UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q
(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended June 30, 2023

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number: 001-37352

Virtu Financial, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**32-0420206**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1633 Broadway New York, New York	**10019**
(Address of principal executive offices)	(Zip Code)

(212) 418-0100
(Registrant’s telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Class A common stock, par value $0.00001 per share	VIRT	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐
			Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Securities Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Class of Stock	Shares outstanding as of July 28, 2023
Class A common stock, par value $0.00001 per share	94,049,843
Class C common stock, par value $0.00001 per share	8,817,088
Class D common stock, par value $0.00001 per share	60,091,740

VIRTU FINANCIAL, INC. AND SUBSIDIARIES
INDEX TO FORM 10-Q
FOR THE QUARTER ENDED June 30, 2023

PART I

ITEM 1. FINANCIAL STATEMENTS

Index to Condensed Consolidated Financial Statements

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Financial Condition (Unaudited)

(in thousands, except share data)	June 30, 2023	December 31, 2022
Assets		
Cash and cash equivalents	$ 698,674	$ 981,580
Cash restricted or segregated under regulations and other	47,133	56,662
Securities borrowed	1,665,179	1,187,674
Securities purchased under agreements to resell	793,815	336,999
Receivables from broker-dealers and clearing organizations	1,459,826	1,115,185
Trading assets, at fair value:		
Financial instruments owned	5,155,084	3,667,481
Financial instruments owned and pledged	1,297,216	963,071
Receivables from customers	130,623	80,830
Property, equipment and capitalized software (net of accumulated depreciation of $341,375 and $460,763 as of June 30, 2023 and December 31, 2022, respectively)	95,735	85,194
Operating lease right-of-use assets	174,136	187,442
Goodwill	1,148,926	1,148,926
Intangibles (net of accumulated amortization of $350,053 and $318,013 as of June 30, 2023 and December 31, 2022, respectively)	289,440	321,480
Deferred tax assets	134,549	146,801
Other assets ($73,435 and $78,965, at fair value, as of June 30, 2023 and December 31, 2022, respectively)	299,348	303,916
Total assets	$ 13,389,684	$ 10,583,241
Liabilities and equity		
Liabilities		
Short-term borrowings	$ 111,721	$ 3,944
Securities loaned	1,306,894	1,060,432
Securities sold under agreements to repurchase	1,120,151	627,549
Payables to broker-dealers and clearing organizations	848,277	273,843
Payables to customers	39,740	46,525
Trading liabilities, at fair value:		
Financial instruments sold, not yet purchased	5,812,887	4,196,974
Tax receivable agreement obligations	215,542	238,758
Accounts payable, accrued expenses and other liabilities	379,815	448,635
Operating lease liabilities	224,086	239,202
Long-term borrowings	1,778,270	1,795,952
Total liabilities	11,837,383	8,931,814
Commitments and Contingencies (Note 14)		
Virtu Financial Inc. Stockholders' equity		
Class A common stock (par value $0.00001), Authorized — 1,000,000,000 and 1,000,000,000 shares, Issued — 134,725,247 and 133,071,754 shares, Outstanding — 94,004,647 and 98,549,464 shares at June 30, 2023 and December 31, 2022, respectively	1	1
Class B common stock (par value $0.00001), Authorized — 175,000,000 and 175,000,000 shares, Issued and Outstanding — 0 and 0 shares at June 30, 2023 and December 31, 2022, respectively	—	—
Class C common stock (par value $0.00001), Authorized — 90,000,000 and 90,000,000 shares, Issued and Outstanding — 8,856,531 and 9,030,066 shares at June 30, 2023 and December 31, 2022, respectively	—	—
Class D common stock (par value $0.00001), Authorized — 175,000,000 and 175,000,000 shares, Issued and Outstanding — 60,091,740 and 60,091,740 shares at June 30, 2023 and December 31, 2022, respectively	1	1
Treasury stock, at cost, 40,720,600 and 34,522,290 shares at June 30, 2023 and December 31, 2022, respectively	(1,071,784)	(954,637)
Additional paid-in capital	1,335,269	1,292,613
Retained earnings (accumulated deficit)	980,481	972,317
Accumulated other comprehensive income (loss)	31,132	31,604
Total Virtu Financial Inc. stockholders' equity	1,275,100	1,341,899
Noncontrolling interest	277,201	309,528

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Financial Condition (Unaudited)

(in thousands, except share data)	June 30, 2023	December 31, 2022
Total equity	1,552,301	1,651,427
Total liabilities and equity	$ 13,389,684	$ 10,583,241

See accompanying Notes to the Condensed Consolidated Financial Statements (Unaudited).

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Comprehensive Income (Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands, except share and per share data)	**2023**	**2022**	**2023**	**2022**
Revenues:				
Trading income, net	$ 306,168	$ 395,928	$ 718,679	$ 918,235
Interest and dividends income	97,979	30,792	180,223	51,804
Commissions, net and technology services	109,504	136,340	230,948	290,995
Other, net	(6,797)	41,678	(2,617)	44,966
Total revenue	506,854	604,738	1,127,233	1,306,000
Operating Expenses:				
Brokerage, exchange, clearance fees and payments for order flow, net	122,471	156,986	267,993	307,366
Communication and data processing	56,959	55,699	113,771	111,534
Employee compensation and payroll taxes	95,557	98,604	198,994	202,084
Interest and dividends expense	112,493	48,716	210,094	91,254
Operations and administrative	25,491	13,577	49,790	38,792
Depreciation and amortization	15,913	16,334	31,261	33,812
Amortization of purchased intangibles and acquired capitalized software	16,020	16,277	32,040	32,757
Termination of office leases	(146)	677	(50)	1,384
Debt issue cost related to debt refinancing, prepayment and commitment fees	1,771	1,437	3,948	27,121
Transaction advisory fees and expenses	8	558	23	980
Financing interest expense on long-term borrowings	24,850	22,089	49,138	43,422
Total operating expenses	471,387	430,954	957,002	890,506
Income before income taxes and noncontrolling interest	35,467	173,784	170,231	415,494
Provision for income taxes	5,923	24,888	30,605	66,674
Net income	29,544	148,896	139,626	348,820
Noncontrolling interest	(12,842)	(63,729)	(65,044)	(151,397)
Net income available for common stockholders	$ 16,702	$ 85,167	$ 74,582	$ 197,423
Earnings per share				
Basic	$ 0.16	$ 0.78	$ 0.73	$ 1.78
Diluted	$ 0.16	$ 0.78	$ 0.73	$ 1.77
Weighted average common shares outstanding				
Basic	94,973,489	104,960,826	96,376,926	107,133,079
Diluted	94,973,489	105,478,278	96,376,926	107,759,784
Net income	$ 29,544	$ 148,896	$ 139,626	$ 348,820
Other comprehensive income				
Foreign exchange translation adjustment, net of taxes	2,527	(19,810)	4,175	(24,978)
Net change in unrealized cash flow hedges gain (loss), net of taxes	8,202	14,062	(4,966)	61,935
Comprehensive income	40,273	143,148	138,835	385,777
Less: Comprehensive income attributable to noncontrolling interest	(17,189)	(60,173)	(64,724)	(164,332)
Comprehensive income attributable to common stockholders	$ 23,084	$ 82,975	$ 74,111	$ 221,445

See accompanying Notes to the Condensed Consolidated Financial Statements (Unaudited).

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Equity (Unaudited)
Three and Six Months Ended June 30, 2023, and 2022

(in thousands, except share and interest data)	Class A Common Stock		Class C Common Stock		Class D Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Accumulated Other Comprehensive Income (loss)	Total Virtu Financial Inc. Stockholders' Equity	Noncontrolling Interest	Total Equity
	Shares	Amounts	Shares	Amounts	Shares	Amounts	Shares	Amounts	Amounts					
Balance at December 31, 2022	133,071,754	$ 1	9,030,066	$ —	60,091,740	$ 1	(34,522,290)	$ (954,637)	$ 1,292,613	$ 972,317	$ 31,604	$ 1,341,899	$ 309,528	$ 1,651,427
Share based compensation	2,393,550	—	—	—	—	—	—	—	31,030	—	—	31,030	—	31,030
Repurchase of Class C common stock		—	(21,498)	—	—	—	—	—	(424)	—	—	(424)	—	(424)
Treasury stock purchases	(902,947)	—	—	—	—	—	(3,932,499)	(75,568)	—	(17,650)	—	(93,218)	—	(93,218)
Net income	—	—	—	—	—	—	—	—	—	57,881	—	57,881	52,202	110,083
Foreign exchange translation adjustment	—	—	—	—	—	—	—	—	—	—	980	980	668	1,648
Net change in unrealized cash flow hedges gains	—	—	—	—	—	—	—	—	—	—	(7,834)	(7,834)	(5,334)	(13,168)
Dividends ($0.24 per share of Class A common stock and participating Restricted Stock Unit and Restricted Stock Awards) and distributions from Virtu Financial to noncontrolling interest	—	—	—	—	—	—	—	—	—	(24,696)	—	(24,696)	(27,308)	(52,004)
Issuance of common stock in connection with employee exchanges	152,037	—	—	—	—	—	—	—	—	—	—	—	—	—
Repurchase of Virtu Financial Units and corresponding number of Class C common stock in connection with employee exchanges	—	—	(152,037)	—	—	—	—	—	—	—	—	—	—	—
Balance at March 31, 2023	134,714,394	$ 1	8,856,531	$ —	60,091,740	$ 1	(38,454,789)	$ (1,030,205)	$ 1,323,219	$ 987,852	$ 24,750	$ 1,305,618	$ 329,756	$ 1,635,374
Share based compensation	20,000	—	—	—	—	—	—	—	12,050	—	—	12,050	—	12,050
Treasury stock purchases	(9,147)	—	—	—	—	—	(2,265,811)	(41,579)	—	(165)	—	(41,744)	—	(41,744)
Net income	—	—	—	—	—	—	—	—	—	16,702	—	16,702	12,842	29,544
Foreign exchange translation adjustment	—	—	—	—	—	—	—	—	—	—	1,503	1,503	1,024	2,527
Net change in unrealized cash flow hedges gains	—	—	—	—	—	—	—	—	—	—	4,879	4,879	3,323	8,202
Dividends ($0.24 per share of Class A and Class B common stock and participating Restricted Stock Unit and Restricted Stock Awards) and distributions from Virtu Financial to noncontrolling interest	—	—	—	—	—	—	—	—	—	(23,908)	—	(23,908)	(69,744)	(93,652)
Balance at June 30, 2023	134,725,247	$ 1	8,856,531	$ —	60,091,740	$ 1	(40,720,600)	$ (1,071,784)	$ 1,335,269	$ 980,481	$ 31,132	$ 1,275,100	$ 277,201	$ 1,552,301

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Equity (Unaudited)
Three and Six Months Ended June 30, 2023, and 2022

(in thousands, except share and interest data)	Class A Common Stock		Class C Common Stock		Class D Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Accumulated Other Comprehensive Income (loss)	Total Virtu Financial Inc. Stockholders' Equity	Noncontrolling Interest	Total Equity
	Shares	Amounts	Shares	Amounts	Shares	Amounts	Shares	Amounts	Amounts					
Balance at December 31, 2021	131,497,645	$ 1	9,359,065	$ —	60,091,740	$ 1	(18,326,863)	$ (494,075)	$ 1,223,119	$ 830,538	$ (10,196)	$ 1,549,388	$ 314,230	$ 1,863,618
Share based compensation	1,669,030	—	—	—	—	—	—	—	27,377	—	—	27,377	—	27,377
Repurchase of Class C common stock	—	—	(234,269)	—	—	—	—	—	(8,204)	—	—	(8,204)	—	(8,204)
Treasury stock purchases	(612,844)	—	—	—	—	—	(8,908,544)	(287,211)	—	(18,354)	—	(305,565)	—	(305,565)
Stock options exercised	246,879	—	—	—	—	—	—	—	4,691	—	—	4,691	—	4,691
Net income	—	—	—	—	—	—	—	—	—	112,257	—	112,257	87,668	199,925
Foreign exchange translation adjustment	—	—	—	—	—	—	—	—	—	—	(3,172)	(3,172)	(1,996)	(5,168)
Net change in unrealized cash flow hedges gains	—	—	—	—	—	—	—	—	—	—	29,387	29,387	18,486	47,873
Dividends ($0.24 per share of Class A common stock and participating Restricted Stock Units and Restricted Stock Awards) and distributions from Virtu Financial to noncontrolling interest	—	—	—	—	—	—	—	—	—	(27,054)	—	(27,054)	(98,751)	(125,805)
Issuance of common stock in connection with employee exchanges	71,641	—	—	—	—	—	—	—	—	—	—	—	—	—
Repurchase of Virtu Financial Units and corresponding number of Class C common stock in connection with employee exchanges	—	—	(71,641)	—	—	—	—	—	—	—	—	—	—	—
Balance at March 31, 2022	132,872,351	$ 1	9,053,155	$ —	60,091,740	$ 1	(27,235,407)	$ (781,286)	$ 1,246,983	$ 897,387	$ 16,019	$ 1,379,105	$ 319,637	$ 1,698,742
Share based compensation	—	—	—	—	—	—	—	—	9,411	—	—	9,411	—	9,411
Repurchase of Class C common stock	—	—	(1,800)	—	—	—	—	—	(52)	—	—	(52)	—	(52)
Treasury stock purchases	—	—	—	—	—	—	(1,762,756)	(47,486)	—	—	—	(47,486)	—	(47,486)
Stock options exercised	22,000	—	—	—	—	—	—	—	418	—	—	418	—	418
Net income	—	—	—	—	—	—	—	—	—	85,167	—	85,167	63,729	148,896
Foreign exchange translation adjustment	—	—	—	—	—	—	—	—	—	—	(10,773)	(10,773)	(9,037)	(19,810)
Net change in unrealized cash flow hedges losses	—	—	—	—	—	—	—	—	—	—	8,580	8,580	5,482	14,062
Dividends ($0.24 per share of Class A and Class B common stock and participating Restricted Stock Units and Restricted Stock Award) and distributions from Virtu Financial to noncontrolling interest	—	—	—	—	—	—	—	—	—	(26,067)	—	(26,067)	(76,906)	(102,973)
Issuance of common stock in connection with employee exchanges	21,289	—	—	—	—	—	—	—	—	—	—	—	—	—
Repurchase of Virtu Financial Units and corresponding number of Class C common stock in connection with employee exchanges	—	—	(21,289)	—	—	—	—	—	—	—	—	—	—	—
Contributions from noncontrolling interests	—	$ —	—	$ —	—	$ —	—	$ —	$ —	$ —	$ —	$ —	$ 39,200	$ 39,200
Balance at June 30, 2022	132,915,640	$ 1	9,030,066	$ —	60,091,740	$ 1	(28,998,163)	$ (828,772)	$ 1,256,760	$ 956,487	$ 13,826	$ 1,398,303	$ 342,105	$ 1,740,408

See accompanying Notes to the Condensed Consolidated Financial Statements (Unaudited).

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows (Unaudited)

	Six Months Ended June 30,	
(in thousands)	2023	2022
Cash flows from operating activities		
Net income	$ 139,626	$ 348,820
Adjustments to reconcile net income to net cash used by operating activities:		
Depreciation and amortization	31,261	33,812
Amortization of purchased intangibles and acquired capitalized software	32,040	32,757
Debt issue cost related to debt refinancing and prepayment	306	24,316
Amortization of debt issuance costs and deferred financing fees	3,452	4,184
Termination of office leases	(50)	1,384
Share-based compensation	31,754	32,709
Deferred taxes	13,165	16,604
Other	2,742	5,335
Changes in operating assets and liabilities:		
Securities borrowed	(477,505)	(20,294)
Securities purchased under agreements to resell	(456,816)	(3,313)
Receivables from broker-dealers and clearing organizations	(350,768)	(392,821)
Trading assets, at fair value	(1,821,748)	(923,766)
Receivables from customers	(49,793)	(80,457)
Operating lease right-of-use assets	13,306	16,852
Other assets	6,104	(71,206)
Securities loaned	246,462	(92,439)
Securities sold under agreements to repurchase	492,602	(13,132)
Payables to broker-dealers and clearing organizations	574,434	195,306
Payables to customers	(6,785)	51,970
Trading liabilities, at fair value	1,615,913	960,450
Operating lease liabilities	(15,116)	(21,072)
Accounts payable, accrued expenses and other liabilities	(50,970)	(48,377)
Net cash (used in) provided by operating activities	(26,384)	57,622
Cash flows from investing activities		
Development of capitalized software	(26,411)	(26,769)
Acquisition of property and equipment	(21,865)	(14,246)
Other investing activities	(6,860)	45,018
Net cash (used in) provided by investing activities	(55,136)	4,003
Cash flows from financing activities		
Dividends to stockholders and distributions from Virtu Financial to noncontrolling interest	(145,656)	(228,778)
Repurchase of Class C common stock	(424)	(8,256)
Purchase of treasury stock	(134,962)	(353,051)
Stock options exercised	—	5,109
Short-term borrowings, net	111,056	94,945
Proceeds from long-term borrowings	—	1,800,000
Repayment of long term borrowings	(18,000)	(1,599,774)
Payment of tax receivable agreement obligations	(23,216)	(21,343)
Debt issuance costs	(3,888)	(35,882)
Contributions from noncontrolling interests	—	39,200
Net cash used in financing activities	(215,090)	(307,830)
Effect of exchange rate changes on cash and cash equivalents	4,175	(24,978)
Net decrease in cash and cash equivalents	(292,435)	(271,183)
Cash, cash equivalents, and restricted or segregated cash, beginning of period	1,038,242	1,120,953
Cash, cash equivalents, and restricted or segregated cash, end of period	$ 745,807	$ 849,770
Supplementary disclosure of cash flow information		

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows (Unaudited)

	Six Months Ended June 30,	
(in thousands)	**2023**	**2022**
Cash paid for interest	$ 225,332	$ 104,765
Cash paid for taxes	15,345	86,495
Non-cash investing activities		
Share-based and accrued incentive compensation to developers relating to capitalized software	9,811	8,234

See accompanying Notes to the Condensed Consolidated Financial Statements (Unaudited).

1. Organization and Basis of Presentation

Organization

The accompanying Condensed Consolidated Financial Statements include the accounts and operations of Virtu Financial, Inc. ("VFI" or, collectively with its wholly owned or controlled subsidiaries, "Virtu" or the "Company"). VFI is a Delaware corporation whose primary asset is its ownership interest in Virtu Financial LLC ("Virtu Financial"). As of June 30, 2023, VFI owned approximately 58.9% of the membership interests of Virtu Financial. VFI is the sole managing member of Virtu Financial and operates and controls all of the businesses and affairs of Virtu Financial and its subsidiaries (the "Group").

The Company is a leading financial firm that leverages cutting edge technology to deliver liquidity to the global markets and innovative, transparent trading solutions to its clients. The Company provides deep liquidity in over 25,000 financial instruments, on over 235 venues, in 36 countries worldwide to help create more efficient markets. Leveraging its global market structure expertise and scaled, multi-asset infrastructure, the Company provides its clients with a robust product suite including offerings in execution, liquidity sourcing, analytics and broker-neutral, multi-dealer platforms in workflow technology. The Company's product offerings allow its clients to trade on hundreds of venues in over 50 countries and across multiple asset classes, including global equities, Exchange-Traded Funds ("ETFs"), options, foreign exchange, futures, fixed income, cryptocurrencies, and other commodities. The Company's integrated, multi-asset analytics platform provides a range of pre- and post-trade services, data products and compliance tools that its clients rely upon to invest, trade and manage risk across global markets.

The Company has completed two significant acquisitions that have expanded and complemented Virtu Financial's original electronic trading and marking making business. On July 20, 2017, the Company completed the all-cash acquisition of KCG Holdings, Inc. ("KCG") (the "Acquisition of KCG"). On March 1, 2019 (the "ITG Closing Date"), the Company completed the acquisition of Investment Technology Group, Inc. and its subsidiaries ("ITG") in an all-cash transaction (the "ITG Acquisition").

Virtu Financial's principal United States ("U.S.") subsidiary is Virtu Americas LLC ("VAL"), which is a U.S. broker-dealer. Other principal U.S. subsidiaries include Virtu Financial Global Markets LLC, a U.S. trading entity focused on futures and currencies; Virtu ITG Analytics LLC, a provider of pre- and post-trade analysis, fair value, and trade optimization services; and Virtu ITG Platforms LLC, a provider of workflow technology solutions and network connectivity services. Principal foreign subsidiaries include Virtu Financial Ireland Limited ("VFIL") and Virtu Europe Trading Limited ("VETL") (f/k/a Virtu ITG Europe Limited), each formed in Ireland; Virtu ITG UK Limited ("VIUK"), formed in the United Kingdom; Virtu Canada Corp (f/k/a Virtu ITG Canada Corp.), formed in Canada; Virtu Financial Asia Pty Ltd. and Virtu ITG Australia Limited, each formed in Australia; Virtu ITG Hong Kong Limited, formed in Hong Kong; and Virtu Financial Singapore Pte. Ltd. and Virtu ITG Singapore Pte. Ltd., each formed in Singapore, all of which are trading entities focused on asset classes in their respective geographic regions.

The Company has two operating segments: (i) Market Making and (ii) Execution Services; and one non-operating segment: Corporate. See Note 20 "Geographic Information and Business Segments" for a further discussion of the Company's segments.

Basis of Consolidation and Form of Presentation

These Condensed Consolidated Financial Statements are presented in U.S. dollars, have been prepared pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC") regarding financial reporting with respect to Form 10-Q and accounting standards generally accepted in the United States of America ("U.S. GAAP") promulgated by the Financial Accounting Standards Board ("FASB") in the Accounting Standards Codification ("ASC" or the "Codification"), and reflect all adjustments that, in the opinion of management, are normal and recurring, and that are necessary for a fair statement of the results for the periods presented. Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted in accordance with SEC rules and regulations. The Condensed Consolidated Financial Statements of the Company include its equity interests in Virtu Financial and its subsidiaries. As sole managing member of Virtu Financial, the Company exerts control over the Group's operations. The Company consolidates Virtu Financial and its subsidiaries' financial statements and records the interests in Virtu Financial that the Company does not own as noncontrolling interests. All intercompany accounts and transactions have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

For a detailed discussion of the Company's significant accounting policies, see Note 2 "Summary of Significant Accounting Policies" in our consolidated financial statements included in Part II, Item 8 of our Annual Report on Form 10-K for the year ended December 31, 2022.

Accounting Pronouncements Recently Adopted

Derivatives and Hedging - In March 2022, the FASB issued ASU 2022-01, *Derivatives and Hedging - Fair Value Hedging - Portfolio Layer Method (Topic 815)*. The ASU expands the scope of permissible hedging, and permits the use of different derivative structures as hedging instruments. The Company adopted this ASU on January 1, 2023 and it did not have a material impact on its condensed consolidated financial statements.

Liabilities - Supplier Finance Programs - In September 2022, the FASB issued ASU 2022-04, *Liabilities—Supplier Finance Programs (Subtopic 405-50)*. This ASU requires new quantitative and qualitative disclosure requirements for a buyer who enters into supplier financing programs. The Company adopted this ASU on January 1, 2023 and it did not have a material impact on its condensed consolidated financial statements.

Accounting Pronouncements Not Yet Adopted as of June 30, 2023

Fair Value Measurement - In June 2022, the FASB issued ASU 2022-03, *Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions (Topic 326)*. The ASU clarifies the impact of contractual sale restrictions on the fair value of an equity security. Additionally, this ASU requires disclosure of the nature and remaining duration of the sale restriction. This ASU is effective for periods beginning after December 15, 2023. The Company is currently evaluating the impact of this ASU but does not expect it to have a material impact on its condensed consolidated financial statements.

Leases - Common Control Arrangements - In March 2023, the FASB issued ASU 2023-01, *Leases—Common Control Arrangements (Topic 842)*. This ASU provides updated guidance for accounting for common control leases and leasehold improvements. This ASU is effective for periods beginning after December 15, 2023. The Company is currently evaluating the impact of this ASU but does not expect it to have a material impact on its condensed consolidated financial statements.

Investments - Equity Method and Joint Ventures - In March 2023, the FASB issued ASU 2023-02, *Investments—Equity Method and Joint Ventures (Topic 323)*. This ASU provides updated guidance for accounting for investments in tax credit structures. This ASU is effective for periods beginning after December 15, 2023. The Company is currently evaluating the impact of this ASU but does not expect it to have a material impact on its condensed consolidated financial statements.

