MANAGING UNDERWRITERS

Global Debt Capital Markets Review

First Quarter 2023

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An LSEG Business

Global Debt Capital Markets Review

First Quarter 2023 | Managing Underwriters

Global Deals Intelligence

GLOBAL DEBT CAPITAL MARKETS ACTIVITY FALLS 11%, HITS FOUR-YEAR LOW

Overall global debt capital markets activity totaled US$2.4 trillion during the first quarter of 2023, down 11% compared to the first quarter of 2022 and slowest opening period for DCM activity since 2019. The number of new offerings brought to market during first quarter 2023 totaled 6,483, a 13% decline compared to a year ago and a four-year low. DCM issuance during the first quarter of 2023 has increased 48% compared to the fourth quarter of last year, which marked the slowest quarter for global debt capital markets issuance since the fourth quarter of 2018.

INVESTMENT GRADE CORPORATE DEBT ISSUANCE DOWN 13%

Global Investment Grade corporate debt offerings totaled US$1.2 trillion during the first quarter of 2023, a 13% decrease compared to 2022 levels and the slowest opening period for global high-grade corporate debt since 2019. Investment Grade debt issuance during the first quarter registered a 39% increase compared to the fourth quarter of last year, which marked the slowest quarter for investment grade debt issuance since the fourth quarter of 2018.

GLOBAL HIGH YIELD ISSUANCE NEARLY TRIPLES FOURTH QUARTER 2022 LEVELS

Global High Yield debt activity during the first quarter of 2023 totaled US$51.2 billion, a decrease of 16% compared to the first quarter of 2022 but nearly tripling fourth quarter 2022 levels, which fell below US$20.0 billion for the first time since 2009. High yield offerings from issuers in the United States, Canada and France accounted for 76% first quarter 2023 issuance, up from 66% a year ago.

GREEN BOND ISSUANCE BREAKS QUARTERLY RECORD

According to figures compiled by Refinitiv and The Climate Bonds Initiative, green bond issuance totaled US$133.7 billion during the first quarter of 2023, a 25% increase compared to year ago levels and the largest quarter for issuance since records began in 2015. The first quarter of 2023 registered a 78% increase compared to the fourth quarter of last year. Debt issuance from agency, sovereign and supranational issuers totaled US$787.8 billion during the first quarter of 2023, down 1% from a year ago.

CONSUMER STAPLES, TECHNOLOGY AND ENERGY LEAD SECTOR MIX

DCM activity from Consumer Staples, Technology and Energy & Power issuers registered double-digit percentage increases compared to year ago levels, while Telecommunications and Retail industries lead the decliners. Financials, Government & Agency issuers accounted for 76% of issuance during the first quarter of 2023, down from 78% during first quarter 2022.

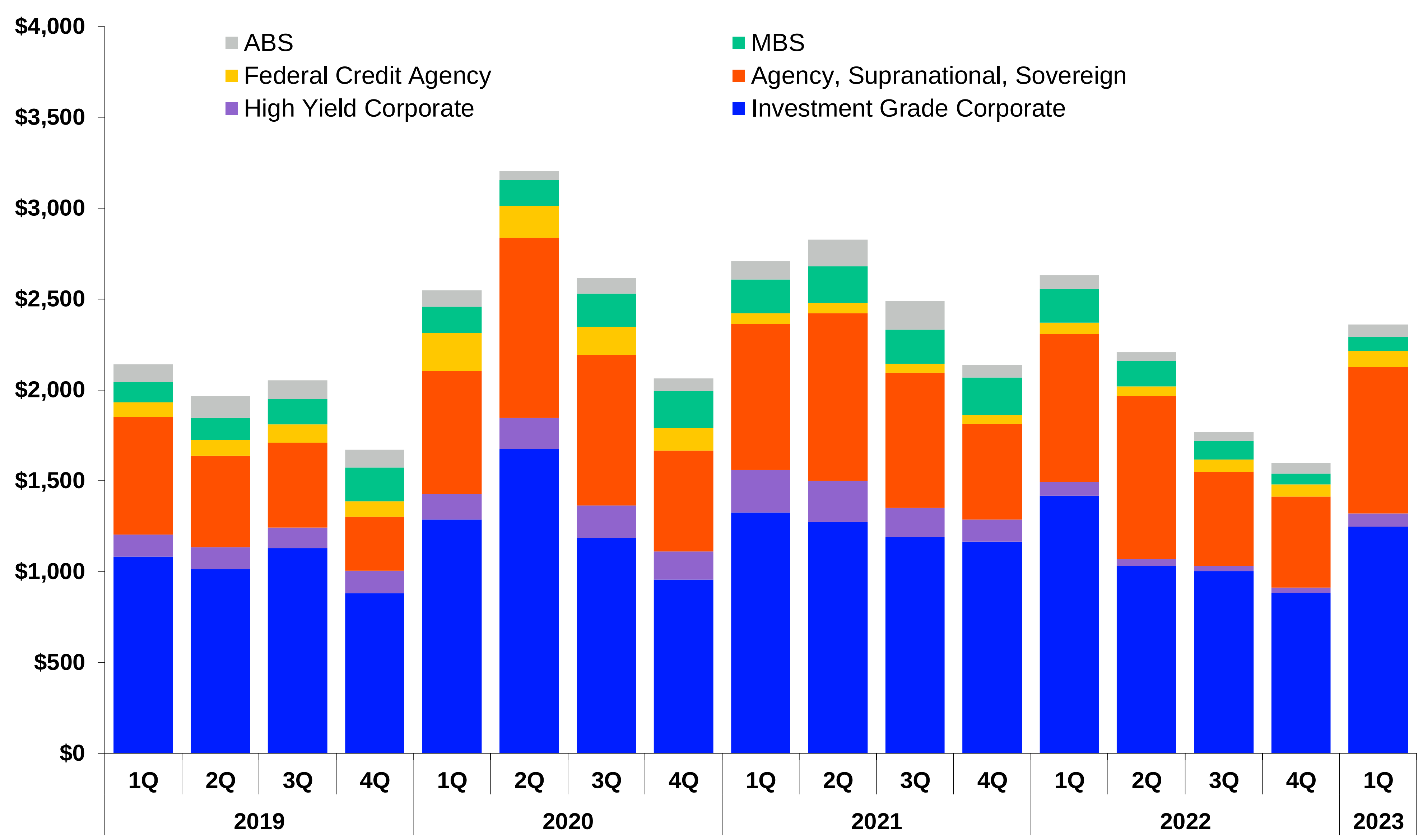
INTERNATIONAL BOND OFFERINGS DOWN 10%; EMERGING MARKETS DOWN 20%

International bond offerings totaled US$1.3 trillion during the first quarter of 2023, a 10% decrease compared to a year ago. Debt from emerging market corporate issuers totaled US$65.6 billion during first quarter 2023, down 20% compared to a year ago. Corporate debt issuers from India, Saudi Arabia and accounted for 61% of emerging markets activity during the first quarter of 2023.

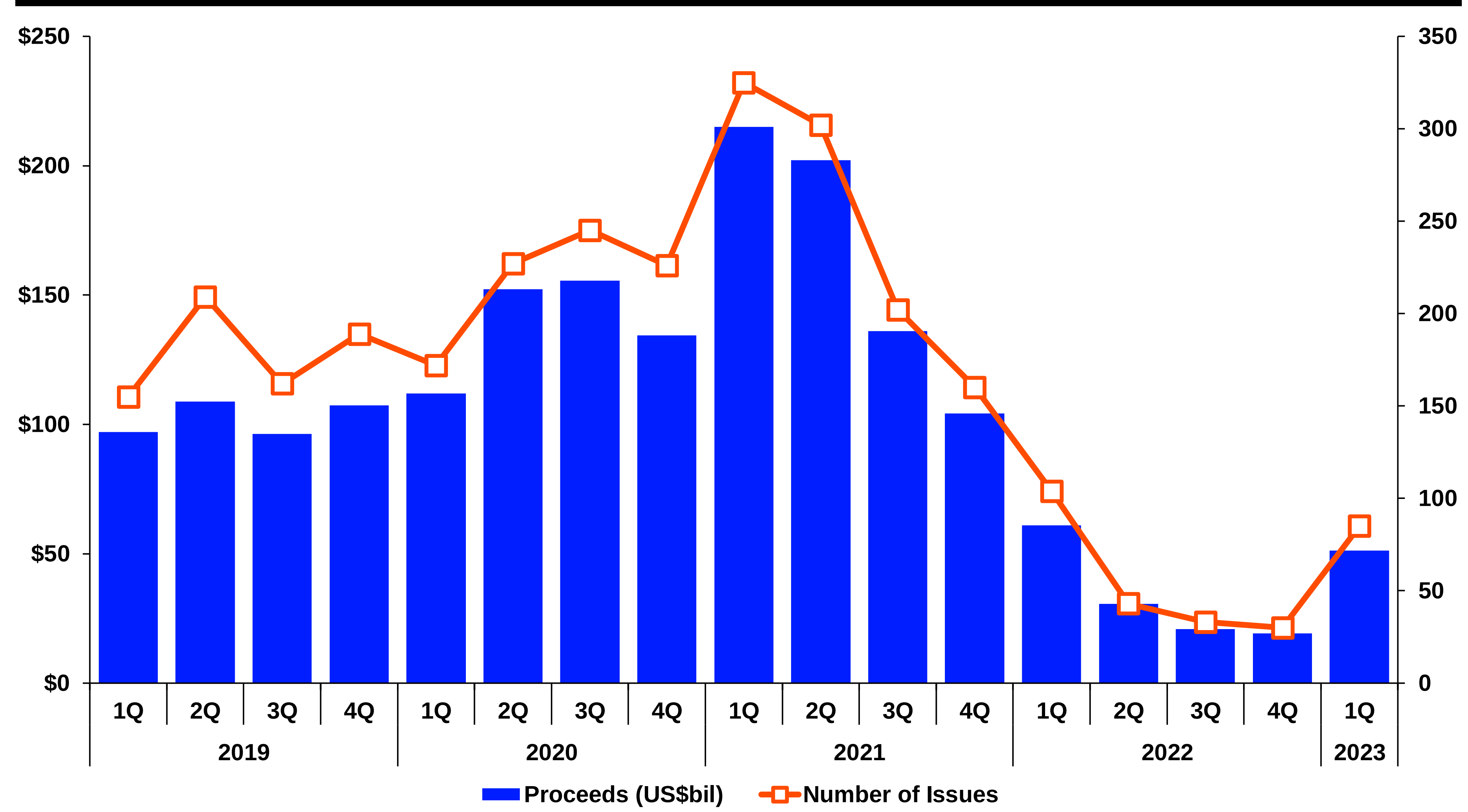
ASIA LOCAL CURRENCY DEBT FALLS 13%; JAPANESE YEN DEBT UP 5%

Asia local currency bond offerings totaled US$749.2 billion during the first quarter of 2023, a 13% decrease compared to a year ago and the slowest opening period for issuance in two years. China Yuan offerings have decreased 15% compared to a year ago. Japanese Yen offerings have increased 5% compared to first quarter 2022, totaling JPY4.6 trillion and a two-year high.

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



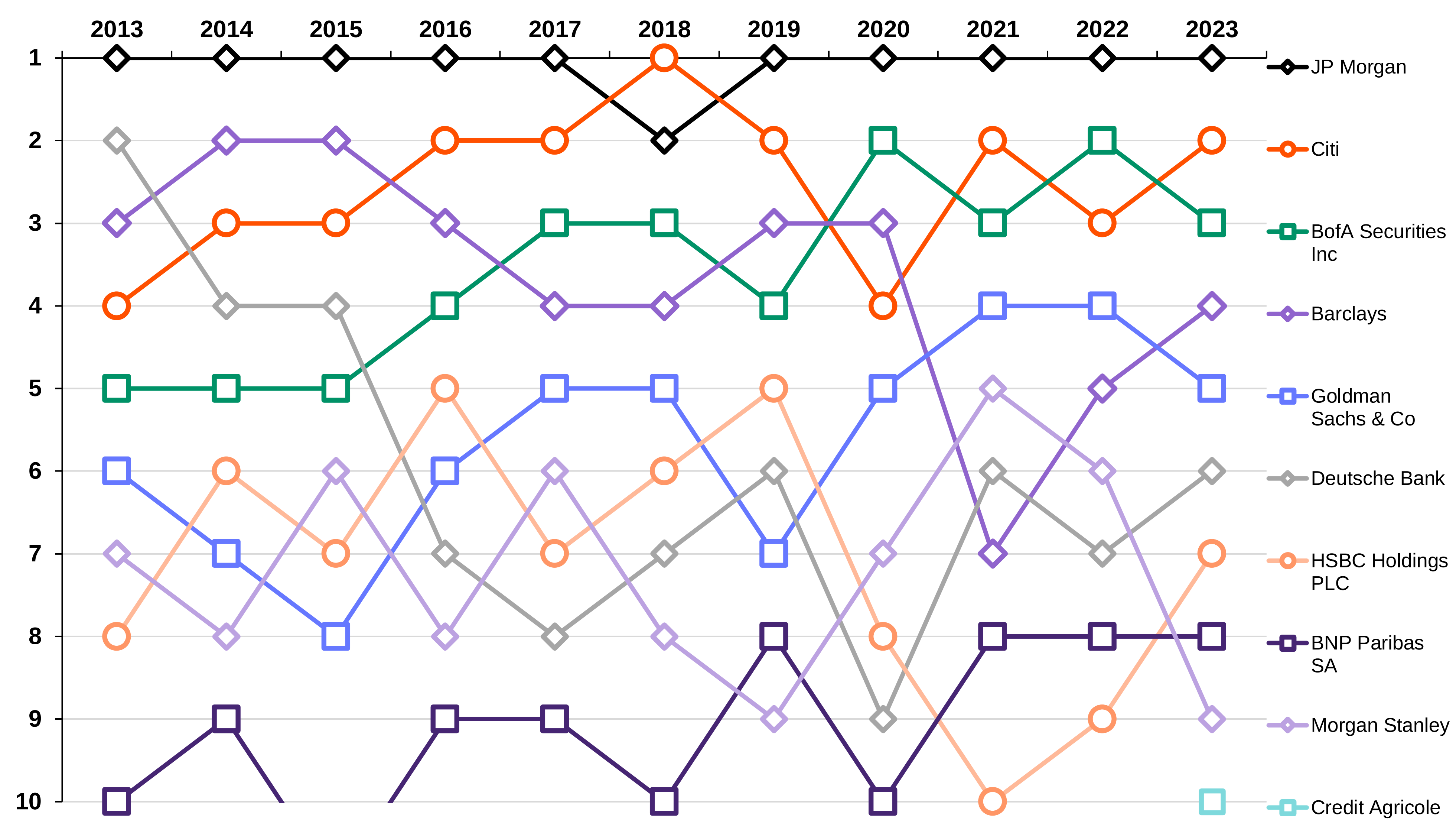
Global High Yield Corporate Debt - Quarterly Issuance



Global Insights

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

Global Debt Rankings by Proceeds

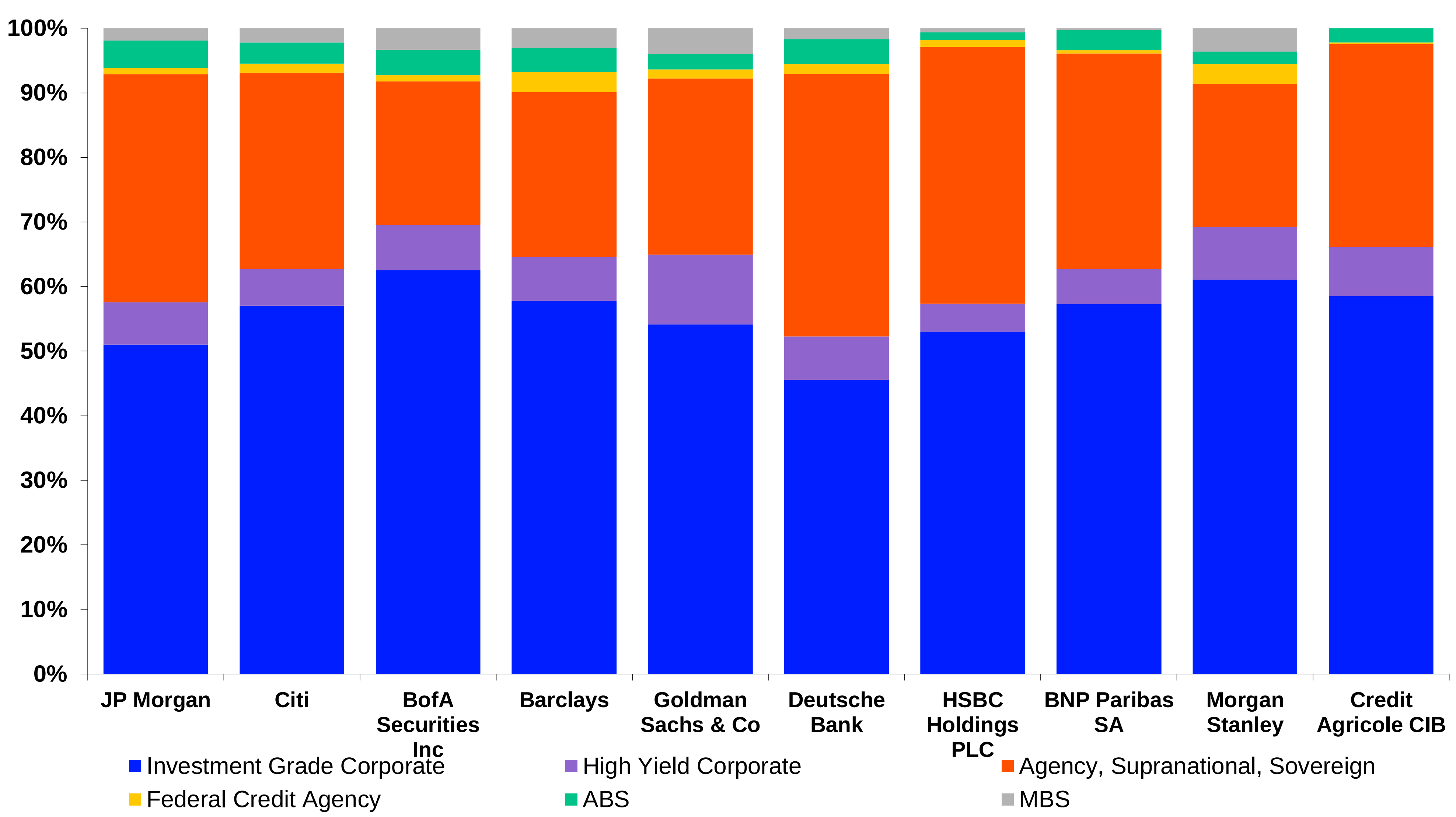


*League Table positions reflect consolidation within the banking sector. Rankings are as of the current quarter end in each calendar year.

