pudong Development Bk	11	25	1,271	3.0	1.4	45
Bank of Communications Co Ltd	12	14	1,253	3.0	0.1	40
Citi	13	8	1,247	3.0	-0.9	20
Agricultural Bank of China	14	21	1,246	2.9	0.9	37
HSBC Holdings PLC	15	2	1,183	2.8	-2.2	25
Credit Agricole CIB	16	26	1,172	2.8	1.3	23
China Minsheng Banking Corp	17	16	1,160	2.7	0.0	43
BNP Paribas SA	18	20	908	2.2	0.0	13
DBS Group Holdings	19	24	902	2.1	0.5	24
Deutsche Bank	20	18	817	1.9	-0.6	9
Industry Total			**42,315**	**100.0**		**148**

Chinese Yuan Bonds (ex-Self Funded) (AS24)

YoY Change ($) 29% QoQ Change ($) 25%

Bookrunner	Rank 2022	Rank 2021	Proceeds CN¥mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	1	803,660	7.4	0.2	1,838
Industrial & Comm Bank China	2	3	716,211	6.6	-0.2	1,652
Bank of China Ltd	3	2	705,527	6.5	-0.4	1,702
China Construction Bank	4	4	672,615	6.2	0.0	1,704
Agricultural Bank of China	5	5	610,764	5.6	-0.1	1,527
Bank of Communications Co Ltd	6	7	544,145	5.0	-0.2	1,428
China Securities Co Ltd	7	6	543,181	5.0	-0.3	1,258
Huatai Securities Co Ltd	8	9	453,269	4.1	0.7	1,310
China International Capital Co	9	11	384,411	3.5	1.0	1,110
Guotai Junan Securities	10	10	342,295	3.1	0.1	848
Industrial Bank Co Ltd	11	8	325,583	3.0	-0.6	890
China Merchants Bank	12	12	274,777	2.5	0.1	647
Orient Securities Co Ltd	13	18	181,530	1.7	0.3	416
Shanghai Pudong Development Bk	14	15	180,137	1.7	-0.1	520
Haitong Securities Co Ltd	15	13	174,459	1.6	-0.5	449
Everbright Securities Co Ltd	16	17	170,499	1.6	0.1	688
Postal Savings Bank Of China	17	14	155,479	1.4	-0.7	432
China Galaxy Securities Co	18	27	148,147	1.4	0.7	494
China Dvlp Bank Sec Co Ltd	19	43	146,962	1.3	0.9	481
China Minsheng Banking Corp	20	16	144,251	1.3	-0.4	404
Industry Total			**10,936,064**	**100.0**		**5,380**

Chinese Yuan Bonds - Macro Industry Composition



Outer Ring: Proceeds (CNY¥bil)
Inner Ring: # of Issues

*Indicates a Tie

An LSEG Business

REFINITIV

Japan Rankings

First Half 2022 | Debt Capital Markets | Managing Underwriters

All Bonds in Yen (AP05)

YoY Change (¥) -21% QoQ Change (¥) 27%

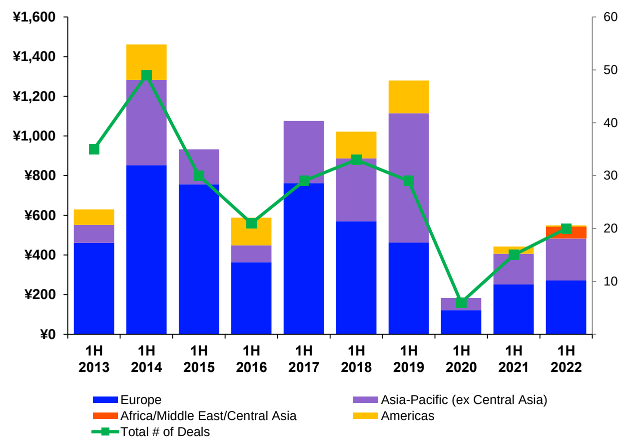
Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	2,558	25.4	3.3	340
Nomura	2	2	2,104	20.9	3.1	289
Daiwa Securities Group Inc	3	5	1,586	15.7	0.3	222
Mitsubishi UFJ Morgan Stanley	4	4	1,579	15.7	0.3	222
Sumitomo Mitsui Finl Grp Inc	5	3	787	7.8	-8.6	103
Mitsubishi UFJ Financial Group	6	7	294	2.9	0.9	18
Tokai Tokyo Financial Holdings	7	10	187	1.9	0.8	59
Sumitomo Mitsui Trust Holdings	8	6	179	1.8	-0.2	17
Barclays	9	11	140	1.4	0.5	12
Goldman Sachs & Co	10	9	119	1.2	0.1	14
Shinkin Central Bank	11	15	96	1.0	0.5	32
BofA Securities Inc	12	8	85	0.9	-0.3	7
SBI Holdings Inc	13	16	58	0.6	0.2	7
Norinchukin Bank	14	12	49	0.5	-0.4	2
JP Morgan	15	13	43	0.4	-0.3	1
Industry Total			**10,075**	**100.0**		**558**