3. Earnings per Share

The below table contains a reconciliation of Net income before income taxes and noncontrolling interest to Net income available for common stockholders:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	**2023**	**2022**	**2023**	**2022**
Income before income taxes and noncontrolling interest	$ 35,467	$ 173,784	$ 170,231	$ 415,494
Provision for income taxes	5,923	24,888	30,605	66,674
Net income	29,544	148,896	139,626	348,820
Noncontrolling interest	(12,842)	(63,729)	(65,044)	(151,397)
Net income available for common stockholders	$ 16,702	$ 85,167	$ 74,582	$ 197,423

The calculation of basic and diluted earnings per share is presented below:

(in thousands, except for share or per share data)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Basic earnings per share:				
Net income available for common stockholders	$ 16,702	$ 85,167	$ 74,582	$ 197,423
Less: Dividends and undistributed earnings allocated to participating securities	(1,176)	(3,305)	(3,853)	(7,164)
Net income available for common stockholders, net of dividends and undistributed earnings allocated to participating securities	15,526	81,862	70,729	190,259
Weighted average shares of common stock outstanding:				
Class A	94,973,489	104,960,826	96,376,926	107,133,079
Basic earnings per share	$ 0.16	$ 0.78	$ 0.73	$ 1.78

(in thousands, except for share or per share data)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Diluted earnings per share:				
Net income available for common stockholders, net of dividends and undistributed earnings allocated to participating securities	$ 15,526	$ 81,862	$ 70,729	$ 190,259
Weighted average shares of common stock outstanding:				
Class A				
Issued and outstanding	94,973,489	104,960,826	96,376,926	107,133,079
Issuable pursuant to Amended and Restated 2015 Management Incentive Plan	—	517,452	—	626,705
	94,973,489	105,478,278	96,376,926	107,759,784
Diluted earnings per share (1)	$ 0.16	$ 0.78	$ 0.73	$ 1.77

(1) The dilutive impact of unexercised stock options excludes from the computation of EPS 54,618 options for the three months ended June 30, 2023, and 17,647 options for the six months ended June 30, 2023 because inclusion of the options would have been anti-dilutive.

4. Tax Receivable Agreements

For a detailed discussion of the Company's tax receivable agreements, see Note 5 "Tax Receivable Agreements" in our consolidated financial statements included in Part II, Item 8 of our Annual Report on Form 10-K for the year ended December 31, 2022.

For the purposes of the tax receivable agreements discussed above, the cash savings realized by the Company are computed by comparing the actual income tax liability of the Company to the amount of such taxes the Company would have been required to pay had there been (i) no increase to the tax basis of the assets of Virtu Financial as a result of the purchase or exchange of Virtu Financial Units, (ii) no tax benefit from the tax basis in the intangible assets of Virtu Financial on the date of the IPO and (iii) no tax benefit as a result of the Net Operating Losses ("NOLs") and other tax attributes of Virtu Financial. Subsequent adjustments of the tax receivable agreements obligations due to certain events (e.g., changes to the expected realization of NOLs or changes in tax rates) will be recognized within income before taxes and noncontrolling interests in the Condensed Consolidated Statements of Comprehensive Income.

The Company made its first payment of $7.0 million in February 2017, and subsequent payments of $12.4 million in September 2018, $13.3 million in March 2020, $16.5 million in April 2021, $21.3 million in March 2022, and $23.3 million in April 2023. Tax receivable payments are expected to range from approximately $36.4 thousand to $22.0 million per year over the next 15 years.

At June 30, 2023 and December 31, 2022, the Company's remaining deferred tax assets that relate to the matters described above were approximately $151.8 million and $162.1 million, respectively, and the Company's liabilities over the next 15 years pursuant to the tax receivable agreements were approximately $215.5 million and $238.8 million for June 30, 2023 and December 31, 2022, respectively. The amounts recorded as of June 30, 2023 and December 31, 2022 are based on best estimates available at the respective dates and may be subject to change after the filing of the Company's U.S. federal and state income tax returns for the years in which tax savings were realized.

5. Goodwill and Intangible Assets

The Company has two operating segments: (i) Market Making; and (ii) Execution Services; and one non-operating segment: Corporate. As of June 30, 2023 and December 31, 2022, the Company's total amount of goodwill recorded was $1,148.9 million. No goodwill impairment was recognized during the three and six months ended June 30, 2023 and 2022.

The following table presents the details of goodwill by segment as of June 30, 2023 and December 31, 2022:

(in thousands)	Market Making	Execution Services	Corporate	Total
Balance as of period-end	$ 755,292	$ 393,634	$ —	$ 1,148,926

As of June 30, 2023 and December 31, 2022, the Company's total amount of intangible assets recorded was $289.4 million and $321.5 million, respectively. Acquired intangible assets consisted of the following as of June 30, 2023 and December 31, 2022:

	As of June 30, 2023			
(in thousands)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Useful Lives (Years)
Customer relationships	$ 486,600	$ (213,907)	$ 272,693	10 to 12
Technology	136,000	(125,853)	10,147	1 to 6
Favorable occupancy leases	5,895	(4,793)	1,102	3 to 15
Exchange memberships	3,998	—	3,998	Indefinite
Trade name	3,600	(3,600)	—	3
ETF issuer relationships	950	(950)	—	9
ETF buyer relationships	950	(950)	—	9
Other	$ 1,500	$ —	$ 1,500	Indefinite
	$ 639,493	$ (350,053)	$ 289,440	

(in thousands)	As of December 31, 2022 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Useful Lives (Years)
Customer relationships	$ 486,600	$ (189,986)	$ 296,614	10 to 12
Technology	136,000	(118,119)	17,881	1 to 6
Favorable occupancy leases	5,895	(4,408)	1,487	3 to 15
Exchange memberships	3,998	—	3,998	Indefinite
Trade name	3,600	(3,600)	—	3
ETF issuer relationships	950	(950)	—	9
ETF buyer relationships	950	(950)	—	9
Other	$ 1,500	$ —	$ 1,500	Indefinite
	$ 639,493	$ (318,013)	$ 321,480	

Amortization expense relating to finite-lived intangible assets was approximately $16.0 million and $16.3 million for the three months ended June 30, 2023, and 2022, respectively, and $32.0 million, and $32.8 million for the six months ended June 30, 2023, and 2022, respectively. This is included in Amortization of purchased intangibles and acquired capitalized software in the accompanying Condensed Consolidated Statements of Comprehensive Income.

The Company expects to record amortization expense as follows over the next five subsequent years:

(in thousands)	
Remainder of 2023	$ 31,921
2024	50,845
2025	47,879
2026	47,879
2027	47,879
2028	47,879

6. Receivables from/Payables to Broker-Dealers and Clearing Organizations

The following is a summary of receivables from and payables to brokers-dealers and clearing organizations at June 30, 2023 and December 31, 2022:

(in thousands)	June 30, 2023	December 31, 2022
Assets		
Due from prime brokers	$ 966,509	$ 560,111
Deposits with clearing organizations	175,060	146,927
Net equity with futures commission merchants	106,101	137,312
Unsettled trades with clearing organizations	852	87,145
Securities failed to deliver	179,709	149,747
Commissions and fees	31,595	33,943
Total receivables from broker-dealers and clearing organizations	$ 1,459,826	$ 1,115,185
Liabilities		
Due to prime brokers	$ 501,100	$ 229,424
Net equity with futures commission merchants (1)	(45,685)	(32,381)
Unsettled trades with clearing organizations	274,522	38
Securities failed to receive	113,734	70,576
Commissions and fees	4,606	6,186
Total payables to broker-dealers and clearing organizations	$ 848,277	$ 273,843

(1) The Company presents its balances, including outstanding principal balances on all broker credit facilities, on a net-by-counterparty basis within receivables from and payables to broker-dealers and clearing organizations when the criteria for offsetting are met.

Included as a deduction from "Due from prime brokers" and "Net equity with futures commission merchants" is the outstanding principal balance on all of the Company's prime brokerage credit facilities (described in Note 8 "Borrowings") of approximately $140.6 million and $212.9 million as of June 30, 2023 and December 31, 2022, respectively. The loan proceeds from the credit facilities are available only to meet the initial margin requirements associated with the Company's ordinary course futures and other trading positions, which are held in the Company's trading accounts with an affiliate of the respective financial institutions. The credit facilities are fully collateralized by the Company's trading accounts and deposit accounts with these financial institutions. "Securities failed to deliver" and "Securities failed to receive" include amounts with a clearing organization and other broker-dealers.

7. Collateralized Transactions

The Company is permitted to sell or repledge securities received as collateral and use these securities to secure repurchase agreements, enter into securities lending transactions or deliver these securities to counterparties or clearing organizations to cover short positions. At June 30, 2023 and December 31, 2022, substantially all of the securities received as collateral have been repledged.

The fair value of the collateralized transactions at June 30, 2023 and December 31, 2022 are summarized as follows:

(in thousands)	June 30, 2023	December 31, 2022
Securities received as collateral:		
Securities borrowed	$ 1,631,134	$ 1,148,238
Securities purchased under agreements to resell	793,815	336,849
	$ 2,424,949	$ 1,485,087

In the normal course of business, the Company pledges qualified securities with clearing organizations to satisfy daily margin and clearing fund requirements.

Financial instruments owned and pledged, where the counterparty has the right to repledge, at June 30, 2023 and December 31, 2022 consisted of the following:

(in thousands)	June 30, 2023	December 31, 2022
Equities	$ 1,285,503	$ 957,443
Exchange traded notes	11,713	5,628
	$ 1,297,216	$ 963,071

8. Borrowings

Short-term Borrowings, net

The following summarizes the Company's short-term borrowing balances outstanding, net of related debt issuance costs, with each described in further detail below.

	June 30, 2023		
(in thousands)	**Borrowing Outstanding**	**Deferred Debt Issuance Cost**	**Short-term Borrowings, net**
Broker-dealer credit facilities	$ 115,000	$ (3,279)	$ 111,721
	$ 115,000	$ (3,279)	$ 111,721

	December 31, 2022		
(in thousands)	**Borrowing Outstanding**	**Deferred Debt Issuance Cost**	**Short-term Borrowings, net**
Short-term bank loans	3,944	—	3,944
	$ 3,944	$ —	$ 3,944

Broker-Dealer Credit Facilities

The Company is a party to two secured credit facilities with a financial institution to finance overnight securities positions purchased as part of its ordinary course broker-dealer market making activities. One of the facilities (the “Uncommitted Facility”) is provided on an uncommitted basis with an aggregate borrowing limit of $400 million, and is collateralized by VAL's trading and deposit account maintained at the financial institution. The second credit facility (the “Committed Facility”) with the same financial institution has a borrowing limit of $650 million. The Committed Facility consists of two borrowing bases: Borrowing Base A Loan is to be used to finance the purchase and settlement of securities; Borrowing Base B Loan is to be used to fund margin deposit with the National Securities Clearing Corporation. Borrowing Base A Loans are available up to $650 million and bear interest at the adjusted Secured Overnight Financing Rate ("SOFR") or base rate plus 1.25% per annum. Borrowing Base B Loans are subject to a sublimit of $300 million and bear interest at the adjusted SOFR or base rate plus 2.50% per annum. A commitment fee of 0.50% per annum on the average daily unused portion of this facility is payable quarterly in arrears.

On May 25, 2022, Virtu Financial Singapore Pte. Ltd. entered into a revolving credit facility with a financial institution (the "Overdraft Facility") to provide a source of short-term financing. The facility has an aggregate borrowing limit of $10 million, and bears interest at the adjusted SOFR or base rate plus 3.5% per annum.

On March 20, 2020, VAL entered into a Loan Agreement (the “Founder Member Loan Facility”) with TJMT Holdings LLC (the “Founder Member”), as lender and administrative agent, providing for unsecured term loans from time to time (the “Founder Member Loans”) in an aggregate original principal amount not to exceed $300 million. The Founder Member Loans were available to be borrowed in one or more borrowings on or after March 20, 2020 and prior to September 20, 2020 (the "Founder Member Loan Term"). The Founder Member Loan Facility Term expired as of September 20, 2020 without VAL having borrowed any Founder Member Loans at any time. The Founder Member is an affiliate of Mr. Vincent Viola, the Company’s founder and Chairman Emeritus. Upon the execution of and in consideration for the Lender’s (as defined in the Founder Member Loan Facility) commitments under the Founder Member Loan Facility, the Company delivered to the Founder Member a warrant to purchase shares of the Company’s Class A Common Stock. Terms of the warrant are set forth in further detail in Note 17 "Capital Structure".

The following summarizes the Company’s broker-dealer credit facilities' carrying values, net of unamortized debt issuance costs, where applicable. These balances are included within Short-term borrowings on the Condensed Consolidated Statements of Financial Condition.

	At June 30, 2023				
(in thousands)	Interest Rate	Financing Available	Borrowing Outstanding	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Broker-dealer credit facilities:					
Uncommitted facility	6.26%	$ 400,000	$ 110,000	$ (3,279)	$ 106,721
Committed facility	8.47%	650,000	—	—	—
Overdraft facility	8.59%	10,000	5,000	—	5,000
		$ 1,060,000	$ 115,000	$ (3,279)	$ 111,721

	At December 31, 2022				
(in thousands)	Interest Rate	Financing Available	Borrowing Outstanding	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Broker-dealer credit facilities:					
Uncommitted facility	5.50%	$ 400,000	$ —	$ —	$ —
Committed facility	7.67%	650,000	—	—	—
Overdraft facility	7.80%	10,000	—	—	—
		$ 1,060,000	$ —	$ —	$ —

The following summarizes interest expense for the broker-dealer facilities. Interest expense is included within Interest and dividends expense in the accompanying Condensed Consolidated Statements of Comprehensive Income.

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2023	2022	2023	2022
Broker-dealer credit facilities:				
Uncommitted facility	$ 1,987	$ 789	$ 3,547	$ 1,293
Committed facility	—	23	—	38
	$ 1,987	$ 812	$ 3,547	$ 1,331

Short-Term Bank Loans

The Company’s international securities clearance and settlement activities are funded with operating cash or with short-term bank loans in the form of overdraft facilities. At June 30, 2023, there was no balance associated with international settlement activities outstanding under these facilities. At December 31, 2022, there was $3.9 million associated with international settlement activities outstanding under these facilities at a weighted average interest rate of approximately 3.8%. These short-term bank loan balances are included within Short-term borrowings on the Condensed Consolidated Statements of Financial Condition.

Prime Brokerage Credit Facilities

The Company maintains short-term credit facilities with various prime brokers and other financial institutions from which it receives execution or clearing services. The proceeds of these facilities are used to meet margin requirements associated with the products traded by the Company in the ordinary course, and amounts borrowed are collateralized by the Company's trading accounts with the applicable financial institution.

	At June 30, 2023		
(in thousands)	Weighted Average Interest Rate	Financing Available	Borrowing Outstanding
Prime Brokerage Credit Facilities:			
Prime brokerage credit facilities (1)	7.87%	$ 591,000	$ 140,644
		$ 591,000	$ 140,644

	At December 31, 2022		
(in thousands)	Weighted Average Interest Rate	Financing Available	Borrowing Outstanding
Prime Brokerage Credit Facilities:			
Prime brokerage credit facilities (1)	7.42%	$ 591,000	$ 212,912
		$ 591,000	$ 212,912

(1) Outstanding borrowings are included with Receivables from/Payables to broker-dealers and clearing organizations within the Condensed Consolidated Statements of Financial Condition.

Interest expense in relation to the facilities was $3.6 million and $1.7 million for the three months ended June 30, 2023 and 2022, respectively, and $7.1 million and $3.3 million for the six months ended June 30, 2023 and 2022, respectively.

Long-Term Borrowings

The following summarizes the Company's long-term borrowings, net of unamortized discount and debt issuance costs, where applicable:

		At June 30, 2023				
(in thousands)	Maturity Date	Interest Rate	Outstanding Principal	Discount	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Long-term borrowings:						
First Lien Term Loan Facility	January 2029	8.19%	$ 1,782,000	$ (3,526)	$ (24,457)	$ 1,754,017
SBI bonds	January 2026	5.00%	24,253	—	—	24,253
			$ 1,806,253	$ (3,526)	$ (24,457)	$ 1,778,270

		At December 31, 2022				
(in thousands)	Maturity Date	Interest Rate	Outstanding Principal	Discount	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Long-term borrowings:						
First Lien Term Loan Facility	January 2029	7.42%	$ 1,800,000	$ (3,881)	$ (26,858)	$ 1,769,261
SBI bonds	January 2026	5.00%	26,693	—	(2)	26,691
			$ 1,826,693	$ (3,881)	$ (26,860)	$ 1,795,952

Credit Agreements

In connection with the ITG Acquisition, Virtu Financial, VFH, and Impala Borrower LLC (the "Acquisition Borrower") entered into a credit agreement, with the lenders party thereto, Jefferies Finance LLC, as administrative agent and Jefferies Finance LLC and RBC Capital Markets, as joint lead arrangers and joint bookrunners (the "Acquisition Credit Agreement").

On January 13, 2022 (the "Credit Agreement Closing Date"), Virtu Financial, VFH Parent LLC, a Delaware limited liability company and a subsidiary of Virtu Financial ("VFH"), entered into a credit agreement with the lenders party thereto, JPMorgan Chase Bank, N.A. as administrative agent and JPMorgan Chase Bank, N.A., Goldman Sachs Bank USA, RBC Capital Markets, Barclays Bank plc, Jefferies Finance LLC, BMO Capital Markets Corp., and CIBC World Markets Corp., as joint lead arrangers and bookrunners (the "Credit Agreement"). The Credit Agreement provides (i) a senior secured first lien term loan in an aggregate principal amount of $1,800.0 million, drawn in its entirety on the Credit Agreement Closing Date, the proceeds of which were used by VFH to repay all amounts outstanding under the Acquisition Credit Agreement, to pay fees and expenses in connection therewith, to fund share repurchases under the Company's repurchase program, and for general corporate purposes, and (ii) a $250.0 million senior secured first lien revolving facility to VFH, with a $20.0 million letter of credit subfacility and a $20.0 million swingline subfacility.

The term loan borrowings and revolver borrowings under the Credit Agreement bear interest at a per annum rate equal to, at the Company's election, either (i) the greatest of (a) the prime rate in effect, (b) the greater of (1) the federal funds effective rate and (2) the overnight bank funding rate, in each case plus 0.50%, (c) an adjusted term SOFR rate with an interest period of one month plus 1.00% and (d)(1) in the case of term loan borrowings, 1.50% and (2) in the case of revolver borrowings, 1.00%, plus, (x) in the case of term loan borrowings, 2.00% and (y) in the case of revolver borrowings, 1.50%, or (ii) the greater of (a) an adjusted term SOFR rate for the interest period in effect and (b) (1) in the case of term loan borrowings, 0.50% and (2) in the case of revolver borrowings, 0.00%, plus, (x) in the case of term loan borrowings, 3.00% and (y) in the case of revolver borrowings, 2.50%. In addition, a commitment fee accrues at a rate of 0.50% per annum on the average daily unused amount of the revolving facility, with step-downs to 0.375% and 0.25% per annum based on VFH's first lien leverage ratio, and is payable quarterly in arrears.

The revolving facility under the Credit Agreement is subject to a springing net first lien leverage ratio test which may spring into effect as of the last day of a fiscal quarter if usage of the aggregate revolving commitments exceeds a specified level as of such date. VFH is also subject to contingent principal prepayments based on excess cash flow and certain other triggering events. Borrowings under the Credit Agreement are guaranteed by Virtu Financial and VFH's material non-regulated domestic restricted subsidiaries and secured by substantially all of the assets of VFH and the guarantors, in each case, subject to certain exceptions.

The Credit Agreement contains certain customary covenants and events of default, including relating to a change of control. If an event of default occurs and is continuing, the lenders under the Credit Agreement will be entitled to take various actions, including the acceleration of amounts outstanding under the Credit Agreement and all actions permitted to be taken by a secured creditor in respect of the collateral securing the obligations under the Credit Agreement.

Under the Credit Agreement, the term loans will mature on January 13, 2029. The term loans amortize in annual installments equal to 1.0% of the original aggregate principal amount of the term loans and the Company repaid $18.0 million on January 13, 2023. The revolving commitments will terminate on January 13, 2025. As of June 30, 2023, $1,782 million was outstanding under the term loans, and there were no amounts outstanding under the first lien revolving facility.

In October 2019, the Company entered into a five-year $525 million floating-to-fixed interest rate swap agreement. In January 2020, the Company also entered into a five-year $1,000 million floating-to-fixed interest rate swap agreement. These two interest rate swaps met the criteria to be considered and were designated qualifying cash flow hedges under ASC 815 in the first quarter of 2020, and they effectively fixed interest payment obligations on $525.0 million and $1,000 million of principal under the Acquisition First Lien Term Loan Facility at rates of 4.3% and 4.4% through September 2024 and January 2025, respectively, based on the interest rates set forth in the Acquisition Credit Agreement. In April 2021, each of the swap agreements described above was novated to another counterparty and amended in connection with such novation. The amendments included certain changes to collateral posting obligations, and also had the effect of increasing the effective fixed interest payment obligations to rates of 4.5%, with respect to the earlier maturing swap arrangement, and 4.6% with respect to the later maturing swap arrangement. In January 2022, in order to align the swap agreements with the Credit Agreement, the Company amended each of the swap agreements to align the floating rate term of such swap agreements to SOFR. The effective fixed interest payment obligations remained at 4.5%, with respect to the earlier maturing swap arrangement, and 4.6% with respect to the later maturing swap arrangement.

SBI Bonds

On July 25, 2016, VFH issued Japanese Yen Bonds (collectively the “SBI Bonds”) in the aggregate principal amount of ¥3.5 billion ($33.1 million at issuance date) to SBI Life Insurance Co., Ltd. and SBI Insurance Co., Ltd. The proceeds from the SBI Bonds were used to partially fund the investment in Japannext Co., Ltd. (as described in Note 9 "Financial Assets and Liabilities"). The SBI Bonds are guaranteed by Virtu Financial. The SBI Bonds are subject to fluctuations on the Japanese Yen currency rates relative to the Company’s reporting currency (U.S. Dollar) with the changes reflected in Other, net in the Condensed Consolidated Statements of Comprehensive Income. In December 2022, the maturity of the SBI Bonds was extended to 2026. The principal balance was ¥3.5 billion ($24.3 million) as of June 30, 2023 and ¥3.5 billion ($26.7 million) as of December 31, 2022. The Company had a gain of $2.1 million and a gain of $3.0 million for the three months ended June 30, 2023 and 2022, respectively, and a gain of $2.4 million, and a gain of $4.9 million, during the six months ended June 30, 2023 and 2022, respectively, due to changes in foreign currency rates.

As of June 30, 2023, aggregate future required minimum principal payments based on the terms of the long-term borrowings were as follows:

(in thousands)	June 30, 2023
Remainder of 2023	$ —
2024	18,000
2025	18,000
2026	42,253
2027	18,000
2028	18,000
Thereafter	1,692,000
Total principal of long-term borrowings	$ 1,806,253

9. Financial Assets and Liabilities

Financial Instruments Measured at Fair Value

The fair value of equities, options, on-the-run U.S. government obligations and exchange traded notes is estimated using recently executed transactions and market price quotations in active markets and are categorized as Level 1 with the exception of inactively traded equities and certain other financial instruments, which are categorized as Level 2. The Company’s corporate bonds, derivative contracts and other U.S. and non-U.S. government obligations have been categorized as Level 2. Fair value of the Company’s derivative contracts is based on the indicative prices obtained from a number of banks and broker-dealers, as well as management’s own analyses. The indicative prices have been independently validated through the Company’s risk management systems, which are designed to check prices with information independently obtained from exchanges and venues where such financial instruments are listed or to compare prices of similar instruments with similar maturities for listed financial futures in foreign exchange.

The Company prices certain financial instruments held for trading at fair value based on theoretical prices, which can differ from quoted market prices. The theoretical prices reflect price adjustments primarily caused by the fact that the Company continuously prices its financial instruments based on all available information. This information includes prices for identical and near-identical positions, as well as the prices for securities underlying the Company’s positions, on other exchanges that are open after the exchange on which the financial instruments is traded closes. The Company validates that all price adjustments can be substantiated with market inputs and checks the theoretical prices independently. Consequently, such financial instruments are classified as Level 2.