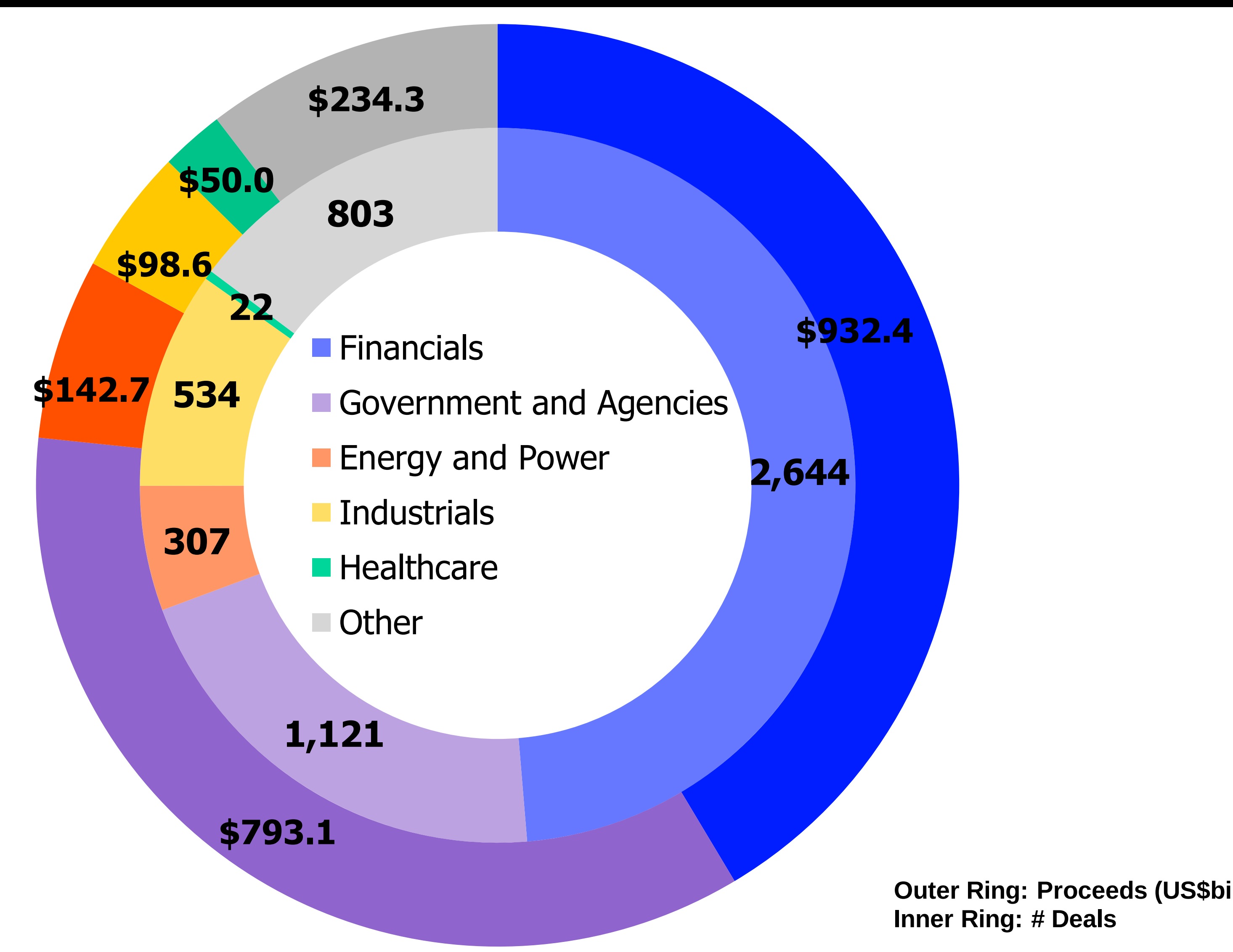
Global Scorecard

	1/1/2023- 3/31/2023 Proceeds ($mil)	1/1/2023- 3/31/2023 # of Deals	1/1/2022- 3/31/2022 Proceeds ($mil)	1/1/2022- 3/31/2022 # of Deals	YoY % Chg. ($)
All Global Debt (B1)	**2,384,149**	**6,483**	**2,688,754**	**7,463**	**-11%** ▼
Global Long-term Debt (B2)	2,251,179	5,431	2,587,571	6,534	-13% ▼
Global Long-term Debt ex MBS, ABS & Munis (B3)	2,087,606	5,040	2,281,976	5,957	-9% ▼
Global High Yield Corporate Debt (B4)	51,202	85	61,054	104	-16% ▼
Global Investment Grade Corporate Debt (B7)	1,174,229	3,549	1,357,480	4,020	-13% ▼
US Federal Credit Agency Debt (B8)	49,075	247	38,480	220	28% ▲
Global Agency, Sovereign & Supranational (B9)	787,782	1,123	798,937	1,575	-1% ▼
Global Mortgage-backed Securities (B10)	78,307	206	186,442	327	-58% ▼
Global Asset-backed Securities (B11)	85,266	185	119,153	250	-28% ▼
Global Short-term Debt (B14)	142,308	1,121	114,151	1,011	25% ▲
Global Emerging Markets Corporate Debt (B15)	65,584	300	82,179	403	-20% ▼
All US Debt (F1)	**739,163**	**967**	**931,288**	**1,287**	**-21%** ▼
US Long-term Debt (F2)	676,940	545	891,541	856	-24% ▼
US Long-term Straight ex MBS, ABS & Munis (F3)	610,682	716	671,122	866	-9% ▼
US Federal Credit Agency Debt (F7)	42,709	234	33,458	209	28% ▲
US High Yield Corporate Debt (F8)	38,094	50	45,084	66	-16% ▼
US Investment Grade (F9)	400,722	273	469,041	309	-15% ▼
Agency, Sovereign & Supranational Debt (F10)	121,754	148	98,328	256	24% ▲
US Mortgage-backed Securities (F11)	62,930	149	162,128	258	-61% ▼
US Asset-backed Securities (F14)	65,551	102	98,039	163	-33% ▼
US Taxable Municipal Debt (F15)	4,356	94	10,343	206	-58% ▼
US Short-term Debt - including MBS, ABS (F16)	62,223	422	39,747	431	57% ▲

Top 10 Global Debt Bookrunners by Proceeds - Issue Type Composition



Global Debt Capital Markets - Macro Industry Composition



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Global Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

Global Debt (B1)
YoY Change ($) -11% QoQ Change ($) 48%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	114,448	4.8	-1.1	434
Citi	2	3	99,203	4.2	-0.5	370
BofA Securities Inc	3	2	95,295	4.0	-0.8	374
Barclays	4	5	85,461	3.6	0.5	348
Goldman Sachs & Co	5	4	72,450	3.0	-1.2	253
Deutsche Bank	6	7	72,211	3.0	0.0	284
HSBC Holdings PLC	7	9	71,529	3.0	0.4	356
BNP Paribas SA	8	8	69,164	2.9	-0.1	289
Morgan Stanley	9	6	66,439	2.8	-0.2	321
Credit Agricole CIB	10	14	51,843	2.2	0.5	261
RBC Capital Markets	11	16	47,644	2.0	0.3	300
CITIC	12	10	47,511	2.0	-0.3	768
Wells Fargo & Co	13	11	42,916	1.8	-0.3	293
Mizuho Financial Group	14	21	42,035	1.8	0.4	281
Bank of China Ltd	15	12	41,648	1.8	-0.2	593
Societe Generale	16	18	38,392	1.6	0.1	125
ICBC	17	13	38,103	1.6	-0.2	559
TD Securities Inc	18	19	36,354	1.5	0.0	223
Nomura	19	23	34,597	1.5	0.2	176
China Construction Bank	20	15	31,561	1.3	-0.4	530
Agricultural Bank of China	21	17	31,466	1.3	-0.2	500
China Securities Co Ltd	22	20	31,059	1.3	-0.2	525
UniCredit	23	29	29,841	1.3	0.4	105
Huatai Securities Co Ltd	24	24	29,593	1.2	0.1	486
Santander Corp & Invest Bkg	25	28	28,571	1.2	0.3	116
Industry Total			**2,384,149**	**100.0**		**6,483**

Global Investment Grade Corporate Debt (B7)
YoY Change ($) -13% QoQ Change ($) 39%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
BofA Securities Inc	1	2	50,274	4.3	-0.7	201
JP Morgan	2	1	46,475	4.0	-1.2	209
Citi	3	3	42,867	3.7	-0.6	183
HSBC Holdings PLC	4	6	41,124	3.5	0.6	207
Barclays	5	9	40,525	3.5	1.0	175
Morgan Stanley	6	8	37,111	3.2	0.4	150
BNP Paribas SA	7	5	34,073	2.9	-0.3	173
Mizuho Financial Group	8	15	29,368	2.5	0.9	152
Goldman Sachs & Co	9	4	29,098	2.5	-1.5	117
Deutsche Bank	10	10	26,691	2.3	0.1	124
Credit Agricole CIB	11	12	26,598	2.3	0.5	121
CITIC	12	7	25,685	2.2	-0.7	374
RBC Capital Markets	13	14	21,925	1.9	0.2	107
Societe Generale	14	18	21,092	1.8	0.3	80
Santander Corp & Invest Bkg	15	23	18,535	1.6	0.4	81
Wells Fargo & Co	16	16	18,418	1.6	0.0	100
Mitsubishi UFJ Financial Group	17	20	18,096	1.5	0.2	95
UBS	18	19	17,395	1.5	0.1	89
China Securities Co Ltd	19	11	16,734	1.4	-0.7	247
Credit Suisse	20	17	16,674	1.4	-0.1	73
TD Securities Inc	21	25	14,983	1.3	0.2	86
Bank of China Ltd	22	13	14,666	1.3	-0.4	151
Sumitomo Mitsui Finl Grp Inc	23	30	14,424	1.2	0.2	80
Natixis	24	33	13,657	1.2	0.3	65
China International Capital Co	25	24	13,532	1.2	0.0	186
Industry Total			**1,174,229**	**100.0**		**3,549**

Global Agency, Sovereign Corporate Debt (B9)
YoY Change ($) -1% QoQ Change ($) 61%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	42,410	5.4	-0.2	93
Citi	2	2	33,594	4.3	0.4	64
Deutsche Bank	3	3	31,249	4.0	0.2	83
BNP Paribas SA	4	8	26,938	3.4	0.0	51
Bank of China Ltd	5	7	25,819	3.3	-0.3	419
ICBC	6	4	25,596	3.3	-0.4	420
Agricultural Bank of China	7	5	25,531	3.2	-0.5	409
China Construction Bank	8	6	25,365	3.2	-0.5	418
BofA Securities Inc	9	12	23,189	2.9	0.0	57
Barclays	10	10	22,512	2.9	-0.2	47
Goldman Sachs & Co	11	11	21,788	2.8	-0.2	37
HSBC Holdings PLC	12	13	21,293	2.7	-0.2	67
Bank of Communications Co Ltd	13	9	20,618	2.6	-0.7	356
CITIC	14	14	17,103	2.2	-0.3	312
Nomura	15	20	16,362	2.1	0.6	64
UniCredit	16	24	16,141	2.1	0.8	24
Huatai Securities Co Ltd	17	17	16,113	2.1	0.2	296
Credit Agricole CIB	18	19	15,362	2.0	0.2	45
Morgan Stanley	19	15	14,233	1.8	-0.5	45
TD Securities Inc	20	16	13,640	1.7	-0.3	68
RBC Capital Markets	21	21	13,128	1.7	0.2	66
China International Capital Co	22	23	12,614	1.6	0.3	261
Societe Generale	23	18	12,503	1.6	-0.3	20
China Securities Co Ltd	24	25	11,646	1.5	0.2	225
Industrial Bank Co Ltd	25	26	8,697	1.1	-0.2	202
Industry Total			**787,782**	**100.0**		**1,123**

Global MBS (B10)
YoY Change ($) -58% QoQ Change ($) 29%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Goldman Sachs & Co	1	3	10,133	12.9	2.3	27
BofA Securities Inc	2	1	9,492	12.1	0.3	30
JP Morgan	3	2	7,852	10.0	-1.4	20
Citi	4	4	6,447	8.2	-1.0	22
Morgan Stanley	5	5	5,642	7.2	-1.9	20
BMO Capital Markets	6	13	5,425	6.9	5.0	13
Wells Fargo & Co	7	6	5,112	6.5	-0.5	19
Barclays	8	8	5,030	6.4	1.9	30
Truist Financial Corp	9	10	3,822	4.9	1.0	7
Santander Corp & Invest Bkg	10	31	1,872	2.4	2.1	8
Mizuho Financial Group	11	11	1,638	2.1	-0.7	17
Deutsche Bank	12	12	1,505	1.9	-0.3	10
Nomura	13	9	1,422	1.8	-2.5	11
Apollo Global Management Inc	14	7	1,388	1.8	-4.8	8
Mitsubishi UFJ Financial Group	15	16	1,134	1.5	0.6	7
HSBC Holdings PLC	16	27	907	1.2	0.8	5
Natixis	17	42	745	1.0	0.8	6
Daiwa Securities Group Inc	18	-	731	0.9	0.9	2
Westpac Banking	19*	24	685	0.9	0.4	7
National Australia Bank	19*	15	685	0.9	-0.3	7
Commonwealth Bank of Australia	19*	21	685	0.9	0.2	7
Lloyds Bank	22	-	592	0.8	0.8	3
Cantor Fitzgerald LP	23	20	573	0.7	0.0	4
Norinchukin Bank	24	37	555	0.7	0.5	3
Jefferies LLC	25	33	533	0.7	0.4	3
Industry Total			**78,307**	**100.0**		**206**

Global ABS (B11)
YoY Change ($) -28% QoQ Change ($) 30%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	2	8,215	9.6	1.4	36
Wells Fargo & Co	2	6	5,782	6.8	0.8	23
Mizuho Financial Group	3	9	5,657	6.6	1.2	45
Deutsche Bank	4	8	5,266	6.2	0.6	25
Citi	5	3	5,232	6.1	-2.0	24
BofA Securities Inc	6	1	5,168	6.1	-2.2	25
Jefferies LLC	7	12	4,591	5.4	1.0	5
Mitsubishi UFJ Financial Group	8	14	4,422	5.2	2.4	20
Barclays	9	7	4,069	4.8	-1.1	23
BNP Paribas SA	10	11	3,941	4.6	-0.1	17
Goldman Sachs & Co	11	4	3,319	3.9	-2.8	16
RBC Capital Markets	12	10	2,798	3.3	-1.5	18
Societe Generale	13	17	2,615	3.1	1.5	12
TD Securities Inc	14	15	2,388	2.8	0.9	11
BMO Capital Markets	15	23	2,357	2.8	2.0	13
Sumitomo Mitsui Finl Grp Inc	16	20	2,200	2.6	1.6	12
Credit Agricole CIB	17	18	1,653	1.9	0.5	8
Truist Financial Corp	18	19	1,638	1.9	0.6	16
Sumitomo Mitsui Trust Holdings	19	22	1,628	1.9	1.1	2
Morgan Stanley	20	13	1,564	1.8	-1.5	9
Apollo Global Management Inc	21	5	1,537	1.8	-4.7	10
HSBC Holdings PLC	22	29	1,269	1.5	1.1	5
Guggenheim Securities LLC	23	16	1,047	1.2	-0.7	6
Lloyds Bank	24	24	929	1.1	0.4	3
Scotiabank	25	-	755	0.9	0.9	5
Industry Total			**85,266**	**100.0**		**185**

