MANAGING UNDERWRITERS

Global Debt Capital Markets Review First Nine Months 2022

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Global Debt Capital Markets Review

First Nine Months 2022 | Managing Underwriters

Global Deals Intelligence

GLOBAL DEBT CAPITAL MARKETS ACTIVITY DOWN 17% TO US$6.7 TRILLION

Overall global debt capital markets activity totaled US$6.7 trillion during the first nine months of 2022, down 17% compared to the first nine months of 2021 and slowest opening nine-month period for DCM activity since 2019. The number of new offerings brought to market during the first nine months of 2022 totaled 20,655, an 11% decline compared to a year ago and a three-year low. DCM issuance during the third quarter of 2022 has decreased 23% compared to the second quarter of this year and fell below US$2 trillion for the first time since the fourth quarter of 2019.

INVESTMENT GRADE CORPORATE DEBT ISSUANCE DOWN 9%

Global Investment Grade corporate debt offerings totaled US$3.3 trillion during the first nine months of 2022, a 9% decrease compared to 2021 levels and the slowest first nine months for global high-grade corporate debt since 2019. Investment Grade debt issuance totaled US$925.0 billion during the third quarter of 2022, a 4% decline compared to the second quarter of the year and the second consecutive sub-US$1 trillion quarter for new offerings.

GLOBAL HIGH YIELD DEBT FALLS 80% TO 13-YEAR LOW

Global High Yield debt activity during the first nine months of 2022 totaled US$111.9 billion, a decrease of 80% compared to the first nine months of 2021 and the slowest period for global high yield issuance since 2009. High yield offerings from issuers in the United States, United Kingdom, Netherlands and Australia accounted for 73% of first nine-month 2022 issuance, up from 70% during the same time last year.

GREEN BONDS ISSUANCE DECLINES 14%; AGENCY & SOVEREIGN DEBT FALLS 12%

According to figures compiled by Refinitiv and The Climate Bonds Initiative, green bond issuance totaled US$309.5 billion during the first nine months of 2022, a 14% decrease compared to year ago levels. The third quarter of 2022 marked the first quarter to register below US$100 billion since the fourth quarter of 2020. Debt issuance from agency, sovereign and supranational issuers totaled US$2.1 trillion during the first nine months of 2022, down 12% 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 nine months of 2022, up from 73% a year ago. Global debt issuance, excluding financials and governments & agencies, totaled US$1.4 trillion during the first nine months of 2022, down 35% compared to 2021 levels and accounted for 21% of overall issuance, down from 27% a year ago.

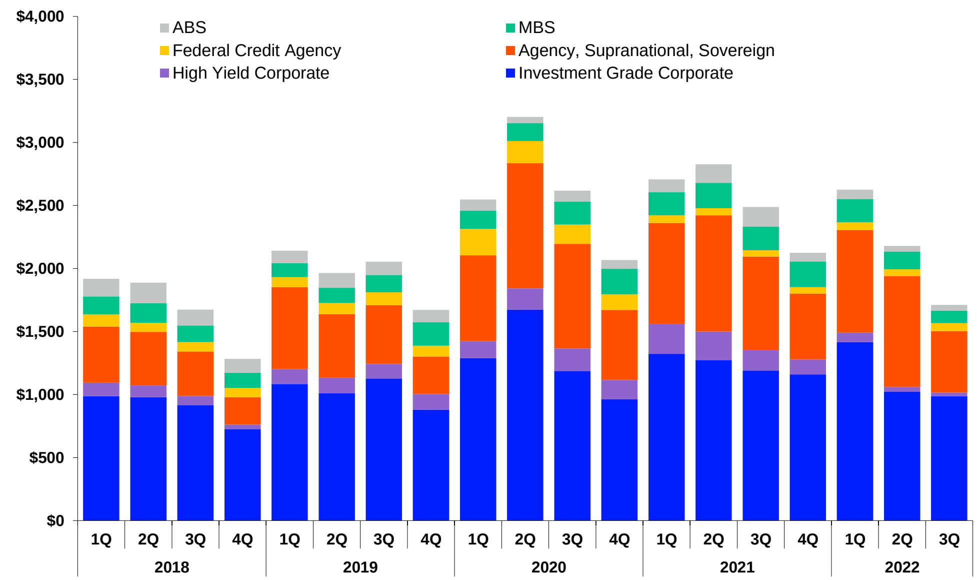
INTERNATIONAL BOND OFFERINGS DOWN 29%; EMERGING MARKETS DOWN 48%

International bond offerings totaled US$2.9 trillion during the first nine months of 2022, a 29% decrease compared to a year ago. Debt from emerging market corporate issuers totaled US$167.1 billion during the first nine months of 2022, down 48% compared to a year ago. Corporate debt issuers from India, Thailand, Brazil and Malaysia accounted for 62% of emerging markets activity during the first nine months.

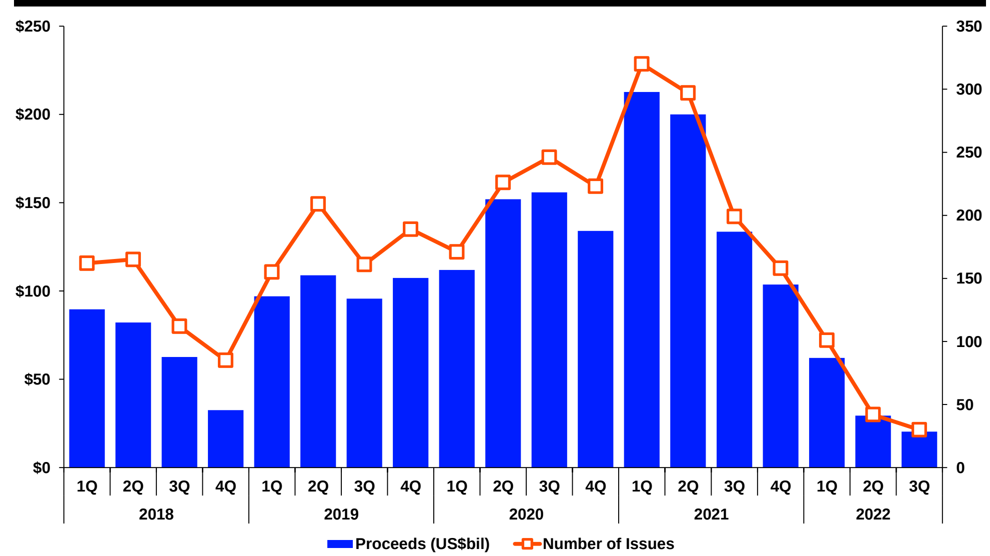
RECORD ASIA LOCAL CURRENCY DEBT; JAPANESE YEN DEBT HITS SEVEN-YEAR LOW

Asia local currency bond offerings totaled US$2.6 trillion during the first nine months of 2022, a 10% increase compared to a year ago and the strongest first nine months for issuance since records began in 1980. China Yuan offerings have increased 13% compared to a year ago. Japanese Yen offerings have decreased 17% compared to the first nine months of 2021, totaling JPY15.9 trillion and a seven-year

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



Global High Yield Corporate Debt - Quarterly Issuance



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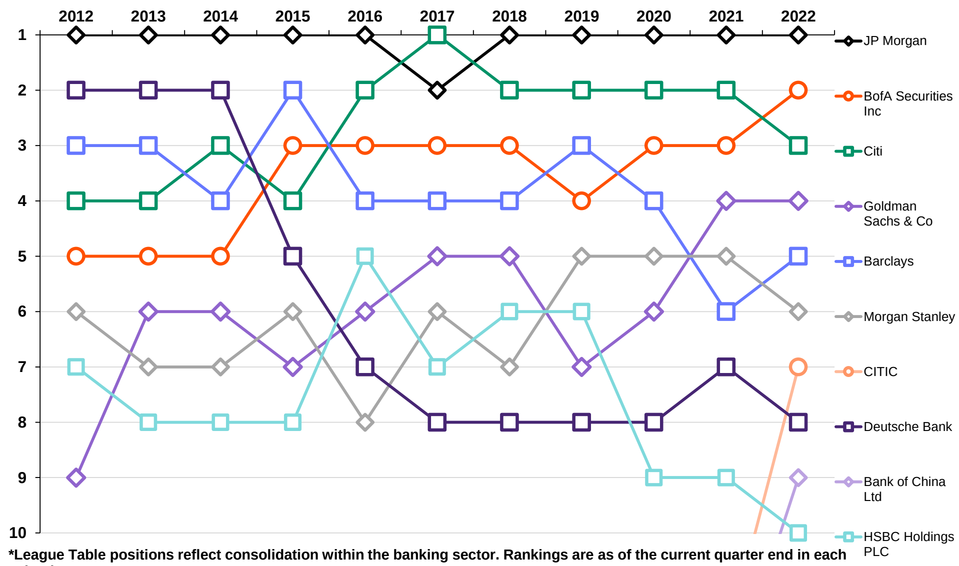
Global Debt Rankings by Proceeds

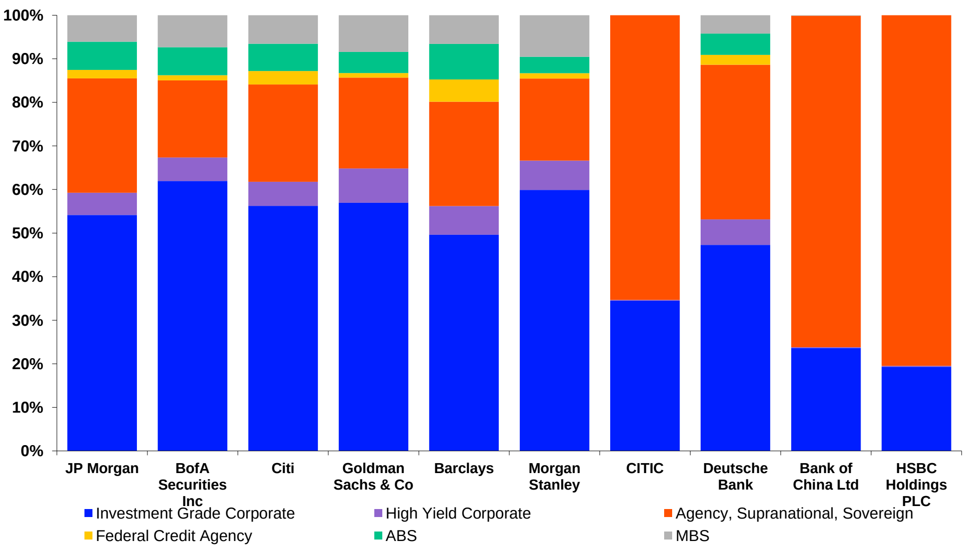


*League Table positions reflect consolidation within the banking sector. Rankings are as of the current quarter end in each calendar year.