Samurai Bonds (AP01)

YoY Change (¥) 24% QoQ Change (¥) 71%

Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Sumitomo Mitsui Finl Grp Inc	1	1	173	31.4	-31.4	10
Mitsubishi UFJ Morgan Stanley	2	5*	134	24.4	20.6	10
Nomura	3*	3*	94	17.1	7.6	10
Mizuho Financial Group	3*	3*	94	17.1	7.6	10
Daiwa Securities Group Inc	5	2	55	10.1	-0.5	9
Industry Total			**549**	**100.0**		**20**

Samurai Bonds Issuance - Domicile Region (JP¥bil)



Japanese Securitizations (AP02)

YoY Change (¥) -19% QoQ Change (¥) -43%

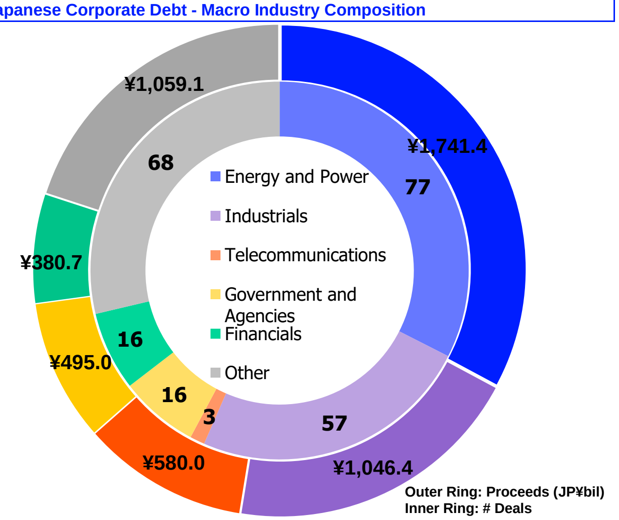
Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	668	30.0	1.2	83
Mitsubishi UFJ Financial Group	2	6	294	13.2	5.4	18
Mitsubishi UFJ Morgan Stanley	3	2	227	10.2	-2.9	6
Nomura	4	5	216	9.7	0.8	5
Sumitomo Mitsui Trust Holdings	5	4	179	8.0	-1.4	17
Daiwa Securities Group Inc	6	7	141	6.3	0.3	4
Sumitomo Mitsui Finl Grp Inc	7	3	128	5.8	-5.2	14
Barclays	8	12	103	4.6	2.6	5
Goldman Sachs & Co	9	11	58	2.6	0.3	2
Norinchukin Bank	10	8	49	2.2	-1.8	2
Resona Holdings Inc	11	14	43	1.9	1.7	1
BNP Paribas SA	12	9	41	1.8	-1.3	2
Shizuoka Bank Ltd	13	-	40	1.8	1.8	1
BofA Securities Inc	14	10	33	1.5	-1.0	1
ORIX Corp	15	13	5	0.2	-0.5	2
Industry Total			**2,228**	**100.0**		**146**

Japanese Corporate Debt (AP03)