Global Debt and Loans Islamic Finance
YoY Change ($) -35% QoQ Change ($) -34%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Malayan Banking Bhd	1	11	1,049	9.2	5.9	15
Emirates NBD PJSC	2	1	930	8.1	-9.3	7
CIMB Group Holdings Bhd	3	5	917	8.0	2.0	13
HSBC Holdings PLC	4	3	896	7.8	0.4	10
Citi	5	8	778	6.8	1.8	5
Standard Chartered PLC	6	10	703	6.2	2.1	6
First Abu Dhabi Bank PJSC	7	17*	577	5.1	3.8	5
Islamic Development Bank	8	19	421	3.7	2.6	3
RHB	9	9	407	3.6	-0.6	11
Kuwait Finance House	10	6	362	3.2	-2.2	4
BNP Paribas SA	11*	-	338	3.0	-	2
Sumitomo Mitsui Finl Grp Inc	11*	37*	338	3.0	2.7	2
Societe Generale	11*	-	338	3.0	-	2
Credit Agricole CIB	14	-	338	3.0	-	2
Dubai Islamic Bank PJSC	15	4	306	2.7	-4.3	4
JP Morgan	16	-	279	2.4	-	3
Abu Dhabi Islamic Bank PSJC	17	29*	249	2.2	1.7	1
Al Rajhi Capital	18	29*	213	1.9	1.4	2
AMMB Holdings Bhd	19	12	190	1.7	-1.6	7
Sharjah Islamic Bank PJSC	20	17*	171	1.5	0.2	2
Arab Banking Corporation	21	29*	166	1.5	1.0	2
Goldman Sachs & Co	22	27	125	1.1	0.4	1
Kenanga Investment Bank Bhd	23	26	114	1.0	0.2	3
MashreqBank PSC	24	-	100	0.9	-	1
Affin Holdings Bhd	25	14	90	0.8	-0.7	4
Industry Total			**11,417**	**100.0**		**46**

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United States Insights

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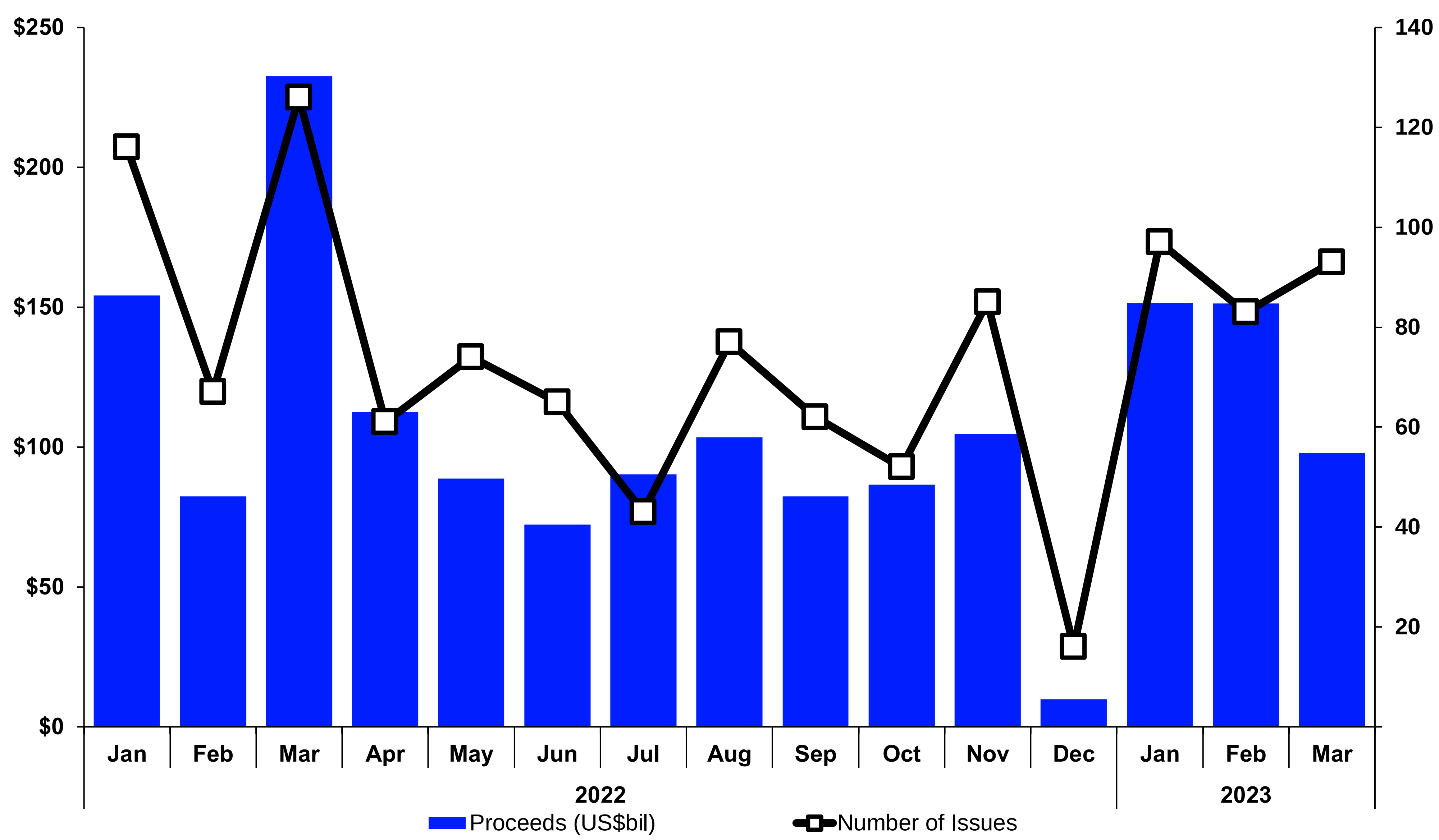
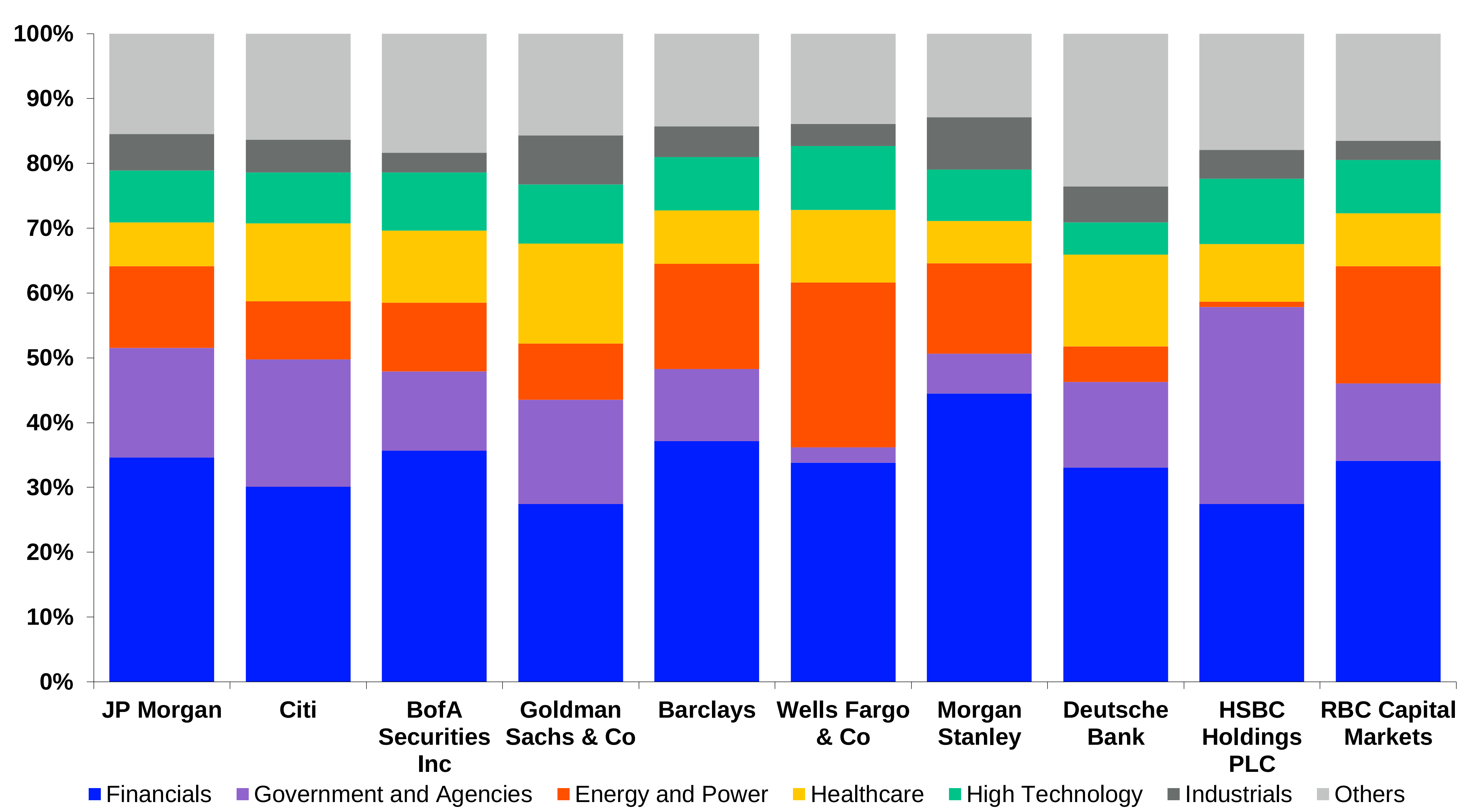
United States Marketed Monthly High Yield Volume



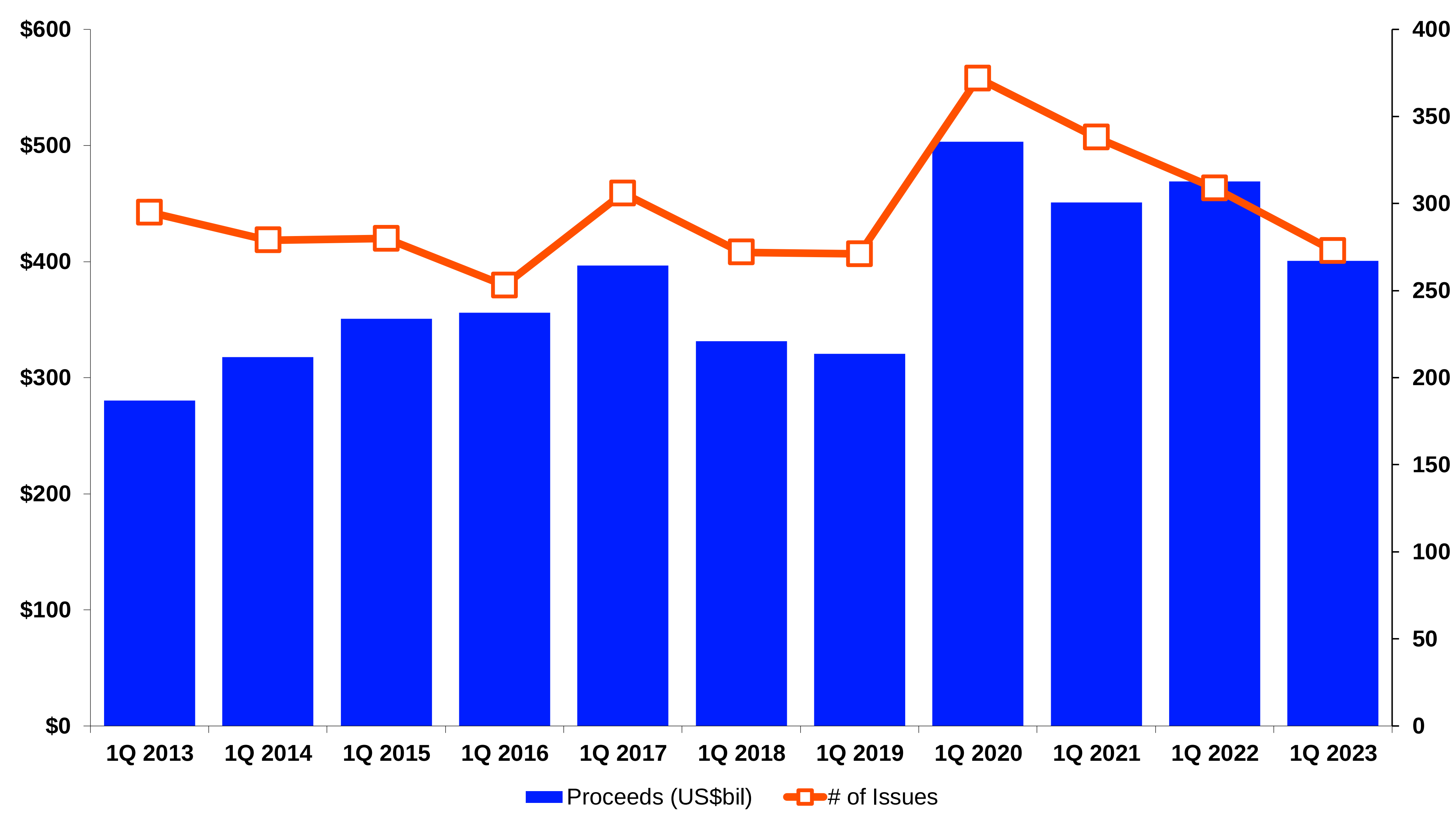
Top United States Investment Grade Corporate Deals

Issue Date	Issuer	Domicile Nation	Deal Size (US$mil)	Issue Type	Macro Sector
2/15/23	Amgen Inc	United States	23,925	Investment Grade Corporate	Healthcare
2/7/23	Intel Corp	United States	10,990	Investment Grade Corporate	High Technology
3/8/23	Kenvue Inc	United States	7,726	Investment Grade Corporate	Consumer Products and Services
3/2/23	HSBC Holdings PLC	United Kingdom	7,000	Investment Grade Corporate	Financials
3/23/23	UnitedHealth Group Inc	United States	6,462	Investment Grade Corporate	Healthcare
1/17/23	Morgan Stanley	United States	6,000	Investment Grade Corporate	Financials
2/13/23	CVS Health Corp	United States	5,980	Investment Grade Corporate	Healthcare
1/3/23	Sumitomo Mitsui Finl Grp Inc	Japan	5,800	Investment Grade Corporate	Financials
2/2/23	Oracle Corp	United States	5,234	Investment Grade Corporate	High Technology
2/13/23	Philip Morris International	Switzerland	5,224	Investment Grade Corporate	Consumer Staples
1/3/23	Societe Generale SA	France	5,000	Investment Grade Corporate	Financials
2/15/23	Mitsubishi UFJ Financial Group	Japan	5,000	Investment Grade Corporate	Financials
1/9/23	Regal Rexnord Corp	United States	4,692	Investment Grade Corporate	Energy and Power

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



United States Investment Grade - Proceeds



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United States Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

U.S. Debt (F1) YoY Change ($) -21% QoQ Change ($) 86%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	69,285	9.4	-1.5	268
BofA Securities Inc	2	2	67,164	9.1	-1.6	258
Citi	3	3	63,983	8.7	-1.4	235
Goldman Sachs & Co	4	4	46,739	6.3	-2.7	164
Barclays	5	7	43,585	5.9	1.2	182
Morgan Stanley	6	5	39,582	5.4	-0.7	175
Wells Fargo & Co	7	6	36,107	4.9	-0.7	229
HSBC Holdings PLC	8	12	29,853	4.0	1.8	72
Deutsche Bank	9	8	28,563	3.9	0.4	100
BNP Paribas SA	10	9	27,295	3.7	0.9	96
Mizuho Financial Group	11	11	24,625	3.3	1.0	125
RBC Capital Markets	12	10	24,228	3.3	0.5	153
TD Securities Inc	13	13	18,916	2.6	0.5	104
Mitsubishi UFJ Financial Group	14	15	15,851	2.1	0.2	85
BMO Capital Markets	15	18	15,281	2.1	0.7	60
Truist Financial Corp	16	17	13,269	1.8	0.2	92
Sumitomo Mitsui Finl Grp Inc	17	21	11,664	1.6	0.6	62
Credit Suisse	18	16	10,031	1.4	-0.2	34
Scotiabank	19	22	9,499	1.3	0.3	56
StoneX Group Inc	20	58	8,762	1.2	1.1	30
Industry Total			**739,163**	**100.0**		**967**

U.S. High Yield Corporate Debt (F8) YoY Change ($) -16% QoQ Change ($) 170%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	3	3,543	9.3	2.1	26
Goldman Sachs & Co	2	1	3,420	9.0	1.2	27
Deutsche Bank	3	8	2,919	7.7	3.1	13
BofA Securities Inc	4	2	2,882	7.6	-0.1	26
Morgan Stanley	5	9	2,263	5.9	1.4	19
Citi	6	5	2,027	5.3	-0.7	23
RBC Capital Markets	7	12	1,857	4.9	2.5	17
Wells Fargo & Co	8	4	1,772	4.7	-1.9	17
Barclays	9	7	1,460	3.8	-0.9	16
Mizuho Financial Group	10	20	1,079	2.8	1.2	15
TD Securities Inc	11	27	909	2.4	1.5	10
KKR & Co Inc	12	37	900	2.4	1.8	7
Credit Agricole CIB	13	26	865	2.3	1.4	10
Truist Financial Corp	14	11	803	2.1	-0.3	15
Credit Suisse	15	6	754	2.0	-3.2	11
BMO Capital Markets	16	23	733	1.9	0.6	6
HSBC Holdings PLC	17	13	732	1.9	-0.5	9
BNP Paribas SA	18	15	675	1.8	-0.4	12
ICBC	19	38	631	1.7	1.2	5
DNB ASA	20	36	620	1.6	1.0	6
Industry Total			**38,094**	**100.0**		**50**