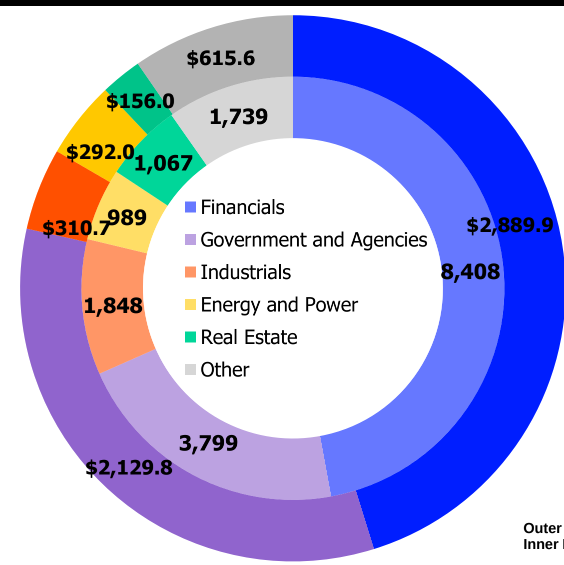
Global Scorecard

	1/1/2022- 9/30/2022 Proceeds ($mil)	# of Deals	1/1/2021 - 9/30/2021 Proceeds ($mil)	# of Deals	YoY % Chg. ($)
All Global Debt (B1)	**6,691,763**	**20,665**	**8,090,062**	**23,128**	**-17%** ▼
Global Long-term Debt (B2)	6,394,096	17,850	7,754,460	20,417	-18% ▼
Global Long-term Debt ex MBS, ABS & Munis (B3)	5,645,090	16,307	6,776,802	18,640	-17% ▼
Global High Yield Corporate Debt (B4)	111,904	173	546,406	816	-80% ▼
Global Investment Grade Corporate Debt (B7)	3,250,300	11,635	3,588,702	12,781	-9% ▼
US Federal Credit Agency Debt (B8)	110,297	579	91,694	479	20% ▲
Global Agency, Sovereign & Supranational (B9)	2,126,206	3,840	2,404,227	4,332	-12% ▼
Global Mortgage-backed Securities (B10)	424,169	880	573,945	960	-26% ▼
Global Asset-backed Securities (B11)	324,837	663	403,713	817	-20% ▼
Global Short-term Debt (B14)	330,765	3,025	373,894	2,937	-12% ▼
Global Emerging Markets Corporate Debt (B15)	167,130	1,003	320,860	1,181	-48% ▼
All US Debt (F1)	**2,107,094**	**3,143**	**2,890,176**	**4,474**	**-27%** ▼
US Long-term Debt (F2)	2,003,239	1,987	2,741,597	3,216	-27% ▼
US Long-term Straight ex MBS, ABS & Munis (F3)	1,469,563	2,006	2,057,145	3,135	-29% ▼
US Federal Credit Agency Debt (F7)	100,965	558	80,432	448	26% ▲
US High Yield Corporate Debt (F8)	90,197	119	391,647	529	-77% ▼
US Investment Grade (F9)	1,014,598	682	1,158,823	1,011	-12% ▼
Agency, Sovereign & Supranational Debt (F10)	218,155	606	335,977	1,005	-35% ▼
US Mortgage-backed Securities (F11)	367,497	689	505,374	773	-27% ▼
US Asset-backed Securities (F14)	270,035	448	327,657	566	-18% ▼
US Taxable Municipal Debt (F15)	22,779	495	37,992	828	-40% ▼
US Short-term Debt - including MBS, ABS (F16)	103,855	1,156	148,579	1,258	-30% ▼

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

Global Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

Global Debt (B1)

YoY Change ($) -17% QoQ Change ($) -23%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	333,776	5.0	-1.2	1,113
BofA Securities Inc	2	3	279,742	4.2	-0.4	911
Citi	3	2	269,902	4.0	-0.7	927
Goldman Sachs & Co	4	4	215,814	3.2	-0.7	654
Barclays	5	6	196,040	2.9	-0.2	797
Morgan Stanley	6	5	188,602	2.8	-1.0	847
CITIC	7	12	176,251	2.6	0.6	2,631
Deutsche Bank	8	7	154,510	2.3	-0.8	778
Bank of China Ltd	9	13	152,009	2.3	0.4	2,300
HSBC Holdings PLC	10	9	151,569	2.3	-0.2	761
Industrial & Comm Bank China	11	15	147,915	2.2	0.4	2,162
BNP Paribas SA	12	8	145,856	2.2	-0.4	624
Wells Fargo & Co	13	11	143,493	2.1	-0.2	662
China Construction Bank	14	17	134,644	2.0	0.4	2,211
Agricultural Bank of China	15	20	124,335	1.9	0.5	1,997
China Securities Co Ltd	16	21	119,382	1.8	0.4	1,797
Bank of Communications Co Ltd	17	22	113,611	1.7	0.3	1,871
Credit Suisse	18	10	111,837	1.7	-0.7	492
RBC Capital Markets	19	14	110,796	1.7	-0.1	703
Credit Agricole CIB	20	18	110,159	1.7	0.1	565
Huatai Securities Co Ltd	21	29	96,658	1.4	0.5	1,757
Nomura	22	19	94,464	1.4	0.0	532
Mizuho Financial Group	23	16	93,230	1.4	-0.3	736
China International Capital Co	24	35	92,956	1.4	0.6	1,635
TD Securities Inc	25	23	89,914	1.3	0.0	459
Industry Total			**6,691,763**	**100.0**		**20,665**

Global Investment Grade Corporate Debt (B7)

YoY Change ($) -9% QoQ Change ($) -5%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	152,380	4.7	-0.7	497
BofA Securities Inc	2	2	146,544	4.5	-0.2	461
Citi	3	3	120,867	3.7	-0.2	441
CITIC	4	6	104,827	3.2	0.4	1,221
Goldman Sachs & Co	5	4	101,165	3.1	-0.3	281
Morgan Stanley	6	5	94,026	2.9	-0.5	381
HSBC Holdings PLC	7	7	88,230	2.7	0.2	449
China Securities Co Ltd	8	12	78,806	2.4	0.4	938
BNP Paribas SA	9	8	74,780	2.3	-0.1	389
Barclays	10	10	72,691	2.2	0.0	299
Wells Fargo & Co	11	13	61,868	1.9	0.1	209
Deutsche Bank	12	11	60,800	1.9	-0.2	328
Mizuho Financial Group	13	9	55,193	1.7	-0.6	362
Bank of China Ltd	14	16	54,211	1.7	0.2	517
China International Capital Co	15	24	53,073	1.6	0.4	618
Credit Suisse	16	14	51,474	1.6	-0.1	231
Credit Agricole CIB	17	19	50,893	1.6	0.2	300
Guotai Junan Securities	18	20	49,760	1.5	0.2	622
RBC Capital Markets	19	17	48,740	1.5	0.1	245
UBS	20	21	43,624	1.3	0.0	218
Industrial & Comm Bank China	21	23	43,488	1.3	0.1	361
Societe Generale	22	18	43,155	1.3	-0.1	219
Mitsubishi UFJ Financial Group	23	15	43,057	1.3	-0.2	200
Huatai Securities Co Ltd	24	26	42,180	1.3	0.2	521
China Merchants Bank	25	29	35,131	1.1	0.2	421
Industry Total			**3,250,300**	**100.0**		**11,635**

Global Agency, Sovereign Corporate Debt (B9)

YoY Change ($) -12% QoQ Change ($) -46%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Industrial & Comm Bank China	1	4	99,909	4.7	0.8	1,756
China Construction Bank	2	3	99,812	4.7	0.8	1,754
Agricultural Bank of China	3	8	95,171	4.5	1.1	1,677
Bank of China Ltd	4	2	93,621	4.4	0.4	1,714
Bank of Communications Co Ltd	5	7	84,386	4.0	0.6	1,522
JP Morgan	6	1	82,851	3.9	-0.8	228
CITIC	7	16	62,358	2.9	0.8	1,253
Citi	8	5	60,981	2.9	-0.9	125
Deutsche Bank	9	6	55,763	2.6	-1.0	206
Huatai Securities Co Ltd	10	25	51,663	2.4	1.1	1,180
BNP Paribas SA	11	10	49,600	2.3	-1.0	102
Barclays	12	12	48,961	2.3	-0.6	122
BofA Securities Inc	13	11	48,317	2.3	-0.7	122
HSBC Holdings PLC	14	9	44,377	2.1	-1.2	142
Goldman Sachs & Co	15	14	41,408	2.0	-0.7	101
Credit Agricole CIB	16	15	38,484	1.8	-0.4	107
China International Capital Co	17	43	36,381	1.7	1.2	954
Industrial Bank Co Ltd	18	21	36,101	1.7	0.0	704
Morgan Stanley	19	13	34,872	1.6	-1.1	155
TD Securities Inc	20	17	34,555	1.6	-0.5	151
China Securities Co Ltd	21	23	34,381	1.6	0.2	765
RBC Capital Markets	22	18	32,468	1.5	-0.5	158
Nomura	23	19	31,608	1.5	-0.4	164
Societe Generale	24	22	27,329	1.3	-0.2	56
BMO Capital Markets	25	26	26,102	1.2	0.1	87
Industry Total			**2,126,206**	**100.0**		**3,840**

Global MBS (B10)

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

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
BofA Securities Inc	1	7	46,652	11.0	3.4	112
JP Morgan	2	1	45,871	10.8	-2.6	101
Goldman Sachs & Co	3	5	42,191	10.0	0.8	114
Citi	4	4	41,247	9.7	-0.8	106
Morgan Stanley	5	3	34,762	8.2	-2.6	117
Wells Fargo & Co	6	6	31,808	7.5	-1.3	82
Credit Suisse	7	2	28,729	6.8	-5.1	106
Barclays	8	9	21,708	5.1	1.7	108
Nomura	9	8	16,679	3.9	-0.6	55
Truist Financial Corp	10	20	14,612	3.4	2.8	20
Mizuho Financial Group	11	10	11,629	2.7	0.0	64
BMO Capital Markets	12	15	9,971	2.4	1.3	31
Amherst Securities	13	12	8,621	2.0	0.6	24
Deutsche Bank	14	11	8,479	2.0	-0.2	56
National Australia Bank	15	14	6,069	1.4	0.3	39
Performance Trust Capital	16	40	3,518	0.8	0.7	32
BNP Paribas SA	17	19	3,326	0.8	0.1	24
Commonwealth Bank of Australia	18	21	2,875	0.7	0.2	24
Standard Chartered PLC	19	23	2,647	0.6	0.2	21
Sumitomo Mitsui Finl Grp Inc	20	16	2,429	0.6	-0.3	26
Jefferies LLC	21	18	2,126	0.5	-0.3	14
Cantor Fitzgerald LP	22	13	2,115	0.5	-0.7	10
Societe Generale	23	29	2,114	0.5	0.2	7
Westpac Banking	24	17	2,097	0.5	-0.3	21
HSBC Holdings PLC	25	28	1,902	0.5	0.2	16
Industry Total			**424,169**	**100.0**		**880**

Global ABS (B11)

YoY Change ($) -20% QoQ Change ($) -36%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	29,024	8.9	0.8	100
BofA Securities Inc	2	4	25,058	7.7	1.3	102
Barclays	3	2	23,583	7.3	-0.7	93
Citi	4	3	22,647	7.0	-0.1	90
Wells Fargo & Co	5	5	20,001	6.2	-0.1	88
Credit Suisse	6	6	19,240	5.9	-0.4	78
RBC Capital Markets	7	9	18,398	5.7	0.5	77
Goldman Sachs & Co	8	7	16,118	5.0	-0.5	61
Deutsche Bank	9	8	14,786	4.6	-0.7	78
Mizuho Financial Group	10	11	14,237	4.4	0.4	108
BNP Paribas SA	11	10	12,362	3.8	-1.0	53
Morgan Stanley	12	12	12,247	3.8	0.0	41
Mitsubishi UFJ Financial Group	13	14	10,443	3.2	0.3	44
Jefferies LLC	14	13	9,075	2.8	-0.4	34
Societe Generale	15	16	8,024	2.5	0.3	32
TD Securities Inc	16	18	5,635	1.7	0.2	25
Credit Agricole CIB	17	22	5,163	1.6	0.6	24
Santander Corp & Invest Bkg	18	20	5,135	1.6	0.2	17
Guggenheim Securities LLC	19	19	4,233	1.3	-0.2	16
BMO Capital Markets	20	17	4,219	1.3	-0.3	20
Truist Financial Corp	21	27	2,902	0.9	0.3	19
Sumitomo Mitsui Finl Grp Inc	22	21	2,876	0.9	-0.4	16
Lloyds Bank	23	28	2,545	0.8	0.3	10
Natixis	24	15	2,306	0.7	-1.7	9
Nomura	25	23	1,926	0.6	-0.3	12
Industry Total			**324,837**	**100.0**		**663**