Fair value measurements for those items measured on a recurring basis are summarized below as of June 30, 2023:

	June 30, 2023				
(in thousands)	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**Counterparty and Cash Collateral Netting**	**Total Fair Value**
Assets					
Financial instruments owned, at fair value:					
Equity securities	$ 781,837	$ 1,724,573	$ —	$ —	$ 2,506,410
U.S. and Non-U.S. government obligations	775,363	524,523	—	—	1,299,886
Corporate Bonds	—	1,323,402	—	—	1,323,402
Exchange traded notes	57	12,989	—	—	13,046
Currency forwards	—	611,584	—	(603,560)	8,024
Options	4,316	—	—	—	4,316
	$ 1,561,573	$ 4,197,071	$ —	$ (603,560)	$ 5,155,084
Financial instruments owned, pledged as collateral:					
Equity securities	$ 770,965	$ 514,538	$ —	$ —	$ 1,285,503
Exchange traded notes	6	11,707	—	—	11,713
	$ 770,971	$ 526,245	$ —	$ —	$ 1,297,216
Other Assets					
Equity investment	$ —	$ —	$ 71,059	$ —	$ 71,059
Exchange stock	2,376	—	—	—	2,376
	$ 2,376	$ —	$ 71,059	$ —	$ 73,435
Receivables from broker dealers and clearing organizations:					
Interest rate swap	$ —	$ 81,141	$ —	$ —	$ 81,141
Liabilities					
Financial instruments sold, not yet purchased, at fair value:					
Equity securities	$ 1,495,283	$ 1,428,486	$ —	$ —	$ 2,923,769
U.S. and Non-U.S. government obligations	55,665	1,581,936	—	—	1,637,601
Corporate Bonds	—	1,202,295	—	—	1,202,295
Exchange traded notes	7	44,682	—	—	44,689
Currency forwards	—	657,348		(657,348)	—
Options	4,533	—			4,533
	$ 1,555,488	$ 4,914,747	$ —	$ (657,348)	$ 5,812,887

Fair value measurements for those items measured on a recurring basis are summarized below as of December 31, 2022:

	December 31, 2022				
(in thousands)	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Counterparty and Cash Collateral Netting	Total Fair Value
Assets					
Financial instruments owned, at fair value:					
Equity securities	$ 461,487	$ 1,545,116	$ —	$ —	$ 2,006,603
U.S. and Non-U.S. government obligations	251,708	575,946	—	—	827,654
Corporate Bonds	—	803,880	—	—	803,880
Exchange traded notes	51	16,777	—	—	16,828
Currency forwards	—	500,553	—	(493,237)	7,316
Options	5,200	—	—	—	5,200
	$ 718,446	$ 3,442,272	$ —	$ (493,237)	$ 3,667,481
Financial instruments owned, pledged as collateral:					
Equity securities	$ 552,641	$ 404,802	$ —	$ —	$ 957,443
Exchange traded notes	6	5,622	—	—	5,628
	$ 552,647	$ 410,424	$ —	$ —	$ 963,071
Other Assets					
Equity investment	$ —	$ —	$ 76,613	$ —	$ 76,613
Exchange stock	2,352	—	—	—	2,352
	$ 2,352	$ —	$ 76,613	$ —	$ 78,965
Receivables from broker dealers and clearing organizations:					
Interest rate swap	—	87,268	—	—	87,268
Liabilities					
Financial instruments sold, not yet purchased, at fair value:					
Equity securities	$ 1,146,701	$ 1,016,893	$ —	$ —	$ 2,163,594
U.S. and Non-U.S. government obligations	147,418	690,480	—	—	837,898
Corporate Bonds	—	1,183,394	—	—	1,183,394
Exchange traded notes	—	8,199	—	—	8,199
Currency forwards	—	497,799	—	(497,799)	—
Options	3,889	—	—	—	3,889
	$ 1,298,008	$ 3,396,765	$ —	$ (497,799)	$ 4,196,974

JNX Investment

The Company has a minority investment (the “JNX Investment”) in Japannext Co., Ltd. (“JNX”), formerly known as SBI Japannext Co., Ltd., a proprietary trading system based in Tokyo. In connection with the JNX Investment, the Company issued the SBI Bonds (as described in Note 8 "Borrowings") and used the proceeds to partially finance the transaction. The JNX Investment is included within Level 3 of the fair value hierarchy. As of June 30, 2023 and December 31, 2022, the fair value of the JNX Investment was determined using a weighted average of valuations using 1) the discounted cash flow method, an income approach; 2) a market approach based on average enterprise value/EBITDA ratios of comparable companies; and to a lesser extent 3) a transaction approach based on transaction values of comparable companies. The fair value measurement is highly sensitive to significant changes in the unobservable inputs, and significant increases (decreases) in discount rate or decreases (increases) in enterprise value/EBITDA multiples would result in a significantly lower (higher) fair value measurement.

The table below presents information on the valuation techniques, significant unobservable inputs and their ranges for the JNX Investment:

	June 30, 2023				
(in thousands)	Fair Value	Valuation Technique	Significant Unobservable Input	Range	Weighted Average
Equity investment	$ 71,059	Discounted cash flow	Estimated revenue growth	0.8% - 6.4%	4.1 %
			Discount rate	15.5% - 15.5%	15.5 %
		Market	Future enterprise value/ EBIDTA ratio	7.4x - 18.3x	11.4x

	December 31, 2022				
(in thousands)	Fair Value	Valuation Technique	Significant Unobservable Input	Range	Weighted Average
Equity investment	$ 76,613	Discounted cash flow	Estimated revenue growth	(5.7)% - 5.0%	3.1 %
			Discount rate	15.5% - 15.5%	15.5 %
		Market	Future enterprise value/ EBIDTA ratio	(1.2)x - 18.1x	12.2x

Changes in the fair value of the JNX Investment are included within Other, net in the Consolidated Statements of Comprehensive Income.

The following presents the changes in the Company's Level 3 financial instruments measured at fair value on a recurring basis:

	Three Months Ended June 30, 2023						
(in thousands)	Balance at March 31, 2023	Purchases	Total Realized and Unrealized Gains / (Losses) (1)	Net Transfers into (out of) Level 3	Settlement	Balance at June 30, 2023	Change in Net Unrealized Gains / (Losses) on Investments still held at June 30, 2023
Assets							
Other assets:							
Equity investment	$ 79,726	$ —	$ (8,667)	$ —	$ —	$ 71,059	$ (8,667)
Total	$ 79,726	$ —	$ (8,667)	$ —	$ —	$ 71,059	$ (8,667)

(1) Total realized and unrealized gains/(losses) includes gains and losses due to fluctuations in currency rates as well as gains and losses recognized on changes in the fair value of the JNX Investment.

	Three Months Ended June 30, 2022						
(in thousands)	Balance at March 31, 2022	Purchases	Total Realized and Unrealized Gains / (Losses) (1)	Net Transfers into (out of) Level 3	Settlement	Balance at June 30, 2022	Change in Net Unrealized Gains / (Losses) on Investments still held at June 30, 2022
Assets							
Other assets:							
Equity investment	$ 84,482	$ —	$ (6,920)	$ —	$ —	$ 77,562	$ (6,920)
Total	$ 84,482	$ —	$ (6,920)	$ —	$ —	$ 77,562	$ (6,920)

(1) Total realized and unrealized gains/(losses) includes gains and losses due to fluctuations in currency rates as well as gains and losses recognized on changes in the fair value of the JNX Investment.

	Six Months Ended June 30, 2023						
(in thousands)	Balance at December 31, 2022	Purchases	Total Realized and Unrealized Gains / (Losses) (1)	Net Transfers into (out of) Level 3	Settlement	Balance at June 30, 2023	Change in Net Unrealized Gains / (Losses) on Investments still held at June 30, 2023
Assets							
Other assets:							
Equity investment	$ 76,613	$ —	$ (5,554)	$ —	$ —	$ 71,059	$ (5,554)
Total	$ 76,613	$ —	$ (5,554)	$ —	$ —	$ 71,059	$ (5,554)

(1) Total realized and unrealized gains/(losses) includes gains and losses due to fluctuations in currency rates as well as gains and losses recognized on changes in the fair value of the JNX Investment.

	Six Months Ended June 30, 2022						
(in thousands)	Balance at December 31, 2021	Purchases	Total Realized and Unrealized Gains / (Losses) (1)	Net Transfers into (out of) Level 3	Settlement	Balance at June 30, 2022	Change in Net Unrealized Gains / (Losses) on Investments still held at June 30, 2022
Assets							
Other assets:							
Equity investment	$ 81,358	$ —	$ (3,796)	$ —	$ —	$ 77,562	$ (3,796)
Total	$ 81,358	$ —	$ (3,796)	$ —	$ —	$ 77,562	$ (3,796)

(1) Total realized and unrealized gains/(losses) includes gains and losses due to fluctuations in currency rates as well as gains and losses recognized on changes in the fair value of the JNX Investment.

Financial Instruments Not Measured at Fair Value

The table below presents the carrying value, fair value and fair value hierarchy category of certain financial instruments that are not measured at fair value on the Condensed Consolidated Statements of Financial Condition. The table below excludes non-financial assets and liabilities. The carrying value of financial instruments not measured at fair value categorized in the fair value hierarchy as Level 1 and Level 2 approximates fair value due to the relatively short-term nature of the underlying assets. The fair value of the Company’s long-term borrowings is based on quoted prices from the market for similar instruments, and is categorized as Level 2 in the fair value hierarchy.

The table below summarizes financial assets and liabilities not carried at fair value on a recurring basis as of June 30, 2023:

	June 30, 2023				
(in thousands)	**Carrying Value**	**Fair Value**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
Assets					
Cash and cash equivalents	$ 698,674	$ 698,674	$ 698,674	$ —	$ —
Cash restricted or segregated under regulations and other	47,133	47,133	47,133	—	—
Securities borrowed	1,665,179	1,665,179	—	1,665,179	—
Securities purchased under agreements to resell	793,815	793,815	—	793,815	—
Receivables from broker-dealers and clearing organizations	1,378,685	1,378,685	—	1,378,685	—
Receivables from customers	130,623	130,623	—	130,623	—
Other assets (1)	32,967	32,967	11,758	21,209	—
Total Assets	$ 4,747,076	$ 4,747,076	$ 757,565	$ 3,989,511	$ —
Liabilities					
Short-term borrowings	$ 111,721	$ 115,000	$ —	$ 115,000	$ —
Long-term borrowings	1,778,270	1,801,798	—	1,801,798	—
Securities loaned	1,306,894	1,306,894	—	1,306,894	—
Securities sold under agreements to repurchase	1,120,151	1,120,151	—	1,120,151	—
Payables to broker-dealers and clearing organizations	848,277	848,277	—	848,277	—
Payables to customers	39,740	39,740	—	39,740	—
Other liabilities (2)	24,255	24,255	—	24,255	—
Total Liabilities	$ 5,229,308	$ 5,256,115	$ —	$ 5,256,115	$ —

(1) Includes cash collateral and deposits, and interest and dividends receivables.
(2) Includes deposits, interest and dividends payable.

The table below summarizes financial assets and liabilities not carried at fair value on a recurring basis as of December 31, 2022:

	December 31, 2022				
(in thousands)	Carrying Value	Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets					
Cash and cash equivalents	$ 981,580	$ 981,580	$ 981,580	$ —	$ —
Cash restricted or segregated under regulations and other	56,662	56,662	56,662	—	—
Securities borrowed	1,187,674	1,187,674	—	1,187,674	—
Securities purchased under agreements to resell	336,999	336,999	—	336,999	—
Receivables from broker-dealers and clearing organizations	1,027,917	1,027,917	—	1,027,917	—
Receivables from customers	80,830	80,830	—	80,830	—
Other assets (1)	30,579	30,579	—	30,579	—
Total Assets	$ 3,702,241	$ 3,702,241	$ 1,038,242	$ 2,663,999	$ —
Liabilities					
Short-term borrowings	3,944	3,944	—	3,944	—
Long-term borrowings	1,795,952	1,783,943	—	1,783,943	—
Securities loaned	1,060,432	1,060,432	—	1,060,432	—
Securities sold under agreements to repurchase	627,549	627,549	—	627,549	—
Payables to broker dealer and clearing organizations	273,843	273,843	—	273,843	—
Payables to customers	46,525	46,525	—	46,525	—
Other liabilities (2)	23,776	23,776	—	23,776	—
Total Liabilities	$ 3,832,021	$ 3,820,012	$ —	$ 3,820,012	$ —

(1) Includes cash collateral and deposits, and interest and dividends receivables.

(2) Includes deposits, interest and dividends payable.

Offsetting of Financial Assets and Liabilities

The Company does not net securities borrowed and securities loaned, or securities purchased under agreements to resell and securities sold under agreements to repurchase. These financial instruments are presented on a gross basis in the Condensed Consolidated Statements of Financial Condition. In the tables below, the amounts of financial instruments owned that are not offset in the Condensed Consolidated Statements of Financial Condition, but could be netted against financial liabilities with specific counterparties under legally enforceable master netting agreements in the event of default, are presented to provide financial statement readers with the Company’s estimate of its net exposure to counterparties for these financial instruments.

The following tables set forth the gross and net presentation of certain financial assets and financial liabilities as of June 30, 2023 and December 31, 2022:

	June 30, 2023					
				Amounts Not Offset in the Condensed Consolidated Statements of Financial Condition		
(in thousands)	Gross Amounts of Recognized Assets	Amounts Offset in the Condensed Consolidated Statement of Financial Condition	Net Amounts of Assets Presented in the Condensed Consolidated Statements of Financial Condition	Financial Instrument Collateral	Counterparty Netting/ Cash Collateral	Net Amount
Offsetting of Financial Assets:						
Securities borrowed	$ 1,665,179	$ —	$ 1,665,179	$ (1,631,134)	$ (6,261)	$ 27,784
Securities purchased under agreements to resell	793,815	—	793,815	(793,815)	—	—
Receivables from broker-dealers and clearing organizations:						
Interest rate swaps	81,141	—	81,141	—	—	81,141
Trading assets, at fair value:						
Currency forwards	611,584	(603,560)	8,024	—	—	8,024
Options	4,316	—	4,316	—	(3,978)	338
Total	$ 3,156,035	$ (603,560)	$ 2,552,475	$ (2,424,949)	$ (10,239)	$ 117,287

				Amounts Not Offset in the Condensed Consolidated Statements of Financial Condition		
(in thousands)	Gross Amounts of Recognized Liabilities	Amounts Offset in the Condensed Consolidated Statement of Financial Condition	Net Amounts of Liabilities Presented in the Consolidated Statement of Financial Condition	Financial Instruments	Counterparty Netting/ Cash Collateral	Net Amount
Offsetting of Financial Liabilities:						
Securities loaned	$ 1,306,894	$ —	$ 1,306,894	$ (1,287,973)	$ (6,614)	$ 12,307
Securities sold under agreements to repurchase	1,120,151	—	1,120,151	(1,120,151)	—	—
Trading liabilities, at fair value:						
Currency forwards	657,348	(657,348)	—	—	—	—
Options	4,533	—	4,533	—	(3,978)	555
Total	$ 3,088,926	$ (657,348)	$ 2,431,578	$ (2,408,124)	$ (10,592)	$ 12,862

	December 31, 2022					
				Amounts Not Offset in the Condensed Consolidated Statements of Financial Condition		
(in thousands)	Gross Amounts of Recognized Assets	Amounts Offset in the Condensed Consolidated Statement of Financial Condition	Net Amounts of Assets Presented in the Condensed Consolidated Statements of Financial Condition	Financial Instrument Collateral	Counterparty Netting/ Cash Collateral	Net Amount
Offsetting of Financial Assets:						
Securities borrowed	$ 1,187,674	$ —	$ 1,187,674	$ (1,148,238)	$ (5,138)	$ 34,298
Securities purchased under agreements to resell	336,999	—	336,999	(336,849)	—	150
Receivables from broker-dealers and clearing organizations						
Interest rate swaps	87,268	—	87,268	—	—	87,268
Trading assets, at fair value:						
Currency forwards	500,553	(493,237)	7,316	—	—	7,316
Options	5,200	—	5,200	—	(3,889)	1,311
Total	$ 2,117,694	$ (493,237)	$ 1,624,457	$ (1,485,087)	$ (9,027)	$ 130,343

(in thousands)	Gross Amounts of Recognized Assets	Amounts Offset in the Condensed Consolidated Statement of Financial Condition	Net Amounts of Liabilities Presented in the Consolidated Statement of Financial Condition	Amounts Not Offset in the Condensed Consolidated Statements of Financial Condition: Financial Instrument Collateral	Amounts Not Offset in the Condensed Consolidated Statements of Financial Condition: Counterparty Netting/ Cash Collateral	Net Amount
Offsetting of Financial Liabilities:						
Securities loaned	$ 1,060,432	$ —	$ 1,060,432	$ (1,027,062)	$ (9,100)	$ 24,270
Securities sold under agreements to repurchase	627,549	—	627,549	(627,388)	—	161
Trading liabilities, at fair value:						
Currency forwards	497,799	(497,799)	—	—	—	—
Options	3,889	—	3,889	—	(3,889)	—
Total	$ 2,189,669	$ (497,799)	$ 1,691,870	$ (1,654,450)	$ (12,989)	$ 24,431

The following table presents gross obligations for securities sold under agreements to repurchase and for securities lending transactions by remaining contractual maturity and the class of collateral pledged as of June 30, 2023 and December 31, 2022:

	June 30, 2023					
	Remaining Contractual Maturity					
(in thousands)	Overnight and Continuous	Less than 30 days	30 - 60 days	61 - 90 Days	Greater than 90 days	Total
Securities sold under agreements to repurchase:						
Equity securities	$ —	$ 140,000	$ 150,000	$ 110,000	$ —	$ 400,000
U.S. and Non-U.S. government obligations	720,151	—	—	—		720,151
Total	$ 720,151	$ 140,000	$ 150,000	$ 110,000	$ —	$ 1,120,151
Securities loaned:						
Equity securities	$ 1,306,894	$ —	$ —	$ —	$ —	$ 1,306,894
Total	$ 1,306,894	$ —	$ —	$ —	$ —	$ 1,306,894

	December 31, 2022					
	Remaining Contractual Maturity					
(in thousands)	Overnight and Continuous	Less than 30 days	30 - 60 days	61 - 90 Days	Greater than 90 days	Total
Securities sold under agreements to repurchase:						
Equity securities	$ —	$ 250,000	$ 100,000	$ 50,000	$ —	$ 400,000
U.S. and Non-U.S. government obligations	227,549	—	—	—	—	227,549
Total	$ 227,549	$ 250,000	$ 100,000	$ 50,000	$ —	$ 627,549
Securities loaned:						
Equity securities	1,060,432	—	—	—	—	1,060,432
Total	$ 1,060,432	$ —	$ —	$ —	$ —	$ 1,060,432

10. Derivative Instruments

The fair value of the Company's derivative instruments on a gross basis consisted of the following at June 30, 2023 and December 31, 2022:

(in thousands)		June 30, 2023		December 31, 2022	
Derivatives Assets	**Financial Statement Location**	**Fair Value**	**Notional**	**Fair Value**	**Notional**
Derivative instruments not designated as hedging instruments:					
Equities futures	Receivables from broker-dealers and clearing organizations	$ (304)	$ 774,998	$ (575)	$ 663,110
Commodity futures	Receivables from broker-dealers and clearing organizations	(3,636)	5,706,595	(31,007)	7,597,057
Currency futures	Receivables from broker-dealers and clearing organizations	(8,169)	3,226,865	(24,023)	7,460,531
Fixed income futures	Receivables from broker-dealers and clearing organizations	9	24,469	(360)	30,292
Options	Financial instruments owned	4,316	1,288,736	5,200	691,737
Currency forwards	Financial instruments owned	611,584	44,930,685	500,553	30,286,330
Derivative instruments designated as hedging instruments:					
Interest rate swap	Receivables from broker-dealers and clearing organizations	81,141	1,525,000	87,268	1,525,000
Derivatives Liabilities	**Financial Statement Location**	**Fair Value**	**Notional**	**Fair Value**	**Notional**
Derivative instruments not designated as hedging instruments:					
Equities futures	Payables to broker-dealers and clearing organizations	$ (951)	$ 1,303,263	$ 1,819	$ 3,238,651
Commodity futures	Payables to broker-dealers and clearing organizations	358	35,234	597	39,046
Currency futures	Payables to broker-dealers and clearing organizations	(3,252)	566,817	8	6,386
Fixed income futures	Payables to broker-dealers and clearing organizations	(136)	149,069	(264)	123,043
Options	Financial instruments sold, not yet purchased	4,533	1,245,988	3,889	742,531
Currency forwards	Financial instruments sold, not yet purchased	657,348	44,953,567	497,799	30,284,952

Amounts included in receivables from and payables to broker-dealers and clearing organizations represent net variation margin on long and short futures contracts as well as amounts receivable or payable on interest rate swaps.

The following table summarizes the net gain (loss) from derivative instruments not designated as hedging instruments under ASC 815, which are recorded in total revenues, and from those designated as hedging instruments under ASC 815, which are initially recorded in other comprehensive income in the accompanying Condensed Consolidated Statements of Comprehensive Income for the three and six months ended June 30, 2023 and 2022.

(in thousands)	Financial Statements Location	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Derivative instruments not designated as hedging instruments:					
Futures	Trading income, net	$ (4,449)	$ 118,455	$ 120,017	$ 195,801
Currency forwards	Trading income, net	16,750	(44,665)	(46,187)	(35,754)
Options	Trading income, net	(1,510)	157	1,145	(938)
Interest rate swap on term loan	Other, net	(469)	(469)	(932)	(932)
		$ 10,322	$ 73,478	$ 74,043	$ 158,177
Derivative instruments designated as hedging instruments:					
Interest rate swaps (1)	Other comprehensive income	$ 9,514	$ 16,430	$ (5,879)	$ 72,575
		$ 9,514	$ 16,430	$ (5,879)	$ 72,575

(1) The Company entered into a five-year $1,000 million floating-to-fixed interest rate swap agreement in the first quarter of 2020 and a five-year $525 million floating-to-fixed interest rate swap agreement in the fourth quarter of 2019. These two interest rate swaps met the criteria to be considered qualifying cash flow hedges under ASC 815 in the first quarter of 2020, and as such, the mark-to-market gains (losses) on the instruments were deferred within Other comprehensive income on the Condensed Consolidated Statements of Comprehensive Income beginning in the first quarter of 2020.

11. Variable Interest Entities

A variable interest entity ("VIE") is an entity that lacks one or more of the following characteristics: (i) the total equity investment at risk is sufficient to enable the entity to finance its activities independently and (ii) the equity holders have the power to direct the activities of the entity that most significantly impact its economic performance, the obligation to absorb the losses of the entity and the right to receive the residual returns of the entity.

The Company will be considered to have a controlling financial interest and will consolidate a VIE if it has both (i) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (ii) the obligation to absorb losses of the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE.

The Company has interests in two joint ventures ("JV") that build and maintain microwave communication networks in the U.S., Europe, and Asia. The Company and its JV partners each pay monthly fees for the use of the microwave communication networks in connection with their respective trading activities, and the JVs may sell excess bandwidth that is not utilized by the JV members to third parties. As of June 30, 2023, the Company held noncontrolling interests of 11.1% and 50.0%, respectively, in these JVs.

The Company has an interest in a JV that offers derivatives trading technology and execution services to broker-dealers, professional traders and select hedge funds. As of June 30, 2023, the Company held approximately a 9.8% noncontrolling interest in this JV.

The Company has an interest in a JV that operates a member-owned equities exchange with the goal of increasing competition and transparency, while reducing fixed costs and simplifying execution of equity trading in the U.S. As of June 30, 2023, the Company held approximately a 14.2% noncontrolling interest in this JV.

In the second quarter of 2022, the Company invested in a JV that was formed for the purpose of developing and operating a cryptocurrency trading platform with the goal of increasing competition and transparency, while improving trading performance and reducing operational risk. As of June 30, 2023, the Company held approximately a 9.3% noncontrolling interest in this JV.

The Company's five JVs noted above meet the criteria to be considered VIEs, which it does not consolidate. The Company records its interest in each JV under the equity method of accounting and records its investment in the JVs within Other assets and its amounts payable for communication services provided by the applicable JVs within Accounts payable, accrued expenses and other liabilities on the Statements of Financial Condition. The Company records its pro-rata share of each JV's earnings or losses within Other, net and fees related to the use of communication services provided by the JVs within Communications and data processing on the Condensed Consolidated Statements of Comprehensive Income.