U.S. Investment Grade Debt (F9) YoY Change ($) -15% QoQ Change ($) 99%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
BofA Securities Inc	1	1	40,568	10.1	-2.0	148
JP Morgan	2	2	35,772	8.9	-2.9	152
Citi	3	3	33,399	8.3	-2.0	120
Morgan Stanley	4	5	26,618	6.6	0.0	84
Barclays	5	7	23,754	5.9	2.1	86
Goldman Sachs & Co	6	4	22,078	5.5	-4.4	76
HSBC Holdings PLC	7	11	19,274	4.8	1.9	39
Mizuho Financial Group	8	13	18,690	4.7	2.2	77
Wells Fargo & Co	9	6	17,837	4.5	0.0	94
Deutsche Bank	10	12	14,649	3.7	0.9	44
BNP Paribas SA	11	8	14,198	3.5	0.0	59
RBC Capital Markets	12	9	12,791	3.2	0.3	61
Mitsubishi UFJ Financial Group	13	10	11,755	2.9	0.0	55
Credit Suisse	14	14	9,166	2.3	0.1	22
Sumitomo Mitsui Finl Grp Inc	15	16	8,904	2.2	0.5	43
TD Securities Inc	16	15	8,601	2.2	0.3	49
US Bancorp	17	17	7,664	1.9	0.4	50
PNC Financial Services Group	18	26	6,968	1.7	1.0	37
Truist Financial Corp	19	24	6,709	1.7	0.9	40
Scotiabank	20	20	6,380	1.6	0.5	41
Industry Total			**400,722**	**100.0**		**273**

U.S. MBS (F11) YoY Change ($) -61% QoQ Change ($) 29%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Goldman Sachs & Co	1	3	8,411	13.4	1.3	24
BofA Securities Inc	2	2	8,353	13.3	0.9	26
JP Morgan	3	1	7,587	12.1	-0.8	19
Citi	4	5	5,808	9.2	-0.4	18
BMO Capital Markets	5	13	5,425	8.6	6.5	13
Morgan Stanley	6	4	5,300	8.4	-1.3	19
Wells Fargo & Co	7	6	5,112	8.1	0.0	19
Barclays	8	8	3,885	6.2	1.6	22
Truist Financial Corp	9	9	3,822	6.1	1.6	7
Santander Corp & Invest Bkg	10	-	1,551	2.5	2.5	5
Industry Total			**62,930**	**100.0**		**149**

U.S. ABS (F14) YoY Change ($) -33% QoQ Change ($) 23%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	1	7,106	10.8	1.9	33
Wells Fargo & Co	2	6	5,616	8.6	1.3	22
Deutsche Bank	3	8	4,916	7.5	1.1	23
Jefferies LLC	4	14	4,192	6.4	4.1	4
BofA Securities Inc	5	4	3,943	6.0	-1.7	20
Barclays	6	7	3,753	5.7	-1.0	22
Citi	7	3	3,492	5.3	-2.7	18
Mizuho Financial Group	8	10	3,332	5.1	1.0	15
Mitsubishi UFJ Financial Group	9	13	3,030	4.6	2.2	14
RBC Capital Markets	10	9	2,798	4.3	-1.2	18
Industry Total			**65,551**	**100.0**		**102**

U.S. ABS ex Self & CDOs (F14b) YoY Change ($) -16% QoQ Change ($) 28%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	4	6,555	10.9	3.8	30
Wells Fargo & Co	2	6	4,040	6.7	0.9	18
BofA Securities Inc	3	2	3,943	6.6	-1.7	20
Jefferies LLC	4	17	3,595	6.0	3.9	2
Barclays	5	3	3,536	5.9	-1.7	21
Citi	6	1	3,280	5.5	-3.4	17
Deutsche Bank	7	7	3,143	5.2	-0.5	18
Mizuho Financial Group	8	8	3,131	5.2	-0.4	14
Mitsubishi UFJ Financial Group	9	12	3,030	5.1	2.0	14
RBC Capital Markets	10	9	2,798	4.7	-0.9	18
Industry Total			**59,970**	**100.0**		**90**

U.S. Securitizations (ex CMBS, Agency, CMO, Self-Funded & CDOs (F20a) YoY Change ($) -30% QoQ Change ($) 30%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	6	7,134	10.3	4.2	35
Barclays	2	2	5,213	7.6	-1.1	36
BofA Securities Inc	3	3	4,849	7.0	-1.6	25
Wells Fargo & Co	4	9	4,674	6.8	1.9	21
Jefferies LLC	5	18	3,747	5.4	3.9	3
Deutsche Bank	6	8	3,485	5.0	-0.8	21
Citi	7	5	3,471	5.0	-2.0	18
Mizuho Financial Group	8	11	3,131	4.5	0.5	14
Mitsubishi UFJ Financial Group	9	13	3,030	4.4	2.2	14
RBC Capital Markets	10	10	2,798	4.1	0.0	18
Industry Total			**69,085**	**100.0**		**118**

*Indicates a Tie

US Residential MBS (F13b) YoY Change ($) -66% QoQ Change ($) 50%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Barclays	1	4	1,677	16.9	6.2	15
Goldman Sachs & Co	2	1	1,365	13.7	-6.4	8
Morgan Stanley	3	2	1,292	13.0	-1.1	9
Apollo Global Management Inc	4	3	971	9.8	-2.9	6
BofA Securities Inc	5	5	907	9.1	0.4	5
Wells Fargo & Co	6	10	634	6.4	2.6	3
JP Morgan	7	11	578	5.8	2.5	5
Nomura	8	7	489	4.9	0.4	6
Deutsche Bank	9	6	342	3.4	-2.2	3
Performance Trust Capital	10	9	271	2.7	-1.2	3
Industry Total			**9,935**	**100.0**		**31**

All Federal Credit Agency Debt (H1) YoY Change ($) 30% QoQ Change ($) 24%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
StoneX Group Inc	1	20	8,519	19.9	18.6	28
Barclays	2	2	4,326	10.1	-1.5	23
Wells Fargo & Co	3	1	3,970	9.3	-3.3	66
Nomura	4	5	3,835	9.0	3.4	20
Daiwa Securities Group Inc	5	8	2,695	6.3	2.0	41
TD Securities Inc	6	3	1,822	4.3	-6.3	25
RBC Capital Markets	7	23	1,661	3.9	2.9	42
Morgan Stanley	8	18	1,616	3.8	2.2	33
Citi	9	4	1,520	3.6	-3.5	25
BofA Securities Inc	10	11	1,133	2.7	0.0	8
Industry Total			**42,847**	**100.0**		**235**

International Debt & ESG Bonds Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

All International Bonds (J01)

YoY Change ($) -9% QoQ Change ($) 111%

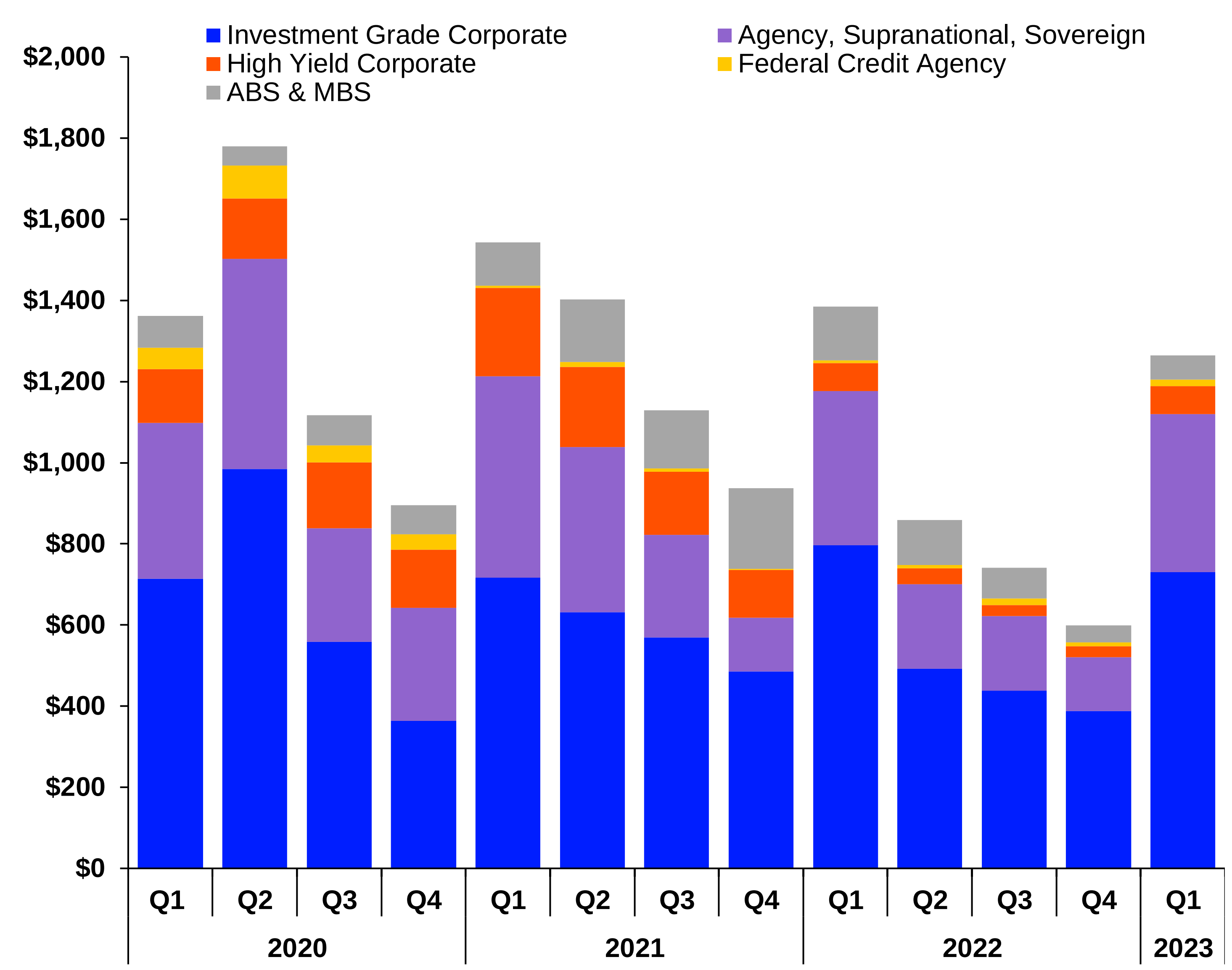
Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	1	96,035	7.6	-1.3	355
Citi	2	2	78,094	6.2	-1.2	282
BofA Securities Inc	3	3	77,615	6.1	-1.2	296
Barclays	4	6	70,170	5.5	0.5	279
BNP Paribas SA	5	5	65,576	5.2	-0.1	255
HSBC Holdings PLC	6	8	62,917	5.0	0.6	256
Deutsche Bank	7	7	60,841	4.8	0.1	208
Goldman Sachs & Co	8	4	59,684	4.7	-1.7	214
Morgan Stanley	9	9	47,358	3.7	-0.7	174
Credit Agricole CIB	10	10	45,421	3.6	0.8	196
Societe Generale	11	11	36,351	2.9	0.3	117
RBC Capital Markets	12	12	30,917	2.4	0.3	150
Mizuho Financial Group	13	19	26,407	2.1	0.8	136
TD Securities Inc	14	14	24,866	2.0	0.1	123
Santander Corp & Invest Bkg	15	16	24,689	2.0	0.3	96
Wells Fargo & Co	16	13	23,341	1.8	-0.1	125
UniCredit	17	15	22,959	1.8	0.1	96
Nomura	18	18	22,419	1.8	0.4	81
NatWest Markets	19	23	20,641	1.6	0.4	89
Natixis	20	22	20,579	1.6	0.3	87
Mitsubishi UFJ Financial Group	21	21	19,792	1.6	0.3	108
Commerzbank AG	22	25	19,166	1.5	0.4	80
UBS	23	20	16,238	1.3	0.0	70
Credit Suisse	24	17	15,308	1.2	-0.3	63
Standard Chartered PLC	25	26	13,308	1.1	0.1	67
Industry Total			**1,269,252**	**100.0**		**1,421**

All Bonds In Euros (N01)

YoY Change ($) 7% QoQ Change ($) 109%

Bookrunner	Rank 2023	Rank 2022	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
BNP Paribas SA	1	1	34,478	6.7	-1.8	146
JP Morgan	2	2	32,803	6.4	-1.7	98
Credit Agricole CIB	3	4	31,747	6.2	0.8	110
Deutsche Bank	4	3	30,070	5.9	-0.5	99
Societe Generale	5	7	28,317	5.5	0.4	86
Barclays	6	5	25,737	5.0	-0.4	96
HSBC Holdings PLC	7	6	23,065	4.5	-0.7	105
Citi	8	8	20,942	4.1	-0.4	74
UniCredit	9	10	20,226	3.9	-0.4	94
BofA Securities Inc	10	11	18,639	3.6	0.0	73
Natixis	11	13	18,275	3.6	0.6	75
Goldman Sachs & Co	12	9	17,780	3.5	-1.0	64
Commerzbank AG	13	14	16,930	3.3	0.8	71
Morgan Stanley	14	12	14,488	2.8	-0.2	43
Santander Corp & Invest Bkg	15	15	14,420	2.8	0.4	58
NatWest Markets	16	22	12,996	2.5	1.3	48
Nomura	17	19	11,734	2.3	0.8	24
ING	18	17	10,642	2.1	0.4	59
BBVA	19	30	8,179	1.6	1.0	37
Landesbank Baden-Wurttemberg	20	16	7,384	1.4	-0.4	47
DZ Bank	21	18	6,977	1.4	-0.2	40
Erste Group	22	26	6,603	1.3	0.4	41
Danske Bank	23	20	5,951	1.2	-0.3	31
IMI - Intesa Sanpaolo	24	23	5,899	1.2	0.0	33
Mitsubishi UFJ Financial Group	25	34	5,521	1.1	0.6	29
Industry Total			**512,956**	**100.0**		**473**

International Bonds - Issue Type Composition (US$bil)



All Global ESG Bonds (GESG1)

YoY Change ($) 10% QoQ Change ($) 75%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
BNP Paribas SA	1	3	15,104	7.2	2.2	58
BofA Securities Inc	2	4	11,777	5.7	1.1	43
HSBC Holdings PLC	3	2	11,539	5.5	-0.2	58
Citi	4	5	10,527	5.1	0.9	40
JP Morgan	5	1	10,055	4.8	-1.6	41
Barclays	6	7	9,534	4.6	0.6	36
Credit Agricole CIB	7	9	9,265	4.4	1.0	46
Deutsche Bank	8	6	9,199	4.4	0.3	31
Nomura	9	24	6,117	2.9	1.6	31
NatWest Markets	10	19	5,677	2.7	1.1	24
Morgan Stanley	11	10	5,507	2.6	0.1	25
Commerzbank AG	12	39	4,396	2.1	1.4	16
Societe Generale	13	13	4,082	2.0	0.0	17
Goldman Sachs & Co	14	8	3,761	1.8	-1.7	20
Natixis	15	14	3,615	1.7	-0.3	15
Mizuho Financial Group	16	21	3,538	1.7	0.2	33
UniCredit	17	32	3,528	1.7	0.8	19
TD Securities Inc	18	12	3,445	1.7	-0.5	20
UBS	19	30	3,129	1.5	0.5	16
ING	20	25	2,559	1.2	0.0	19
Danske Bank	21	22	2,556	1.2	-0.2	19
Santander Corp & Invest Bkg	22	15	2,519	1.2	-0.7	19
Standard Chartered PLC	23	17	2,406	1.2	-0.5	19
RBC Capital Markets	24	16	2,400	1.2	-0.7	20
Sumitomo Mitsui Finl Grp Inc	25	20	2,399	1.2	-0.4	14
Industry Total			**208,553**	**100.0**		**341**