YoY Change (¥) -22% QoQ Change (¥) 57%

Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	1,468	27.7	5.6	190
Nomura	2	2	1,287	24.3	2.3	185
Daiwa Securities Group Inc	3	3	1,064	20.1	-0.2	148
Mitsubishi UFJ Morgan Stanley	4	4	884	16.7	-0.1	129
Sumitomo Mitsui Finl Grp Inc	5	5	286	5.4	-9.8	39
Tokai Tokyo Financial Holdings	6	6	110	2.1	1.2	41
Shinkin Central Bank	7	7	84	1.6	0.8	29
SBI Holdings Inc	8	8	51	1.0	0.2	4
Rakuten Securities Inc	9	-	30	0.6	0.6	1
Okasan Securities Group Inc	10	10	19	0.4	0.1	9
BofA Securities Inc	11	9	10	0.2	-0.2	5
Citi	12	11	6	0.1	-0.1	1
Goldman Sachs & Co	13	12	5	0.1	0.0	3
Industry Total			**5,303**	**100.0**		**237**

Japanese Corporate Debt - Macro Industry Composition



*Indicates a Tie

Debt Capital Markets Criteria

First Half 2022 | Managing Underwriters

If you would like to participate in the submission process, receive quarterly press releases, or have questions about our full league table criteria please contact:

AMERICAS
Sam Boehle
Tel: +1 646 599 7365
sam.boehle@lseg.com

EMEA
Ian Willmott
Tel: +44 207 542 4376
ian.willmott@lseg.com

ASIA PACIFIC
Carina Causon-Israel
Tel: +63 917 807 4038
carina.causon@lseg.com

JAPAN
Aki Sato
Tel: +813 6441 1120
aki.sato@lseg.com

CHINA
Xiaoxue Yu
Tel: +86 10 6627 1007
xiaoxue.yu@lseg.com

Database coverage includes all US public, Euro public and Rule 144a fee-eligible global debt transactions (including Global bonds, Euro/144a transactions, Yankee Bonds, Eurobonds, Foreign Bonds and preferred stock) as well as MBS, ABS & Taxable Munis.

Transactions must be received within 5 business days of pricing for league table accreditation. (Rule 144a transactions sold exclusively in the US market, MBS, ABS transactions in all markets and all Federal Credit Agency transactions must be received within 5 business days of settlement.) Transactions not received by the applicable deadline are entered into the database but classified as rank ineligible and are not included in league tables for the current calendar year.

All league tables are based on deal proceeds (total issue amount multiplied by the issue price) unless otherwise stated; and current data and previous year's data is as of 9:00am EST on June 30, 2022.

Full credit is given to the bookrunner, equal if joint books. In cases of underwriter consolidation, credit is given to the surviving/parent firm. Non-US dollar denominated transactions are converted to the US dollar equivalent at the time of announcement.

Long-term league tables exclude deals with a minimum life of less than 1.5 years (or 18 months), except for Asian local currency denominated bonds and all securitized tranches, which require a minimum life of more than 360 days. Minimum life is defined as the difference between the settlement date and the earliest maturity date or first call/put option.

US marketplace league tables include US dollar denominated domestic, Yankee, Global and Euro/144a bond and preferred stock transactions. Global bond league tables include domestic, foreign, Global, Euromarket and Euro/144a bond and preferred stock transactions issued in any currency.
League table volumes for Mitsubishi UFJ Financial Group and Morgan Stanley, included herein, reflect changes after the commencement of their jointly established securities firms in Japan: (1) Mitsubishi UFJ Morgan Stanley Securities and (2) Morgan Stanley MUFG Securities. Credit for the newly established joint ventures rolls up to Morgan Stanley. For Japanese involvement league tables Morgan Stanley will be represented as "Mitsubishi UFJ Morgan Stanley."

League table volumes for Huaxin Securities and Morgan Stanley, included herein, reflect changes after the commencement of their jointly established securities firm in China: Morgan Stanley Huaxin Securities. Credit for the newly established joint ventures rolls up to Morgan Stanley. For Chinese involvement league tables Morgan Stanley will be represented as "Morgan Stanley Huaxin Securities".

As concluded following our 2014 DCM Roundtable in Tokyo, Refinitiv will begin publishing domestic Japanese rankings on an "Anbun Hoshiki" (Proportional) basis beginning with Japanese Fiscal Year 2014 - 2015 after April 1st, 2014. Please note that the Samurai Bonds ranking (AP1) will be consistent with all other international bonds rankings and will remain on the "Equal-to-Each" allocation basis.
Following our mid-year League Table Inquiry, all 2014 US mortgage-related securitizations have been classified as mortgage backed regardless of risk category or deal structure.