The Company's exposure to the obligations of these VIEs is generally limited to its interests in each respective JV, which is the carrying value of the equity investment in each JV.

The following table presents the Company's nonconsolidated VIEs at June 30, 2023:

	Carrying Amount			
(in thousands)	Asset	Liability	Maximum Exposure to Loss	VIEs' assets
Equity investment	$ 50,939	$ —	$ 50,939	$ 264,860

The following table presents the Company's nonconsolidated VIEs at December 31, 2022:

	Carrying Amount			
(in thousands)	Asset	Liability	Maximum Exposure to Loss	VIEs' assets
Equity investment	$ 43,589	$ —	$ 43,589	$ 239,682

During the second quarter of 2022, the Company formed a JV to support the growth and expansion of a multi-asset request-for-quote communication platform. As of June 30, 2023, the Company held a 51% controlling interest in this entity. This JV meets the criteria to be considered a VIE, and based on the standard for control set forth above, the Company consolidates this entity and records the interest that the Company does not own as noncontrolling interest in the Condensed Consolidated Financial Statements.

12. Revenues from Contracts with Customers

For more information on revenue recognition and the nature of services provided, see Note 2 "Summary of Significant Accounting Policies" and Note 13 "Revenues from Contracts with Customers" to the Consolidated Financial Statements of the Company's 2022 Annual Report on Form 10-K.

Disaggregation of Revenues

The following tables present the Company's revenue from contracts with customers disaggregated by service, and timing of revenue recognition, reconciled to the Company's segments, for the three and six months ended June 30, 2023, and 2022:

	Three Months Ended June 30, 2023			
(in thousands)	Market Making	Execution Services	Corporate	Total
Revenues from contracts with customers:				
Commissions, net	$ 6,634	$ 69,993	$ —	$ 76,627
Workflow technology	—	22,576	—	22,576
Analytics	—	10,301	—	10,301
Total revenue from contracts with customers	6,634	102,870	—	109,504
Other sources of revenue	398,616	6,246	(7,512)	397,350
Total revenues	$ 405,250	$ 109,116	$ (7,512)	$ 506,854
Timing of revenue recognition:				
Services transferred at a point in time	$ 405,250	$ 90,940	$ (7,512)	$ 488,678
Services transferred over time	—	18,176	—	18,176
Total revenues	$ 405,250	$ 109,116	$ (7,512)	$ 506,854

(in thousands)	Three Months Ended June 30, 2022 Market Making	Execution Services	Corporate	Total
Revenues from contracts with customers:				
Commissions, net	$ 11,145	$ 90,998	$ —	$ 102,143
Workflow technology	—	24,334	—	24,334
Analytics	—	9,863	—	9,863
Total revenue from contracts with customers	11,145	125,195	—	136,340
Other sources of revenue	421,450	5,802	41,146	468,398
Total revenues	$ 432,595	$ 130,997	$ 41,146	$ 604,738
Timing of revenue recognition:				
Services transferred at a point in time	$ 432,595	$ 112,989	$ 41,146	$ 586,730
Services transferred over time	—	18,008	—	18,008
Total revenues	$ 432,595	$ 130,997	$ 41,146	$ 604,738

(in thousands)	Six Months Ended June 30, 2023 Market Making	Execution Services	Corporate	Total
Revenues from contracts with customers:				
Commissions, net	$ 16,334	$ 147,251	$ —	$ 163,585
Workflow technology	—	47,532	—	47,532
Analytics	—	19,831	—	19,831
Total revenue from contracts with customers	16,334	214,614	—	230,948
Other sources of revenue	887,835	12,979	(4,529)	896,285
Total revenues	$ 904,169	$ 227,593	$ (4,529)	$ 1,127,233
Timing of revenue recognition:				
Services transferred at a point in time	$ 904,169	$ 191,419	$ (4,529)	$ 1,091,059
Services transferred over time	—	36,174	—	36,174
Total revenues	$ 904,169	$ 227,593	$ (4,529)	$ 1,127,233

(in thousands)	Six Months Ended June 30, 2022 Market Making	Execution Services	Corporate	Total
Revenues from contracts with customers:				
Commissions, net	$ 20,194	$ 199,187	$ —	$ 219,381
Workflow technology	—	51,270	—	51,270
Analytics	—	20,344		20,344
Total revenue from contracts with customers	20,194	270,801	—	290,995
Other sources of revenue	958,964	11,941	44,100	1,015,005
Total revenues	$ 979,158	$ 282,742	$ 44,100	$ 1,306,000
Timing of revenue recognition:				
Services transferred at a point in time	$ 979,158	$ 246,303	$ 44,100	$ 1,269,561
Services transferred over time	—	36,439	—	36,439
Total revenues	$ 979,158	$ 282,742	$ 44,100	$ 1,306,000

Remaining Performance Obligations and Revenue Recognized from Past Performance Obligations

As of June 30, 2023 and 2022, the aggregate amount of the transaction price allocated to the performance obligations relating to workflow technology and analytics revenues that are unsatisfied (or partially unsatisfied) was not material.

Contract Assets and Contract Liabilities

The timing of the revenue recognition may differ from the timing of payment from customers. The Company records a receivable when revenue is recognized prior to payment, and when the Company has an unconditional right to payment. The Company records a contract liability when payment is received prior to the time at which the satisfaction of the service obligation occurs.

Receivables related to revenues from contracts with customers amounted to $55.8 million and $56.1 million as of June 30, 2023 and December 31, 2022, respectively. The Company did not identify any contract assets. There were no impairment losses on receivables as of June 30, 2023.

Deferred revenue primarily relates to deferred commissions allocated to analytics products and subscription fees billed in advance of satisfying the performance obligations. Deferred revenue related to contracts with customers was $14.0 million and $9.6 million as of June 30, 2023 and December 31, 2022, respectively. The Company recognized the full amount of revenue during the six months ended June 30, 2023 and 2022, that had been recorded as deferred revenue in the respective prior year.

The Company has not identified any costs to obtain or fulfill its contracts under ASC 606.

13. Income Taxes

The Company is subject to U.S. federal, state and local income tax at the rate applicable to corporations less the rate attributable to the noncontrolling interest in Virtu Financial. These noncontrolling interests are subject to U.S. taxation as partnerships. Accordingly, for the three and six months ended June 30, 2023 and 2022, the income attributable to these noncontrolling interests was reported in the Condensed Consolidated Statements of Comprehensive Income, but the related U.S. income tax expense attributable to these noncontrolling interests was not reported by the Company as it is the obligation of the individual partners. The Company’s non-U.S. subsidiaries are subject to foreign income taxes in the jurisdictions in which they operate. The Company’s provisions for income taxes and effective tax rates were $5.9 million, and 16.7%, and $24.9 million, and 14.3% for the three months ended June 30, 2023 and 2022, respectively and $30.6 million, and 18.0%, and $66.7 million, and 16.0% for the six months ended June 30, 2023 and 2022, respectively. Income tax expense is also affected by the differing effective tax rates in foreign, state and local jurisdictions where certain of the Company’s subsidiaries are subject to corporate taxation.

Included in Other assets on the Condensed Consolidated Statements of Financial Condition at June 30, 2023 and December 31, 2022 are current income tax receivables of $48.3 million and $54.1 million, respectively. The balances at June 30, 2023 and December 31, 2022 primarily comprised income tax benefits due to the Company from federal, state, local, and foreign tax jurisdictions based on income before taxes. Included in Accounts payable, accrued expenses and other liabilities on the Condensed Consolidated Statements of Financial Condition at June 30, 2023 and December 31, 2022 are current tax liabilities of $9.3 million and $13.4 million, respectively. The balances at June 30, 2023 and December 31, 2022 primarily comprise income taxes owed to federal, state and local, and foreign tax jurisdictions based on income before taxes.

Deferred income taxes arise primarily due to the amortization of the deferred tax assets recognized in connection with the IPO (see Note 4 "Tax Receivable Agreements"), the Acquisition of KCG and the ITG Acquisition, differences in the valuation of financial assets and liabilities, and other temporary differences arising from the deductibility of compensation, depreciation, and other expenses in different time periods for book and income tax return purposes.

There are no expiration dates on the deferred tax assets. The provisions of ASC 740 require that carrying amounts of deferred tax assets be reduced by a valuation allowance if, based on the available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Accordingly, the need to establish valuation allowances for deferred tax assets is assessed periodically with appropriate consideration given to all positive and negative evidence related to the realization of the deferred tax assets. At June 30, 2023 and December 31, 2022, the Company did not have any U.S. federal net operating loss carryforwards and therefore the Company did not record a deferred tax asset related to federal net operating loss carryforwards. At June 30, 2023 and December 31, 2022, the Company recorded deferred income taxes related to state and local net operating losses of $0.4 million. These net operating losses will begin to expire in 2039. The Company did not record a valuation allowance against this deferred tax asset.

As a result of the ITG Acquisition, the Company had non-U.S. net operating losses of $66.9 million and $64.6 million at June 30, 2023 and December 31, 2022, respectively, and recorded a related deferred tax asset of $12.8 million and $12.4 million, respectively. A valuation allowance of $12.8 million and $12.4 million was recorded against this deferred tax asset at June 30, 2023 and December 31, 2022, respectively as it is more likely than not that a substantial portion of this deferred tax asset will not be realized. As a result of the Acquisition of KCG, the Company had non-U.S. net operating losses at June 30, 2023 and December 31, 2022 of $239.3 million, and recorded a related deferred tax asset of $44.9 million in both years. A full valuation allowance was also recorded against this deferred tax asset at both June 30, 2023 and December 31, 2022 as it is more likely than not that this deferred tax asset will not be realized.

No valuation allowance against the remaining deferred taxes was recorded as of June 30, 2023 and December 31, 2022 because it is more likely than not that these deferred tax assets will be fully realized.

The Company is subject to taxation in U.S. federal, state, local and foreign jurisdictions. As of June 30, 2023, the Company's tax years for 2015 through 2021 and 2016 through 2021 were subject to examination by U.S. and non-U.S. tax authorities, respectively. As a result of the ITG Acquisition and the Acquisition of KCG, the Company assumed any ITG and KCG tax exposures. In addition, the Company is subject to state and local income tax examinations in various jurisdictions for the tax years 2013 through 2021. The final outcome of these examinations is not yet determinable. However, the Company anticipates that adjustments related to these examinations, if any, will not result in a material change to its financial condition, results of operations and cash flows.

The Company's policy for recording interest and penalties associated with audits is to record such items as a component of income or loss before income taxes and noncontrolling interest. Penalties, if any, are recorded in Operations and administrative expense and interest received or paid is recorded in Other, net or Operations and administrative expense in the Condensed Consolidated Statements of Comprehensive Income, respectively.

The Company had $6.8 million of unrecognized tax benefits as of June 30, 2023, all of which would affect the Company's effective tax rate if recognized. The Company has determined that there are no uncertain tax positions that would have a material impact on the Company's financial position as of June 30, 2023.

14. Commitments, Contingencies and Guarantees

Legal and Regulatory Proceedings

In the ordinary course of business, the nature of the Company's business subjects it to claims, lawsuits, regulatory examinations or investigations and other proceedings, any of which could result in the imposition of fines, penalties or other sanctions against the Company. The Company and its subsidiaries are subject to several of these matters at the present time, including, among others, a matter in which the Company has been responding to requests for information from the U.S. Securities and Exchange Commission in connection with an investigation of aspects of the Company's internal information access barriers. The Company has continued to cooperate with this civil investigation and engaged in settlement discussions. The Company has been unable to reach a settlement and, consistent with its previous disclosure, has received a Wells Notice from the SEC, to which it has responded. The Company expects the SEC to file an action against the Company alleging violations of federal securities laws with respect to the Company's information barriers policies and procedures for a specified time period in and around January 2018 to April 2019 and related statements made by the Company during such period. The Company believes it would have meritorious defenses in the event of such an action and intends to defend itself vigorously. Specifically, the Company would plan to assert, among other defenses, that it maintained reasonable policies, procedures and controls to protect data during the period consistent with applicable law, that related statements made to clients and investors were true and accurate, and that the statute of limitations has expired with respect to certain claims.

In a matter related to the SEC investigation noted above, on May 19, 2023, the Company and certain of its current and former executive officers were named as defendants in *Hiebert v. Virtu Financial, Inc.*, No. 23-cv-03770. The complaint was filed by a purported stockholder in the Eastern District of New York on behalf of a putative class and asserts that the Company made materially false and misleading statements and omissions in its public filings in violation of federal securities laws. The Company also received a request for information pursuant to Section 220 of the Delaware General Corporation Law from counsel for a purported stockholder. The Company believes it has meritorious defenses against pending or contemplated claims that its public disclosures in relation to the SEC investigation were inadequate or misleading. The Company maintains that such disclosures were true and accurate and compliant with applicable law and will defend itself vigorously.

On November 30, 2020, the Company was named as a defendant in *In re United States Oil Fund, LP Securities Litigation*, No. 20-cv-4740. The consolidated amended complaint was filed in federal district court in New York on behalf of a putative class, and asserts claims against the Company and numerous other financial institutions under Section 11 of the Securities Act of 1933 in connection with trading in United States Oil Fund, LP, a crude oil ETF. The complaint also names the ETF, its sponsor, and related individuals as defendants. The complaint did not specify the amount of alleged damages. Defendants moved to dismiss the consolidated amended complaint on January 29, 2021; the motion is fully briefed and pending before the court. The Company believes that the claims are without merit and is defending itself vigorously.

On March 7, 2022, the Company was named as a defendant in *Iron Workers Local No. 55 Pension Fund v. Virtu Financial, Inc.*, No. 2022-0211-PAF pending in the Court of Chancery of the State of Delaware. The complaint, filed by a purported stockholder, seeks to compel the inspection of certain Company books and records pursuant to Section 220 of the Delaware General Corporation Law. The complaint alleges that the stockholder seeks Company information to investigate (a) whether wrongdoing or mismanagement occurred in connection with distributions made to the partners of Virtu Financial pursuant to the Company's Up-C corporate structure; (b) the independence and disinterestedness of the Company's directors and/or officers and whether the directors breached their fiduciary duties; and (c) potential damages relating thereto. The Company believes that the claims are without merit and is defending itself vigorously.

On October 17, 2022, the Company's subsidiary, along with several other parties, was named as a defendant in *Mallinckrodt PLC, et al. (Reorganized Debtors); Opioid Master Disbursement Trust II v. Argos Capital Appreciation Master Fund LP et al* No. 20-12522. The complaint alleges that Mallinckrodt PLC engaged in a share repurchase program from 2015 through 2018 pursuant to which it repurchased its own shares in various open market transactions, a period during which it was allegedly insolvent. The plaintiff is seeking to unwind the transactions consummated under the program, alleging such transactions constituted fraudulent transfers by the debtor. The Company believes that the claims are without merit and is defending itself vigorously.

On December 1, 2022, the Company's subsidiary, along with several other parties, was named as a defendant in *Northwest Biotherapeutics, Inc. v. Canaccord Genuity LLC, et al* No. 1:22-cv-10185. The complaint alleges that defendants engaged in market manipulation in the plaintiff's stock during a period from 2018 to 2022. The complaint did not specify the amount of alleged damages. The Company believes that the claims are without merit and is defending itself vigorously.

Given the inherent difficulty of predicting the outcome of litigation and regulatory matters, particularly in regulatory examinations or investigations or other proceedings in which substantial or indeterminate judgments, settlements, disgorgements, restitution, penalties, injunctions, damages or fines are sought, or where such matters are in the early stages, the Company cannot estimate losses or ranges of losses for such matters where there is only a reasonable possibility that a loss may be incurred, and utilizes its judgment in accordance with applicable accounting standards in booking any associated estimated liability. It is not presently possible to determine the ultimate exposure to these matters and it is possible that the resolution of the outstanding matters will significantly exceed any estimated liabilities accrued by the Company. In addition, there are numerous factors that result in a greater degree of complexity in class-action lawsuits as compared to other types of litigation. There can be no assurance that these various legal proceedings will not significantly exceed any estimated liability accrued by the Company or have a material adverse effect on the Company's results of operations in any future period, and a material judgment, fine or sanction could have a material adverse impact on the Company's financial condition, results of operations and cash flows. However, it is the opinion of management, after consultation with legal counsel that, based on information currently available, the ultimate outcome of these matters will not have a material adverse impact on the business, financial condition or operating results of the Company, although they might be material to the operating results for any particular reporting period. The Company carries directors' and officers' liability insurance coverage and other insurance coverage for potential claims, including securities actions, against the Company and its respective directors and officers.

Other Legal and Regulatory Matters

The Company owns subsidiaries including regulated entities that are subject to extensive oversight under federal, state and applicable international laws as well as self-regulatory organization ("SRO") rules. Changes in market structure and the need to remain competitive require constant changes to the Company's systems, order routing and order handling procedures. The Company makes these changes while continuously endeavoring to comply with many complex laws and rules. Compliance, surveillance and trading issues common in the securities industry are monitored by, reported to, and/or reviewed in the ordinary course of business by the Company's regulators in the U.S. and abroad. As a major order flow execution destination, the Company is named from time to time in, or is asked to respond to a number of regulatory matters brought by U.S. regulators, foreign regulators, SROs, as well as actions brought by private plaintiffs, which arise from its business activities. There has recently been an increased focus by regulators on Anti-Money Laundering and sanctions compliance by broker-dealers and similar entities, as well as an enhanced interest on suspicious activity reporting and transactions involving microcap and low-priced securities. In addition, there has been increased regulatory, congressional and media scrutiny of U.S. equities market structure, the retail trading environment in the U.S., wholesale market making and the relationships between retail broker-dealers and market making firms including, but not limited to, payment for order flow arrangements, other remuneration arrangements such as profit-sharing relationships and exchange fee and rebate structures, alternative trading systems and off-exchange trading more generally, high frequency trading, short selling, market fragmentation, colocation, and access to market data feeds. Specifically, in 2022 the SEC proposed several rule changes focused on equity market structure reform. These proposals include, but are not limited to, (i) Proposed Rule 615 of Regulation NMS, which proposes to dramatically change U.S. equities market structure, the routing, handling and potentially the amount, character and cost of retail order flow, (ii) Regulation Best Execution, which would impose best execution requirements on broker-dealers which would be distinct from, but overlapping with, FINRA's existing best execution rule (Rule 5310), (iii) proposed rule amendments to minimum pricing increments under Rule 612 or Regulation NMS, access fee caps under Rule 610 of Regulation NMS, acceleration of the implementation of certain Market Data Infrastructure Rules, and amendment to the odd-lot information definition adopted under the MDI rules (collectively referred to as the "tick size, access fees and infostructure rule proposals"), and (iv) amendments to Rule 605 of Regulation NMS, along with a series of amendments to the definition of Exchange and Alternative Trading Systems (ATS), which would expand the scope of exchange and ATS registration and compliance requirements. Further, in 2023, the SEC proposed amendments to expand and update Regulation Systems Compliance and Integrity (SCI) and has indicated that additional rule proposals may be forthcoming. If adopted, these or other potential rule changes could adversely affect the Company's business or the Company's industry. As indicated above, from time to time, the Company is the subject of requests for information and documents from the SEC, the Financial Industry Regulatory Authority ("FINRA"), state attorneys general, and other regulators and governmental authorities. It is the Company's practice to cooperate and comply with the requests for information and documents.

As indicated above, the Company is currently the subject of various regulatory reviews and investigations by state, federal and foreign regulators and SROs, including the SEC and FINRA. In some instances, these matters may result in a disciplinary action and/or a civil or administrative action.

Representations and Warranties; Indemnification Arrangements

In the normal course of its operations, the Company enters into contracts that contain a variety of representations and warranties in addition to indemnification obligations, including indemnification obligations in connection with the Acquisition of KCG and the ITG Acquisition. The Company's maximum exposure under these arrangements is currently unknown, as any such exposure could relate to claims not yet brought or events which have not yet occurred. For example, in November 2013, KCG sold Urban Financial of America, LLC ("Urban"), the reverse mortgage origination and securitization business previously owned by Knight Capital Group, Inc., to an investor group now known as Finance of America Reverse, LLC ("FAR"). Pursuant to the terms of the Stock Purchase Agreement between KCG and FAR, Virtu has certain continuing obligations related to KCG's prior ownership of Urban.

Consistent with standard business practices in the normal course of business, the Company enters into contracts that contain a variety of representations and warranties and general indemnifications. The Company has also provided general indemnifications to its managers, officers, directors, employees, and agents against expenses, legal fees, judgments, fines, settlements, and other amounts actually and reasonably incurred by such persons under certain circumstances as more fully disclosed in its operating agreement. The overall maximum amount of the obligations (if any) cannot reasonably be estimated as it will depend on the facts and circumstances that give rise to any future claims.

15. Leases

The Company primarily enters into lessee arrangements for corporate office space, data centers, and technology equipment. For more information on lease accounting, see Note 2 "Summary of Significant Accounting Policies" and Note 16 "Leases" to the Consolidated Financial Statements of the Company's 2022 Annual Report on Form 10-K

Lease assets and liabilities are summarized as follows:

(in thousands)	Financial Statement Location	June 30, 2023	December 31, 2022
Operating leases			
Operating lease right-of-use assets	Operating lease right-of-use assets	$ 174,136	$ 187,442
Operating lease liabilities	Operating lease liabilities	224,086	239,202
Finance leases			
Property and equipment, at cost	Property, equipment, and capitalized software, net	36,343	27,908
Accumulated depreciation	Property, equipment, and capitalized software, net	(12,985)	(12,736)
Finance lease liabilities	Accounts payable, accrued expenses, and other liabilities	23,682	15,323

Weighted average remaining lease term and discount rate are as follows:

	June 30, 2023	December 31, 2022
Weighted average remaining lease term		
Operating leases	6.10 years	6.21 years
Finance leases	3.1 years	2.84 years
Weighted average discount rate		
Operating leases	5.51 %	5.43 %
Finance leases	4.36 %	3.92 %

The components of lease expense are as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2023	2022	2023	2022
Operating lease cost:				
Fixed	$ 19,487	$ 18,426	$ 38,365	$ 36,494
Variable	1,292	1,349	3,056	3,245
Total Operating lease cost	$ 20,779	$ 19,775	$ 41,421	$ 39,739
Sublease income	4,917	4,923	9,806	9,846
Finance lease cost:				
Amortization of ROU Asset	$ 2,428	$ 1,986	$ 4,552	$ 3,894
Interest on lease liabilities	312	96	520	174
Total Finance lease cost	$ 2,740	$ 2,082	$ 5,072	$ 4,068

Future minimum lease payments under operating and finance leases with non-cancelable lease terms, as of June 30, 2023, are as follows:

(in thousands)	Operating Leases		Finance Leases	
2023	$	36,932	$	4,607
2024		46,498		8,385
2025		38,395		4,798
2026		35,241		4,020
2027		29,117		3,930
2028 and thereafter		81,452		490
Total lease payments	$	267,635	$	26,230
Less imputed interest		(43,549)		(2,548)
Total lease liability	$	224,086	$	23,682

16. Cash

The following table provides a reconciliation of cash and cash equivalents together with restricted or segregated cash as reported within the Condensed Consolidated Statements of Financial Condition to the sum of the same such amounts shown in the Condensed Consolidated Statements of Cash Flows.

(in thousands)	June 30, 2023		December 31, 2022	
Cash and cash equivalents	$	698,674	$	981,580
Cash restricted or segregated under regulations and other		47,133		56,662
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	$	745,807	$	1,038,242

17. Capital Structure

The Company has four classes of authorized common stock. The Class A Common Stock and the Class C Common Stock have one vote per share. The Class B Common Stock and the Class D Common Stock have 10 votes per share. Shares of the Company's common stock generally vote together as a single class on all matters submitted to a vote of the Company's stockholders. The Founder Member controls approximately 85.8% of the combined voting power of our common stock as a result of its ownership of our Class A, Class C and Class D Common Stock. The Company holds approximately a 58.9% interest in Virtu Financial at June 30, 2023.

During the period prior to the Company's IPO and certain reorganization transactions consummated in connection with the IPO, Class A-2 profits interests and Class B interests in Virtu Financial were issued to Employee Holdco (as defined below) on behalf of certain key employees and stakeholders. In connection with these reorganization transactions, all Class A-2 profits interests and Class B interests were reclassified into Virtu Financial Units. As of June 30, 2023 and December 31, 2022, there were 4,289,305 and 4,462,840 Virtu Financial Units outstanding held by Employee Holdco (as defined below), respectively, and 173,535 and 328,999 of such Virtu Financial Units and corresponding Class C Common Stock were exchanged into Class A Common Stock, forfeited or repurchased during the six months ended June 30, 2023, and 2022, respectively.