*Indicates a Tie

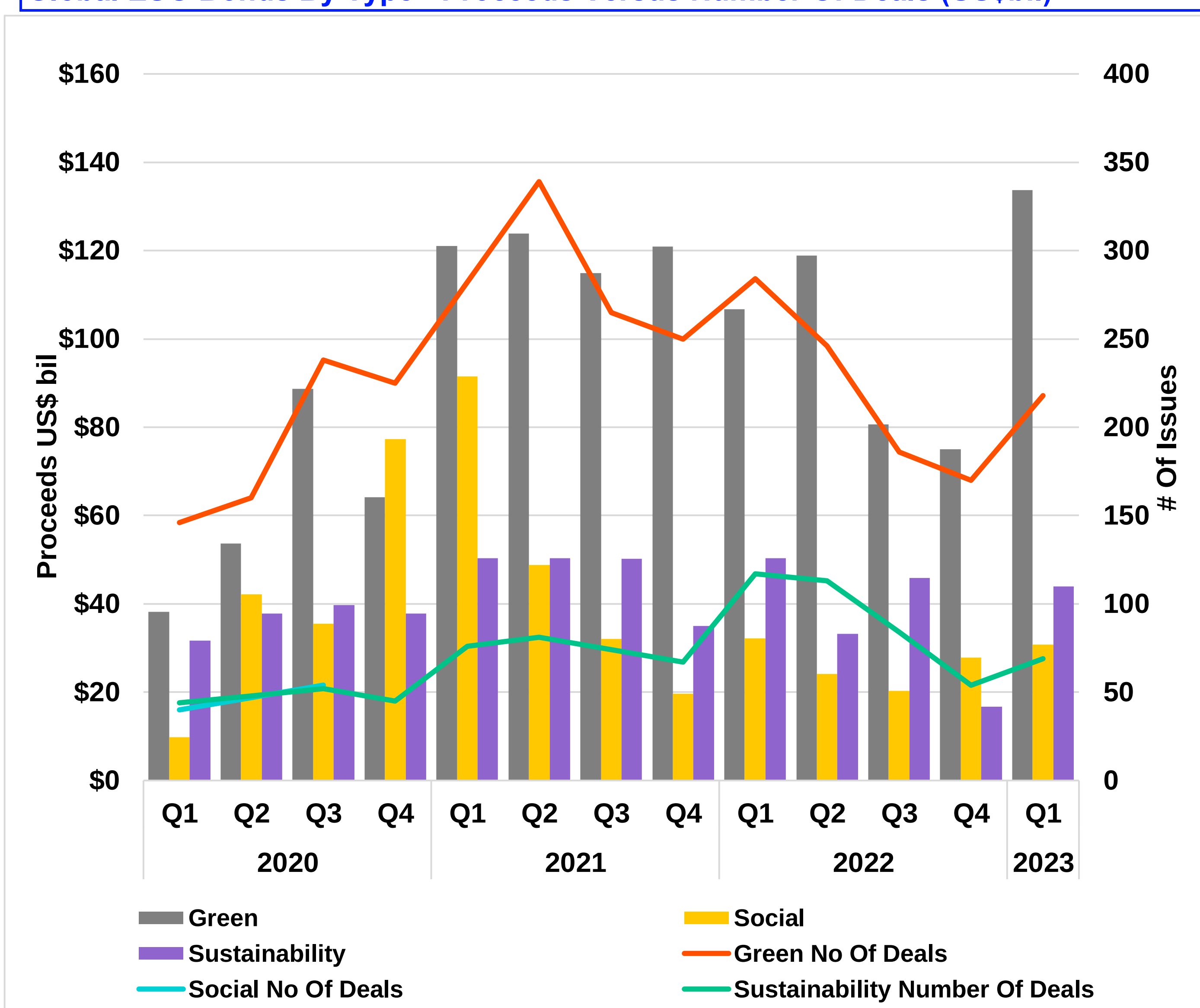
All Global Green Bonds (GR01)**

YoY Change ($) 25% QoQ Change ($) 78%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
BNP Paribas SA	1	2	9,987	7.5	2.5	41
BofA Securities Inc	2	4	7,159	5.4	1.1	31
Citi	3	5	7,001	5.2	1.7	26
Credit Agricole CIB	4	6	5,576	4.2	1.0	28
HSBC Holdings PLC	5	3	5,286	4.0	-0.3	30
Deutsche Bank	6	7	5,124	3.8	0.8	19
JP Morgan	7	1	4,810	3.6	-1.8	23
Barclays	8	8	4,278	3.2	0.4	20
NatWest Markets	9	13	4,156	3.1	1.0	16
Morgan Stanley	10	10	3,968	3.0	0.7	18
Commerzbank AG	11	53	3,764	2.8	2.3	13
Nomura	12	30	3,148	2.4	1.3	12
UniCredit	13	28	2,839	2.1	0.9	14
Danske Bank	14	14	2,382	1.8	-0.2	16
Nordea	15	23	2,334	1.8	0.5	13
Mizuho Financial Group	16	33	2,312	1.7	0.8	20
UBS	17	1	2,240	1.7	0.9	11
CIBC World Markets Inc	18	24	2,142	1.6	0.3	5
Societe Generale	19	27	2,065	1.5	0.3	11
DZ Bank	20	51	1,890	1.4	0.9	7
Bank of China Ltd	21	16	1,839	1.4	-0.5	16
Goldman Sachs & Co	22	9	1,829	1.4	-1.0	13
ING	23	20	1,766	1.3	-0.3	13
RBC Capital Markets	24	12	1,636	1.2	-0.9	15
SEB	25	21	1,617	1.2	-0.3	15
Industry Total			**133,722**	**100.0**		**218**

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

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



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An LSEG Business

High Yield Corporate Debt Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

Global High Yield Debt (B4)

YoY Change ($) -16% QoQ Change ($) 167%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Goldman Sachs & Co	1	1	4,455	8.7	0.1	36
JP Morgan	2	2	4,305	8.4	1.3	34
Deutsche Bank	3	7	3,634	7.1	2.3	19
BofA Securities Inc	4	3	3,207	6.3	0.0	30
Citi	5	4	2,510	4.9	-0.2	27
Morgan Stanley	6	9	2,324	4.5	0.0	20
RBC Capital Markets	7	11	2,041	4.0	1.2	20
BNP Paribas SA	8	10	1,966	3.8	0.8	25
Credit Agricole CIB	9	19	1,862	3.6	2.1	19
Barclays	10	8	1,773	3.5	-1.1	19
Wells Fargo & Co	11	6	1,772	3.5	-1.3	17
Credit Suisse	12	5	1,674	3.3	-1.7	16
HSBC Holdings PLC	13	13	1,185	2.3	-0.2	12
Mizuho Financial Group	14	22	1,172	2.3	1.0	16
TD Securities Inc	15	28	1,045	2.0	1.0	12
DNB ASA	16	34	926	1.8	1.0	13
KKR & Co Inc	17	36	924	1.8	1.1	8
ICBC	18	46	884	1.7	1.3	7
BMO Capital Markets	19	23	868	1.7	0.5	8
Truist Financial Corp	20	15	803	1.6	-0.1	15
Mitsubishi UFJ Financial Group	21	14	789	1.5	-0.5	13
Scotiabank	22	29	634	1.2	0.3	9
Sumitomo Mitsui Finl Grp Inc	23	30	609	1.2	0.3	9
UniCredit	24	21	552	1.1	-0.3	6
Societe Generale	25	16	511	1.0	-0.6	6
Industry Total			**51,202**	**100.0**		**85**

Global High Yield Debt USD Denominated (B5)

YoY Change ($) -15% QoQ Change ($) 173%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	3	3,543	9.1	2.0	26
Goldman Sachs & Co	2	1	3,420	8.8	0.8	27
Deutsche Bank	3	8	2,919	7.5	3.0	13
BofA Securities Inc	4	2	2,882	7.4	-0.2	26
Morgan Stanley	5	9	2,263	5.8	1.4	19
Citi	6	5	2,027	5.2	-0.7	23
RBC Capital Markets	7	13	1,857	4.8	2.5	17
Wells Fargo & Co	8	4	1,772	4.6	-1.8	17
Barclays	9	7	1,460	3.8	-0.9	16
Credit Suisse	10	6	1,434	3.7	-1.6	13
Mizuho Financial Group	11	20	1,079	2.8	1.2	15
TD Securities Inc	12	27	909	2.3	1.4	10
KKR & Co Inc	13	38	900	2.3	1.7	7
Credit Agricole CIB	14	26	865	2.2	1.3	10
Truist Financial Corp	15	12	803	2.1	-0.2	15
BMO Capital Markets	16	23	733	1.9	0.7	6
HSBC Holdings PLC	17	11	732	1.9	-0.6	9
BNP Paribas SA	18	15	675	1.7	-0.5	12
DNB ASA	19	36	670	1.7	1.1	7
ICBC	20	37	631	1.6	1.0	5
Mitsubishi UFJ Financial Group	21	14	576	1.5	-0.7	11
Scotiabank	22	29	498	1.3	0.5	7
Citizens Financial Group	23	22	472	1.2	-0.3	7
Sumitomo Mitsui Finl Grp Inc	24	24	429	1.1	0.0	7
Fifth Third Bancorp	25	16	403	1.0	-1.1	8
Industry Total			**38,874**	**100.0**		**53**

Top High Yield Corporate Deals

Issue Date	Issuer	Domicile Nation	Proceeds US$mil	Coupon %	Macro Sector
1/30/23	Mauser Pkg Solutions Hldg Co	United States	2,750.0	7.875	Materials
1/3/23	Ford Motor Credit Co	United States	2,746.9	6.950	Financials
2/3/23	Uniti Group LP	United States	2,600.0	10.500	Telecommunications
1/23/23	Caesars Entertainment Inc	United States	2,000.0	7.000	Media and Entertainment
1/17/23	DISH Network Corp	United States	1,530.0	11.750	Media and Entertainment
3/1/23	Ritchie Bros Holdings Inc	Canada	1,350.0	7.750	Financials
2/28/23	Triumph Group Inc	United States	1,200.0	9.000	Industrials
1/17/23	Transocean Inc	Switzerland	1,175.0	8.750	Energy and Power
1/30/23	CCO Holdings, LLC	United States	1,100.0	7.375	Media and Entertainment
2/23/23	Transdigm Inc	United States	1,089.0	6.750	Industrials
2/6/23	Ford Motor Credit Co	United States	1,073.0	4.867	Financials
1/9/23	Air France-KLM SA	France	1,068.7	7.250	Industrials
1/10/23	Venture Global Calcasieu Pass	United States	1,000.0	6.250	Energy and Power

Global High Yield Debt Non-USD Denominated (B6)

YoY Change ($) -15% QoQ Change ($) 136%

Bookrunner	Rank 2023	Rank 2022	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
BNP Paribas SA	1	4	1,191	10.4	5.0	14
Goldman Sachs & Co	2	1	962	8.4	-2.0	10
Credit Agricole CIB	3	10	923	8.1	4.8	10
JP Morgan	4	2	708	6.2	-0.7	8
Deutsche Bank	5	3	661	5.8	0.0	6
UniCredit	6	5	510	4.5	-0.9	6
Citi	7	11	445	3.9	1.2	5
Societe Generale	8	18	426	3.7	1.6	5
HSBC Holdings PLC	9	13	425	3.7	1.2	4
Natixis	10	16	395	3.5	1.2	5
Commerzbank AG	11	39	377	3.3	2.6	4
Nordea	12	17	315	2.8	0.6	6
BofA Securities Inc	13	14	301	2.6	0.2	4
Barclays	14	7	293	2.6	-1.7	4
DNB ASA	15	26	238	2.1	0.9	6
Santander Corp & Invest Bkg	16	36*	238	2.1	1.4	3
ICBC	17	-	237	2.1	2.1	3
ING	18	19*	234	2.0	0.4	4
Credit Suisse	19	9	222	1.9	-2.1	3
Lloyds Bank	20	21	206	1.8	0.2	2
Mitsubishi UFJ Financial Group	21	22	197	1.7	0.3	3
Pareto AS	22	33	178	1.6	0.8	3
RBC Capital Markets	23	8	173	1.5	-2.7	3
Sumitomo Mitsui Finl Grp Inc	24	44*	167	1.5	1.2	2
NatWest Markets	25	12	139	1.2	-1.5	2
Industry Total			**11,444**	**100.0**		**33**

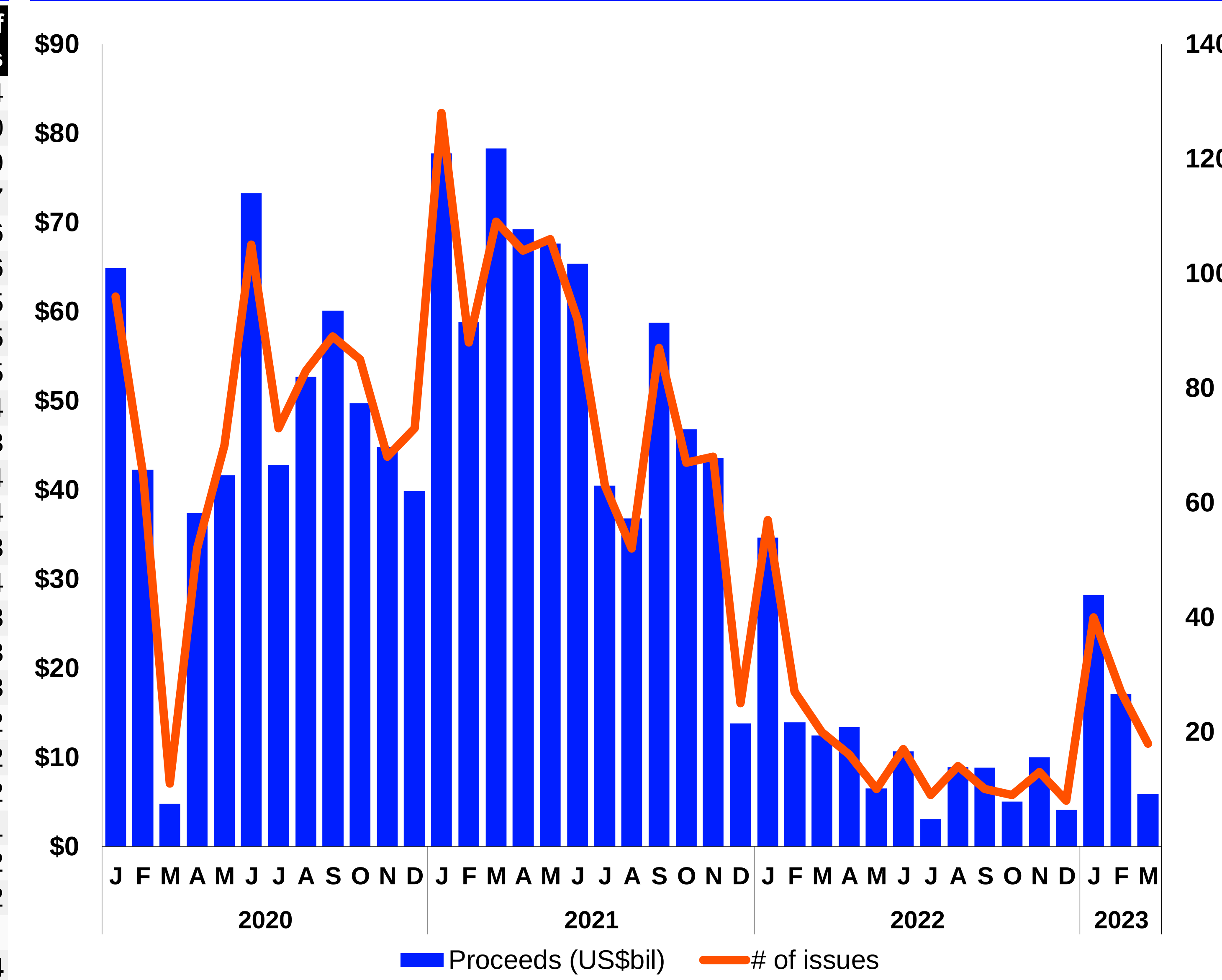
*Indicates a Tie

Global High Yield Debt EURO Denominated (B06b)

YoY Change ($) -10% QoQ Change ($) 112%

Bookrunner	Rank 2023	Rank 2022	Proceeds €mil	Market Share	Mkt. Sh Chg	# of Deals
BNP Paribas SA	1	4	1,191	12.3	5.6	14
Credit Agricole CIB	2	8	923	9.5	5.4	10
Goldman Sachs & Co	3	1	867	8.9	-2.0	9
JP Morgan	4	2	691	7.1	-0.7	7
Deutsche Bank	5	3	661	6.8	-0.4	6
UniCredit	6	5	510	5.3	-1.4	6
Citi	7	9	445	4.6	1.2	5
Societe Generale	8	14	426	4.4	1.8	5
Natixis	9	12	395	4.1	1.3	5
Commerzbank AG	10	31	377	3.9	3.1	4
HSBC Holdings PLC	11	18	330	3.4	1.6	3
BofA Securities Inc	12	10	301	3.1	0.1	4
Nordea	13	15	283	2.9	0.7	4
Santander Corp & Invest Bkg	14	28*	238	2.5	1.6	3
ING	15	16	234	2.4	0.4	4
Credit Suisse	16	7	222	2.3	-1.9	3
Barclays	17	13	198	2.0	-0.6	3
Mitsubishi UFJ Financial Group	18	19	197	2.0	0.3	3
Sumitomo Mitsui Finl Grp Inc	19	39*	167	1.7	1.3	2
Pareto AS	20	26	163	1.7	0.8	2
ICBC	21	-	142	1.5	1.5	2
Lloyds Bank	22	37*	111	1.1	0.5	1
DNB ASA	23	27	89	0.9	0.0	2
Mizuho Financial Group	24	39*	86	0.9	0.5	2
Industry Total			**9,720**	**100.0**		**24**