Global Debt and Loans Islamic Finance

YoY Change ($) -16% QoQ Change ($) -13%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
HSBC Holdings PLC	1	3	4,305	9.9	2.0	23
CIMB Group Holdings Bhd	2	1	3,774	8.7	0.4	49
Emirates NBD PJSC	3	9	3,247	7.4	3.2	9
Malayan Banking Bhd	4	4	2,925	6.7	0.4	45
RHB	5	7	2,502	5.7	1.2	43
Dubai Islamic Bank PJSC	6	5	2,119	4.9	-0.2	9
Standard Chartered PLC	7	2	2,052	4.7	-3.4	13
Intl Islamic Trade Finance	8	6	1,591	3.7	-1.0	4
AMMB Holdings Bhd	9	13	1,461	3.4	1.5	29
Gulf International Bank	10	20	1,343	3.1	1.9	3
Citi	11	8	1,271	2.9	-1.3	6
Kuwait Finance House	12	16	1,251	2.9	1.3	7
Sumitomo Mitsui Finl Grp Inc	13	43*	1,079	2.5	2.1	6
First Abu Dhabi Bank PJSC	14	11	1,052	2.4	-1.0	7
Saudi National Bank SJSC	15	27	999	2.3	1.4	6
Bank Negara Malaysia	16	-	971	2.2	-	1
Deutsche Bank	17	-	950	2.2	-	3
Gulf Finance House EC	18	-	900	2.1	-	1
Affin Holdings Bhd	19	47	644	1.5	1.1	12
Oversea-Chinese Banking	20	12	557	1.3	-0.7	7
Bank Islam Malaysia	21	19	486	1.1	-0.2	7
Mizuho Financial Group	22	34	421	1.0	0.4	4
Abu Dhabi Commercial Bank PJSC	23	18	391	0.9	-0.6	5
United Overseas Bank Ltd	24	25	370	0.9	-0.1	4
Sharjah Islamic Bank PJSC	25	60	314	0.7	0.5	5
Industry Total			**43,637**	**100.0**		**163**

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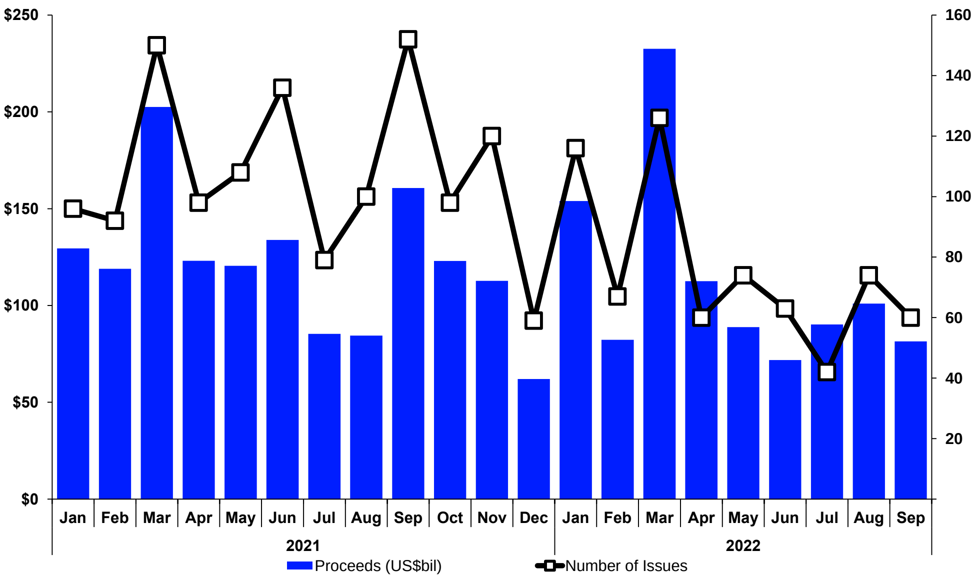
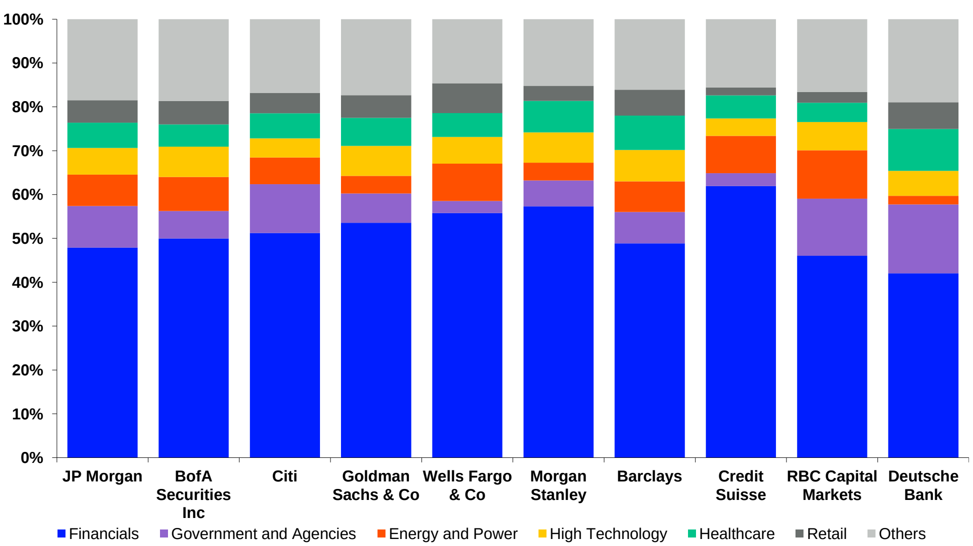
United States Marketed Monthly High Yield Volume



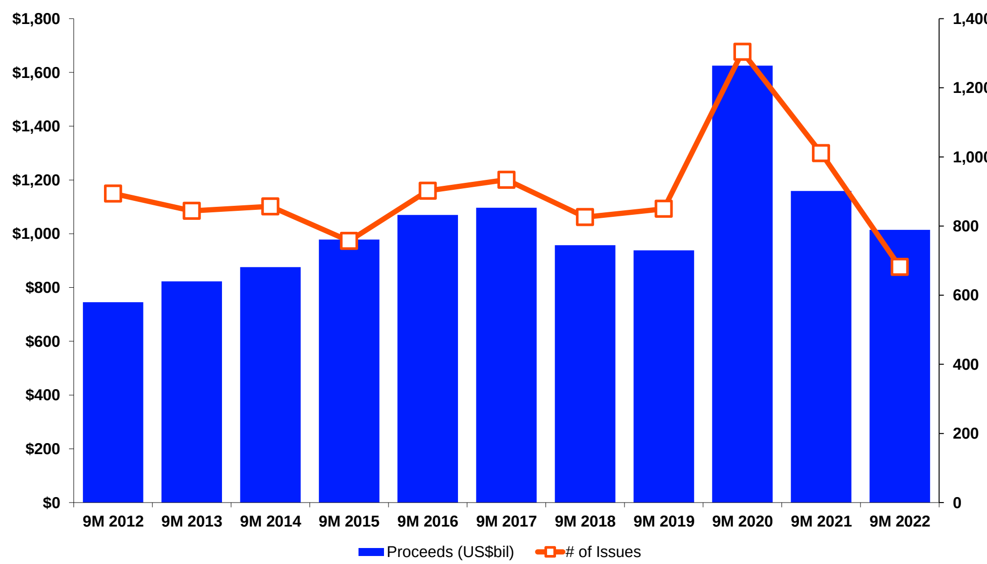
Top United States Investment Grade Corporate Deals

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
7/19/22	Bank of America Corp	United States	10,000	Investment Grade Corporate	Financials
8/4/22	Meta Platforms Inc	United States	9,986	Investment Grade Corporate	High Technology
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
7/7/22	Celanese US Holdings LLC	United States	7,500	Investment Grade Corporate	Materials
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
7/18/22	JPMorgan Chase & Co	United States	7,000	Investment Grade Corporate	Financials

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



United States Investment Grade - Proceeds



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United States Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

U.S. Debt (F1)
YoY Change ($) -27% QoQ Change ($) -14%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	236,821	11.2	-0.8	690
BofA Securities Inc	2	2	213,177	10.1	0.8	661
Citi	3	3	199,745	9.5	0.2	621
Goldman Sachs & Co	4	4	163,665	7.8	0.3	464
Wells Fargo & Co	5	6	132,895	6.3	0.3	573
Morgan Stanley	6	5	129,043	6.1	-0.6	466
Barclays	7	8	112,972	5.4	0.6	480
Credit Suisse	8	7	80,517	3.8	-1.4	298
RBC Capital Markets	9	10	68,691	3.3	0.3	339
Deutsche Bank	10	9	64,618	3.1	-0.6	278
HSBC Holdings PLC	11	12	51,323	2.4	0.3	147
Mizuho Financial Group	12	11	47,762	2.3	-0.2	242
TD Securities Inc	13	15	45,033	2.1	0.1	212
Mitsubishi UFJ Financial Group	14	14	44,660	2.1	0.0	189
BNP Paribas SA	15	13	43,407	2.1	0.0	188
BMO Capital Markets	16	17	38,474	1.8	0.4	136
Nomura	17	16	33,591	1.6	0.0	147
Truist Financial Corp	18	19	32,559	1.6	0.5	229
UBS	19	23	24,251	1.2	0.2	80
Societe Generale	20	22	22,521	1.1	0.1	86
Industry Total			**2,107,094**	**100.0**		**3,143**

U.S. High Yield Corporate Debt (F8)
YoY Change ($) -77% QoQ Change ($) -28%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Goldman Sachs & Co	1	4	8,873	9.8	3.8	54
JP Morgan	2	1	8,736	9.7	-1.0	59
Citi	3	3	6,836	7.6	1.5	53
BofA Securities Inc	4	2	6,710	7.4	-1.9	66
Morgan Stanley	5	7	6,239	6.9	1.9	39
Wells Fargo & Co	6	5	4,558	5.1	-0.7	47
Barclays	7	6	4,202	4.7	-0.6	42
Credit Suisse	8	8	3,751	4.2	-0.7	33
Deutsche Bank	9	9	2,737	3.0	-1.8	26
Truist Financial Corp	10	11	2,520	2.8	0.0	26
RBC Capital Markets	11	10	2,334	2.6	-1.6	29
Mitsubishi UFJ Financial Group	12	15	2,168	2.4	0.3	28
Jefferies LLC	13	14	2,079	2.3	-0.1	14
BNP Paribas SA	14	12	2,008	2.2	-0.3	23
PNC Financial Services Group	15	23	1,851	2.1	1.0	21
Mizuho Financial Group	16	13	1,732	1.9	-0.6	21
Societe Generale	17	27	1,630	1.8	1.0	12
Fifth Third Bancorp	18	19	1,602	1.8	0.6	17
HSBC Holdings PLC	19	16	1,445	1.6	-0.1	18
Scotiabank	20	24	1,291	1.4	0.3	15
Industry Total			**90,197**	**100.0**		**119**

U.S. Investment Grade Debt (F9)
YoY Change ($) -12% QoQ Change ($) 0%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	126,403	12.5	-0.2	337
BofA Securities Inc	2	2	123,768	12.2	0.3	340
Citi	3	3	96,769	9.5	0.6	280
Goldman Sachs & Co	4	4	84,282	8.3	0.1	190
Morgan Stanley	5	5	69,418	6.8	-0.3	205
Wells Fargo & Co	6	6	59,501	5.9	0.6	195
Barclays	7	7	44,601	4.4	0.6	145
HSBC Holdings PLC	8	11	36,554	3.6	0.8	88
Mitsubishi UFJ Financial Group	9	9	33,438	3.3	-0.1	125
RBC Capital Markets	10	13	29,079	2.9	0.5	129
Deutsche Bank	11	8	26,223	2.6	-0.8	89
Credit Suisse	12	12	25,651	2.5	-0.1	76
Mizuho Financial Group	13	10	25,061	2.5	-0.5	124
BNP Paribas SA	14	14	25,057	2.5	0.2	106
US Bancorp	15	18	18,544	1.8	0.5	91
TD Securities Inc	16	15	17,866	1.8	-0.1	79
UBS	17	17	15,112	1.5	0.0	27
Sumitomo Mitsui Finl Grp Inc	18	16	11,875	1.2	-0.6	75
Credit Agricole CIB	19	22	10,587	1.0	-0.1	51
Societe Generale	20	19	10,564	1.0	-0.2	37
Industry Total			**1,014,598**	**100.0**		**682**

U.S. MBS (F11)
YoY Change ($) -27% QoQ Change ($) -32%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	44,995	12.2	-3.0	96
BofA Securities Inc	2	7	42,162	11.5	3.7	101
Goldman Sachs & Co	3	5	41,558	11.3	1.0	110
Citi	4	3	38,800	10.6	-0.6	90
Morgan Stanley	5	4	32,347	8.8	-2.0	113
Wells Fargo & Co	6	6	31,808	8.7	-1.3	82
Credit Suisse	7	2	28,565	7.8	-5.7	104
Barclays	8	9	17,676	4.8	1.6	95
Truist Financial Corp	9	16	14,612	4.0	3.3	20
Nomura	10	8	14,164	3.9	-0.7	53
Industry Total			**367,497**	**100.0**		**689**