Amended and Restated 2015 Management Incentive Plan

The Company's Board of Directors and stockholders adopted the 2015 Management Incentive Plan, which became effective upon consummation of the IPO, and was subsequently amended and restated following receipt of approval from the Company's stockholders on June 30, 2017, June 5, 2020 and June 2, 2022. The Amended and Restated 2015 Management Incentive Plan provides for the grant of stock options, restricted stock units, and other awards based on an aggregate of 26,000,000 shares of Class A Common Stock, subject to additional sublimits, including limits on the total option grant to any one participant in a single year and the total performance award to any one participant in a single year.

On November 13, 2020, the Company amended its form award agreement for the issuance of RSUs to provide for the continued vesting of outstanding RSU awards upon the occurrence of a qualified retirement (the "RSU Amendment"). A qualified retirement generally means a voluntary resignation by the participant (i) after five years of service, (ii) the participant attaining the age of 50 and (iii) the sum of the participant's age and service at the time of termination equaling or exceeding 65. Continued vesting is subject to the participant entering into a 2 year non-compete. The RSU Amendment was authorized and approved by the Compensation Committee of the Company's Board of Directors. As a result of the RSU Amendment, currently issued and outstanding RSUs held by the Company's employees, including its executive officers, shall be deemed to be subject to the amended terms of the form award agreement, and any future RSU awards shall also be governed by such amended terms.

Amended and Restated Investment Technology Group, Inc. 2007 Omnibus Equity Compensation Plan

On the ITG Closing Date, the Company assumed the Amended and Restated ITG 2007 Equity Plan and the Assumed Awards. As of the ITG Closing Date, the aggregate number of shares of Class A Common Stock subject to such Assumed Awards was 2,497,028 and the aggregate number of shares of Class A Common Stock that remained issuable pursuant to the Amended and Restated ITG 2007 Equity Plan was 1,230,406.

Share Repurchase Program

On November 6, 2020, the Company's Board of Directors authorized a share repurchase program of up to $100.0 million in Class A common stock and Virtu Financial Units by December 31, 2021. On February 11, 2021, the Company's Board of Directors authorized the expansion of the program by an additional $70 million in Class A Common Stock and Virtu Financial Units. On May 4, 2021, the Company's Board of Directors authorized the expansion of the Company's share repurchase program, increasing the total authorized amount by an additional $300 million in Class A Common Stock and Virtu Financial Units and extending the duration of the program through May 4, 2022. On November 3, 2021 the Company's Board of Directors authorized another expansion of the program by an additional $750 million to $1,220 million and extending the duration of the program through November 3, 2023. The share repurchase program authorizes the Company to repurchase shares from time to time in open market transactions, privately negotiated transactions or by other means. Repurchases are also permitted to be made under Rule 10b5-1 plans. The timing and amount of repurchase transactions are determined by the Company's management based on its evaluation of market conditions, share price, cash sources, legal requirements and other factors. From the inception of the program through June 30, 2023, the Company repurchased approximately 38.5 million shares of Class A Common Stock and Virtu Financial Units for approximately $1,016.7 million. As of June 30, 2023, the Company has approximately $203.3 million remaining capacity for future purchases of shares of Class A Common Stock and Virtu Financial Units under the program.

Employee Exchanges

During the six months ended June 30, 2023, and 2022, pursuant to the exchange agreement by and among the Company, Virtu Financial and holders of Virtu Financial Units, certain current and former employees elected to exchange 152,037, and 92,930 units, respectively in Virtu Financial held directly or on their behalf by Virtu Employee Holdco LLC (“Employee Holdco”) on a one-for-one basis for shares of Class A Common Stock.

Warrant Issuance

On March 20, 2020, in connection with and in consideration of the Founder Member’s commitments under the Founder Member Loan Facility (as described in Note 8 "Borrowings"), the Company delivered to the Founder Member a warrant (the “Warrant”) to purchase shares of the Company’s Class A Common Stock. Pursuant to the Warrant, the Founder Member was entitled to purchase up to 3,000,000 shares of Class A Common Stock on or after May 22, 2020 up to and including January 15, 2022. The Founder Member Loan Facility Term expired on September 20, 2020 without the Company having borrowed any Founder Member Loans thereunder (as described in Note 8 "Borrowings"). The exercise price per share of the Class A Common Stock issuable pursuant to the Warrant was $22.98, which in accordance with the terms of the Warrant, is equal to the average of the volume weighted average prices of the Class A Common Stock for the ten (10) trading days following May 7, 2020, the date on which the Company publicly announced its earnings results for the first quarter of 2020. On December 17, 2021, the Founder Member exercised in full the Warrant to purchase 3,000,000 shares of the Company's Class A Common Stock. The Warrant and Class A Common Stock issued pursuant to the Warrant were offered, issued and sold, in reliance on the exemption from the registration requirements of the Securities Act of 1933, as amended (the "Securities Act"), set forth under Section 4(a)(2) of the Securities Act relating to sales by an issuer not involving any public offering.

Upon issuance, the fair value of the Warrant was determined using a Black-Scholes-Merton model, and was recorded as a debt issuance cost within Other assets on the Condensed Consolidated Statements of Financial Condition and as an increase to Additional paid-in capital on the Condensed Consolidated Statements of Changes in Equity. The balance was amortized on a straight-line basis from March 20, 2020 through September 20, 2020, the date on which the Founder Member Loan Facility expired, and recorded as expense within Debt issue cost related to debt refinancing, prepayment and commitment fees in the Condensed Consolidated Statements of Comprehensive Income.

Accumulated Other Comprehensive Income

The following table presents the changes in Other Comprehensive Income for the three and six months ended June 30, 2023, and 2022:

	Three Months Ended June 30, 2023			
(in thousands)	**AOCI Beginning Balance**	**Amounts recorded in AOCI**	**Amounts reclassified from AOCI to income**	**AOCI Ending Balance**
Net change in unrealized cash flow hedges gains (losses) (1)	$ 37,091	$ 12,414	$ (7,535)	$ 41,970
Foreign exchange translation adjustment	(12,341)	1,503	—	(10,838)
Total	$ 24,750	$ 13,917	$ (7,535)	$ 31,132

(1) Amounts reclassified from AOCI to income are included within Financing interest expense on long-term borrowings on the Condensed Consolidated Statements of Comprehensive Income. As of June 30, 2023, the Company expects approximately $30.1 million to be reclassified from AOCI into earnings over the next 12 months. The timing of the reclassification is based on the interest payment schedule of the long-term borrowings.

	Three Months Ended June 30, 2022			
(in thousands)	**AOCI Beginning Balance**	**Amounts recorded in AOCI**	**Amounts reclassified from AOCI to income**	**AOCI Ending Balance**
Net change in unrealized cash flow hedges gains (losses) (1)	$ 18,906	$ 6,391	$ 2,189	$ 27,486
Foreign exchange translation adjustment	(2,887)	(10,773)	—	(13,660)
Total	$ 16,019	$ (4,382)	$ 2,189	$ 13,826

(1) Amounts reclassified from AOCI to income are included within Financing interest expense on long-term borrowings on the Consolidated Statements of Comprehensive Income.

	Six Months Ended June 30, 2023			
(in thousands)	**AOCI Beginning Balance**	**Amounts recorded in AOCI**	**Amounts reclassified from AOCI to income**	**AOCI Ending Balance**
Net change in unrealized cash flow hedges gains (losses) (1)	$ 44,925	$ 11,025	$ (13,980)	$ 41,970
Foreign exchange translation adjustment	(13,321)	2,483	—	(10,838)
Total	$ 31,604	$ 13,508	$ (13,980)	$ 31,132

(1) Amounts reclassified from AOCI to income are included within Financing interest expense on long-term borrowings on the Consolidated Statements of Comprehensive Income. As of June 30, 2023, the Company expects approximately $30.1 million to be reclassified from AOCI into earnings over the next 12 months. The timing of the reclassification is based on the interest payment schedule of the long-term borrowings.

	Six Months Ended June 30, 2022			
(in thousands)	**AOCI Beginning Balance**	**Amounts recorded in AOCI**	**Amounts reclassified from AOCI to income**	**AOCI Ending Balance**
Net change in unrealized cash flow hedges gains (losses) (1)	$ (10,481)	$ 32,797	$ 5,170	$ 27,486
Foreign exchange translation adjustment	285	(13,945)	—	(13,660)
Total	$ (10,196)	$ 18,852	$ 5,170	$ 13,826

(1) Amounts reclassified from AOCI to income are included within Financing interest expense on long-term borrowings on the Consolidated Statements of Comprehensive Income.

18. Share-based Compensation

Pursuant to the Amended and Restated 2015 Management Incentive Plan as described in Note 17 "Capital Structure", and in connection with the IPO, non-qualified stock options to purchase shares of Class A Common Stock were granted, each of which vests in equal annual installments over a period of four years from grant date and expires not later than 10 years from the date of grant.

The following table summarizes activity related to stock options for the six months ended June 30, 2023 and 2022:

	Options Outstanding			Options Exercisable	
	Number of Options	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Life	Number of Options	Weighted Average Exercise Price Per Share
At December 31, 2021	1,795,655	$ 19.00	3.24	1,795,655	$ 19.00
Granted	—	—	—	—	—
Exercised	(268,879)	19.00	—	(268,879)	19.00
Forfeited or expired	(5,000)	—	—	(5,000)	—
At June 30, 2022	1,521,776	$ 19.00	2.74	1,521,776	$ 19.00
At December 31, 2022	1,521,776	$ 19.00	2.24	1,521,776	$ 19.00
Granted	—	—	—	—	—
Exercised	—	—	—	—	—
Forfeited or expired	(10,000)	—	—	—	—
At June 30, 2023	1,511,776	$ 19.00	1.74	1,521,776	$ 19.00

The expected life was determined based on an average of vesting and contractual period. The risk-free interest rate was determined based on the yields available on U.S. Treasury zero-coupon issues. The expected stock price volatility was determined based on historical volatilities of comparable companies. The expected dividend yield was determined based on estimated future dividend payments divided by the IPO stock price.

Amended and Restated Investment Technology Group, Inc. 2007 Omnibus Equity Compensation Plan

On the ITG Closing Date, the Company assumed the Amended and Restated ITG 2007 Equity Plan and certain stock option awards, restricted stock unit awards, deferred stock unit awards and performance stock unit awards granted thereunder ("the Assumed Awards"). The Assumed Awards are subject to the same terms and conditions that were applicable to them under the Amended and Restated ITG 2007 Equity Plan, except that (i) the Assumed Awards relate to shares of the Company’s Class A Common Stock, (ii) the number of shares of Class A Common Stock subject to the Assumed Awards was the result of an adjustment based upon an Exchange Ratio (as defined in the ITG Merger Agreement) and (iii) the performance share unit awards were converted into service-based vesting restricted stock unit awards that were no longer subject to any performance based vesting conditions.

Class A Common Stock, Restricted Stock Units and Restricted Stock Awards

Pursuant to the Amended and Restated 2015 Management Incentive Plan as described in Note 17 "Capital Structure", subsequent to the IPO, shares of immediately vested Class A Common Stock, restricted stock units ("RSUs") and restricted stock awards ("RSAs") were granted, with RSUs and RSAs vesting over a period of up to 4 years. The fair value of the Class A Common Stock and RSUs was determined based on a volume weighted average price and the expense is recognized on a straight-line basis over the vesting period. The fair value of the RSAs was determined based on the closing price as of the date of grant and the expense is recognized from the date that achievement of the performance target becomes probable through the remainder of the vesting period. Performance targets are based on the Company's adjusted EBITDA for certain future periods. For the six months ended June 30, 2023 and 2022, respectively, there were 868,315, and 580,710 shares of immediately vested Class A Common Stock granted as part of year-end compensation. In addition, the Company accrued compensation expense of $6.1 million and $9.6 million for the three months ended June 30, 2023 and 2022, respectively, and $12.0 million, and $15.5 million for the six months ended June 30, 2023 and 2022, respectively, related to immediately vested Class A Common Stock expected to be awarded as part of year-end incentive compensation, which was included in Employee compensation and payroll taxes on the Condensed Consolidated Statements of Comprehensive Income and Accounts payable, accrued expenses and other liabilities on the Condensed Consolidated Statements of Financial Condition.

The following table summarizes activity related to RSUs (including the Assumed Awards) and RSAs for the six months ended June 30, 2023, and 2022:

	Number of RSUs and RSAs	Weighted Average Fair Value
At December 31, 2021	3,224,447	$ 24.30
Granted	2,951,863	30.03
Forfeited	(322,220)	25.47
Vested	(1,669,030)	25.07
At June 30, 2022	4,185,060	$ 27.94
At December 31, 2022	3,954,833	$ 28.13
Granted (1)	3,473,137	19.40
Forfeited	(139,609)	27.48
Vested	(2,413,550)	23.59
At June 30, 2023	4,874,811	$ 24.18

(1) Excluded in the number of RSUs and RSAs are 37,500 participating RSAs where the grant date has not been achieved because the performance conditions have not been met.

The Company recognized $10.1 million and $9.5 million for the three months ended June 30, 2023 and 2022, respectively, and $20.2 million, and $18.1 million for the six months ended June 30, 2023 and 2022, respectively, of compensation expense in relation to RSUs. As of June 30, 2023 and December 31, 2022, total unrecognized share-based compensation expense related to unvested RSUs was $74.7 million and $54.6 million, respectively, and this amount is to be recognized over a weighted average period of 1.3 and 0.9 years, respectively. Awards in which the specific performance conditions have not been met are not included in unrecognized share-based compensation expense.

On November 13, 2020, the Company adopted the Virtu Financial, Inc. Deferred Compensation Plan (the "DCP"). The DCP permits eligible executive officers and other employees to defer cash or equity-based compensation beginning in the calendar year ending December 31, 2021, subject to certain limitations and restrictions. Deferrals of cash compensation may also be directed to notional investments in certain of the employee investment opportunities.

19. Regulatory Requirement

U.S. Subsidiary

The Company's U.S. broker-dealer subsidiaries VAL and RFQ-Hub Americas LLC ("RAL"), are subject to the SEC Uniform Net Capital Rule 15c3-1, which requires the maintenance of minimum net capital as detailed in the table below. RAL became a U.S. broker-dealer in June 2023. Pursuant to New York Stock Exchange ("NYSE") rules, VAL was also required to maintain $1.0 million of capital in connection with the operation of its designated market maker (“DMM”) business as of June 30, 2023. The required amount is determined under the exchange rules as the greater of (i) $1 million or (ii) $75,000 for every 0.1% of NYSE transaction dollar volume in each of the securities for which the Company is registered as the DMM.

The regulatory capital and regulatory capital requirements of the Company's U.S. subsidiaries as of June 30, 2023 was as follows:

(in thousands)	Regulatory Capital	Regulatory Capital Requirement	Excess Regulatory Capital
Virtu Americas LLC	$ 455,763	$ 1,577	$ 454,186
RFQ-Hub Americas LLC	2,111	5	2,106

As of June 30, 2023, VAL had $40.9 million of cash in special reserve bank accounts for the benefit of customers pursuant to SEC Rule 15c3-3, *Computation for Determination of Reserve Requirements,* and $5.9 million of cash in reserve bank accounts for the benefit of proprietary accounts of brokers. The balances are included within Cash restricted or segregated under regulations and other on the Condensed Consolidated Statements of Financial Condition.

The regulatory capital and regulatory capital requirements of the Company's U.S. subsidiaries as of December 31, 2022 was as follows:

(in thousands)	Regulatory Capital	Regulatory Capital Requirement	Excess Regulatory Capital
Virtu Americas LLC	$ 554,550	$ 1,000	$ 553,550

As of December 31, 2022, VAL had $50.2 million of cash in special reserve bank accounts for the benefit of customers pursuant to SEC Rule 15c3-3, *Computation for Determination of Reserve Requirements,* and $5.8 million of cash in reserve bank accounts for the benefit of proprietary accounts of brokers.

Foreign Subsidiaries

The Company’s foreign subsidiaries are subject to regulatory capital requirements set by local regulatory bodies, including the Canadian Investment Regulatory Organization ("CIRO"), the Central Bank of Ireland ("CBI"), the Financial Conduct Authority ("FCA") in the United Kingdom, the Australian Securities and Investments Commission ("ASIC"), the Securities and Futures Commission in Hong Kong ("SFC"), and the Monetary Authority of Singapore ("MAS").

The regulatory net capital balances and regulatory capital requirements applicable to the Company's foreign subsidiaries as of June 30, 2023 were as follows:

(in thousands)	Regulatory Capital	Regulatory Capital Requirement	Excess Regulatory Capital
Canada			
Virtu Canada Corp (1)	$ 11,516	$ 189	$ 11,327
Virtu Financial Canada ULC	2,682	189	2,493
Ireland			
Virtu Europe Trading Limited (1)	119,962	27,176	92,786
Virtu Financial Ireland Limited (1)	90,589	51,497	39,092
United Kingdom			
Virtu ITG UK Limited (1)	1,477	953	524
Asia Pacific			
Virtu ITG Australia Limited	22,986	7,452	15,534
Virtu ITG Hong Kong Limited	2,340	556	1,784
Virtu ITG Singapore Pte Limited	690	87	603
Virtu Financial Singapore Pte. Ltd.	126,025	69,227	56,798

(1) Preliminary

As of June 30, 2023, Virtu Europe Trading Limited had $0.1 million of segregated funds on deposit for trade clearing and settlement activity, and Virtu ITG Hong Kong Ltd. had $30 thousand of segregated balances under a collateral account control agreement for the benefit of certain customers.

The regulatory net capital balances and regulatory capital requirements applicable to the Company's foreign subsidiaries as of December 31, 2022 were as follows:

(in thousands)	Regulatory Capital	Regulatory Capital Requirement	Excess Regulatory Capital
Canada			
Virtu ITG Canada Corp	$ 14,248	$ 184	$ 14,064
Virtu Financial Canada ULC	2,663	184	2,479
Ireland			
Virtu Europe Trading Limited	78,834	28,502	50,332
Virtu Financial Ireland Limited	89,853	39,768	50,085
United Kingdom			
Virtu ITG UK Limited	1,405	906	499
Asia Pacific			
Virtu ITG Australia Limited	30,027	3,115	26,912
Virtu ITG Hong Kong Limited	1,683	497	1,186
Virtu ITG Singapore Pte Limited	1,147	91	1,056
Virtu Financial Singapore Pte. Ltd.	121,166	46,025	75,141

As of December 31, 2022, Virtu Europe Trading Limited and Virtu Canada Corp had $0.1 million and $0.4 million, respectively, of funds on deposit for trade clearing and settlement activity, and Virtu ITG Hong Kong Ltd had $30 thousand of segregated balances under a collateral account control agreement for the benefit of certain customers.

20. Geographic Information and Business Segments

The Company operates its business in the U.S. and internationally, primarily in Europe, Asia and Canada. Significant transactions and balances between geographic regions occur primarily as a result of certain of the Company's subsidiaries incurring operating expenses such as employee compensation, communications and data processing and other overhead costs, for the purpose of providing execution, clearing and other support services to affiliates. Charges for transactions between regions are designed to approximate full costs. Intra-region income and expenses and related balances have been eliminated in the geographic information presented below to accurately reflect the external business conducted in each geographical region. The revenues are attributed to countries based on the locations of the subsidiaries. The following table presents total revenues by geographic area for the three and six months ended June 30, 2023, and 2022:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	**2023**	**2022**	**2023**	**2022**
Revenues:				
United States	$ 415,338	$ 485,744	$ 937,966	$ 1,035,193
Ireland	47,493	58,072	101,452	136,030
Singapore	28,079	31,043	54,297	77,320
Canada	7,782	21,514	16,498	38,711
Australia	7,215	7,347	13,855	16,268
Others	947	1,018	3,165	2,478
Total revenues	$ 506,854	$ 604,738	$ 1,127,233	$ 1,306,000

The Company has two operating segments: (i) Market Making and (ii) Execution Services; and one non-operating segment: Corporate.

The Market Making segment principally consists of market making in the cash, futures, and options markets across global equities, fixed income, currencies, and commodities. As a market maker, the Company commits capital on a principal basis by offering to buy securities from, or sell securities to, broker-dealers, banks and institutions. The Company engages in principal trading in the Market Making segment direct to clients as well as in a supplemental capacity on exchanges, Electronic Communications Networks ("ECNs") and alternative trading systems ("ATSs"). The Company is an active participant on all major global equity and futures exchanges and also trades on substantially all domestic electronic options exchanges. As a complement to electronic market making, the cash trading business handles specialized orders and also transacts on the OTC Link ATS operated by OTC Markets Group Inc.

The Execution Services segment comprises client-based trading and trading venues, offering execution services in global equities, options, futures and fixed income on behalf of institutions, banks and broker-dealers. The Company earns commissions and commission equivalents as an agent on behalf of clients as well as between principals to transactions; in addition, the Company will commit capital on behalf of clients as needed. Client-based, execution-only trading in the segment is done primarily through a variety of access points including: (i) algorithmic trading and order routing in global equities and options; (ii) institutional sales traders who offer portfolio trading and single stock sales trading which provides execution expertise for program, block and riskless principal trades in global equities and ETFs; and (iii) matching of client conditional orders in POSIT Alert and client orders in the Company's ATSs, including Virtu MatchIt, and POSIT. The Execution Services segment also includes revenues derived from providing (a) proprietary risk management and trading infrastructure technology to select third parties for a service fee, (b) workflow technology, the Company's integrated, broker-neutral trading tools delivered across the globe including trade order and execution management and order management software applications and network connectivity and (c) trading analytics, including (1) tools enabling portfolio managers and traders to improve pre-trade, real-time and post-trade execution performance, (2) portfolio construction and optimization decisions and (3) securities valuation. The segment also includes the results of the Company's capital markets business, in which the Company acts as an agent for issuers in connection with at-the-market offerings and buyback programs.

The Corporate segment contains the Company's investments, principally in strategic trading-related opportunities and maintains corporate overhead expenses and all other income and expenses that are not attributable to the Company's other segments.

Management evaluates the performance of its segments on a pre-tax basis. Segment assets and liabilities are not used for evaluating segment performance or in deciding how to allocate resources to segments. The Company’s total revenues and income before income taxes and noncontrolling interest (“Pre-tax earnings”) by segment for the three months ended June 30, 2023, and 2022 are summarized in the following table:

(in thousands)	Market Making	Execution Services	Corporate	Consolidated Total
2023:				
Total revenue	$ 405,250	$ 109,116	$ (7,512)	$ 506,854
Income before income taxes and noncontrolling interest	43,741	(115)	(8,159)	35,467
2022:				
Total revenue	432,595	130,997	41,146	604,738
Income (loss) before income taxes and noncontrolling interest	125,446	7,887	40,451	173,784

The Company's Pre-tax earnings by segment for the six months ended June 30, 2023, and 2022 are summarized in the following table:

(in thousands)	Market Making	Execution Services	Corporate	Consolidate
2023				
Total revenue	$ 904,169	$ 227,593	$ (4,529)	$ 1,1
Income before income taxes and noncontrolling interest	167,850	8,898	(6,517)	1
2022				
Total revenue	979,158	282,742	44,100	1,3
Income before income taxes and noncontrolling interest	349,668	23,013	42,813	4

21. Related Party Transactions

The Company incurs expenses and maintains balances with its affiliates in the ordinary course of business. As of June 30, 2023, and December 31, 2022 the Company had net payables to its affiliates of $1.8 million and receivables from its affiliates of $0.5 million, respectively.

The Company has held a minority interest in JNX since 2016 (see Note 9 "Financial Assets and Liabilities"). The Company pays exchange fees to JNX for the trading activities conducted on its proprietary trading system. The Company paid $3.4 million and $3.7 million for the three months ended June 30, 2023 and 2022, respectively, and $5.9 million and $7.5 million for the six months ended June 30, 2023 and 2022, respectively, to JNX for these trading activities.

The Company pays monthly use fees to two JVs in which it holds interests (see Note 11 "Variable Interest Entities"). These monthly fees are for the use of microwave communication networks operated by each of these JVs and are recorded within Communications and data processing on the Condensed Consolidated Statements of Comprehensive Income. The Company made payments to these JVs of $6.3 million and $5.5 million for the three months ended June 30, 2023 and 2022, respectively, and $12.6 million and $10.9 million for the six months ended June 30, 2023 and 2022, respectively.