Global High Yield Corporate Debt Issuance



REFINITIV

Emerging Markets Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

All International Emerging Market Bonds (L1)
YoY Change ($) 3% QoQ Change ($) 126%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	2	15,436	10.0	1.6	41
Citi	2	1	15,254	9.9	0.0	54
BNP Paribas SA	3	4	12,237	7.9	2.5	33
HSBC Holdings PLC	4	3	10,704	6.9	0.4	59
Standard Chartered PLC	5	5	7,736	5.0	0.9	38
Goldman Sachs & Co	6	8	7,263	4.7	1.2	14
BofA Securities Inc	7	6	6,747	4.4	0.4	20
Deutsche Bank	8	9	5,738	3.7	0.5	15
Credit Agricole CIB	9	11	3,937	2.6	0.1	28
Societe Generale	10	10	3,773	2.5	-0.3	14
Barclays	11	7	3,454	2.2	-1.5	13
Morgan Stanley	12	28	2,603	1.7	0.7	11
Erste Group	13	26	2,359	1.5	0.5	11
Santander Corp & Invest Bkg	14	12	2,271	1.5	-0.6	7
BBVA	15	22	2,259	1.5	0.3	5
ING	16	27	2,119	1.4	0.4	6
UBS	17	17	2,043	1.3	-0.3	11
ICBC	18	23	1,924	1.3	0.2	21
Scotiabank	19	18	1,908	1.2	-0.2	4
Mitsubishi UFJ Financial Group	20	16	1,841	1.2	-0.5	12
Industry Total			**154,226**	**100.0**		**205**

EMEA Emerging Market Bonds (L2)
YoY Change ($) 64% QoQ Change ($) 128%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Citi	1	1	5,803	12.6	-3.2	15
JP Morgan	2	2	5,581	12.1	0.0	13
BNP Paribas SA	3	4	4,976	10.8	2.6	11
Deutsche Bank	4	5	4,889	10.6	2.4	11
Goldman Sachs & Co	5	3	3,047	6.6	-4.0	4
Erste Group	6	7	2,359	5.1	-0.2	11
HSBC Holdings PLC	7	6	2,234	4.9	-2.8	4
ING	8	9	1,919	4.2	0.3	4
Societe Generale	9	8	1,840	4.0	-0.4	6
UniCredit	10	13	1,702	3.7	2.3	5
Commerzbank AG	11	14	1,392	3.0	1.8	5
Raiffeisen Bank International	12	-	1,372	3.0	3.0	6
Standard Chartered PLC	13	16	1,033	2.3	1.3	3
IMI - Intesa Sanpaolo	14	32*	890	1.9	1.5	3
Barclays	15	12	769	1.7	-0.9	2
Raiffeisen Landesbanken Hdg	16	-	746	1.6	1.6	1
Nikko Citi	17	-	396	0.9	0.9	1
Emirates NBD PJSC	18	-	387	0.8	0.8	3
BofA Securities Inc	19	29*	345	0.8	0.4	1
Landesbank Baden-Wurttemberg	20	-	333	0.7	0.7	3
Industry Total			**45,965**	**100.0**		**34**

Latin America Emerging Market Bonds (L3)
YoY Change ($) -38% QoQ Change ($) 161%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	2	4,600	22.6	6.9	8
BBVA	2	7	2,204	10.8	5.5	4
Citi	3	1	2,004	9.8	-7.4	5
Scotiabank	4	6	1,908	9.4	3.0	4
Santander Corp & Invest Bkg	5	4	1,841	9.0	-0.1	5
BNP Paribas SA	6	10	1,762	8.7	5.3	5
BofA Securities Inc	7	3	1,422	7.0	-2.5	3
Goldman Sachs & Co	8	9	1,157	5.7	2.2	2
Itau Unibanco	9	15	819	4.0	2.4	2
Barclays	10	5	546	2.7	-3.9	2
Sumitomo Mitsui Finl Grp Inc	11	17	519	2.6	1.6	3
Mizuho Financial Group	12	18*	370	1.8	0.9	2
Jefferies LLC	13	-	267	1.3	1.3	1
IMI - Intesa Sanpaolo	14	-	200	1.0	1.0	1
HSBC Holdings PLC	15	8	149	0.7	-3.1	1
Standard Chartered PLC	16*	-	91	0.5	0.5	1
Natixis	16*	-	91	0.5	0.5	1
ING	16*	26*	91	0.5	0.4	1
Morgan Stanley	16*	13	91	0.5	-1.7	1
Credit Agricole CIB	16*	11	91	0.5	-2.5	1
Industry Total			**20,366**	**100.0**		**14**

Asia Pacific Emerging Market Bonds (L4)
YoY Change ($) -24% QoQ Change ($) 149%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
HSBC Holdings PLC	1	1	6,587	11.1	4.2	42
Citi	2	4	3,992	6.7	1.4	24
Standard Chartered PLC	3	2	3,905	6.6	-0.1	26
BofA Securities Inc	4	10	3,880	6.5	3.6	12
Credit Agricole CIB	5	6	3,122	5.3	2.0	23
JP Morgan	6	5	2,660	4.5	0.3	12
BNP Paribas SA	7	3	2,531	4.3	-1.2	11
Morgan Stanley	8	30	1,948	3.3	2.4	7
UBS	9	11	1,870	3.2	0.6	9
Barclays	10	18	1,542	2.6	0.6	7
Industry Total			**59,355**	**100.0**		**133**

Middle East Emerging Market Bonds (L5)
YoY Change ($) 139% QoQ Change ($) 77%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Citi	1	6	3,454	12.3	6.6	10
BNP Paribas SA	2	11	2,969	10.6	7.5	6
Standard Chartered PLC	3	4	2,707	9.6	3.6	8
JP Morgan	4	3	2,595	9.2	1.8	8
Goldman Sachs & Co	5	7	2,346	8.3	3.6	5
HSBC Holdings PLC	6	2	1,735	6.2	-2.8	12
Saudi National Bank SJSC	7	23*	1,618	5.8	4.2	1
BofA Securities Inc	8	9	1,100	3.9	0.5	4
Emirates NBD PJSC	9	16	951	3.4	0.7	9
First Abu Dhabi Bank PJSC	10	5	784	2.8	-3.1	6
Industry Total			**28,147**	**100.0**		**22**

All Global Debt, by Brazilian Issuers (BR1)
YoY Change ($) -72% QoQ Change ($) 7%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Itau Unibanco	1	1	459	23.6	8.2	4
UBS	2	5	226	11.6	4.3	2
Santander Corp & Invest Bkg	3	2	162	8.3	0.1	2
Citi	4	16	158	8.1	5.0	3
Industry Total			**1,945**	**100.0**		**12**

Domestic Brazilian Debt, in Reals (BR2)
YoY Change ($) -7% QoQ Change ($) -48%

Bookrunner	Rank 2023	Rank 2022	Proceeds R$mil	Market Share	Mkt. Sh. Chg	# of Deals
UBS	1	5	9,765	51.9	45.2	5
Itau Unibanco	2	1	3,065	16.3	-20.7	9
Banco Bradesco SA	3	2	1,906	10.1	-4.7	3
Banco BTG Pactual SA	4	3	950	5.1	-6.8	1
Banco Votorantim	5	10	750	4.0	2.3	1
Santander Corp & Invest Bkg	6	4	570	3.0	-6.9	2
BNP Paribas SA	7	8	550	2.9	-1.2	1
Citi	8	-	425	2.3	2.3	3
Allianz AG	9	-	400	2.1	2.1	1
XP Investimentos	10	6	300	1.6	-4.3	1
Industry Total			**18,806**	**100.0**		**27**

*Indicates a Tie

Global Debt, Mexican Issuers (MX1)
YoY Change ($) -18% QoQ Change ($) 102%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
JP Morgan	1	5*	1,725	18.7	13.9	4
BBVA	2	1	1,570	17.0	0.0	10
BNP Paribas SA	3	-	1,446	15.6	15.6	3
BofA Securities Inc	4	3*	1,197	12.9	-3.6	2
Santander Corp & Invest Bkg	5	2	731	7.9	-9.0	6
Citi	6	7	476	5.2	1.0	6
Scotiabank	7*	5*	279	3.0	-1.8	1
Barclays	7*	3*	279	3.0	-13.5	1
Mizuho Financial Group	7*	-	279	3.0	3.0	1
Sumitomo Mitsui Finl Grp Inc	7*	9*	279	3.0	0.8	1
Industry Total			**9,246**	**100.0**		**22**

Domestic Mexican Debt (MX3)
YoY Change ($) -2% QoQ Change ($) -66%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh. Chg	# of Deals
Santander Corp & Invest Bkg	1	2	452	34.5	18.6	5
Citi	2	4	227	17.4	3.9	5
Casa de Bolsa Inverlat	3	1	203	15.5	-6.9	8
Grupo Financiero Banorte-Ixe	4	5	177	13.6	4.5	5
BBVA	5	3	94	7.2	-6.4	7
Corporacion Actinver Sab de CV	6	10	71	5.4	4.1	5
Casas de Bolsa Bital, S.A.	7	6	58	4.4	-4.4	2
Vector Casa de Bolsa SA de CV	8	9	11	0.9	-2.6	2
Intercam Servicios Financieros	9	12	11	0.8	0.4	3
Casa De Bolsa ARKA SA de CV	10	11	4	0.3	-0.9	2
Industry Total			**1,309**	**100.0**		**18**

Asia-Pacific Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

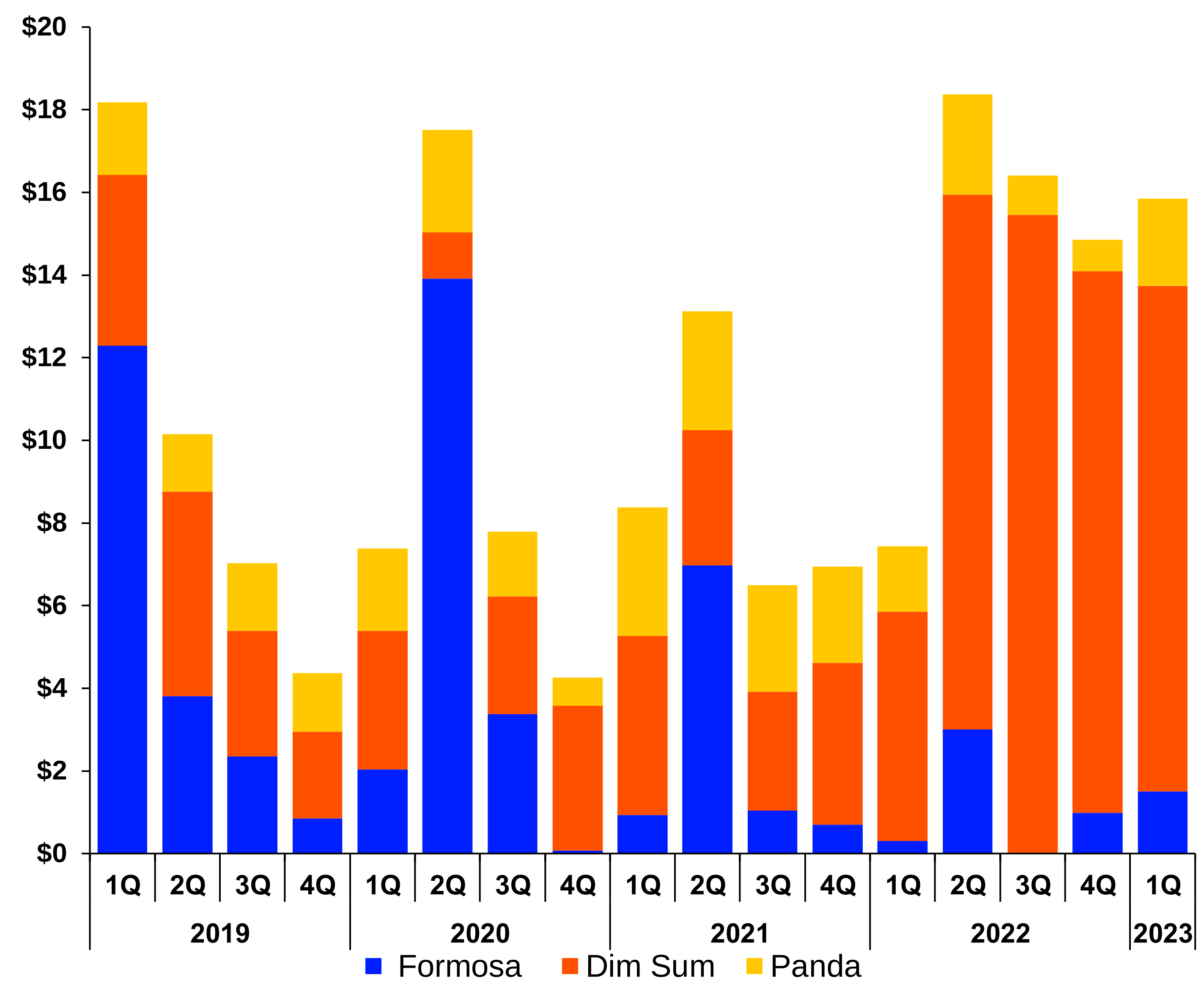
Asian G3 Bonds (ex-Japan & Australia) (AR2) YoY Change ($) -33% QoQ Change ($) 274%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
HSBC Holdings PLC	1	2	5,880	11.1	4.7	27
Citi	2	3	5,145	9.7	3.9	23
BofA Securities Inc	3	6	3,880	7.3	3.1	12
Standard Chartered PLC	4	1	3,494	6.6	0.1	20
JP Morgan	5	5	3,143	5.9	1.1	13
BNP Paribas SA	6	4	3,029	5.7	0.8	13
Credit Agricole CIB	7	11	2,405	4.5	1.8	17
Morgan Stanley	8	16	1,948	3.7	1.6	7
TD Securities Inc	9	28	1,869	3.5	2.3	2
Nomura	10	37	1,593	3.0	2.3	2
UBS	11	12	1,511	2.8	0.2	7
RBC Capital Markets	12	23	1,372	2.6	1.1	1
Barclays	13	20	1,193	2.3	0.6	4
Mitsubishi UFJ Financial Group	14	14	1,104	2.1	-0.2	7
Societe Generale	15	15	1,062	2.0	-0.2	5
ANZ Banking Group	16	30	1,033	1.9	0.7	5
DBS Group Holdings	17	9	984	1.9	-0.9	4
Deutsche Bank	18	7	964	1.8	-2.4	4
Credit Suisse	19	19	891	1.7	0.0	4
Goldman Sachs & Co	20	41	713	1.3	0.7	3
Bank of China Ltd	21	8	681	1.3	-1.7	10
Bank Mandiri	22	46	641	1.2	0.8	2
China International Capital Co	23	18	549	1.0	-1.0	15
KB Financial Group Inc	24	38	498	0.9	0.2	1
BMO Capital Markets	25	43	498	0.9	0.4	1
Industry Total			**53,128**	**100.0**		**61**

Asian G3 High Yield Bonds (ex Japan & Australia) (AR10) YoY Change ($) -63% QoQ Change ($) 519%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
Credit Suisse	1	12	680	100.0	96.1	2
Industry Total			**680**	**100.0**		**2**

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

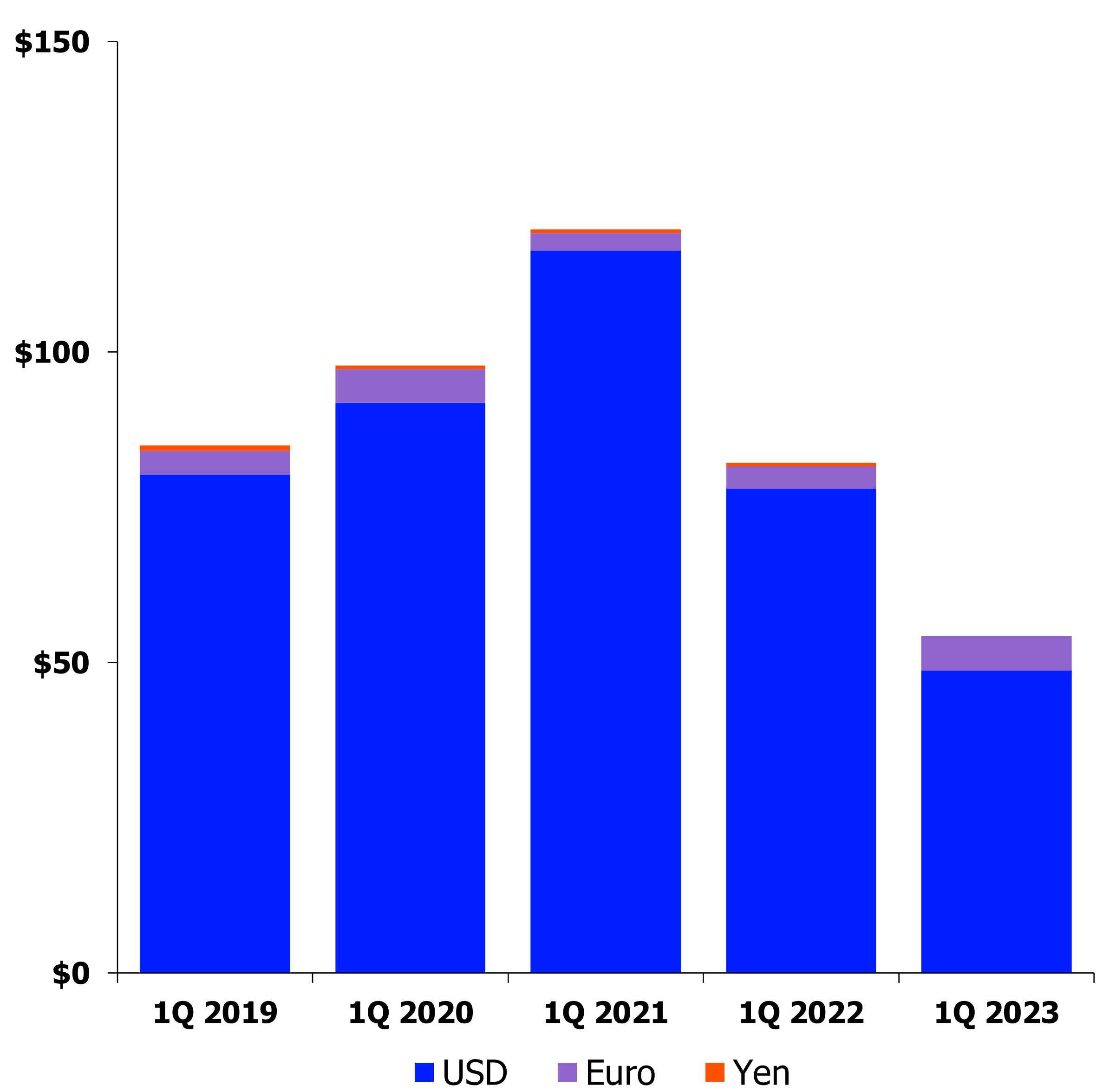


All Asian Currencies (ex Japan & Australia) (AS1) YoY Change ($) -13% QoQ Change ($) 4%