U.S. ABS (F14)
YoY Change ($) -18% QoQ Change ($) -40%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	27,298	10.1	0.5	95
BofA Securities Inc	2	6	21,915	8.1	1.5	90
Barclays	3	2	21,253	7.9	-0.4	85
Wells Fargo & Co	4	4	20,001	7.4	-0.4	88
Citi	5	3	19,724	7.3	-0.6	77
Credit Suisse	6	5	17,490	6.5	-0.9	72
RBC Capital Markets	7	8	17,240	6.4	0.4	68
Goldman Sachs & Co	8	7	15,614	5.8	-0.3	59
Deutsche Bank	9	9	12,853	4.8	-0.4	69
Morgan Stanley	10	12	10,662	4.0	0.9	36
Industry Total			**270,035**	**100.0**		**448**

U.S. ABS ex Self & CDOs (F14b)
YoY Change ($) -8% QoQ Change ($) -29%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	2	18,434	9.1	0.5	74
Citi	2	7	17,000	8.3	1.6	70
Barclays	3	1	16,369	8.0	-0.8	71
RBC Capital Markets	4	6	14,164	7.0	0.1	62
Wells Fargo & Co	5	4	13,808	6.8	-0.7	64
BofA Securities Inc	6	5	13,627	6.7	-0.3	68
Credit Suisse	7	3	12,397	6.1	-2.5	60
Goldman Sachs & Co	8	9	9,301	4.6	-0.4	41
Mizuho Financial Group	9	10	9,292	4.6	0.5	36
Deutsche Bank	10	8	8,882	4.4	-1.9	60
Industry Total			**203,776**	**100.0**		**324**

U.S. Securitizations (ex CMBS, Agency, CMO, Self-Funded & CDOs (F20a)
YoY Change ($) -17% QoQ Change ($) -32%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Barclays	1	3	23,977	9.2	1.1	132
Credit Suisse	2	1	21,016	8.1	-2.3	117
JP Morgan	3	4	20,325	7.8	-0.3	88
BofA Securities Inc	4	2	19,936	7.7	-0.8	98
Citi	5	5	18,487	7.1	-0.7	77
Goldman Sachs & Co	6	7	15,943	6.1	-0.1	81
Wells Fargo & Co	7	6	15,359	5.9	-1.6	73
RBC Capital Markets	8	9	14,375	5.5	0.6	64
Morgan Stanley	9	10	11,945	4.6	1.1	66
Deutsche Bank	10	8	11,682	4.5	-0.5	90
Industry Total			**260,486**	**100.0**		**489**

*Indicates a Tie

US Residential MBS (F13b)
YoY Change ($) -36% QoQ Change ($) -52%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Credit Suisse	1	2	9,599	14.2	1.1	63
Goldman Sachs & Co	2	1	9,014	13.4	-1.4	45
Barclays	3	9	8,108	12.0	6.4	63
Morgan Stanley	4	4	6,519	9.7	-0.3	48
BofA Securities Inc	5	3	6,310	9.4	-1.4	30
Citi	6	5	5,797	8.6	-1.2	15
Nomura	7	6	3,724	5.5	-3.4	30
Performance Trust Capital	8	14	3,146	4.7	4.0	28
Deutsche Bank	9	11	2,800	4.2	2.5	30
Wells Fargo & Co	10	7	2,647	3.9	-3.9	12
Industry Total			**67,414**	**100.0**		**190**

All Federal Credit Agency Debt (H1)
YoY Change ($) 34% QoQ Change ($) 48%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Wells Fargo & Co	1	2	11,252	11.5	2.7	138
Barclays	2	1	10,764	11.0	-2.6	71
Nomura	3	4	8,450	8.6	1.9	54
Citi	4	3	7,169	7.3	-0.6	51
TD Securities Inc	5	6	6,712	6.9	1.8	61
Daiwa Securities Group Inc	6	5	4,985	5.1	-0.5	79
Loop Capital Markets	7	10	4,001	4.1	1.2	57
Academy Securities Inc	8	11	3,474	3.6	0.7	53
JP Morgan	9	7	3,311	3.4	-0.7	38
Jefferies LLC	10	15	3,195	3.3	0.8	42
Industry Total			**97,869**	**100.0**		**555**

International Debt & ESG Bonds Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

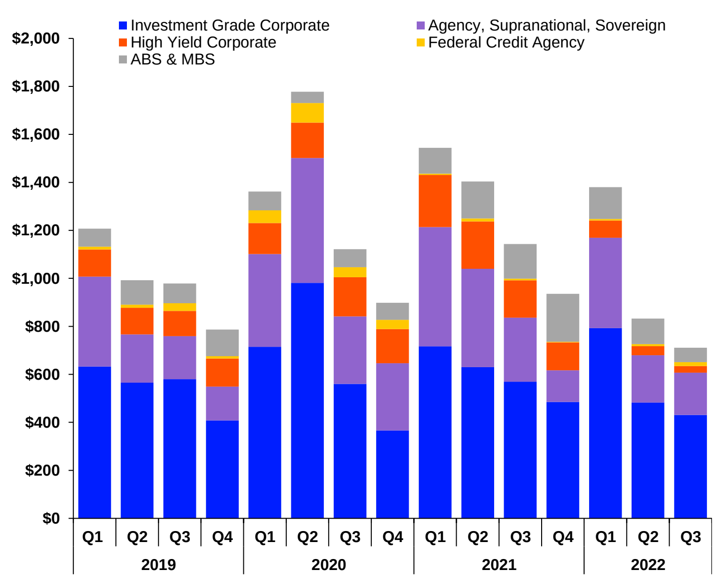
All International Bonds (J01) YoY Change ($) -29% QoQ Change ($) -15%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	1	253,709	8.6	-0.1	829
BofA Securities Inc	2	2	217,242	7.4	0.4	698
Citi	3	3	209,380	7.1	0.4	689
Goldman Sachs & Co	4	4	167,608	5.7	0.2	507
Barclays	5	5	153,430	5.2	0.0	605
Morgan Stanley	6	6	135,750	4.6	-0.3	498
BNP Paribas SA	7	7	133,008	4.5	-0.3	542
HSBC Holdings PLC	8	9	126,451	4.3	-0.1	546
Deutsche Bank	9	8	122,803	4.2	-0.5	505
Credit Agricole CIB	10	11	86,707	3.0	0.3	411
Credit Suisse	11	10	77,938	2.7	-0.1	351
Societe Generale	12	13	75,686	2.6	0.2	310
RBC Capital Markets	13	14	67,319	2.3	0.0	314
Wells Fargo & Co	14	12	65,313	2.2	-0.2	300
TD Securities Inc	15	15	57,258	2.0	0.3	248
Nomura	16	19	47,589	1.6	0.1	199
UniCredit	17	16	46,124	1.6	-0.1	198
Santander Corp & Invest Bkg	18	20	46,100	1.6	0.2	206
Mitsubishi UFJ Financial Group	19	18	44,362	1.5	0.0	206
Mizuho Financial Group	20	17	39,656	1.4	-0.3	272
UBS	21	24	38,094	1.3	0.1	160
NatWest Markets	22	21	37,833	1.3	-0.1	180
Natixis	23	22	36,645	1.3	-0.1	195
BMO Capital Markets	24	26	35,100	1.2	0.2	142
Commerzbank AG	25	25	33,740	1.2	0.0	144
Industry Total			**2,940,206**	**100.0**		**3,838**

All Bonds In Euros (N01) YoY Change ($) -18% QoQ Change ($) -9%

Bookrunner	Rank 2022	Rank 2021	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
BNP Paribas SA	1	1	80,767	8.0	-0.3	296
JP Morgan	2	2	67,916	6.7	0.0	229
Credit Agricole CIB	3	6	58,886	5.8	0.8	224
Deutsche Bank	4	3	57,817	5.7	-0.2	219
Barclays	5	4	50,884	5.0	-0.4	178
HSBC Holdings PLC	6	5	49,578	4.9	-0.2	203
Societe Generale	7	9	49,438	4.9	0.2	196
Citi	8	11	46,931	4.6	0.0	165
UniCredit	9	8	41,468	4.1	-0.6	188
BofA Securities Inc	10	7	41,434	4.1	-0.6	139
Goldman Sachs & Co	11	10	40,127	4.0	-0.6	125
Morgan Stanley	12	12	31,840	3.2	-0.8	117
Commerzbank AG	13	13	28,933	2.9	-0.1	126
Natixis	14	14	28,594	2.8	0.0	148
Santander Corp & Invest Bkg	15	15	26,461	2.6	0.5	124
ING	16	17	22,149	2.2	0.4	129
NatWest Markets	17	16	20,543	2.0	-0.1	88
Landesbank Baden-Wurttemberg	18	18	20,320	2.0	0.2	118
DZ Bank	19	19	19,859	2.0	0.2	97
Danske Bank	20	24	15,455	1.5	0.4	69
Nomura	21	21	15,036	1.5	0.1	36
TD Securities Inc	22	29	11,957	1.2	0.6	37
Nordea	23	26	11,561	1.1	0.4	57
UBS	24	25	10,337	1.0	0.0	56
Credit Suisse	25	23	9,980	1.0	-0.3	52
Industry Total			**1,010,627**	**100.0**		**1,135**

International Bonds - Issue Type Composition (US$bil)



All Global ESG Bonds (GESG1) YoY Change ($) -27% QoQ Change ($) -16%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	1	29,380	5.9	-0.8	119
BofA Securities Inc	2	7	26,921	5.4	0.9	114
BNP Paribas SA	3	2	24,992	5.0	-1.1	129
Citi	4	3	24,437	4.9	-0.4	122
HSBC Holdings PLC	5	5	24,425	4.9	0.0	118
Credit Agricole CIB	6	4	23,246	4.7	-0.5	113
Deutsche Bank	7	6	18,714	3.8	-1.1	87
Barclays	8	8	18,648	3.8	-0.1	80
Societe Generale	9	12	14,836	3.0	0.2	55
Goldman Sachs & Co	10	9	13,238	2.7	-0.6	69
Morgan Stanley	11	10	12,962	2.6	-0.5	88
NatWest Markets	12	11	11,472	2.3	-0.6	46
Nomura	13	19	10,262	2.1	0.5	63
Mizuho Financial Group	14	24	10,201	2.1	0.8	104
Natixis	15	13	10,199	2.1	-0.6	44
TD Securities Inc	16	17	10,070	2.0	0.4	35
ING	17	22	8,169	1.6	0.2	55
Danske Bank	18	21	8,120	1.6	0.2	61
Santander Corp & Invest Bkg	19	16	6,990	1.4	-0.3	43
RBC Capital Markets	20	23	6,351	1.3	0.0	34
DZ Bank	21	15	6,305	1.3	-0.5	22
Bank of China Ltd	22	34	6,244	1.3	0.6	81
Daiwa Securities Group Inc	23	39	5,986	1.2	0.7	62
UniCredit	24	20	5,785	1.2	-0.3	38
Commerzbank AG	25	18	5,503	1.1	-0.5	26
Industry Total			**496,674**	**100.0**		**1,035**