The Company has an interest in Members Exchange, a member-owned equities exchange. The Company pays regulatory and transaction fees and receives rebates from trading activities. The Company made payments of $0.1 million and received rebates of $6.2 million for the three months ended June 30, 2023 and 2022, respectively, and the Company made payments of $0.2 million and received rebates of $12.8 million for the six months ended June 30, 2023 and 2022, respectively.

In the second quarter of 2022, the Company formed a JV to support the growth and expansion of a multi-asset request-for-quote communication platform. The Company consolidates this JV, and recorded noncontrolling interest of $39.2 million in the condensed consolidated statement of changes in equity as of June 30, 2022. Refer to Note 11 "Variable Interest Entities" for further details.

22. Subsequent Events

The Company has evaluated subsequent events for adjustment to or disclosure in its Condensed Consolidated Financial Statements through the date of this report, and has not identified any recordable or disclosable events, not otherwise reported in these Condensed Consolidated Financial Statements or the notes thereto, except for the following:

On July 26, 2023, the Company’s Board of Directors declared a dividend of $0.24 per share of Class A Common Stock and Class B Common Stock and per participating Restricted Stock Unit and Restricted Stock Award that will be paid on September 15, 2023 to holders of record as of September 1, 2023.

ITEM 2. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following management’s discussion and analysis covers the three and six months ended June 30, 2023, and 2022 should be read in conjunction with the Condensed Consolidated Financial Statements and accompanying notes for the period ended June 30, 2023, which are included in Part 1, Item 1 of this Quarterly Report on Form 10-Q, and the audited consolidated financial statements and accompanying notes and MD&A for the year ended December 31, 2022, which are included in Items 8 and 7 respectively, of the Company's Annual Report on Form 10-K for the year ended December 31, 2022. This management's discussion and analysis contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. Unless otherwise stated, all amounts are presented in thousands of dollars.

Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements. You should not place undue reliance on forward-looking statements because they are subject to numerous uncertainties and factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control. Forward-looking statements include information concerning our possible or assumed future results of operations, including descriptions of our business strategy. These forward-looking statements can be identified by the use of forward-looking terminology, including the terms “may,” “will,” “should,” “believe,” “expect,” “anticipate,” “intend,” “plan,” “estimate,” “project” or, in each case, their negative, or other variations or comparable terminology and expressions. These statements are based on assumptions that we have made in light of our experience in the industry as well as our perceptions of historical trends, current conditions, expected future developments and other factors we believe are appropriate under the circumstances. As you read and consider this Quarterly Report on Form 10-Q, you should understand that forward-looking statements are not guarantees of performance or results and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate, may differ materially from those made in or suggested by the forward-looking statements contained in this Quarterly Report on Form 10-Q. By their nature, forward-looking statements involve known and unknown risks and uncertainties, including those described under the heading “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2022, as filed with the Securities and Exchange Commission ("SEC") on February 17, 2023 (the "2022 Form 10-K"), because they relate to events and depend on circumstances that may or may not occur in the future. Although we believe that the forward-looking statements contained in this Quarterly Report on Form 10-Q are based on reasonable assumptions, you should be aware that many factors, including those described under the heading “Risk Factors” in our 2022 Form 10-K, could affect our actual financial results or results of operations and cash flows, and could cause actual results to differ materially from those in such forward-looking statements, including but not limited to:

- volatility in levels of overall trading activity;
- dependence upon trading counterparties and clearing houses performing their obligations to us;
- failures of our customized trading platform;
- risks inherent to the electronic market making business and trading generally;
- recent SEC proposals focused on equity markets which may, if adopted, materially change U.S. equity market structure, including by reducing overall trading volumes, reducing off-exchange trading and market making opportunities, requiring additional tools, platforms and services to register as an ATS or exchange, and generally increasing the implicit and explicit cost as well as the complexity of the U.S. equities eco-system for all participants;
- additionally, enhanced regulatory, congressional, and media scrutiny, including attention to electronic trading, wholesale market making and off-exchange trading, payment for order flow, and other market structure topics may result in additional potential changes in regulation or law which could have an adverse effect on our business as well as adversely impact the public's perception of us or of companies in our industry;
- increased competition in market making activities and execution services;
- dependence on continued access to sources of liquidity;
- risks associated with self-clearing and other operational elements of our business, including but limited to risks related to funding and liquidity;
- obligations to comply with applicable regulatory capital requirements;
- litigation or other legal and regulatory-based liabilities;

- changes in laws, rules or regulations, including proposed legislation that would impose taxes on certain financial transactions in the European Union, the U.S. (and certain states therein) and other jurisdictions and other potential changes which could increase our corporate or other tax obligations in one or more jurisdictions;
- obligations to comply with laws and regulations applicable to our operations in the U.S. and abroad;
- need to maintain and continue developing proprietary technologies;
- capacity constraints, system failures, and delays;
- dependence on third-party infrastructure or systems;
- use of open source software;
- failure to protect or enforce our intellectual property rights in our proprietary technology;
- failure to protect confidential and proprietary information;
- failure to protect our systems from internal or external cyber threats that could result in damage to our computer systems, business interruption, loss of data, monetary payment demands or other consequences;
- risks associated with international operations and expansion, including failed acquisitions or dispositions;
- the effects of and changes in economic conditions (such as volatility in the financial markets, increased inflation, monetary conditions and foreign currency and continued or exacerbated exchange rate fluctuations, foreign currency controls and/or government mandated pricing controls, as well as in trade, monetary, fiscal and tax policies in international markets), political conditions (such as military actions and terrorist activities), and other global events such as fires, geopolitical conflicts, natural disasters, pandemics or extreme weather;
- the continuing impacts of COVID-19 and the governmental and other responses thereto, including but not limited to the risk of employees and executives contracting COVID-19 and the deployment of our business continuity plan pursuant to which a significant number of our employees may work remotely and our return to office plan, each of which may increase operational risk, as well as increases in market, counterparty and other forms of operational risk;
- risks associated with potential growth and associated corporate actions;
- risks associated with new and emerging asset classes and eco-systems in which we may participate, including digital assets, including risks related to volatility in the underlying assets, regulatory uncertainty, evolving industry practices and standards around custody, clearing and settlement, and other risks inherent in a new and evolving asset class;
- inability to access, or delay in accessing, the capital markets to sell shares or raise additional capital;
- loss of key executives and failure to recruit and retain qualified personnel; and
- risks associated with losing access to a significant exchange or other trading venue.

Our forward-looking statements made herein are made only as of the date of this Quarterly Report on Form 10-Q. We expressly disclaim any intent, obligation or undertaking to update or revise any forward-looking statements made herein to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based. All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements contained in this Quarterly Report on Form 10-Q.

Unless the context otherwise requires, the terms "we," "us," "our," "Virtu" and the "Company" refer to Virtu Financial, Inc., a Delaware corporation, and its consolidated subsidiaries and the term "Virtu Financial" refers to Virtu Financial LLC, a Delaware limited liability company and a consolidated subsidiary of ours.

Overview

We are a leading financial services firm that leverages cutting edge technology to deliver liquidity to the global markets and innovative, transparent trading solutions to our clients. Leveraging our global market structure expertise and scaled, multi-asset technology infrastructure, we provide our clients with a robust product suite including offerings in execution, liquidity sourcing, analytics and broker-neutral, multi-dealer platforms in workflow technology. Our product offerings allow our clients to trade on hundreds of venues across over 50 countries and in multiple asset classes, including global equities, ETFs, options, foreign exchange, futures, fixed income, cryptocurrencies and other commodities. Our integrated, multi-asset analytics platform provides a range of pre- and post-trade services, data products and compliance tools that our clients rely upon to invest, trade and manage risk across global markets. We believe that our broad diversification, in combination with our proprietary technology platform and low-cost structure gives us the scale necessary to grow our business around the globe as we service clients and facilitate risk transfer between global capital markets participants by providing liquidity, while at the same time earning attractive margins and returns.

Technology and operational efficiency are at the core of our business, and our focus on technology is a key element of our success. We have developed a proprietary, multi-asset, multi-currency technology platform that is highly reliable, scalable and modular, and we integrate directly with exchanges, liquidity centers, and our clients. Our market data, order routing, transaction processing, risk management and market surveillance technology modules manage our market making and execution services activities in an efficient manner and enable us to scale our activities globally across additional securities and other financial instruments and asset classes without significant incremental costs or third-party licensing or processing fees.

We believe that technology-enabled market makers and execution services providers like Virtu serve an important role in maintaining and enhancing the overall health and efficiency of the global capital markets by ensuring that market participants have an efficient means to invest, transfer risk and analyze the quality of executions. We believe that market participants benefit from the increased liquidity, lower overall trading costs and execution transparency that Virtu provides.

Our execution services and client solutions products are designed to be transparent, because we believe transparency makes markets more efficient and helps investors make better, more informed decisions. We use the latest technology to create and deliver liquidity to global markets and innovative trading solutions and analytics tools to our clients. We interact directly with hundreds of retail brokers, Registered Investment Advisors, private client networks, sell-side brokers, and buy-side institutions.

We have two operating segments: Market Making and Execution Services, and one non-operating segment: Corporate. Our management allocates resources, assesses performance and manages our business according to these segments.

Market Making

We leverage cutting edge technology to provide competitive and deep liquidity that helps to create more efficient markets around the world. As a market maker and liquidity provider, we stand ready, at any time, to buy or sell a broad range of securities and other financial instruments, and we generate profits by buying and selling large volumes of securities and other financial instruments and earning small bid/ask spreads. Our market structure expertise, broad diversification, and scalable execution technology enable us to provide competitive bids and offers in over 25,000 securities and other financial instruments, on over 235 venues, in 36 countries worldwide. We use the latest technology to create and deliver liquidity to the global markets and automate our market making, risk controls, and post-trade processes. As a market maker, we interact directly with hundreds of retail brokers, Registered Investment Advisors, private client networks, sell-side brokers, and buy-side institutions.

We believe the overall level of volumes and realized volatility as well as the attractiveness of the order flow we interact with and the level of retail participation in the various markets we serve have the greatest impact on the financial performance of our market making businesses. Increases in market volatility can cause bid/ask spreads to widen as market participants are more willing to pay market makers like us to transact immediately and as a result, market makers' capture rate per notional amount transacted may increase.

Execution Services

We offer client execution services and trading venues that provide transparent trading in global equities, ETFs, fixed income, currencies, and commodities to institutions, banks and broker-dealers. We generally earn commissions when transacting as an agent for our clients. Client-based, execution-only trading within this segment is done through a variety of access points including: (a) algorithmic trading and order routing; (b) institutional sales traders who offer portfolio trading and single stock sales trading which provides execution expertise for program, block and riskless principal trades in global equities and ETFs; and (c) matching of client conditional orders in POSIT Alert and in our ATSs, including Virtu MatchIt and POSIT. We also earn revenues (a) by providing our proprietary technology and infrastructure to select third parties for a service fee, (b) through workflow technology and our integrated, broker-neutral trading tools delivered across the globe, including order and execution management systems and order management software applications and network connectivity and (c) through trading analytics, including (1) tools enabling portfolio managers and traders to improve pre-trade, real-time and post-trade execution performance, (2) portfolio construction and optimization decisions and (3) securities valuation. The segment also includes the results of our capital markets business, in which we act as an agent for issuers in connection with at-the-market offerings and buyback programs.

Corporate

Our Corporate segment contains investments principally in strategic financial services-oriented opportunities and maintains corporate overhead expenses and all other income and expenses that are not attributable to our other segments.

Acquisition of ITG

On March 1, 2019, the "ITG Closing Date", we announced the completed acquisition of Investment Technology Group, Inc. and its subsidiaries ("ITG") in an all-cash transaction (the "ITG Acquisition"). In connection with the ITG Acquisition, Virtu Financial, VFH Parent LLC, a Delaware limited liability company and a subsidiary of Virtu Financial ("VFH"), and Impala Borrower LLC (the "Acquisition Borrower"), a subsidiary of the Company, entered into a credit agreement, with the lenders party thereto, Jefferies Finance LLC, as administrative agent and Jefferies Finance LLC and RBC Capital Markets, as joint lead arrangers and joint bookrunners (the "Acquisition Credit Agreement"). The Acquisition Credit Agreement provided (i) a senior secured first lien term loan (together with the Acquisition Incremental Term Loans, as defined below; the "Acquisition First Lien Term Loan Facility") in an aggregate principal amount of $1,500.0 million, drawn in its entirety on the ITG Closing Date, of which approximately $404.5 million was borrowed by VFH to repay all amounts outstanding under a previous term loan facility and the remaining approximately $1,095.0 million borrowed by the Acquisition Borrower to finance the consideration and fees and expenses paid in connection with the ITG Acquisition, and (ii) a $50.0 million senior secured first lien revolving facility to VFH (the "Acquisition First Lien Revolving Facility"), with a $5.0 million letter of credit subfacility and a $5.0 million swingline subfacility. After the ITG Closing Date, VFH assumed the obligations of the Acquisition Borrower in respect of the acquisition term loans. On October 9, 2019, VFH entered into an amendment (“Amendment No. 1”), which amended the Acquisition Credit Agreement dated as of March 1, 2019, to, among other things, provide for $525.0 million in aggregate principal amount of incremental term loans (the “Acquisition Incremental Term Loans”), and amend the related collateral agreement. On March 2, 2020, VFH entered into a second amendment (“Amendment No. 2”), which further amended the Acquisition Credit Agreement to, among other things, reduce the interest rate spread over adjusted London Interbank Offered Rate ("LIBOR") or the alternate base rate by 0.50% per annum and eliminated any step-down in the spread based on VFH's first lien leverage ratio.

On January 13, 2022 (the "Credit Agreement Closing Date"), VFH and Virtu Financial entered into a credit agreement, with the lenders party thereto, JPMorgan Chase Bank, N.A. as administrative agent and JPMorgan Chase bank, N.A., Goldman Sachs Bank USA, RBC Capital Markets, Barclays Bank plc, Jefferies Finance LLC, BMO Capital Markets Corp., and CIBC World Markets Corp., as joint lead arrangers and bookrunners (the “Credit Agreement”). The Credit Agreement provides (i) a senior secured first lien term loan in an aggregate principal amount of $1,800.0 million, drawn in its entirety on the Credit Agreement Closing Date, the proceeds of which were used by VFH to repay all amounts outstanding under the Acquisition Credit Agreement, to pay fees and expenses in connection therewith, to fund share repurchases under the Company’s repurchase program and for general corporate purposes, and (ii) a $250.0 million senior secured first lien revolving facility to VFH, with a $20.0 million letter of credit subfacility and a $20.0 million swingline subfacility.

Amended and Restated 2015 Management Incentive Plan

The Company’s Board of Directors and stockholders adopted the 2015 Management Incentive Plan, which became effective upon consummation of the Company's IPO and was subsequently amended and restated following receipt of approval from the Company’s stockholders on June 30, 2017 (the “Amended and Restated 2015 Management Incentive Plan”). The Amended and Restated 2015 Management Incentive Plan provides for the grant of stock options, restricted stock units, and other awards based on an aggregate of 16,000,000 shares of Class A Common Stock, par value $0.00001 per share (the “Class A Common Stock”), subject to additional sublimits, including limits on the total option grant to any one participant in a single year and the total performance award to any one participant in a single year. On April 23, 2020, the Company’s Board of Directors adopted an amendment to the Company’s Amended and Restated 2015 Management Incentive Plan in order to increase the number of shares of the Company’s Class A Common Stock reserved for issuance, and in respect of which awards may be granted under the Amended and Restated 2015 Plan from 16,000,000 to an aggregate of 21,000,000 shares of Class A Common Stock. On April 22, 2022, the Company’s Board of Directors adopted another amendment to the Company’s Amended and Restated 2015 Management Incentive Plan to increase the number of shares to an aggregate of 26,000,000 shares of Class A Common Stock and the amendment was approved by the Company’s shareholders at the Company’s annual meeting of shareholders on June 2, 2022.

In connection with the IPO, non-qualified stock options to purchase 9,228,000 shares were granted at the IPO per share price, each of which vested in equal annual installments over a period of four years from the grant date and expire not later than 10 years from the grant date. Subsequent to the IPO and through June 30, 2023, options to purchase 1,643,750 shares in the aggregate were forfeited and 6,072,474 options were exercised. The fair value of the stock option grants was determined through the application of the Black-Scholes-Merton model and was recognized on a straight-line basis over the vesting period.

Amended and Restated Investment Technology Group, Inc. 2007 Omnibus Equity Compensation Plan

On the ITG Closing Date, the Company assumed the Amended and Restated ITG 2007 Omnibus Equity Compensation Plan, dated as of June 8, 2017 (the "Amended and Restated ITG 2007 Equity Plan") and certain stock option awards, restricted stock unit awards, deferred stock unit awards and performance stock unit awards granted under the Amended and Restated ITG 2007 Equity Plan (the “Assumed Awards”). The Assumed Awards are subject to the same terms and conditions that were applicable to them under the Amended and Restated ITG 2007 Equity Plan, except that (i) the Assumed Awards relate to shares of the Company’s Class A Common Stock, (ii) the number of shares of Class A Common Stock subject to the Assumed Awards was the result of an adjustment based upon an Exchange Ratio (as defined in the Agreement and Plan of Merger by and between the Company, Impala Merger Sub, Inc., a Delaware corporation and an indirect wholly owned subsidiary of the Company, and ITG, dated as of November 6, 2018, the "ITG Merger Agreement") and (iii) the performance share unit awards were converted into service-based vesting restricted stock unit awards that were no longer subject to any performance based vesting conditions.

Parent Company Financial Information

There are no material differences between our condensed consolidated financial statements and the financial statements of Virtu Financial except as follows: (i) cash and cash equivalents reflected on our Condensed Consolidated Statements of Financial Condition as of June 30, 2023 in the amount of $5.4 million; (ii) deferred tax assets reflected on our Condensed Consolidated Statements of Financial Condition as of June 30, 2023 in the amount of $129.1 million and tax receivable agreement obligation in the amount of $215.5 million, in each case as described in greater detail in Note 4 "Tax Receivable Agreements" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q; (iii) a portion of the member's equity of Virtu Financial is represented as noncontrolling interest on our Condensed Consolidated Statements of Financial Condition as of June 30, 2023; and (iv) provision for corporate income tax in the amount of $1.1 million and $19.0 million reflected on our Condensed Consolidated Statements of Comprehensive Income for the three and six months ended June 30, 2023, respectively.

Components of Our Results of Operations

The following table shows our i) Total revenue, ii) Total operating expenses, and iii) Income before income taxes and noncontrolling interest by segment for the three and six months ended June 30, 2023, and 2022:

(in thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Market Making				
Total revenue	$ 405,250	$ 432,595	$ 904,169	$ 979,158
Total operating expenses	361,509	307,149	736,319	629,490
Income before income taxes and noncontrolling interest	43,741	125,446	167,850	349,668
Execution Services				
Total revenue	109,116	130,997	227,593	282,742
Total operating expenses	109,231	123,110	218,695	259,729
Income before income taxes and noncontrolling interest	(115)	7,887	8,898	23,013
Corporate				
Total revenue	(7,512)	41,146	(4,529)	44,100
Total operating expenses	647	695	1,988	1,287
Income before income taxes and noncontrolling interest	(8,159)	40,451	(6,517)	42,813
Consolidated				
Total revenue	506,854	604,738	1,127,233	1,306,000
Total operating expenses	471,387	430,954	957,002	890,506
Income before income taxes and noncontrolling interest	$ 35,467	$ 173,784	$ 170,231	$ 415,494

The following table shows our results of operations for the three and six months ended June 30, 2023, and 2022:

(in thousands)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Revenues:				
Trading income, net	$ 306,168	$ 395,928	$ 718,679	$ 918,235
Interest and dividends income	97,979	30,792	180,223	51,804
Commissions, net and technology services	109,504	136,340	230,948	290,995
Other, net	(6,797)	41,678	(2,617)	44,966
Total revenue	506,854	604,738	1,127,233	1,306,000
Operating Expenses:				
Brokerage, exchange, clearance fees and payments for order flow, net	122,471	156,986	267,993	307,366
Communication and data processing	56,959	55,699	113,771	111,534
Employee compensation and payroll taxes	95,557	98,604	198,994	202,084
Interest and dividends expense	112,493	48,716	210,094	91,254
Operations and administrative	25,491	13,577	49,790	38,792
Depreciation and amortization	15,913	16,334	31,261	33,812
Amortization of purchased intangibles and acquired capitalized software	16,020	16,277	32,040	32,757
Termination of office leases	(146)	677	(50)	1,384
Debt issue cost related to debt refinancing, prepayment and commitment fees	1,771	1,437	3,948	27,121
Transaction advisory fees and expenses	8	558	23	980
Financing interest expense on long-term borrowings	24,850	22,089	49,138	43,422
Total operating expenses	471,387	430,954	957,002	890,506
Income before income taxes and noncontrolling interest	35,467	173,784	170,231	415,494
Provision for income taxes	5,923	24,888	30,605	66,674
Net income	$ 29,544	$ 148,896	$ 139,626	$ 348,820
Selected Operating Margins				
GAAP Net income Margin (1)	5.8 %	24.6 %	12.4 %	26.7 %

(1) Calculated by dividing Net income by Total revenue.

Net income available to stockholders and basic and diluted earnings per share are presented below:

(in thousands, except for share or per share data)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Net income	$ 29,544	$ 148,896	$ 139,626	$ 348,820
Noncontrolling interest	(12,842)	(63,729)	(65,044)	(151,397)
Net income available for common stockholders	$ 16,702	$ 85,167	$ 74,582	$ 197,423
Earnings per share				
Basic	$ 0.16	$ 0.78	$ 0.73	$ 1.78
Diluted	$ 0.16	$ 0.78	$ 0.73	$ 1.77
Weighted average common shares outstanding				
Basic	94,973,489	104,960,826	96,376,926	107,133,079
Diluted	94,973,489	105,478,278	96,376,926	107,759,784

Total Revenues

Revenues are generated through market marking activities, commissions and fees on execution services activities, which include recurring subscriptions on workflow technology and analytic products. The majority of our revenues are generated through market making activities, which are recorded as Trading income, net and Interest and dividends income. Commissions and fees are derived from commissions charged for trade executions in client execution services. We earn commissions and commission equivalents, as well as, in certain cases, contingent fees based on client revenues, which represent variable consideration. The services offered under these contracts have the same pattern of transfer; accordingly, they are being measured and recognized as a single performance obligation. The performance obligation is satisfied over time, and accordingly, revenue is recognized as time passes. Variable consideration has not been included in the transaction price as the amount of consideration is contingent on factors outside our control.

Recurring revenues are primarily derived from workflow technology connectivity fees generated for matching client orders, and analytics services to select third parties. Revenues from connectivity fees are recognized and billed to clients on a monthly basis. Revenues from commissions attributable to analytic products under bundled arrangements are recognized over the course of the year as the performance obligations for those analytics products are satisfied.

Trading income, net. Trading income, net represents revenue earned from bid/ask spreads. Trading income is generated in the normal course of our market making activities and is typically proportional to the level of trading activity, or volumes, and bid/ask spreads in the asset classes we serve. Our trading income is highly diversified by asset class and geography and comprises small amounts earned on millions of trades on various exchanges. Our trading income, net, results from gains and losses associated with trading strategies, which are designed to capture small bid/ask spreads, while hedging risks. Trading income, net, accounted for 64% and 70% of our total revenues for the six months ended June 30, 2023 and 2022, respectively.

Interest and dividends income. Our market making activities require us to hold securities on a regular basis, and we generate revenues in the form of interest and dividends income from these securities. Interest is also earned on securities borrowed from other market participants pursuant to collateralized financing arrangements and on cash held by brokers. Dividends income arises from holding market making positions over dates on which dividends are paid to shareholders of record.

Commissions, net and technology services. We earn revenues on transactions for which we charge explicit commissions or commission equivalents, which include the majority of our institutional client orders. Commissions and fees are primarily affected by changes in our equities, fixed income and futures transaction volumes with institutional clients, which vary based on client relationships; changes in commission rates; client experience on the various platforms; level of volume-based fees from providing liquidity to other trading venues; and the level of our soft dollar and commission recapture activity. Client commission fees are charged for client trades executed by us on behalf of third-party broker-dealers and other financial institutions. Revenue is recognized on a trade date basis, which is the point at which the performance obligation to the customer is satisfied, based on the trade being executed. In addition, we offer workflow technology and analytics services to select third parties. Revenues are derived from fees generated by matching sell-side and buy-side clients orders, and from analytic products delivered to the clients.