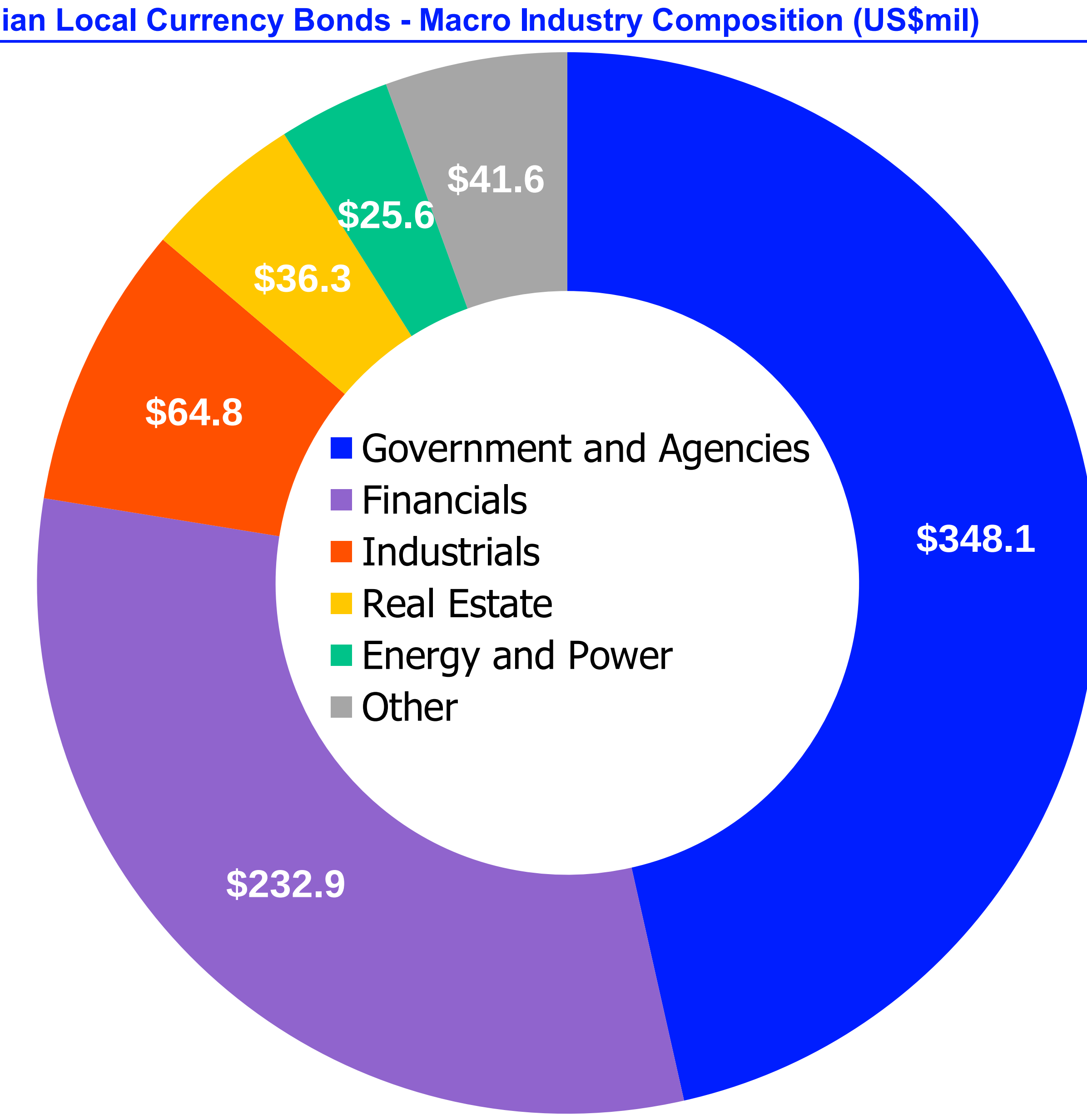
Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	1	46,974	6.3	-0.8	748
Bank of China Ltd	2	2	39,398	5.3	-0.5	578
ICBC	3	3	35,475	4.7	-0.7	537
China Construction Bank	4	4	31,107	4.2	-0.9	522
Agricultural Bank of China	5	5	31,003	4.1	-0.6	491
China Securities Co Ltd	6	6	30,727	4.1	-0.4	517
Huatai Securities Co Ltd	7	8	29,548	3.9	0.4	481
China International Capital Co	8	9	26,561	3.6	0.5	453
Bank of Communications Co Ltd	9	7	24,536	3.3	-0.9	448
Industrial Bank Co Ltd	10	11	20,275	2.7	0.2	410
Guotai Junan Securities	11	10	19,369	2.6	-0.1	346
China Merchants Bank	12	12	13,847	1.9	-0.5	276
China Dvlp Bank Sec Co Ltd	13	18	11,009	1.5	0.3	189
Orient Securities Co Ltd	14	14	10,513	1.4	-0.1	163
Shenwan Hongyuan Securities Co	15	28	10,400	1.4	0.6	188
China Galaxy Securities Co	16	21	9,778	1.3	0.2	171
Postal Savings Bank Of China	17	16	9,565	1.3	0.0	145
Shanghai Pudong Development Bk	18	15	9,443	1.3	0.0	230
Everbright Securities Co Ltd	19	20	8,835	1.2	0.1	194
Haitong Securities Co Ltd	20	13	8,780	1.2	-0.6	169
China Merchants Securities Co	21	25	8,321	1.1	0.3	96
China Minsheng Banking Corp	22	17	8,319	1.1	-0.1	162
HSBC Holdings PLC	23	23	8,109	1.1	0.3	134
KB Financial Group Inc	24	22	7,598	1.0	0.1	121
Bank of Nanjing Co Ltd	25	35	7,054	0.9	0.3	90
Industry Total			**749,206**	**100.0**		**3,603**

*Indicates a Tie

Asian G3 Bond Volume - Currency (US$mil)



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



Australia & China Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

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

YoY Change ($) 13% QoQ Change ($) 18%

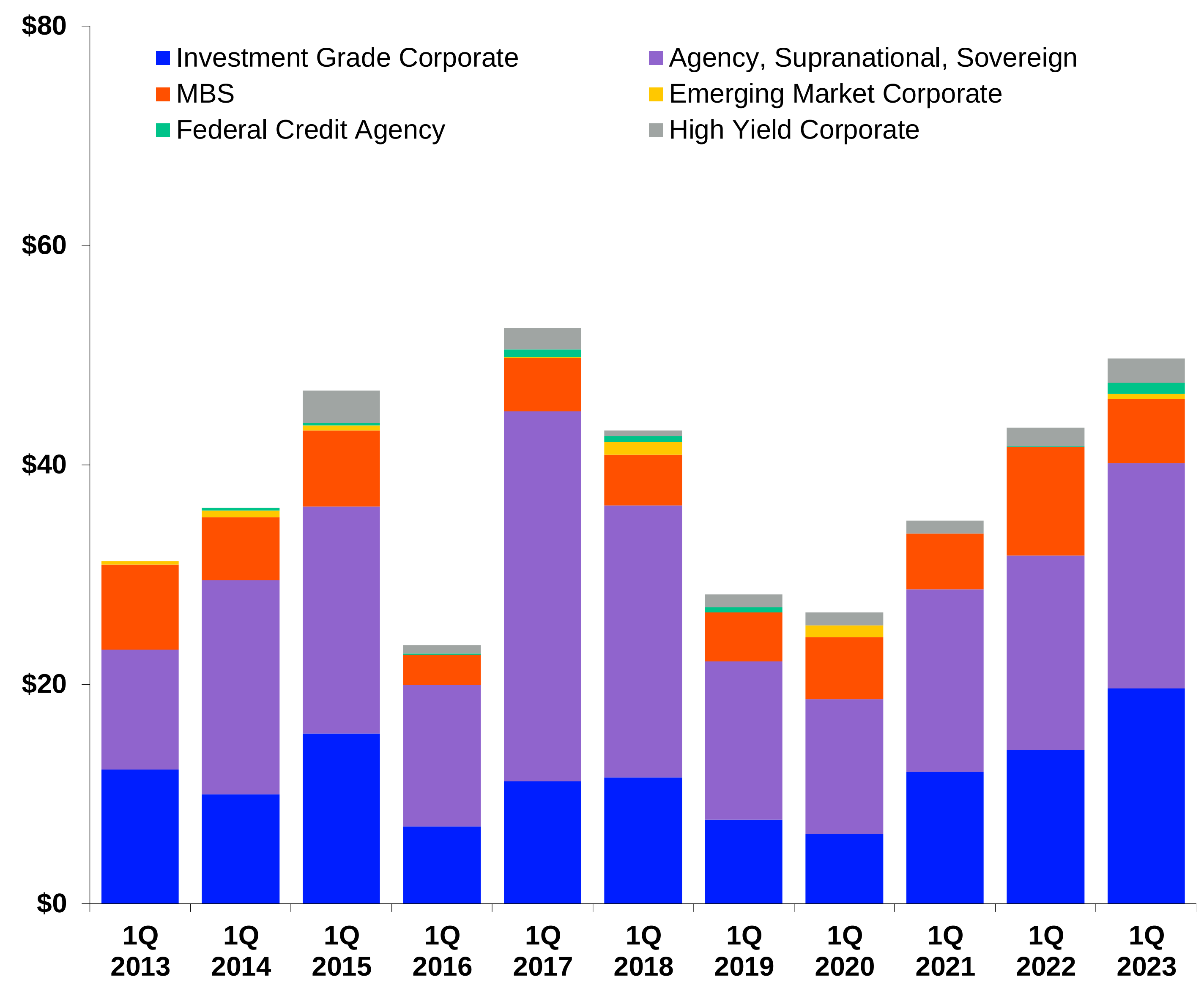
Bookrunner	Rank 2023	Rank 2022	Proceeds AU$mil	Market Share	Mkt. Sh Chg	# of Deals
National Australia Bank	1	1	6,163	12.5	-2.0	32
Westpac Banking	2	4	5,892	12.0	2.1	36
ANZ Banking Group	3	2	5,809	11.8	-1.9	28
Commonwealth Bank of Australia	4	3	5,446	11.1	-0.7	30
Nomura	5	8	3,761	7.6	2.8	21
RBC Capital Markets	6	6	3,284	6.7	1.6	20
UBS	7	10	2,743	5.6	1.4	14
Deutsche Bank	8	9	2,708	5.5	0.8	12
TD Securities Inc	9	5	2,616	5.3	-0.2	18
JP Morgan	10	7	2,232	4.5	-0.6	14
Barclays	11	16	1,111	2.3	0.8	8
BofA Securities Inc	12	14	909	1.9	-0.1	3
Daiwa Securities Group Inc	13	15	715	1.5	-0.2	12
Standard Chartered PLC	14	18	641	1.3	0.3	5
United Overseas Bank Ltd	15	11	584	1.2	-1.5	3
HSBC Holdings PLC	16	27	578	1.2	0.9	3
Citi	17	13	463	0.9	-1.1	4
Macquarie Group	18	23*	456	0.9	0.2	3
Mitsubishi UFJ Financial Group	19	20	412	0.8	-0.1	3
Mizuho Financial Group	20	17	400	0.8	-0.4	4
Industry Total			**49,233**	**100.0**		**102**

All Australian International Bonds (AJ7)

YoY Change ($) 10% QoQ Change ($) 77%

Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
HSBC Holdings PLC	1	1	2,846	9.4	-1.3	16
BNP Paribas SA	2	7	2,107	7.0	2.9	6
Citi	3	2	2,105	7.0	-3.6	9
National Australia Bank	4	4	2,100	7.0	-0.8	6
BofA Securities Inc	5	3	2,063	6.8	-2.2	8
JP Morgan	6	11	2,021	6.7	3.2	10
Westpac Banking	7	19	1,903	6.3	4.1	6
Barclays	8	8	1,898	6.3	2.3	6
UBS	9	9	1,638	5.4	1.7	6
Deutsche Bank	10	21	1,516	5.0	3.3	5
Goldman Sachs & Co	11	15	1,167	3.9	0.9	5
ANZ Banking Group	12	14	1,110	3.7	0.7	4
Societe Generale	13	12	889	2.9	-0.5	4
Commonwealth Bank of Australia	14	6	806	2.7	-2.3	5
Santander Corp & Invest Bkg	15	-	765	2.5	2.5	2
Morgan Stanley	16	10	700	2.3	-1.4	2
Mitsubishi UFJ Financial Group	17	18	548	1.8	-0.5	1
Wells Fargo & Co	18	-	542	1.8	1.8	3
NatWest Markets	19	16	516	1.7	-0.7	3
Commerzbank AG	20	-	458	1.5	1.5	2
Industry Total			**30,204**	**100.0**		**38**

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



China G3 Currency Bonds (AR5)