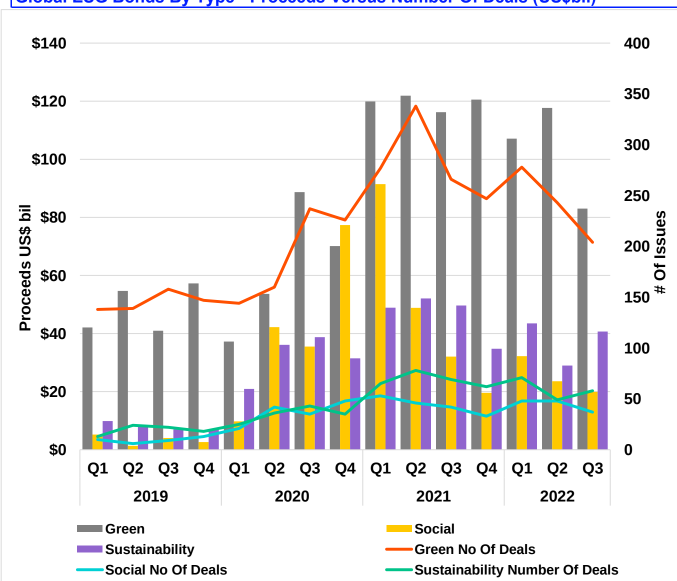
*Indicates a Tie

All Global Green Bonds (GR01)** YoY Change ($) -14% QoQ Change ($) -29%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
BofA Securities Inc	1	8	17,500	5.7	2.5	79
BNP Paribas SA	2	3	15,147	4.9	-0.9	90
Credit Agricole CIB	3	4	14,740	4.8	-0.3	79
Citi	4	2	14,068	4.6	-1.3	84
JP Morgan	5	1	13,990	4.6	-2.3	73
HSBC Holdings PLC	6	6	12,398	4.0	-0.4	73
Deutsche Bank	7	5	10,907	3.5	-1.0	59
Barclays	8	7	9,402	3.1	-0.4	45
Goldman Sachs & Co	9	9	7,671	2.5	0.0	48
NatWest Markets	10	11	7,439	2.4	0.2	26
Danske Bank	11	10	6,782	2.2	-0.2	54
Morgan Stanley	12	15	6,276	2.0	0.3	45
ING	13	17	6,024	2.0	0.3	43
Societe Generale	14	14	5,866	1.9	0.1	31
Bank of China Ltd	15	25	5,733	1.9	0.8	72
Natixis	16	21	5,025	1.6	0.2	30
DZ Bank	17	24	4,924	1.6	0.4	17
CITIC	18	36	4,770	1.6	0.8	72
UniCredit	19	16	4,763	1.6	-0.1	31
Mizuho Financial Group	20	28	4,438	1.4	0.4	58
Santander Corp & Invest Bkg	21	13	4,150	1.4	-0.4	29
Credit Suisse	22	12	3,913	1.3	-0.6	33
Commerzbank AG	23	18	3,775	1.2	-0.2	21
Nordea	24	23	3,728	1.2	0.0	46
TD Securities Inc	25	20	3,694	1.2	-0.2	18
Industry Total			**307,750**	**100.0**		**725**

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

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



REFINITIV

High Yield Corporate Debt Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

Global High Yield Debt (B4)

YoY Change ($) -80% QoQ Change ($) -31%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Goldman Sachs & Co	1	3	11,156	10.0	4.0	68
JP Morgan	2	1	10,166	9.1	-0.5	72
Citi	3	6	7,500	6.7	1.4	59
BofA Securities Inc	4	2	7,272	6.5	-1.6	71
Morgan Stanley	5	8	7,140	6.4	1.7	48
Credit Suisse	6	7	5,213	4.7	0.0	42
Barclays	7	4	5,154	4.6	-1.0	52
Wells Fargo & Co	8	9	4,558	4.1	-0.1	47
Deutsche Bank	9	5	4,413	3.9	-1.4	41
BNP Paribas SA	10	11	3,060	2.7	-0.5	35
RBC Capital Markets	11	10	2,629	2.4	-0.9	31
Truist Financial Corp	12	14	2,520	2.3	0.3	26
Mitsubishi UFJ Financial Group	13	16	2,393	2.1	0.3	30
HSBC Holdings PLC	14	12	2,189	2.0	-1.0	27
Jefferies LLC	15	15	2,107	1.9	0.1	15
Societe Generale	16	22	1,947	1.7	0.7	17
PNC Financial Services Group	17	28	1,851	1.7	0.9	21
Mizuho Financial Group	18	13	1,742	1.6	-0.5	22
Fifth Third Bancorp	19	25	1,602	1.4	0.5	17
Scotiabank	20	29	1,362	1.2	0.4	15
Credit Agricole CIB	21	17	1,323	1.2	-0.5	14
BMO Capital Markets	22	19	1,190	1.1	-0.1	15
TD Securities Inc	23	21	1,187	1.1	0.0	15
Sumitomo Mitsui Finl Grp Inc	24	23	1,129	1.0	0.1	10
Capital One Financial Corp	25	42	993	0.9	0.5	7
Industry Total			**111,904**	**100.0**		**173**

Global High Yield Debt USD Denominated (B5)

YoY Change ($) -78% QoQ Change ($) -28%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Goldman Sachs & Co	1	4	9,023	9.8	4.1	55
JP Morgan	2	1	8,763	9.5	-0.8	60
Citi	3	3	6,863	7.4	1.6	54
BofA Securities Inc	4	2	6,710	7.3	-1.4	66
Morgan Stanley	5	9	6,250	6.8	2.0	40
Wells Fargo & Co	6	5	4,558	4.9	-0.4	47
Barclays	7	6	4,212	4.6	-0.5	43
Credit Suisse	8	7	3,823	4.1	-0.8	34
Deutsche Bank	9	8	2,737	3.0	-1.8	26
Truist Financial Corp	10	11	2,520	2.7	0.2	26
RBC Capital Markets	11	10	2,334	2.5	-1.4	29
Mitsubishi UFJ Financial Group	12	16	2,168	2.4	0.5	28
Jefferies LLC	13	14	2,079	2.3	0.1	14
BNP Paribas SA	14	12	2,008	2.2	-0.2	23
PNC Financial Services Group	15	24	1,851	2.0	0.9	21
Mizuho Financial Group	16	13	1,742	1.9	-0.5	22
Societe Generale	17	28	1,630	1.8	1.0	12
Fifth Third Bancorp	18	21	1,602	1.7	0.6	17
HSBC Holdings PLC	19	15	1,555	1.7	-0.4	21
Scotiabank	20	25	1,291	1.4	0.4	15
BMO Capital Markets	21	17	1,190	1.3	-0.2	15
TD Securities Inc	22	18	1,187	1.3	-0.1	15
Sumitomo Mitsui Finl Grp Inc	23	23	1,129	1.2	0.1	10
Capital One Financial Corp	24	35	993	1.1	0.6	7
Citizens Financial Group	25	32	909	1.0	0.4	9
Industry Total			**92,442**	**100.0**		**129**

Top High Yield Corporate Deals

Issue Date	Issuer	Domicile Nation	Proceeds US$mil	Coupon %	Macro Sector
9/20/22	TIBCO Software Inc	United States	3,342.4	6.500	High Technology
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
9/22/22	Royal Caribbean Cruises Ltd	Liberia	2,000.0	8.250	Industrials
1/5/22	Ford Motor Credit Co	United States	2,000.0	2.300	Financials
8/16/22	Ford Motor Co	United States	1,750.0	6.100	Industrials
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

Global High Yield Debt Non-USD Denominated (B6)

YoY Change ($) -82% QoQ Change ($) -42%

Bookrunner	Rank 2022	Rank 2021	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
Goldman Sachs & Co	1	2	1,942	11.0	3.8	15
Deutsche Bank	2	4	1,546	8.7	1.6	16
Credit Suisse	3	9	1,284	7.2	3.0	9
JP Morgan	4	1	1,279	7.2	-0.1	13
BNP Paribas SA	5	5	956	5.4	-0.7	13
Barclays	6	3	864	4.9	-2.3	10
UniCredit	7	10	808	4.6	0.9	8
Morgan Stanley	8	8	808	4.6	0.3	10
Citi	9	12	577	3.3	-0.1	6
HSBC Holdings PLC	10	6	576	3.3	-2.6	7
Credit Agricole CIB	11	11	568	3.2	-0.3	6
Nordea	12	31	524	3.0	2.3	8
BofA Securities Inc	13	7	511	2.9	-3.0	7
NatWest Markets	14	18	358	2.0	0.5	3
IMI - Intesa Sanpaolo	15	17	357	2.0	0.3	5
DNB ASA	16	38	343	1.9	1.5	8
Mediobanca	17	26	331	1.9	1.0	3
Lloyds Bank	18	23	331	1.9	0.8	3
Natixis	19	16	311	1.8	0.0	5
Societe Generale	20	15	283	1.6	-0.3	6
Swedbank	21	84	272	1.5	1.5	4
RBC Capital Markets	22	20	269	1.5	0.3	4
Nomura	23	27	223	1.3	0.5	3
SEB	24	30	218	1.2	0.4	3
UBS	25	25	218	1.2	0.2	2
Industry Total			**17,728**	**100.0**		**46**

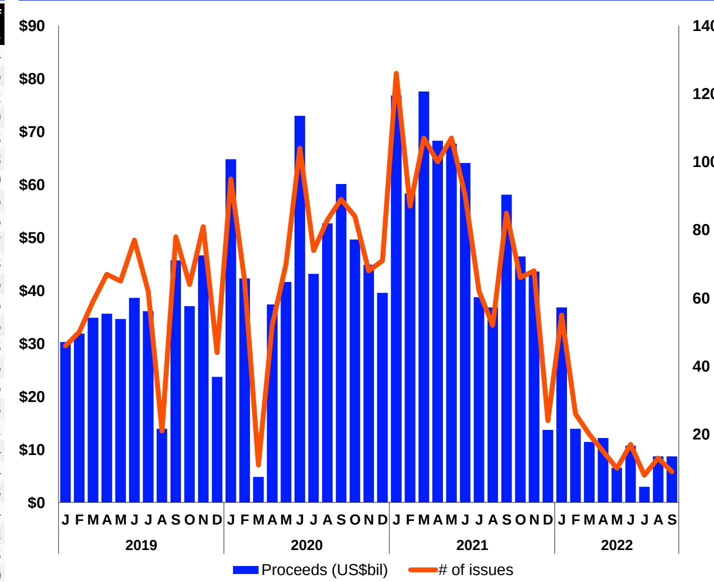
*Indicates a Tie

Global High Yield Debt EURO Denominated (B06b)

YoY Change ($) -82% QoQ Change ($) -38%

Bookrunner	Rank 2022	Rank 2021	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
Goldman Sachs & Co	1	2	1,660	10.7	2.8	14
Deutsche Bank	2	3	1,487	9.6	2.1	16
JP Morgan	3	1	1,204	7.8	-0.2	12
Credit Suisse	4	8	1,145	7.4	2.9	9
BNP Paribas SA	5	4	956	6.2	-0.4	13
UniCredit	6	9	808	5.2	0.9	8
Morgan Stanley	7	11	808	5.2	1.2	10
Citi	8	12	577	3.7	0.2	6
Credit Agricole CIB	9	10	568	3.7	-0.3	6
BofA Securities Inc	10	5	511	3.3	-2.8	7
Barclays	11	6	507	3.3	-1.6	8
Nordea	12	29	464	3.0	2.3	6
HSBC Holdings PLC	13	7	374	2.4	-2.3	6
IMI - Intesa Sanpaolo	14	16	357	2.3	0.4	5
Mediobanca	15	24	331	2.1	1.1	3
Natixis	16	15	311	2.0	0.0	5
Societe Generale	17	14	283	1.8	-0.4	6
Nomura	18	27	223	1.4	0.5	3
Swedbank	19	-	215	1.4	1.4	2
RBC Capital Markets	20	19	209	1.4	0.2	4
Pareto AS	21	64	206	1.3	1.2	4
Mitsubishi UFJ Financial Group	22	20	202	1.3	0.1	3
DNB ASA	23	42	197	1.3	1.0	4
SEB	24	30	194	1.3	0.6	2
ING	25	13	178	1.2	-2.1	3
Industry Total			**15,534**	**100.0**		**39**

Global High Yield Corporate Debt Issuance



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An LSEG Business

Emerging Markets Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

All International Emerging Market Bonds (L1)

YoY Change ($) -56% QoQ Change ($) -43%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Citi	1	2	24,221	8.6	0.3	124
JP Morgan	2	1	21,484	7.6	-0.8	104
HSBC Holdings PLC	3	3	18,446	6.5	-1.1	151
BNP Paribas SA	4	6	11,920	4.2	-0.2	77
Standard Chartered PLC	5	4	10,353	3.7	-1.6	110
BofA Securities Inc	6	5	9,891	3.5	-1.4	66
Deutsche Bank	7	9	9,024	3.2	0.6	44
Credit Agricole CIB	8	10	8,049	2.8	0.2	100
Barclays	9	12	7,322	2.6	0.5	34
Societe Generale	10	15	6,991	2.5	0.7	49
Goldman Sachs & Co	11	7	6,805	2.4	-1.5	32
Mizuho Financial Group	12	13	6,641	2.3	0.5	76
Santander Corp & Invest Bkg	13	14	5,238	1.9	0.1	19
Bank of China Ltd	14	17	4,859	1.7	-0.1	106
UBS	15	16	4,442	1.6	-0.2	37
Bank of Communications Co Ltd	16	24	4,412	1.6	0.7	78
CITIC	17	19	4,393	1.6	0.2	153
Credit Suisse	18	11	4,245	1.5	-0.7	24
Sumitomo Mitsui Finl Grp Inc	19	21	3,897	1.4	0.3	44
China International Capital Co	20	23	3,710	1.3	0.2	127
Industry Total			**283,270**	**100.0**		**659**