Other, net. We have interests in multiple strategic investments and telecommunications joint ventures (“JVs”). We record our pro-rata share of each JV’s earnings or losses within Other, net, while fees related to the use of communication services provided by the JVs are recorded within Communications and data processing.

We have a noncontrolling investment (the “JNX Investment”) in Japannext Co., Ltd. (“JNX”), a proprietary trading system based in Tokyo. In connection with the investment, we issued bonds to certain affiliates of JNX and used the proceeds to partially finance the transaction. Revenues or losses are recognized due to the changes in fair value of the investment or fluctuations in Japanese Yen conversion rates within Other, net.

Other, net can also include gains on sales of strategic investments and businesses, as well as revenues from service agreements related to the sale of businesses.

Operating Expenses

Brokerage, exchange, clearance fees and payments for order flow, net. Brokerage, exchange, clearance fees and payments for order flow are our most significant expenses, which include the direct expenses of executing and clearing transactions that we consummate in the course of our market making activities. Brokerage, exchange, clearance fees and payments for order flow primarily consist of fees charged by third parties for executing, processing and settling trades. These fees generally increase and decrease in direct correlation with the level of our trading activity. Execution fees are paid primarily to exchanges and venues where we trade. Clearance fees are paid to clearing houses and clearing agents. Payments for order flow represent payments to broker-dealer clients, in the normal course of business, for directing their order flow in U.S. equities to the Company. Rebates based on volume discounts, credits or payments received from exchanges or other marketplaces are netted against brokerage, exchange, clearance fees and payments for order flow.

Communication and data processing. Communication and data processing represent primarily fixed expenses for data center co-location, network lines and connectivity for our trading centers and co-location facilities. Communications expense consists primarily of the cost of voice and data telecommunication lines supporting our business, including connectivity to data centers, exchanges, markets and liquidity pools around the world, and data processing expense consists primarily of market data subscription fees that we pay to third parties to receive price quotes and related information.

Employee compensation and payroll taxes. Employee compensation and payroll taxes include employee salaries, cash and non-cash incentive compensation, employee benefits, payroll taxes, severance and other employee related costs. Employee compensation and payroll taxes also includes non-cash compensation expenses with respect to restricted stock units and restricted stock awards pursuant to the Amended and Restated 2015 Management Incentive Plan and Class A Common Stock underlying certain awards assumed pursuant to the Amended and Restated ITG 2007 Equity Plan.

Interest and dividends expense. We incur interest expense from loaning certain equity securities in the general course of our market making activities pursuant to collateralized lending transactions. Typically, dividend expense is incurred when a dividend is paid on securities sold short.

Operations and administrative. Operations and administrative expense represents occupancy, recruiting, travel and related expense, professional fees and other expenses.

Depreciation and amortization. Depreciation and amortization expense results from the depreciation of fixed assets and leased equipment, such as computing and communications hardware, as well as amortization of leasehold improvements and capitalized in-house software development. We depreciate our computer hardware and related software, office hardware and furniture and fixtures on a straight-line basis over a period of 3 to 7 years based on the estimated useful life of the underlying asset, and we amortize our capitalized software development costs on a straight-line basis over a period of 1.5 to 3 years, which represents the estimated useful lives of the underlying software. We amortize leasehold improvements on a straight-line basis over the lesser of the life of the improvement or the term of the lease.

Amortization of purchased intangibles and acquired capitalized software. Amortization of purchased intangibles and acquired capitalized software represents the amortization of finite lived intangible assets acquired in connection with the Acquisition of KCG and the ITG Acquisition. These assets are amortized over their useful lives, ranging from 1 to 15 years, except for certain assets which were categorized as having indefinite useful lives.

Termination of office leases. Termination of office leases represents the write-off expense related to certain office space we ceased use of as part of the effort to integrate and consolidate office space. The aggregate write-off amount includes the impairment of operating lease right-of-use assets, leasehold improvements and fixed assets, and dilapidation charges.

Debt issue cost related to debt refinancing, prepayment and commitment fees. As a result of the refinancing or early termination of our long-term borrowings, we accelerate the capitalized debt issue cost and the discount on the term loan that would otherwise be amortized or accreted over the life of the term loan. Premium paid in connection with retiring outstanding bonds, and commitment fees paid for lines of credit are also included in this category.

Transaction advisory fees and expenses. Transaction advisory fees and expenses primarily reflect professional fees incurred by us in connection with one or more acquisitions or dispositions.

Financing interest expense on long-term borrowings. Financing interest expense reflects interest accrued on outstanding indebtedness under our long-term borrowing arrangements.

Provision for income taxes

We are subject to U.S. federal, state and local income tax at the rate applicable to corporations less the rate attributable to the noncontrolling interest in Virtu Financial. Our non-U.S. operations are also subject to foreign income tax at the applicable corporate rates.

Our effective tax rate is subject to significant variation due to several factors, including variability in our pre-tax and taxable income and loss and the jurisdictions to which they relate, changes in how we do business, acquisitions and investments, audit-related developments, tax law developments (including changes in statutes, regulations, case law, and administrative practices), and relative changes of expenses or losses for which tax benefits are not recognized. Additionally, our effective tax rate can be more or less volatile based on the amount of pre-tax income or loss. For example, the impact of discrete items and non-deductible expenses on our effective tax rate is greater when our pre-tax income is lower. Our effective tax rate may also be impacted by changes in the portion of income that is attributable to the noncontrolling interest.

We regularly assess whether it is more likely than not that we will realize our deferred tax assets in each taxing jurisdiction in which we operate. In performing this assessment with respect to each jurisdiction, we review all available evidence, including actual and expected future earnings, capital gains, and investment in such jurisdiction, the carry-forward periods available to us for tax reporting purposes, and other relevant factors. See Note 13 "Income Taxes" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q for additional information.

Non-GAAP Financial Measures and Other Items

To supplement our Condensed Consolidated Financial Statements presented in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"), we use the following non-U.S. GAAP ("Non-GAAP") financial measures of financial performance:

- "Adjusted Net Trading Income", which is the amount of revenue we generate from our market making activities, or Trading income, net, plus Commissions, net and technology services, plus Interest and dividends income, less direct costs associated with those revenues, including Brokerage, exchange, clearance fees and payments for order flow, net, and Interest and dividends expense. We also disclose Adjusted Net Trading Income by segment, including daily averages. Management believes that Adjusted Net Trading Income is useful for comparing general operating performance from period to period. Although we use Adjusted Net Trading Income as a financial measure to assess the performance of our business, the use of Adjusted Net Trading Income is limited because it does not include certain material costs that are necessary to operate our business. Our presentation of Adjusted Net Trading Income should not be construed as an indication that our future results will be unaffected by revenues or expenses that are not directly associated with our core business activities.
- "EBITDA", which measures our operating performance by adjusting net income to exclude Financing interest expense on long-term borrowings, Debt issue cost related to debt refinancing, prepayment, and commitment fees, Depreciation and amortization, Amortization of purchased intangibles and acquired capitalized software, and Income tax expense, and "Adjusted EBITDA", which measures our operating performance by further adjusting EBITDA to exclude severance, transaction advisory fees and expenses, termination of office leases, charges related to share-based compensation and other expenses, which includes reserves for legal matters, and Other, net, which includes gains and losses from strategic investments and the sales of businesses.
- "Normalized Adjusted Net Income", "Normalized Adjusted Net Income before income taxes", "Normalized provision for income taxes", and "Normalized Adjusted EPS", which we calculate by adjusting Net Income to exclude certain items, and other non-cash items, assuming that all vested and unvested Virtu Financial Units have been exchanged for Class A Common Stock, and applying an effective tax rate, which was approximately 24%.
- Operating Margins, which are calculated by dividing net income, EBITDA, and Adjusted EBITDA by Adjusted Net Trading Income.

Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes, Normalized Adjusted EPS, and Operating Margins (collectively, the "Company's Non-GAAP Measures") are non-GAAP financial measures used by management in evaluating operating performance and in making strategic decisions. In addition, the Company's Non-GAAP Measures or similar non-GAAP financial measures are used by research analysts, investment bankers and lenders to assess our operating performance. Management believes that the presentation of the Company's Non-GAAP Measures provides useful information to investors regarding our results of operations and cash flows because they assist both investors and management in analyzing and benchmarking the performance and value of our business. The Company's Non-GAAP Measures provide indicators of general economic performance that are not affected by fluctuations in certain costs or other items. Accordingly, management believes that these measurements are useful for comparing general operating performance from period to period. Furthermore, our Credit Agreement contains covenants and other tests based on metrics similar to Adjusted EBITDA. Other companies may define Adjusted Net Trading Income, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes, Normalized Adjusted EPS, and Operating Margins differently, and as a result the Company's Non-GAAP Measures may not be directly comparable to those of other companies. Although we use the Company's Non-GAAP Measures as financial measures to assess the performance of our business, such use is limited because they do not include certain material costs necessary to operate our business.

The Company's Non-GAAP Measures should be considered in addition to, and not as a substitute for, Net Income in accordance with U.S. GAAP as a measure of performance. Our presentation of the Company's Non-GAAP Measures should not be construed as an indication that our future results will be unaffected by unusual or nonrecurring items. The Company's Non-GAAP Measures have limitations as analytical tools, and you should not consider them in isolation or as substitutes for analysis of our results as reported under U.S. GAAP. Some of these limitations are:

- they do not reflect every cash expenditure, future requirements for capital expenditures or contractual commitments;
- our EBITDA-based measures do not reflect the significant interest expense or the cash requirements necessary to service interest or principal payment on our debt;

- although depreciation and amortization are non-cash charges, the assets being depreciated and amortized will often have to be replaced or require improvements in the future, and our EBITDA-based measures do not reflect any cash requirement for such replacements or improvements;
- they are not adjusted for all non-cash income or expense items that are reflected in our consolidated statements of cash flows;
- they do not reflect the impact of earnings or charges resulting from matters we consider not to be indicative of our ongoing operations; and
- they do not reflect limitations on our costs related to transferring earnings from our subsidiaries to us.

Because of these limitations, the Company's Non-GAAP Measures are not intended as alternatives to Net Income as indicators of our operating performance and should not be considered as measures of discretionary cash available to us to invest in the growth of our business or as measures of cash that will be available to us to meet our obligations. We compensate for these limitations by using the Company's Non-GAAP Measures along with other comparative tools, together with U.S. GAAP measurements, to assist in the evaluation of operating performance. These U.S. GAAP measurements include operating Net Income, cash flows from operations and cash flow data. See below a reconciliation of each of the Company's Non-GAAP Measures to the most directly comparable U.S. GAAP measure.

The following table reconciles the Condensed Consolidated Statements of Comprehensive Income to arrive at Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, and Non-GAAP Operating Margins for the three and six months ended June 30, 2023, and 2022.

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	**2023**	**2022**	**2023**	**2022**
Reconciliation of Trading income, net to Adjusted Net Trading Income				
Trading income, net	$ 306,168	$ 395,928	$ 718,679	$ 918,235
Interest and dividends income	97,979	30,792	180,223	51,804
Commissions, net and technology services	109,504	136,340	230,948	290,995
Brokerage, exchange, clearance fees and payments for order flow, net	(122,471)	(156,986)	(267,993)	(307,366)
Interest and dividends expense	(112,493)	(48,716)	(210,094)	(91,254)
Adjusted Net Trading Income	$ 278,687	$ 357,358	$ 651,763	$ 862,414
Reconciliation of Net Income to EBITDA and Adjusted EBITDA				
Net income	$ 29,544	$ 148,896	$ 139,626	$ 348,820
Financing interest expense on long-term borrowings	24,850	22,089	49,138	43,422
Debt issue cost related to debt refinancing, prepayment, and commitment fees	1,771	1,437	3,948	27,121
Depreciation and amortization	15,913	16,334	31,261	33,812
Amortization of purchased intangibles and acquired capitalized software	16,020	16,277	32,040	32,757
Provision for income taxes	5,923	24,888	30,605	66,674
EBITDA	$ 94,021	$ 229,921	$ 286,618	$ 552,606
Severance	1,265	757	3,910	2,759
Transaction advisory fees and expenses	8	558	23	980
Termination of office leases	(146)	677	(50)	1,384
Other	10,671	(41,631)	7,204	(37,369)
Share based compensation	16,171	18,997	31,754	32,709
Adjusted EBITDA	$ 121,990	$ 209,279	$ 329,459	$ 553,069
Selected Operating Margins				
GAAP Net income Margin (1)	5.8 %	24.6 %	12.4 %	26.7 %
Non-GAAP Net income Margin (2)	10.6 %	41.7 %	21.4 %	40.4 %
EBITDA Margin (3)	33.7 %	64.3 %	44.0 %	64.1 %
Adjusted EBITDA Margin (4)	43.8 %	58.6 %	50.5 %	64.1 %

(1) Calculated by dividing Net income by Total revenue.
(2) Calculated by dividing net income by Adjusted Net Trading Income.
(3) Calculated by dividing EBITDA by Adjusted Net Trading Income.
(4) Calculated by dividing Adjusted EBITDA by Adjusted Net Trading Income.

The following table reconciles Net Income to arrive at Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes, Normalized Adjusted Net Income and Normalized Adjusted EPS for the three and six months ended June 30, 2023, and 2022:

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands, except share and per share data)	**2023**	**2022**	**2023**	**2022**
Reconciliation of Net Income to Normalized Adjusted Net Income				
Net income	$ 29,544	$ 148,896	$ 139,626	$ 348,820
Provision for income taxes	5,923	24,888	30,605	66,674
Income before income taxes	35,467	173,784	170,231	415,494
Amortization of purchased intangibles and acquired capitalized software	16,020	16,277	32,040	32,757
Debt issue cost related to debt refinancing, prepayment, and commitment fees	1,771	1,437	3,948	27,121
Severance	1,265	757	3,910	2,759
Transaction advisory fees and expenses	8	558	23	980
Termination of office leases	(146)	677	(50)	1,384
Other	10,671	(41,631)	7,204	(37,369)
Share based compensation	16,171	18,997	31,754	32,709
Normalized Adjusted Net Income before income taxes	81,227	170,856	249,060	475,835
Normalized provision for income taxes (1)	19,495	41,006	59,772	114,201
Normalized Adjusted Net Income	$ 61,732	$ 129,850	$ 189,288	$ 361,634
Weighted Average Adjusted shares outstanding (2)	168,831,964	178,886,524	170,085,629	181,017,758
Normalized Adjusted EPS	$ 0.37	$ 0.73	$ 1.11	$ 2.00

(1) Reflects U.S. federal, state, and local income tax rate applicable to corporations of approximately 24% for all periods presented.

(2) Assumes that (1) holders of all vested and unvested non-vesting Virtu Financial Units (together with corresponding shares of the Company's Class C common stock, par value $0.00001 per share (the “Class C Common Stock”)) have exercised their right to exchange such Virtu Financial Units for shares of Class A Common Stock on a one-for-one basis, (2) holders of all Virtu Financial Units (together with corresponding shares of the Company's Class D common stock, par value $0.00001 per share (the “Class D Common Stock”)) have exercised their right to exchange such Virtu Financial Units for shares of the Company's Class B common stock, par value $0.00001 per share (the “Class B Common Stock”) on a one-for-one basis, and subsequently exercised their right to convert the shares of Class B Common Stock into shares of Class A Common Stock on a one-for-one basis. Includes additional shares from dilutive impact of options, restricted stock units and restricted stock awards outstanding under the Amended and Restated 2015 Management Incentive Plan and the Amended and Restated ITG 2007 Equity Plan during the three and six months ended June 30, 2023 and 2022.

The following tables reconcile Trading income, net to Adjusted Net Trading Income by segment for the three and six months ended June 30, 2023, and 2022:

	Three Months Ended June 30, 2023			
(in thousands)	**Market Making**	**Execution Services**	**Corporate**	**Total**
Trading income, net	$ 302,312	$ 3,856	$ —	$ 306,168
Commissions, net and technology services	6,634	102,870	—	109,504
Interest and dividends income	95,595	2,384	—	97,979
Brokerage, exchange, clearance fees and payments for order flow, net	(99,842)	(22,629)	—	(122,471)
Interest and dividends expense	(111,508)	(985)	—	(112,493)
Adjusted Net Trading Income	$ 193,191	$ 85,496	$ —	$ 278,687

	Three Months Ended June 30, 2022			
(in thousands)	**Market Making**	**Execution Services**	**Corporate**	**Total**
Trading income, net	$ 390,263	$ 5,665	$ —	$ 395,928
Commissions, net and technology services	11,145	125,195	—	136,340
Interest and dividends income	30,792	—	—	30,792
Brokerage, exchange, clearance fees and payments for order flow, net	(131,121)	(25,865)	—	(156,986)
Interest and dividends expense	(47,355)	(1,361)	—	(48,716)
Adjusted Net Trading Income	$ 253,724	$ 103,634	$ —	$ 357,358

	Six Months Ended June 30, 2023			
(in thousands)	**Market Making**	**Execution Services**	**Corporate**	**Total**
Trading income, net	$ 710,655	$ 8,024	$ —	$ 718,679
Commissions, net and technology services	16,334	214,614	—	230,948
Interest and dividends income	175,283	4,940	—	180,223
Brokerage, exchange, clearance fees and payments for order flow, net	(222,791)	(45,202)	—	(267,993)
Interest and dividends expense	(208,431)	(1,663)	—	(210,094)
Adjusted Net Trading Income	$ 471,050	$ 180,713	$ —	$ 651,763

	Six Months Ended June 30, 2022			
(in thousands)	**Market Making**	**Execution Services**	**Corporate**	**Total**
Trading income, net	$ 906,621	$ 11,614	$ —	$ 918,235
Commissions, net and technology services	20,194	270,801	—	290,995
Interest and dividends income	51,775	29	—	51,804
Brokerage, exchange, clearance fees and payments for order flow, net	(254,636)	(52,730)	—	(307,366)
Interest and dividends expense	(88,382)	(2,872)	—	(91,254)
Adjusted Net Trading Income	$ 635,572	$ 226,842	$ —	$ 862,414

The following table shows our Adjusted Net Trading Income and average daily Adjusted Net Trading Income by segment for the three and six months ended June 30, 2023, and 2022:

Adjusted Net Trading Income by Segment (in thousands):	Three Months Ended June 30, 2023	2022	% Change
Market Making	$ 193,191	$ 253,724	(23.9)%
Execution Services	85,496	103,634	(17.5)%
Adjusted Net Trading Income	$ 278,687	$ 357,358	(22.0)%

Average Daily Adjusted Net Trading Income by Segment (in thousands):	Three Months Ended June 30, 2023	2022	% Change
Market Making	$ 3,116	$ 4,092	(23.9)%
Execution Services	1,379	1,672	(17.5)%
Average Daily Adjusted Net Trading Income	$ 4,495	$ 5,764	(22.0)%

Adjusted Net Trading Income by Segment (in thousands):	Six Months Ended June 30, 2023	2022	% Change
Market Making	$ 471,050	$ 635,572	(25.9)%
Execution Services	180,713	226,842	(20.3)%
Adjusted Net Trading Income	$ 651,763	$ 862,414	(24.4)%

Average Daily Adjusted Net Trading Income by Segment (in thousands):	Six Months Ended June 30, 2023	2022	% Change
Market Making	$ 3,799	$ 5,126	(25.9)%
Execution Services	1,457	1,829	(20.3)%
Average Daily Adjusted Net Trading Income	$ 5,256	$ 6,955	(24.4)%

Three Months Ended June 30, 2023 Compared to Three Months Ended June 30, 2022

Total Revenues

Our total revenues decreased $97.9 million, or 16.2%, to $506.9 million for the three months ended June 30, 2023, compared to $604.7 million for the three months ended June 30, 2022. The decrease was primarily driven by lower market volumes and lower volatility across global markets, and decreased opportunity in our customer market making trading as a result of lower spread opportunity and decreased quality of the order flow with which we interacted during the three months ended June 30, 2023 compared to the same period in 2022, as well as a decrease in Other, net, which was driven by gains recorded on sales of various strategic investments in 2022.

The following table shows total revenues by segment for the three months ended June 30, 2023 and 2022.

(in thousands, except for percentage)	Three Months Ended June 30, 2023	2022	% Change
Market Making			
Trading income, net	$ 302,312	$ 390,263	(22.5)%
Interest and dividends income	95,595	30,792	210.5%
Commissions, net and technology services	6,634	11,145	(40.5)%
Other, net	709	395	79.5%
Total revenues from Market Making	$ 405,250	$ 432,595	(6.3)%
Execution Services			
Trading income, net	$ 3,856	$ 5,665	(31.9)%
Interest and dividends income	2,384	—	NM
Commissions, net and technology services	102,870	125,195	(17.8)%
Other, net	6	137	(95.6)%
Total revenues from Execution Services	$ 109,116	$ 130,997	(16.7)%
Corporate			
Other, net	$ (7,512)	$ 41,146	NM
Total revenues from Corporate	$ (7,512)	$ 41,146	NM
Consolidated			
Trading income, net	$ 306,168	$ 395,928	(22.7)%
Interest and dividends income	97,979	30,792	218.2%
Commissions, net and technology services	109,504	136,340	(19.7)%
Other, net	(6,797)	41,678	NM
Total revenues	$ 506,854	$ 604,738	(16.2)%

Trading income, net. Trading income, net was primarily earned by our Market Making segment. Trading income, net decreased $89.8 million, or 22.7% to $306.2 million for the three months ended June 30, 2023, compared to $395.9 million for the three months ended June 30, 2022. The decrease was largely a result of lower market volumes and lower volatility across global markets and decreased opportunity in our customer market making trading as a result of lower spread opportunity and decreased quality of the order flow with which we interacted. Rather than analyzing trading income, net, in isolation, we evaluate it in the broader context of our Adjusted Net Trading Income, together with Interest and dividends income, Interest and dividends expense, Commissions, net and technology services and Brokerage, exchange, clearance fees and payments for order flow, net, each of which is described below.

Interest and dividends income. Interest and dividends income was primarily earned by our Market Making segment. Interest and dividends income increased $67.2 million, or 218.2%, to $98.0 million for the three months ended June 30, 2023, compared to $30.8 million for the three months ended June 30, 2022. This increase was primarily attributable to the higher dividends earned on market making trading assets held over periods when dividends are paid along with an increase in interest income earned on cash collateral posted as part of securities borrowing transactions and interest earned on balances maintained at banks and prime brokers, both of which benefited from higher interest rates for the period compared to the same period during the prior year. As indicated above, rather than analyzing interest and dividends income in isolation, we evaluate it in the broader context of our Adjusted Net Trading Income.

Commissions, net and technology services. Commissions, net and technology services revenues were primarily earned by our Execution Services segment. Commissions, net and technology services revenues decreased $26.8 million, or 19.7%, to $109.5 million for the three months ended June 30, 2023, compared to $136.3 million for the three months ended June 30, 2022. This decrease was driven by lower market volumes, a reduction of institutional investors' commissions available, and declining institutional engagement. As indicated above, rather than analyzing interest and dividends income in isolation, we evaluate it in the broader context of our Adjusted Net Trading Income.

Other, net. Other, net decreased $48.5 million, or 116.3%, to $(6.8) million for the three months ended June 30, 2023, compared to $41.7 million for the three months ended June 30, 2022. Other, net comprises changes in the valuation on our level 3 investment, as well as other miscellaneous income including gains and losses attributable to our variable interest entities and other investments. The three months ended June 30, 2022 included gains from sales of investments in our strategic investments portfolio. Refer to Note 9 "Financial Assets and Liabilities" in Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q for more details on our level 3 investment.

Adjusted Net Trading Income

Adjusted Net Trading Income, which is a non-GAAP measure, decreased $78.7 million, or 22.0%, to $278.7 million for the three months ended June 30, 2023, compared to $357.4 million for the three months ended June 30, 2022. This decrease was primarily attributable to lower Trading income, net in the Market Making segment during the three months ended June 30, 2023 compared to the same period in 2022, as noted above. Adjusted Net Trading Income per day decreased $1.3 million, or 22.0%, to $4.5 million for the three months ended June 30, 2023, compared to $5.8 million for the three months ended June 30, 2022. For a full description of Adjusted Net Trading Income and a reconciliation of Adjusted Net Trading Income to trading income, net, see “Non-GAAP Financial Measures and Other Items” in this Item 2. “Management's Discussion and Analysis of Financial Condition and Results of Operations”.