YoY Change ($) -59% QoQ Change ($) 36%

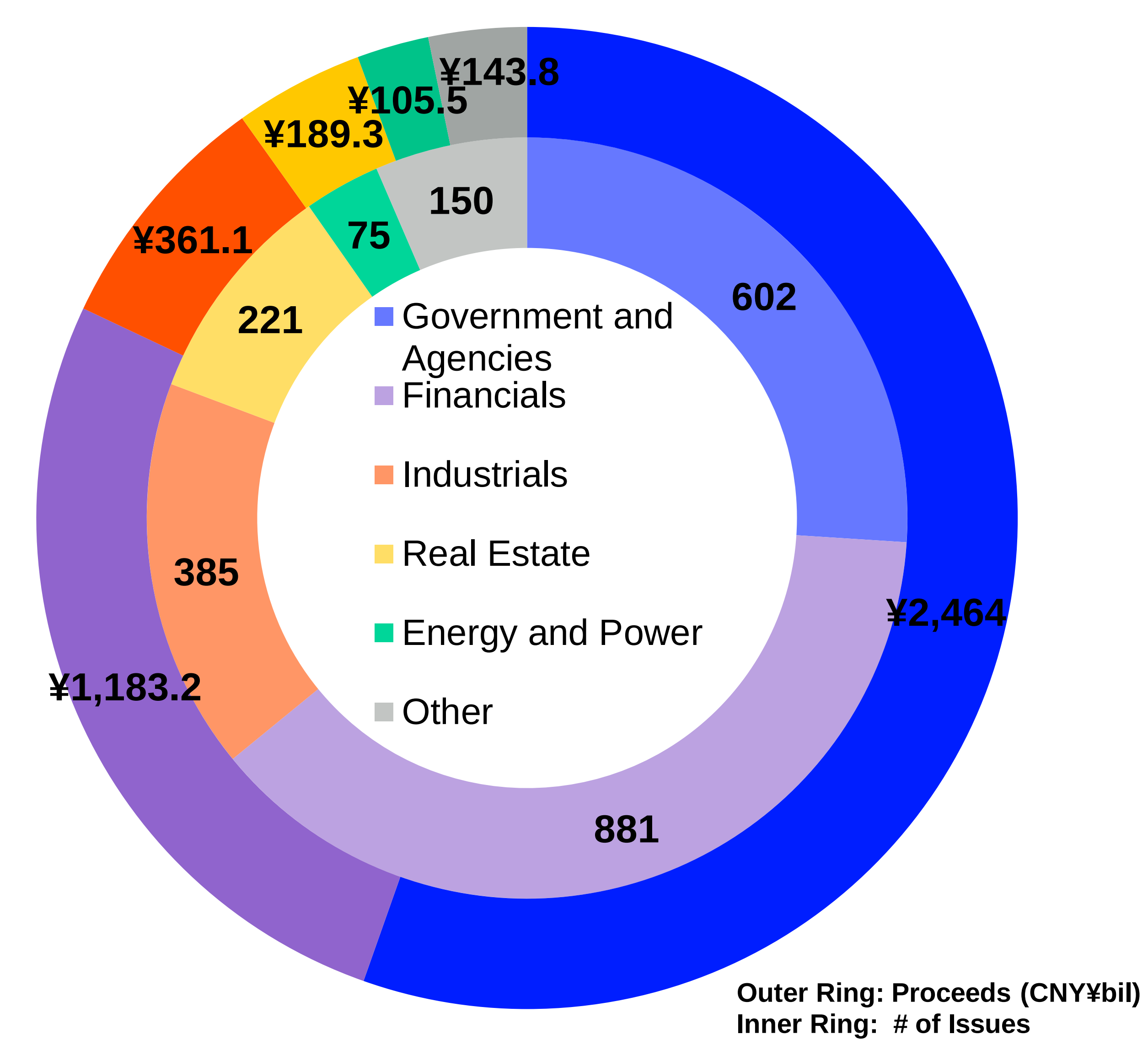
Bookrunner	Rank 2023	Rank 2022	Proceeds US$mil	Market Share	Mkt. Sh Chg	# of Deals
JP Morgan	1	39	898	9.2	8.6	2
HSBC Holdings PLC	2	15	607	6.2	3.4	4
BNP Paribas SA	3	23	500	5.1	3.6	2
TD Securities Inc	4*	-	498	5.1	5.1	1
BMO Capital Markets	4*	-	498	5.1	5.1	1
Barclays	6*	-	401	4.1	4.1	1
Deutsche Bank	6*	21	401	4.1	2.3	1
China International Capital Co	8	3	321	3.3	-2.1	12
Industrial Bank Co Ltd	9	2	313	3.2	-2.5	14
CITIC	10	1	296	3.0	-3.0	15
Bank of Communications Co Ltd	11	12	256	2.6	-0.4	9
Citi	12	17	251	2.6	0.3	5
Bank of China Ltd	13	4	240	2.5	-2.5	7
Agricultural Bank of China	14	8	236	2.4	-0.9	7
Credit Agricole CIB	15	11	227	2.3	-0.8	5
China Minsheng Banking Corp	16	20	222	2.3	0.5	8
Huaxia Bank Co Ltd	17	35	213	2.2	1.5	8
China Construction Bank	18	5	196	2.0	-2.2	6
ICBC	19	10	184	1.9	-1.4	5
Standard Chartered PLC	20	6	167	1.7	-2.3	4
Industry Total			**9,778**	**100.0**		**25**

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

YoY Change ($) -8% QoQ Change ($) -3%

Bookrunner	Rank 2023	Rank 2022	Proceeds CN¥mil	Market Share	Mkt. Sh Chg	# of Deals
CITIC	1	1	321,690	7.2	-0.8	748
Bank of China Ltd	2	2	269,159	6.1	-0.4	577
ICBC	3	3	242,546	5.5	-0.5	537
China Construction Bank	4	4	212,393	4.8	-0.9	522
Agricultural Bank of China	5	5	211,659	4.8	-0.4	491
China Securities Co Ltd	6	6	210,217	4.7	-0.4	517
Huatai Securities Co Ltd	7	8	202,433	4.6	0.7	481
China International Capital Co	8	9	181,967	4.1	0.7	453
Bank of Communications Co Ltd	9	7	167,255	3.8	-0.9	448
Industrial Bank Co Ltd	10	11	138,805	3.1	0.3	410
Guotai Junan Securities	11	10	132,693	3.0	-0.1	345
China Merchants Bank	12	12	94,653	2.1	-0.6	276
China Dvlp Bank Sec Co Ltd	13	18	75,202	1.7	0.4	189
Orient Securities Co Ltd	14	14	71,720	1.6	-0.1	163
Shenwan Hongyuan Securities Co	15	26	71,320	1.6	0.7	188
China Galaxy Securities Co	16	21	66,866	1.5	0.3	171
Postal Savings Bank Of China	17	16	65,565	1.5	0.1	145
Shanghai Pudong Development Bk	18	15	64,642	1.5	0.0	230
Everbright Securities Co Ltd	19	20	60,439	1.4	0.1	194
Haitong Securities Co Ltd	20	13	60,232	1.4	-0.7	169
Industry Total			**4,446,726**	**100.0**		**2,314**

Chinese Yuan Bonds - Macro Industry Composition



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Japan Rankings

First Quarter 2023 | Debt Capital Markets | Managing Underwriters

All Bonds in Yen (AP05)

YoY Change (¥) 5% QoQ Change (¥) -31%

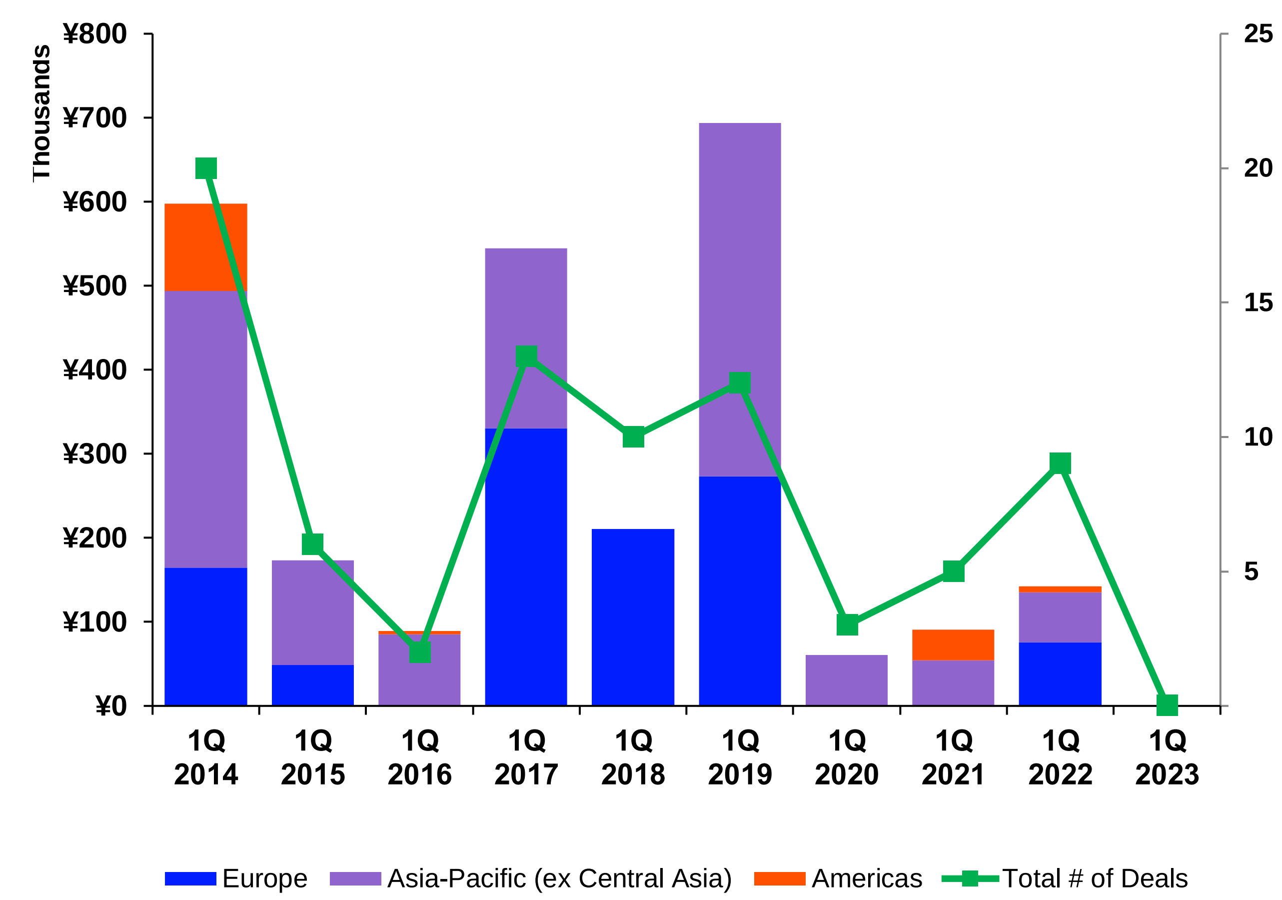
Lead Manager	Rank 2023	Rank 2022	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	1,079	23.5	-2.8	150
Daiwa Securities Group Inc	2	3	740	16.1	3.9	97
Mitsubishi UFJ Morgan Stanley	3	4	713	15.5	3.8	85
Sumitomo Mitsui Finl Grp Inc	4	5	693	15.1	4.3	81
Nomura	5	2	549	11.9	-6.0	103
Mitsubishi UFJ Financial Group	6	6	222	4.8	-1.6	10
Sumitomo Mitsui Trust Holdings	7	7	220	4.8	1.5	7
Norinchukin Bank	8	10	76	1.6	0.5	4
Goldman Sachs & Co	9	8	59	1.3	0.1	3
Rakuten Securities Inc	10	-	41	0.9	0.9	2
Okasan Securities Group Inc	11	19	28	0.6	0.2	15
Shinkin Central Bank	12	18	28	0.6	0.2	13
NatWest Markets	13	-	26	0.6	0.6	3
Barclays	14	15	26	0.6	-0.3	3
Tokai Tokyo Financial Holdings	15	12	22	0.5	-0.6	10
Industry Total			**4,600**	**100.0**		**247**

All Bonds Targeted in Japan (AP04)

YoY Change (¥) 7% QoQ Change (¥) -28%

Lead Manager	Rank 2023	Rank 2022	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	1,053	23.2	-3.2	148
Daiwa Securities Group Inc	2	3	734	16.2	3.5	96
Mitsubishi UFJ Morgan Stanley	3	4	707	15.6	3.5	84
Sumitomo Mitsui Finl Grp Inc	4	5	693	15.3	4.1	81
Nomura	5	2	527	11.6	-6.8	100
Mitsubishi UFJ Financial Group	6	6	265	5.9	-0.8	11
Sumitomo Mitsui Trust Holdings	7	7	220	4.9	1.5	7
Norinchukin Bank	8	10	76	1.7	0.5	4
Goldman Sachs & Co	9	8	59	1.3	0.0	3
Rakuten Securities Inc	10	-	41	0.9	0.9	2
Okasan Securities Group Inc	11	17	28	0.6	0.2	15
Shinkin Central Bank	12	16	28	0.6	0.1	13
Barclays	13	14	26	0.6	-0.2	3
Tokai Tokyo Financial Holdings	14	11	22	0.5	-0.6	10
BNP Paribas SA	15	15	21	0.5	-0.1	7
Industry Total			**4,530**	**100.0**		**239**

Japanese Corporate Debt - Macro Industry Composition



Japanese Securitizations (AP02)

YoY Change (¥) -12% QoQ Change (¥) 41%

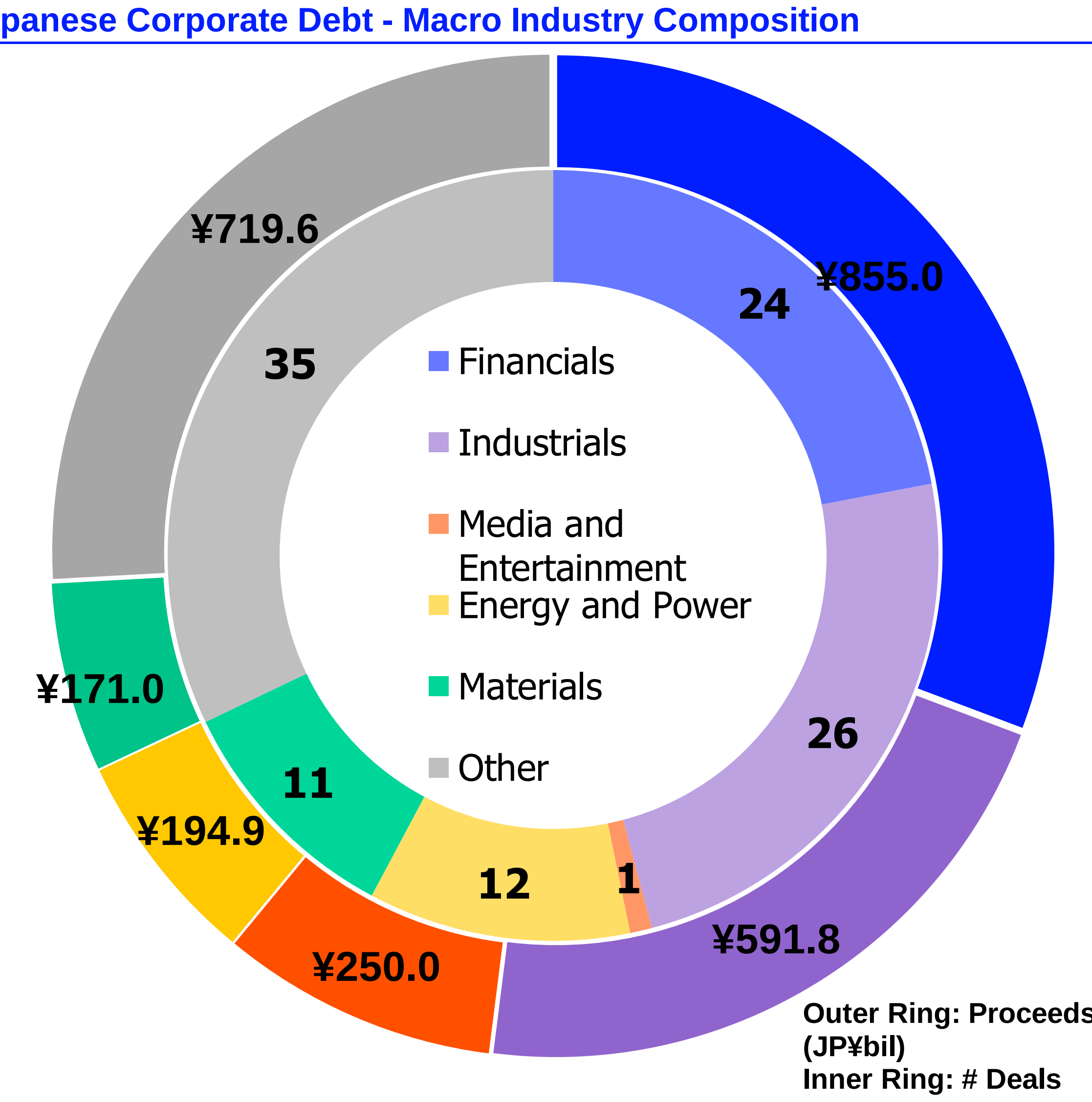
Lead Manager	Rank 2023	Rank 2022	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	329	26.4	-3.9	44
Mitsubishi UFJ Financial Group	2	2	265	21.2	1.3	11
Sumitomo Mitsui Trust Holdings	3	3	220	17.6	7.5	7
Sumitomo Mitsui Finl Grp Inc	4	5	119	9.6	2.9	11
Daiwa Securities Group Inc	5	10	112	9.0	6.2	4
Norinchukin Bank	6	7	76	6.1	2.7	4
Mitsubishi UFJ Morgan Stanley	7	6	40	3.2	-1.8	1
Goldman Sachs & Co	8	12	39	3.1	1.0	1
Barclays	9	13	21	1.6	-0.3	1
BNP Paribas SA	10	9	18	1.4	-1.5	6
SBI Holdings Inc	11	-	5	0.4	0.4	1
ORIX Corp	12	14	5	0.4	0.0	1
Industry Total			**1,248**	**100.0**		**79**

Japanese Corporate Debt (AP03)

YoY Change (¥) 35% QoQ Change (¥) -25%

Lead Manager	Rank 2023	Rank 2022	Proceeds JPY¥bil	Market Share	Mkt. Sh. Chg	# of Deals
Mizuho Financial Group	1	1	627	22.5	-4.8	81
Mitsubishi UFJ Morgan Stanley	2	4	610	21.9	6.7	59
Daiwa Securities Group Inc	3	3	527	18.9	1.2	66
Sumitomo Mitsui Finl Grp Inc	4	5	491	17.6	4.2	58
Nomura	5	2	405	14.5	-7.1	71
Rakuten Securities Inc	6	-	40	1.4	1.4	1
Shinkin Central Bank	7	8	25	0.9	0.1	12
Okasan Securities Group Inc	8	9	22	0.8	0.3	13
Tokai Tokyo Financial Holdings	9	7	12	0.4	-0.4	7
SBI Holdings Inc	10	6	10	0.4	-1.8	1
BofA Securities Inc	11	11	6	0.2	0.0	2
Barclays	12	-	5	0.2	0.2	2
Citi	13	10	3	0.1	-0.2	1
Industry Total			**2,782**	**100.0**		**109**

Japanese Corporate Debt - Macro Industry Composition



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Debt Capital Markets Criteria

First Quarter 2023 | 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:

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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 March 31, 2023.

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.