EMEA Emerging Market Bonds (L2)

YoY Change ($) -56% QoQ Change ($) -57%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Citi	1	2	7,711	14.7	2.2	24
JP Morgan	2	1	6,555	12.5	-1.6	27
Deutsche Bank	3	13	4,472	8.5	6.0	11
BNP Paribas SA	4	3	4,065	7.7	1.0	15
Goldman Sachs & Co	5	4	3,719	7.1	1.6	11
Erste Group	6	14	2,962	5.6	3.2	17
HSBC Holdings PLC	7	9	2,780	5.3	1.1	10
ING	8	16	2,250	4.3	2.5	7
Societe Generale	9	7	1,882	3.6	-0.7	9
Santander Corp & Invest Bkg	10	38	1,345	2.6	2.2	6
UniCredit	11	10	1,221	2.3	-1.8	9
Barclays	12	12	1,186	2.3	-0.2	6
Commerzbank AG	13	28	1,012	1.9	1.2	5
FirstRand Bank	14	27	919	1.8	1.1	4
Sumitomo Mitsui Finl Grp Inc	15	18	788	1.5	0.2	5
Nedbank Capital	16*	-	776	1.5	1.5	2
Absa Group Ltd	16*	47	776	1.5	1.2	2
Kuwait Finance House	18*	65*	750	1.4	1.3	1
Dubai Islamic Bank PJSC	18*	30	750	1.4	0.8	1
Raiffeisen Bank International	20	11	618	1.2	-1.5	2
Industry Total			**52,618**	**100.0**		**62**

Latin America Emerging Market Bonds (L3)

YoY Change ($) -60% QoQ Change ($) -6%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	6,181	13.9	1.5	19
Citi	2	3	6,024	13.5	3.0	15
BofA Securities Inc	3	2	3,702	8.3	-2.3	15
Santander Corp & Invest Bkg	4	4	3,512	7.9	-0.9	8
Barclays	5	13	3,232	7.3	4.9	7
BBVA	6	10	2,606	5.9	2.8	5
Scotiabank	7	9	2,426	5.4	1.5	10
Goldman Sachs & Co	8	5	1,626	3.7	-3.6	8
Mizuho Financial Group	9	19	1,345	3.0	1.6	9
HSBC Holdings PLC	10	7	1,332	3.0	-2.8	3
Morgan Stanley	11	6	1,223	2.7	-4.3	13
RBC Capital Markets	12*	21	1,122	2.5	1.8	3
BMO Capital Markets	12*	24	1,122	2.5	1.9	3
BNP Paribas SA	14	8	1,122	2.5	-2.2	5
Credit Agricole CIB	15	16	976	2.2	0.4	3
Credit Suisse	16	12	831	1.9	-0.8	5
Truist Financial Corp	17	38	824	1.9	1.8	2
Itau Unibanco	18	11	742	1.7	-1.1	7
Societe Generale	19	34	709	1.6	1.4	2
Natixis	20	26	541	1.2	0.8	1
Industry Total			**44,568**	**100.0**		**46**

Asia Pacific Emerging Market Bonds (L4)

YoY Change ($) -48% QoQ Change ($) -41%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
HSBC Holdings PLC	1	1	11,895	7.0	-1.7	124
Citi	2	2	10,120	5.9	-0.1	80
Standard Chartered PLC	3	3	9,426	5.5	0.1	97
JP Morgan	4	4	8,202	4.8	-0.3	50
Credit Agricole CIB	5	7	6,883	4.0	0.5	94
BNP Paribas SA	6	6	6,320	3.7	0.0	55
BofA Securities Inc	7	5	5,282	3.1	-0.9	44
Mizuho Financial Group	8	15	4,957	2.9	0.5	61
Bank of China Ltd	9	8	4,730	2.8	-0.5	105
Bank of Communications Co Ltd	10	20	4,412	2.6	0.8	78
Industry Total			**170,636**	**100.0**		**512**

Middle East Emerging Market Bonds (L5)

YoY Change ($) -74% QoQ Change ($) -66%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
HSBC Holdings PLC	1	2	2,865	12.7	2.4	16
JP Morgan	2	4	1,725	7.7	-0.9	11
Citi	3	3	1,665	7.4	-2.0	8
Standard Chartered PLC	4	1	1,500	6.7	-5.7	12
Barclays	5	17	1,148	5.1	3.4	6
First Abu Dhabi Bank PJSC	6	6	1,081	4.8	0.7	9
Robert W Baird & Co Inc	7*	28*	979	4.4	3.8	5
Cantor Fitzgerald LP	7*	28*	979	4.4	3.8	5
Credit Suisse	9	9	978	4.3	1.6	5
Abu Dhabi Commercial Bank PJSC	10	38	846	3.8	3.4	7
Industry Total			**22,521**	**100.0**		**43**

All Global Debt, by Brazilian Issuers (BR1)

YoY Change ($) -48% QoQ Change ($) -76%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Itau Unibanco	1	1	5,372	25.7	11.9	59
Banco BTG Pactual SA	2	5	2,709	13.0	4.9	19
Banco Bradesco SA	3	2	2,440	11.7	2.5	20
Santander Corp & Invest Bkg	4	6	1,266	6.1	-1.9	14
XP Investimentos	5	12	1,054	5.0	2.8	12
UBS	6	4	925	4.4	-3.8	13
Mizuho Financial Group	7	14	877	4.2	2.4	3
Barclays	8*	13	792	3.8	1.8	2
RBC Capital Markets	8*	16*	792	3.8	2.2	2
BMO Capital Markets	8*	16*	792	3.8	2.2	2
Industry Total			**20,917**	**100.0**		**124**

Domestic Brazilian Debt, in Reals (BR2)

YoY Change ($) 18% QoQ Change ($) -43%

Bookrunner	Rank 2022	Rank 2021	Proceeds R$mil	Market Share	Mkt. Sh. Chg	# of Deals
Itau Unibanco	1	1	36,101	38.5	11.1	80
Banco Bradesco SA	2	5	17,250	18.4	7.7	27
Banco BTG Pactual SA	3	2	14,113	15.1	3.5	19
Santander Corp & Invest Bkg	4	6	8,726	9.3	-0.9	16
XP Investimentos	5	8	5,739	6.1	3.3	13
UBS	6	3	4,832	5.2	-6.3	12
Arab Banking Corporation	7	10	2,113	2.3	0.0	4
Banco Safra SA	8	9	1,357	1.5	-1.1	5
Banco Votorantim	9	7	1,135	1.2	-1.7	4
BNP Paribas SA	10	12	825	0.9	-0.1	2
Industry Total			**93,742**	**100.0**		**164**

*Indicates a Tie

Global Debt, Mexican Issuers (MX1)

YoY Change ($) -47% QoQ Change ($) 416%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
BBVA	1	1	3,534	18.8	7.6	36
Santander Corp & Invest Bkg	2	2	2,796	14.9	3.9	21
Barclays	3*	10	2,109	11.2	6.8	4
BofA Securities Inc	3*	5	2,109	11.2	3.1	4
JP Morgan	5	4	1,082	5.8	-2.5	4
Casa de Bolsa Inverlat	6	11	931	5.0	1.3	23
Citi	7	3	718	3.8	-6.1	8
Morgan Stanley	8	9	614	3.3	-1.7	7
Casas de Bolsa Bital, S.A.	9	14	546	2.9	0.7	15
Scotiabank	10	26	542	2.9	2.6	3
Industry Total			**18,783**	**100.0**		**98**

Domestic Mexican Debt (MX3)

YoY Change ($) -38% QoQ Change ($) 155%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
BBVA	1	1	1,397	24.6	2.3	34
Santander Corp & Invest Bkg	2	2	1,241	21.9	1.2	21
Casa de Bolsa Inverlat	3	3	931	16.4	2.3	23
Casas de Bolsa Bital, S.A.	4	5	546	9.6	-2.7	15
Citi	5	6	426	7.5	2.3	6
Grupo Financiero Banorte-Ixe	6	4	297	5.2	-7.9	20
Multibanco Comermex SNC	7	8	164	2.9	0.7	4
Corporacion Actinver Sab de CV	8	7	143	2.5	-0.1	14
Vector Casa de Bolsa SA de CV	9	12	119	2.1	1.2	18
NatWest Markets	10	-	108	1.9	1.9	2
Industry Total			**5,668**	**100.0**		**88**

Asia-Pacific Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

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

YoY Change ($) -45% QoQ Change ($) -29%

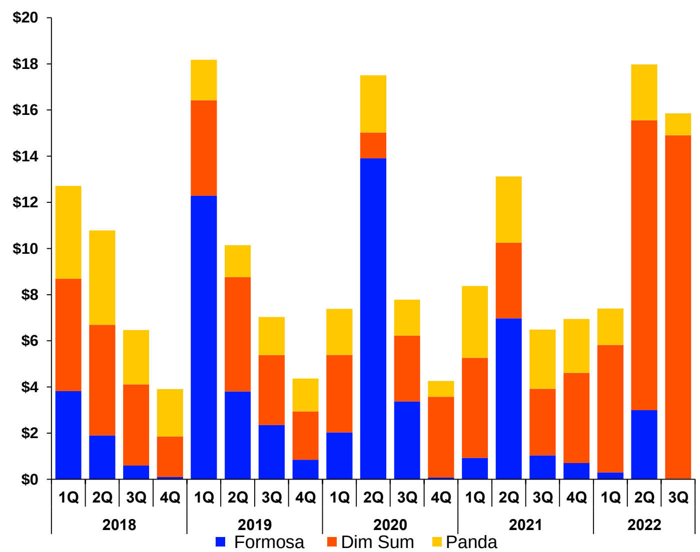
Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Citi	1	2	12,402	7.3	0.6	80
HSBC Holdings PLC	2	1	9,410	5.5	-2.6	75
Standard Chartered PLC	3	4	9,170	5.4	0.3	88
JP Morgan	4	3	8,739	5.1	-0.5	44
BofA Securities Inc	5	5	7,682	4.5	0.2	47
BNP Paribas SA	6	6	7,263	4.3	0.8	51
Deutsche Bank	7	8	6,544	3.8	0.5	30
Credit Agricole CIB	8	7	6,181	3.6	0.2	66
Morgan Stanley	9	9	4,483	2.6	-0.6	26
Mizuho Financial Group	10	16	4,316	2.5	0.3	51
Goldman Sachs & Co	11	12	4,116	2.4	-0.3	15
CITIC	12	13	3,934	2.3	-0.3	141
Bank of China Ltd	13	10	3,749	2.2	-0.9	91
Industrial Bank Co Ltd	14	30	3,464	2.0	0.9	135
China International Capital Co	15	17	3,375	2.0	-0.2	117
UBS	16	11	3,051	1.8	-1.0	26
DBS Group Holdings	17	15	2,967	1.7	-0.6	50
Societe Generale	18	27	2,849	1.7	0.5	24
Nomura	19	32	2,504	1.5	0.6	15
Credit Suisse	20	14	2,436	1.4	-1.0	14
TD Securities Inc	21	33	2,371	1.4	0.5	3
Sumitomo Mitsui Finl Grp Inc	22	29	2,262	1.3	0.2	32
Industrial & Comm Bank China	23	19	2,197	1.3	-0.5	65
Haitong Securities Co Ltd	24	25	2,160	1.3	-0.1	98
RBC Capital Markets	25	39	2,148	1.3	0.8	3
Industry Total			**170,574**	**100.0**		**388**

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

YoY Change ($) -94% QoQ Change ($) -100%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Deutsche Bank	1	1	275	12.9	6.0	2
Barclays	2	17	198	9.3	7.3	2
DBS Group Holdings	3*	26	188	8.8	7.9	1
JP Morgan	3*	8	188	8.8	4.4	1
Arctic Securities ASA	5*	-	150	7.0	7.0	1
Pareto AS	5*	-	150	7.0	7.0	1
Goldman Sachs & Co	5*	24	150	7.0	5.7	1
Bank of Communications Co Ltd	8	14	98	4.6	2.3	2
Industrial & Comm Bank China	9*	28	88	4.1	3.2	1
Bank of China Ltd	9*	16	88	4.1	2.0	1
HSBC Holdings PLC	11	2	83	3.9	-2.6	2
Credit Suisse	12	5	72	3.4	-1.6	1
Shanghai Pudong Development Bk	13*	57	40	1.9	1.7	2
CITIC	13*	3	40	1.9	-4.5	2
China International Capital Co	15*	10	30	1.4	-1.9	1
China Minsheng Banking Corp	15*	18	30	1.4	-0.6	1
China Everbright Bank	15*	59	30	1.4	1.2	1
Industrial Bank Co Ltd	15*	48	30	1.4	1.1	1
BOSC International Co Ltd	15*	42	30	1.4	1.0	1
Cntrl Wealth Sec Invest Ltd	15*	31	30	1.4	0.7	1
China Industrial Sec Intl	15*	90*	30	1.4	1.3	1
Shenwan Hongyuan Securities Co	15*	86	30	1.4	1.3	1
Industry Total			**2,140**	**100.0**		**7**

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



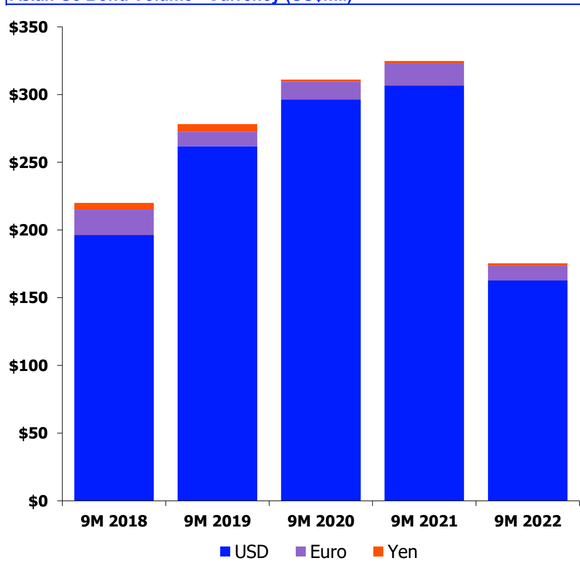
All Asian Currencies (ex Japan & Australia) (AS1)

YoY Change ($) 10% QoQ Change ($) -31%

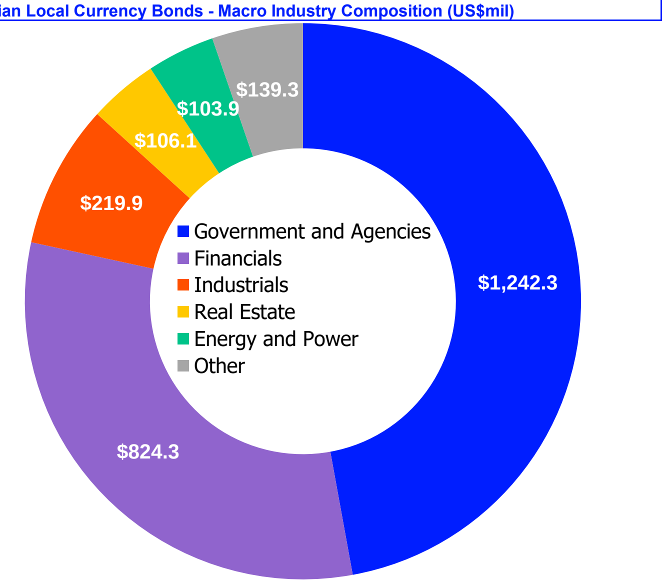
Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	1	171,950	6.5	0.2	2,484
Bank of China Ltd	2	2	144,818	5.5	-0.4	2,194
Industrial & Comm Bank China	3	3	144,568	5.5	-0.1	2,087
China Construction Bank	4	4	132,526	5.0	-0.2	2,164
Agricultural Bank of China	5	6	122,112	4.6	0.0	1,936
China Securities Co Ltd	6	5	118,055	4.5	-0.1	1,748
Bank of Communications Co Ltd	7	7	111,528	4.2	-0.2	1,807
Huatai Securities Co Ltd	8	8	95,572	3.6	0.5	1,711
China International Capital Co	9	11	89,334	3.4	1.2	1,511
Guotai Junan Securities	10	10	74,125	2.8	0.0	1,154
Industrial Bank Co Ltd	11	9	69,491	2.6	-0.4	1,197
China Merchants Bank	12	12	59,018	2.2	0.0	840
Shanghai Pudong Development Bk	13	15	39,559	1.5	-0.2	713
Orient Securities Co Ltd	14	19	39,137	1.5	0.1	559
Everbright Securities Co Ltd	15	17	34,935	1.3	-0.1	894
Haitong Securities Co Ltd	16	13	34,863	1.3	-0.8	598
Postal Savings Bank Of China	17	14	33,626	1.3	-0.4	579
China Minsheng Banking Corp	18	16	30,965	1.2	-0.3	536
China Galaxy Securities Co	19	28	29,489	1.1	0.4	615
China Everbright Bank	20	24	29,233	1.1	0.3	406
China Merchants Securities Co	21	18	28,707	1.1	-0.3	284
China Dvlp Bank Sec Co Ltd	22	49	28,257	1.1	0.8	614
Shenwan Hongyuan Securities Co	23	20	26,722	1.0	-0.1	401
HSBC Holdings PLC	24	27	23,563	0.9	0.2	324
Bank of Beijing	25	30	23,067	0.9	0.3	292
Industry Total			**2,635,870**	**100.0**		**12,039**

*Indicates a Tie

Asian G3 Bond Volume - Currency (US$mil)



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



Australia & China Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

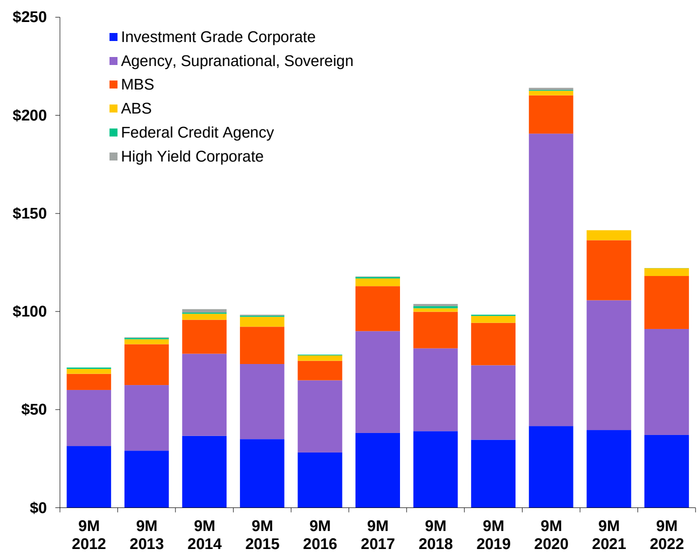
All Australian Debt (ex self-funded) (AJ3a) YoY Change ($) -14% QoQ Change ($) -28%

Bookrunner	Rank 2022	Rank 2021	Proceeds AU$mil	Market Share	Mkt. Sh Chg	# of Deals
National Australia Bank	1	1	21,983	18.0	3.4	85
Commonwealth Bank of Australia	2	3	17,813	14.6	0.8	72
ANZ Banking Group	3	4	14,152	11.6	-1.8	64
Westpac Banking	4	2	14,030	11.5	-2.5	78
Deutsche Bank	5	6	8,552	7.0	-0.4	30
UBS	6	5	7,529	6.2	-1.7	26
RBC Capital Markets	7	8	4,660	3.8	0.4	33
TD Securities Inc	8	7	3,972	3.3	-0.3	30
Nomura	9	9	3,723	3.1	0.4	24
JP Morgan	10	14	3,173	2.6	1.2	19
BofA Securities Inc	11	15	1,920	1.6	0.4	9
United Overseas Bank Ltd	12	26	1,910	1.6	1.3	10
Sumitomo Mitsui Finl Grp Inc	13	12	1,891	1.6	0.0	8
Standard Chartered PLC	14	13	1,691	1.4	0.0	12
Citi	15	10	1,651	1.4	-1.3	13
Macquarie Group	16	11	1,624	1.3	-0.9	10
Barclays	17	36	1,391	1.1	1.0	11
DBS Group Holdings	18	-	1,133	0.9	0.9	5
HSBC Holdings PLC	19	19	1,085	0.9	-0.1	7
Daiwa Securities Group Inc	20	24	1,082	0.9	0.6	11
Industry Total			**122,166**	**100.0**		**210**

All Australian International Bonds (AJ7) YoY Change ($) 36% QoQ Change ($) -49%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Citi	1	1	5,699	10.2	-4.5	15
HSBC Holdings PLC	2	2	5,233	9.4	-0.5	22
BofA Securities Inc	3	3	5,068	9.1	0.0	14
JP Morgan	4	4	4,159	7.5	0.0	9
National Australia Bank	5	9	2,878	5.2	1.9	9
Societe Generale	6	22	2,803	5.0	4.3	14
RBC Capital Markets	7	12	2,589	4.7	1.7	7
Commonwealth Bank of Australia	8	13	2,573	4.6	1.7	7
Westpac Banking	9	8	2,249	4.0	0.2	8
UBS	10	11	2,201	4.0	1.0	10
BNP Paribas SA	11	7	1,893	3.4	-2.6	9
Morgan Stanley	12	6	1,743	3.1	-3.3	5
ANZ Banking Group	13	23	1,732	3.1	2.4	7
Goldman Sachs & Co	14	5	1,658	3.0	-3.4	6
TD Securities Inc	15	21	1,463	2.6	1.5	5
Credit Suisse	16	16	1,450	2.6	0.3	6
Barclays	17	17	1,412	2.5	0.3	6
Macquarie Group	18	14	1,126	2.0	-0.7	7
Deutsche Bank	19	10	1,054	1.9	-1.3	5
Standard Chartered PLC	20	30*	877	1.6	1.3	4
Industry Total			**55,717**	**100.0**		**74**

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



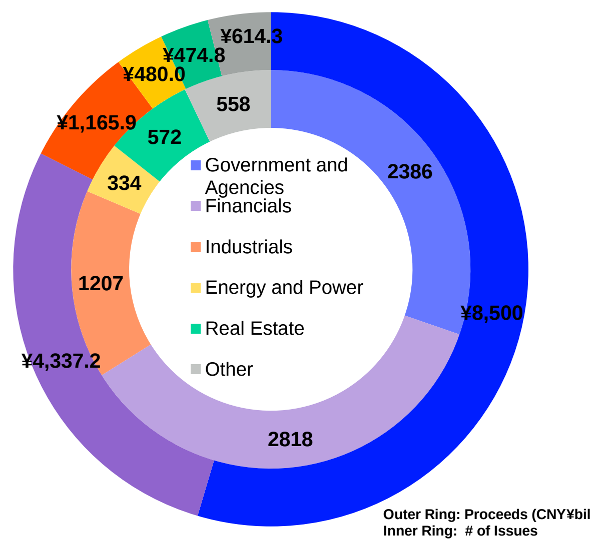
China G3 Currency Bonds (AR5) YoY Change ($) -54% QoQ Change ($) -33%

Bookrunner	Rank 2022	Rank 2021	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	2	3,261	5.8	1.0	123
Industrial Bank Co Ltd	2	23	3,072	5.5	3.4	124
China International Capital Co	3	3	2,923	5.2	0.8	103
Bank of China Ltd	4	4	2,263	4.0	-0.4	70
Haitong Securities Co Ltd	5	12	1,880	3.3	0.7	88
Citi	6	6	1,787	3.2	-0.5	24
Guotai Junan Securities	7	9	1,759	3.1	-0.1	72
Standard Chartered PLC	8	10	1,704	3.0	0.0	37
China Merchants Bank	9	16	1,644	2.9	0.4	57
China Minsheng Banking Corp	10	14	1,624	2.9	0.3	64
Shanghai Pudong Development Bk	11	22	1,604	2.8	0.7	64
Industrial & Comm Bank China	12	8	1,526	2.7	-0.8	49
China Construction Bank	13	19	1,493	2.7	0.5	34
Agricultural Bank of China	14	25	1,435	2.5	0.7	48
Bank of Communications Co Ltd	15	13	1,406	2.5	-0.1	49
HSBC Holdings PLC	16	1	1,222	2.2	-2.9	27
Credit Agricole CIB	17	17	1,211	2.2	-0.2	26
China Everbright Bank	18	29	1,038	1.8	0.4	38
China Securities Co Ltd	19	31	1,001	1.8	0.8	38
China Industrial Sec Intl	20	41	989	1.8	1.3	54
Industry Total			**56,404**	**100.0**		**228**

Chinese Yuan Bonds (ex-Self Funded) (AS24) YoY Change ($) 15% QoQ Change ($) -33%

Bookrunner	Rank 2022	Rank 2021	Proceeds CN¥mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	1	1,130,668	7.3	0.1	2,479
Industrial & Comm Bank China	2	3	952,219	6.1	-0.3	2,083
Bank of China Ltd	3	2	940,683	6.0	-0.6	2,186
China Construction Bank	4	4	871,037	5.6	-0.3	2,159
Agricultural Bank of China	5	6	803,910	5.2	0.0	1,932
China Securities Co Ltd	6	5	777,659	5.0	-0.3	1,748
Bank of Communications Co Ltd	7	7	734,573	4.7	-0.2	1,804
Huatai Securities Co Ltd	8	8	630,821	4.1	0.6	1,711
China International Capital Co	9	11	590,803	3.8	1.2	1,509
Guotai Junan Securities	10	10	488,076	3.1	-0.1	1,153
Industrial Bank Co Ltd	11	9	457,461	2.9	-0.6	1,194
China Merchants Bank	12	12	388,203	2.5	0.0	837
Shanghai Pudong Development Bk	13	15	261,087	1.7	-0.2	710
Orient Securities Co Ltd	14	19	257,792	1.7	0.1	559
Everbright Securities Co Ltd	15	17	230,600	1.5	-0.1	894
Haitong Securities Co Ltd	16	13	227,804	1.5	-0.9	598
Postal Savings Bank Of China	17	14	221,846	1.4	-0.6	579
China Minsheng Banking Corp	18	16	203,633	1.3	-0.4	534
China Galaxy Securities Co	19	25	193,680	1.2	0.4	615
China Everbright Bank	20	23	191,363	1.2	0.3	403
Industry Total			**15,572,560**	**100.0**		**7,875**

Chinese Yuan Bonds - Macro Industry Composition



*Indicates a Tie

Japan Rankings

First Nine Months 2022 | Debt Capital Markets | Managing Underwriters

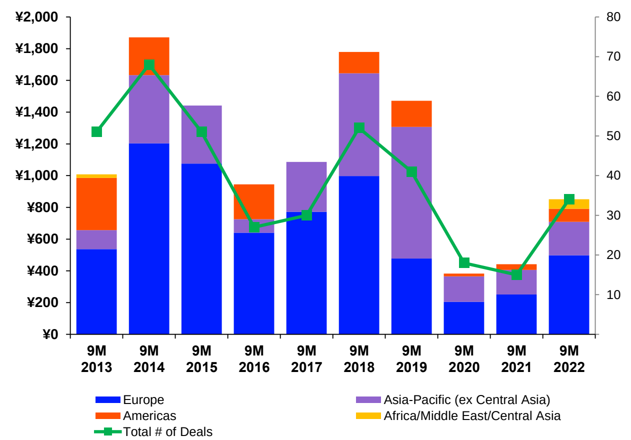
All Bonds in Yen (AP05) YoY Change (¥) -17% QoQ Change (¥) -4%

Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	3,892	24.5	1.6	561
Nomura	2	4	3,225	20.3	4.6	489
Daiwa Securities Group Inc	3	5	2,629	16.5	1.0	402
Mitsubishi UFJ Morgan Stanley	4	2	2,603	16.4	-0.6	372
Sumitomo Mitsui Finl Grp Inc	5	3	988	6.2	-10.0	138
Mitsubishi UFJ Financial Group	6	7	419	2.6	1.0	26
Tokai Tokyo Financial Holdings	7	9	278	1.8	0.7	95
Barclays	8	11	221	1.4	0.6	19
Goldman Sachs & Co	9	8	221	1.4	0.1	33
Sumitomo Mitsui Trust Holdings	10	6	215	1.4	-1.4	26
Norinchukin Bank	11	13	210	1.3	0.7	5
Societe Generale	12	21	163	1.0	0.9	4
Shinkin Central Bank	13	15	134	0.8	0.3	47
SBI Holdings Inc	14	12	108	0.7	0.1	14
BofA Securities Inc	15	10	107	0.7	-0.2	16
Industry Total			**15,895**	**100.0**		**892**

Samurai Bonds (AP01) YoY Change (¥) 93% QoQ Change (¥) -13%

Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Sumitomo Mitsui Finl Grp Inc	1	1	191	22.5	-40.3	14
Mitsubishi UFJ Morgan Stanley	2	5*	172	20.2	16.4	19
Nomura	3*	3*	160	18.8	9.3	24
Mizuho Financial Group	3*	3*	160	18.8	9.3	24
Daiwa Securities Group Inc	5	2	122	14.3	3.7	23
Natixis	6	-	29	3.4	3.4	5
HSBC Holdings PLC	7	-	19	2.2	2.2	4
Industry Total			**851**	**100.0**		**34**

Samurai Bonds Issuance - Domicile Region (JP¥bil)



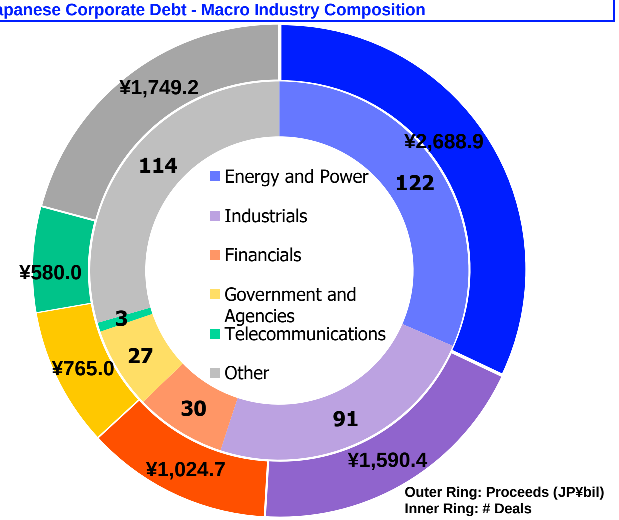
Japanese Securitizations (AP02) YoY Change (¥) -23% QoQ Change (¥) 22%

Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	976	30.1	1.0	122
Mitsubishi UFJ Financial Group	2	7	419	12.9	6.8	26
Nomura	3	6	304	9.4	1.9	9
Mitsubishi UFJ Morgan Stanley	4	2	293	9.1	-4.2	9
Daiwa Securities Group Inc	5	5	219	6.8	-1.1	7
Sumitomo Mitsui Trust Holdings	6	3	215	6.6	-6.1	26
Norinchukin Bank	7	8	210	6.5	3.8	5
Barclays	8	11	171	5.3	3.0	7
Sumitomo Mitsui Finl Grp Inc	9	4	166	5.1	-6.1	21
Goldman Sachs & Co	10	10	88	2.7	0.3	3
BNP Paribas SA	11	9	50	1.6	-1.0	8
Resona Holdings Inc	12	14	43	1.3	1.2	1
Shizuoka Bank Ltd	13	-	40	1.2	1.2	1
BofA Securities Inc	14	12	33	1.0	-0.6	1
ORIX Corp	15	13	5	0.2	-0.4	2
Industry Total			**3,238**	**100.0**		**214**

Japanese Corporate Debt (AP03) YoY Change (¥) -18% QoQ Change (¥) -4%

Lead Manager	Rank 2022	Rank 2021	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	2,182	26.0	2.5	301
Nomura	2	3	1,922	22.9	4.0	305
Daiwa Securities Group Inc	3	2	1,773	21.1	1.8	259
Mitsubishi UFJ Morgan Stanley	4	4	1,614	19.2	0.5	223
Sumitomo Mitsui Finl Grp Inc	5	5	356	4.2	-11.4	48
Tokai Tokyo Financial Holdings	6	7	171	2.0	1.1	67
Shinkin Central Bank	7	8	117	1.4	0.6	42
SBI Holdings Inc	8	6	101	1.2	0.1	11
Okasan Securities Group Inc	9	11	44	0.5	0.2	24
Goldman Sachs & Co	10	10	32	0.4	0.1	15
Rakuten Securities Inc	11	-	30	0.4	0.4	1
Citi	12	12	29	0.4	0.2	6
BofA Securities Inc	13	9	22	0.3	-0.1	13
Barclays	14	14	5	0.1	0.0	2
Industry Total			**8,398**	**100.0**		**387**

Japanese Corporate Debt - Macro Industry Composition



*Indicates a Tie

Debt Capital Markets Criteria

First Nine Months 2022 | Managing Underwriters

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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 September 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.

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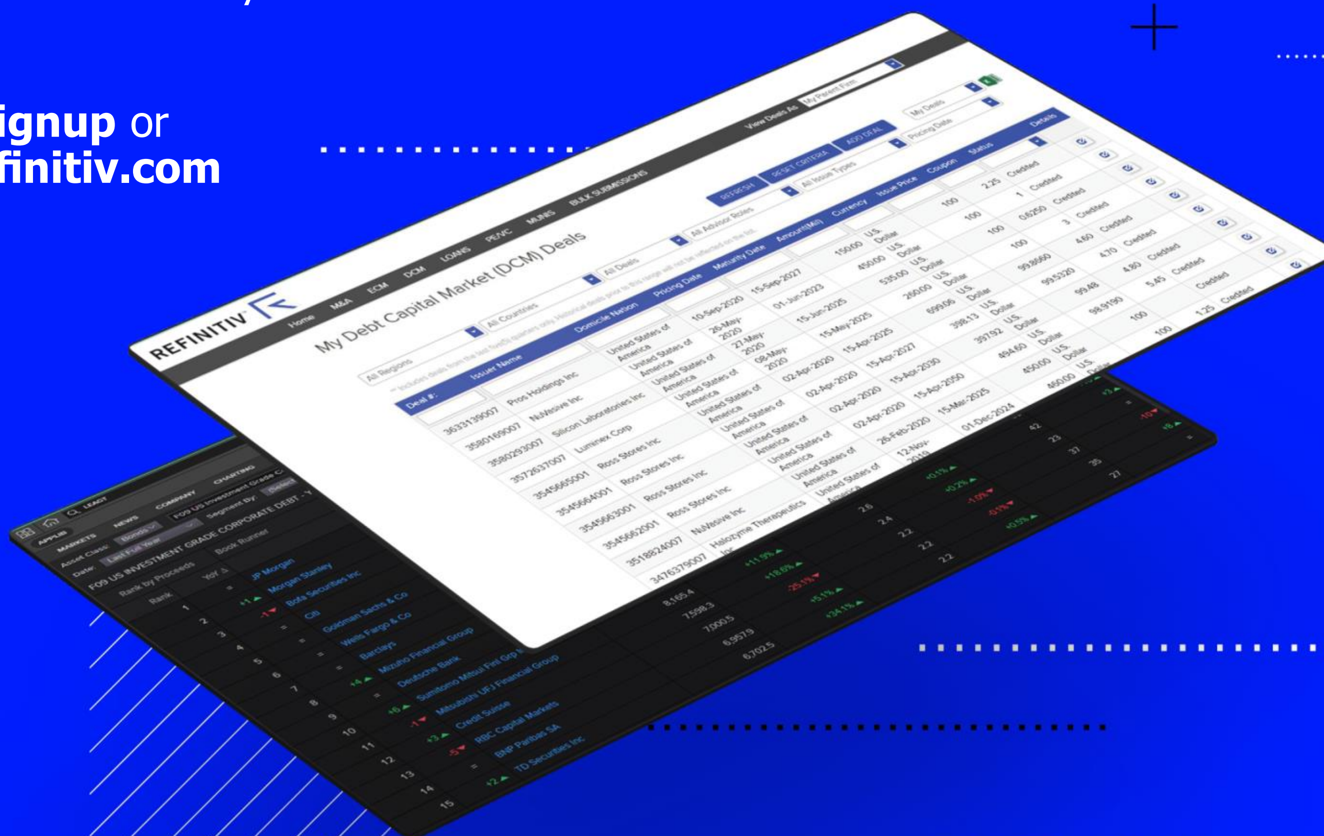

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