Operating Expenses

Our operating expenses increased $40.4 million, or 9.4%, to $471.4 million for the three months ended June 30, 2023, compared to $431.0 million for the three months ended June 30, 2022. The increase in operating expenses is primarily due to an increase in Interest and dividends expense, partially offset by a decline in Brokerage, exchange, clearance fees and payments for order flow, net, described in more detail below.

Brokerage, exchange, clearance fees and payments for order flow, net. Brokerage exchange, clearance fees and payments for order flow, net, decreased $34.5 million, or 22.0%, to $122.5 million for the three months ended June 30, 2023, compared to $157.0 million for the three months ended June 30, 2022. These costs vary period to period based upon the level and composition of our trading activities. We evaluate this category representing direct costs associated with transacting business, in the broader context of our Adjusted Net Trading Income.

Communication and data processing. Communication and data processing expense increased $1.3 million, or 2.3%, to $57.0 million for the three months ended June 30, 2023, compared to $55.7 million for the three months ended June 30, 2022. This increase was primarily due to increased connectivity spending on colocation, and microwave communication networks maintained by our joint ventures.

Employee compensation and payroll taxes. Employee compensation and payroll taxes decreased $3.0 million, or 3.1% to $95.6 million for the three months ended June 30, 2023, compared to $98.6 million for the three months ended June 30, 2022. The decrease in compensation levels was primarily attributable to a decrease in accrued incentive compensation, which is recorded at management’s discretion and is generally accrued in connection with the overall level of profitability on a year-to-date basis, as well as the anticipated mix of cash and stock-based awards.

We have capitalized and therefore excluded employee compensation and benefits related to software development of $10.1 million and $8.3 million for the three months ended June 30, 2023, and 2022, respectively.

Interest and dividends expense. Interest and dividends expense increased $63.8 million or 130.9% to $112.5 million for the three months ended June 30, 2023, compared to $48.7 million for the three months ended June 30, 2022. This increase was primarily attributable to higher dividend expense with respect to securities sold, not yet purchased and higher interest expense incurred on cash collateral received as part of securities lending transactions and higher financing costs with respect to trading assets driven by higher interest rates. As indicated above, rather than analyzing interest and dividends expense in isolation, we evaluate it in the broader context of our Adjusted Net Trading Income.

Operations and administrative. Operations and administrative expense increased $11.9 million or 87.8% to $25.5 million for the three months ended June 30, 2023, compared to $13.6 million for the three months ended June 30, 2022. This increase was primarily driven by favorable foreign exchange rate movements in the prior year period.

Depreciation and amortization. Depreciation and amortization decreased $0.4 million, or 2.6% to $15.9 million for the three months ended June 30, 2023, compared to $16.3 million for the three months ended June 30, 2022. The decrease is driven primarily by decreased amortization of capitalized software compared to the prior period.

Amortization of purchased intangibles and acquired capitalized software. Amortization of purchased intangibles and acquired capitalized software decreased $0.3 million, or 1.6%, to $16.0 million for the three months ended June 30, 2023, compared to $16.3 million for the three months ended June 30, 2022. This decrease was due to certain intangible assets being fully amortized during 2022.

Termination of office leases. Termination of office leases was $(0.1) million for the three months ended June 30, 2023, compared to $0.7 million for the three months ended June 30, 2022. These expenses are related to the impairment of lease right-of-use assets, leasehold improvements and fixed assets for certain abandoned or vacated office space. There were no significant lease terminations in either period.

Debt issue cost related to debt refinancing, prepayment and commitment fees. Expense from debt issue cost related to debt refinancing, prepayment and commitment fees increased to $1.8 million for the three months ended June 30, 2023, compared to $1.4 million for the three months ended June 30, 2022. The increase was primarily driven by costs incurred related to amending VAL's credit facility. Refer to Note 8 "Borrowings" in Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q for more details on our borrowing arrangements.

Transaction advisory fees and expenses. Transaction advisory fees and expenses were immaterial for the three months ended June 30, 2023, compared to $0.6 million for the three months ended June 30, 2022. These expenses were primarily incurred in relation to our strategic investment portfolio.

Financing interest expense on long-term borrowings. Financing interest expense on long-term borrowings increased $2.8 million or 12.5% to $24.9 million for the three months ended June 30, 2023, compared to $22.1 million for the three months ended June 30, 2022.The increase was attributable to the effect of higher interest rates applied on our outstanding principal.

Provision for income taxes

We incur corporate tax at the U.S. federal income tax rate on our taxable income, as adjusted for noncontrolling interest in Virtu Financial. Our income tax expense reflects such U.S. federal income tax as well as taxes payable by certain of our non-U.S. subsidiaries. Our provision for income taxes and effective tax rates were $5.9 million and 16.7% for the three months ended June 30, 2023, compared to $24.9 million and 14.3% for the three months ended June 30, 2022.

Six Months Ended June 30, 2023 Compared to Six Months Ended June 30, 2022

Total Revenues

Our total revenues decreased $178.8 million, or 13.7%, to $1,127.2 million for the six months ended June 30, 2023, compared to $1,306.0 million for the six months ended June 30, 2022. This decrease was primarily attributable to a decrease of $199.6 million in Trading income, net, during the six months ended June 30, 2023 compared to the prior period, as well as a decrease of $47.6 million in Other, net, which was driven by gains recorded on sales of various strategic investments in 2022, partially offset by an increase of $128.4 million in Interest and dividends income which is largely driven by the level of trading assets held over periods when dividends are paid, and the levels of stock borrowing and trading asset financing during the six months ended June 30, 2023 compared to the same period in 2022.

The following table shows the total revenues by segment for the six months ended June 30, 2023 and 2022.

	Six Months Ended June 30,		
(in thousands, except for percentage)	**2023**	**2022**	**% Change**
Market Making			
Trading income, net	$ 710,655	$ 906,621	(21.6)%
Interest and dividends income	175,283	51,775	238.5%
Commissions, net and technology services	16,334	20,194	(19.1)%
Other, net	1,897	568	234.0%
Total revenues from Market Making	$ 904,169	$ 979,158	(7.7)%
Execution Services			
Trading income, net	$ 8,024	$ 11,614	(30.9)
Interest and dividends income	4,940	29	16934.5%
Commissions, net and technology services	214,614	270,801	(20.7)%
Other, net	15	298	(95)%
Total revenues from Execution Services	$ 227,593	$ 282,742	(19.5)%
Corporate			
Other, net	$ (4,529)	$ 44,100	NM
Total revenues from Corporate	$ (4,529)	$ 44,100	NM
Consolidated			
Trading income, net	$ 718,679	$ 918,235	(21.7)%
Interest and dividends income	180,223	51,804	247.9%
Commissions, net and technology services	230,948	290,995	(20.6)%
Other, net	(2,617)	44,966	NM
Total revenues	$ 1,127,233	$ 1,306,000	(13.7)%

Trading income, net. Trading income, net was primarily earned by our Market Making segment. Trading income, net, decreased $199.6 million, or 21.7%, to $718.7 million for the six months ended June 30, 2023, compared to $918.2 million for the six months ended June 30, 2022. The decrease was largely a result of the decreased opportunity in our customer market making trading as a result of lower spread opportunity and decreased quality of the order flow with which we interact. Rather than analyzing trading income, net, in isolation, we evaluate it in the broader context of our Adjusted Net Trading Income, together with Interest and dividends income, Interest and dividends expense, Commissions, net and technology services and Brokerage, exchange, clearance fees and payments for order flow, net, each of which are described below.

Interest and dividends income. Interest and dividends income was primarily earned by our Market Making segment. Interest and dividends income increased $128.4 million, or 247.9%, to $180.2 million for the six months ended June 30, 2023, compared to $51.8 million for the six months ended June 30, 2022. This increase was primarily attributable to higher dividends earned on market making trading assets held over periods when dividends are paid, along with an increase in interest income earned on cash collateral posted as part of securities borrowed transactions, both of which benefited from higher interest rates for the period compared to the prior period. As indicated above, rather than analyzing interest and dividends income in isolation, we evaluate it in the broader context of our Adjusted Net Trading Income.

Commissions, net and technology services. Commissions, net and technology services revenues were primarily earned by our Execution Services segment. Commissions, net and technology services revenues decreased $60.0 million, or 20.6%, to $230.9 million for the six months ended June 30, 2023, compared to $291.0 million for the six months ended June 30, 2022. This decrease was driven by the reduction of institutional investors commissions available, and declining institutional engagement, both of which result in lower commission income. As indicated above, rather than analyzing commission income in isolation, we evaluate it in the broader context of our Adjusted Net Trading Income.

Other, net. Other, net decreased $47.6 million, or 105.8%, to $(2.6) million for the six months ended June 30, 2023, compared to $45.0 million for the six months ended June 30, 2022. The decrease was primarily due to gains recognized during the 2022 period from sales of investments in our strategic investments portfolio.

Adjusted Net Trading Income

Adjusted Net Trading Income, which is a non-GAAP measure, decreased $210.7 million, or 24.4%, to $651.8 million for the six months ended June 30, 2023, compared to $862.4 million for the six months ended June 30, 2022. This decrease was primarily attributable to lower Trading Income, net as noted above, partially offset by lower Brokerage, exchange, clearance fees and payments for order flow, net as described below, incurred by Market Making. Adjusted Net Trading Income per day decreased $1.7 million, or 24.4%, to $5.3 million for the six months ended June 30, 2023, compared to $7.0 million for the six months ended June 30, 2022. The number of trading days was 124 days for both the six months ended June 30, 2023 and June 30, 2022. For a full description of Adjusted Net Trading Income and a reconciliation of Adjusted Net Trading Income to trading income, net, see "Non-GAAP Financial Measures and Other Items" in this "Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations".

Operating Expenses

Our operating expenses increased $66.5 million, or 7.5%, to $957.0 million for the six months ended June 30, 2023, compared to $890.5 million for the six months ended June 30, 2022. The increase was primarily driven by increased in Interest and dividends expense, offset in part, by lower Brokerage, exchange, clearance fees and payments for order flow, net, and lower Debt issue cost related to debt refinancing, prepayment and commitment fees.

Brokerage, exchange, clearance fees and payments for order flow, net. Brokerage, exchange, clearance fees and payments for order flow, net, decreased $39.4 million, or 12.8%, to $268.0 million for the six months ended June 30, 2023, compared to $307.4 million for the six months ended June 30, 2022. These costs vary period to period based upon the level and composition of our trading activities. We evaluate this category, representing direct costs associated with transacting our business, in the broader context of our Adjusted Net Trading Income.

Communication and data processing. Communication and data processing expense increased $2.2 million, or 2.0%, to $113.8 million for the six months ended June 30, 2023, compared to $111.5 million for the six months ended June 30, 2022. This increase was primarily attributable to increased connectivity spending on colocation, and microwave communication networks maintained by our joint ventures.

Employee compensation and payroll taxes. Employee compensation and payroll taxes decreased $3.1 million, or 1.5%, to $199.0 million for the six months ended June 30, 2023, compared to $202.1 million for the six months ended June 30, 2022. The decrease in compensation levels was primarily attributable to a decrease in accrued incentive compensation, which is recorded at management's discretion and is generally accrued in connection with the overall level of profitability on a year-to-date basis, as well as the anticipated mix of cash and stock-based awards.

We have capitalized and therefore excluded employee compensation and benefits related to software development of $19.8 million and $16.7 million for the six months ended June 30, 2023 and 2022, respectively.

Interest and dividends expense. Interest and dividends expense increased $118.8 million, or 130.2%, to $210.1 million for the six months ended June 30, 2023, compared to $91.3 million for the six months ended June 30, 2022. This increase was primarily attributable to higher dividend expense with respect to securities sold, not yet purchased and higher interest expense incurred on cash collateral received driven by higher interest rates, as well as an increase in securities lending transactions for the period compared to the same period during the prior year. As indicated above, rather than analyzing interest and dividends expense in isolation, we generally evaluate it in the broader context of our Adjusted Net Trading Income.

Operations and administrative. Operations and administrative expense increased $11.0 million, or 28.4%, to $49.8 million for the six months ended June 30, 2023, compared to $38.8 million for the six months ended June 30, 2022. The increase was primarily driven by the beneficial effect of a strong U.S. dollar on foreign exchange translation gains during the prior year period.

Depreciation and amortization. Depreciation and amortization decreased $2.6 million, or 7.5%, to $31.3 million for the six months ended June 30, 2023, compared to $33.8 million for the six months ended June 30, 2022. This decrease is driven primarily by decreased amortization of capitalized software compared to the prior period.

Amortization of purchased intangibles and acquired capitalized software. Amortization of purchased intangibles and acquired capitalized software decreased $0.7 million, or 2.2%, to $32.0 million for the six months ended June 30, 2023, compared to $32.8 million for the six months ended June 30, 2022. This decrease was primarily attributable to certain intangible assets being fully amortized in 2022.

Termination of office leases. Termination of office leases was $(0.1) million for the six months ended June 30, 2023, compared to $1.4 million for the six months ended June 30, 2022. These expenses are related to the impairment of lease right-of-use assets, leasehold improvements and fixed assets for certain abandoned or vacated office space.

Debt issue cost related to debt refinancing, prepayment and commitment fees. Expense from debt issue cost related to debt refinancing, prepayment and commitment fees decreased $23.2 million, or 85.4%, to $3.9 million for the six months ended June 30, 2023, compared to $27.1 million for the six months ended June 30, 2022. The decrease was primarily driven by the acceleration of deferred debt issuance costs as a result of refinancing our long-term debt transaction in January 2022. See Note 8 "Borrowings" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q for additional details.

Transaction advisory fees and expenses. Transaction advisory fees and expenses were immaterial for the six months ended June 30, 2023, compared to $1.0 million for the six months ended June 30, 2022. These expenses were primarily incurred in relation to our strategic investment portfolio.

Financing interest expense on long term borrowings. Financing interest expense on long-term borrowings increased $5.7 million, or 13.2%, to $49.1 million for the six months ended June 30, 2023, compared to $43.4 million for the six months ended June 30, 2022. This increase was attributable to the increase in outstanding principal as a result of refinancing our long-term debt in January 2022, as described in further detail below, and the effect of higher interest rates.

Provision for income taxes

We incur corporate tax at the U.S. federal income tax rate on our taxable income, as adjusted for noncontrolling interest in Virtu Financial. Our income tax expense reflects such U.S. federal income tax as well as taxes payable by certain of our non-U.S. subsidiaries. Our provision for income taxes and effective tax rate was $30.6 million and 18.0% for the six months ended June 30, 2023, compared to a provision for income taxes and effective tax rate of $66.7 million and 16.0% for the six months ended June 30, 2022.

Liquidity and Capital Resources

General

As of June 30, 2023, we had $698.7 million in Cash and cash equivalents. This balance is maintained primarily to support operating activities, for capital expenditures and for short-term access to liquidity, and for other general corporate purposes. As of June 30, 2023, we had borrowings under our prime brokerage credit facilities of approximately $140.6 million, borrowings under our broker dealer facilities of $115.0 million, and long-term debt outstanding in an aggregate principal amount of approximately $1,806.3 million.

The majority of our trading assets consist of exchange-listed marketable securities, which are marked-to-market daily, and collateralized receivables from broker-dealers and clearing organizations arising from proprietary securities transactions. Collateralized receivables consist primarily of securities borrowed, receivables from clearing houses for settlement of securities transactions and, to a lesser extent, securities purchased under agreements to resell. We actively manage our liquidity, and we maintain significant borrowing facilities through the securities lending markets and with banks and prime brokers. We have continually received the benefit of uncommitted margin financing from our prime brokers globally. These margin facilities are secured by securities in accounts held at the prime brokers. For purposes of providing additional liquidity, we maintain a committed credit facility and an uncommitted credit facility for our wholly-owned U.S. broker-dealer subsidiary, as discussed in Note 8 "Borrowings" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q.

Short-term Liquidity and Capital Resources

Based on our current level of operations, we believe our cash flows from operations, available cash and cash equivalents, and available borrowings under our broker-dealer credit facilities will be adequate to meet our future liquidity needs for the next twelve months. We anticipate that our primary upcoming cash and liquidity needs will be increased margin requirements from increased trading activities in markets where we currently provide liquidity and in new markets into which we plan to expand. We manage and monitor our margin and liquidity needs on a real-time basis and can adjust our requirements both intra-day and inter-day, as required.

We expect our principal sources of future liquidity to come from cash flows provided by operating activities and financing activities. Certain of our cash balances are insured by the Federal Deposit Insurance Corporation, generally up to $250,000 per account but without a cap under certain conditions. From time to time these cash balances may exceed insured limits, but we select financial institutions deemed highly credit worthy to minimize risk. We consider highly liquid investments with original maturities of less than three months, when acquired, to be cash equivalents.

Long-term Liquidity and Capital Resources

Our principal demand for funds beyond the next twelve months will be payments on our long-term debt, operating lease payments, common stock repurchases under our share repurchase program, and dividend payments. Based on our current level of operations, we believe our cash flow from operations, and ability to raise funding, will be sufficient to fund capital demands.

Tax Receivable Agreements

Generally, we are required under the tax receivable agreements entered into in connection with our IPO to make payments to certain direct or indirect equity holders of Virtu Financial that are generally equal to 85% of the applicable cash tax savings, if any, that we realize as a result of favorable tax attributes that are available to us as a result of the IPO and certain reorganization transactions undertaken in connection therewith, for exchanges of membership interests for Class A Common Stock or Class B Common Stock and payments made under the tax receivable agreements. We will retain the remaining 15% of any such cash tax savings. We expect that future payments to certain direct or indirect equity holders of Virtu Financial described in Note 4 "Tax Receivable Agreements" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q are expected to range from approximately $36.4 thousand to $22.0 million per year over the next 15 years. Such payments will occur only after we have filed our U.S. federal and state income tax returns and realized the cash tax savings from the favorable tax attributes. We made our first payment of $7.0 million in February 2017, and subsequent payments of $12.4 million in September 2018, $13.3 million in March 2020, $16.5 million in April 2021, $21.3 million in March 2022, and $23.3 million in April 2023. Future payments under the tax receivable agreements in respect of subsequent exchanges would be in addition to these amounts. We currently expect to fund these payments from realized cash tax savings from the favorable tax attributes.

Under the tax receivable agreements, as a result of certain types of transactions and other factors, including a transaction resulting in a change of control, we may also be required to make payments to certain direct or indirect equity holders of Virtu Financial in amounts equal to the present value of future payments we are obligated to make under the tax receivable agreements. We would expect any acceleration of these payments to be funded from the realized favorable tax attributes. However, if the payments under the tax receivable agreements are accelerated, we may be required to raise additional debt or equity to fund such payments. To the extent that we are unable to make payments under the tax receivable agreements for any reason (including because our Credit Agreement restricts the ability of our subsidiaries to make distributions to us) such payments will be deferred and will accrue interest until paid.

Regulatory Capital Requirements

Our principal U.S. subsidiary, Virtu Americas LLC ("VAL") is subject to separate regulation and capital requirements in the U.S. and other jurisdictions. VAL is a registered U.S. broker-dealer, and its primary regulators include the SEC and the Financial Industry Regulatory Authority ("FINRA"). In June 2023 our U.S. subsidiary RFQ-Hub Americas LLC ("RAL") became a registered U.S. broker-dealer and as such is subject to regulation and capital requirements from its primary regulators, the SEC and FINRA.

The SEC and FINRA impose rules that require notification when regulatory capital falls below certain pre-defined criteria. These rules also dictate the ratio of debt-to-equity in the regulatory capital composition of a broker-dealer and constrain the ability of a broker-dealer to expand its business under certain circumstances. If a firm fails to maintain the required regulatory capital, it may be subject to suspension or revocation of registration by the applicable regulatory agency, and suspension or expulsion by these regulators could ultimately lead to the firm’s liquidation. Additionally, certain applicable rules impose requirements that may have the effect of prohibiting a broker-dealer from distributing or withdrawing capital and requiring prior notice to and/or approval from the SEC and FINRA for certain capital withdrawals. VAL is also subject to rules set forth by NYSE and is required to maintain a certain level of capital in connection with the operation of its designated market maker business.

Our Canadian subsidiaries, Virtu Canada Corp (f/k/a Virtu ITG Canada Corp.) and Virtu Financial Canada ULC, are subject to regulatory capital requirements and periodic requirements to report their regulatory capital and submit other regulatory reports set forth by the Canadian Investment Regulatory Organization. Our Irish subsidiaries, Virtu Financial Ireland

Limited ("VFIL") and Virtu Europe Trading Limited ("VETL") (f/k/a Virtu ITG Europe Limited) are regulated by the Central Bank of Ireland as Investment Firms and in accordance with European Union law are required to maintain a minimum amount of regulatory capital based upon their positions, financial conditions, and other factors. In addition to periodic requirements to report their regulatory capital and submit other regulatory reports, VFIL and VETL are required to obtain consent prior to receiving capital contributions or making capital distributions from their regulatory capital. Failure to comply with their regulatory capital requirements could result in regulatory sanction or revocation of their regulatory license. Virtu ITG UK Limited is regulated by the Financial Conduct Authority in the United Kingdom and is subject to similar prudential capital requirements. Virtu ITG Australia Limited, and Virtu ITG Hong Kong Limited are also subject to local regulatory capital requirements and are regulated by the Australian Securities and Investments Commission, the Securities and Futures Commission of Hong Kong, respectively. Virtu ITG Singapore Pte. Limited and Virtu Financial Singapore Pte. Ltd. have similar regulatory requirements and are regulated by the Monetary Authority of Singapore.

See Note 19 "Regulatory Requirement" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q for a discussion of regulatory capital requirements of our regulated subsidiaries.

Broker Dealer Credit Facilities, Short-Term Bank Loans, and Prime Brokerage Credit Facilities

We maintain various broker-dealer facilities and short-term credit facilities as part of our daily trading operations. See Note 8 "Borrowings" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q for details on our various credit facilities. As of June 30, 2023, there was an outstanding principal balance on our broker-dealer facilities of $115.0 million, and the outstanding aggregate short-term credit facilities with various prime brokers and other financial institutions from which the Company receives execution or clearing services was approximately $140.6 million, which was netted within Receivables from broker-dealers and clearing organizations on the Condensed Consolidated Statements of Financial Condition of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q.

On March 20, 2020, a broker-dealer subsidiary of the Company entered into a loan agreement (the “Founder Member Loan Facility”) with TJMT Holdings LLC (the “Founder Member”), as lender and administrative agent, providing for unsecured term loans from time to time (the “Founder Member Loans”) in an aggregate original principal amount not to exceed $300 million. The Founder Member Loans were available to be borrowed in one or more borrowings on or after March 20, 2020 and prior to September 20, 2020, though no borrowings were made. The Founder Member is an affiliate of Mr. Vincent Viola, the Company’s founder and Chairman Emeritus. Upon the execution of and in consideration for the Lender’s commitments under the Founder Member Loan Facility, the Company delivered to the Founder Member a warrant to purchase shares of the Company’s Class A Common Stock, as described below.

On March 20, 2020, in connection with and in consideration of the Founder Member’s commitments under the Founder Member Loan Facility, the Company delivered to the Founder Member a warrant (the “Warrant”) to purchase shares of the Company’s Class A Common Stock. Pursuant to the Warrant, the Founder Member was entitled to purchase up to 3,000,000 shares of Class A Common Stock on or after May 22, 2020 and up to and including January 15, 2022 at a price of $22.98. The Warrant was exercised on December 17, 2021 for 3,000,000 shares of the Company's Class A Common Stock. The Warrant and Class A Common Stock issued pursuant to the Warrant were offered, issued and sold, in reliance on the exemption from the registration requirements of the Securities Act, set forth under Section 4(a)(2) of the Securities Act relating to sales by an issuer not involving any public offering.

Credit Agreement

On January 13, 2022 (the “Credit Agreement Closing Date”), Virtu Financial, VFH Parent LLC, a Delaware limited liability company and a subsidiary of Virtu Financial (“VFH”), entered into the Credit Agreement, with the lenders party thereto, JPMorgan Chase Bank, N.A. as administrative agent and JPMorgan Chase bank, N.A., Goldman Sachs Bank USA, RBC Capital Markets, Barclays Bank plc, Jefferies Finance LLC, BMO Capital Markets Corp., and CIBC World Markets Corp., as joint lead arrangers and bookrunners (the “Credit Agreement”). On the Credit Agreement Closing Date, VFH and Virtu Financial entered into the Credit Agreement. The Credit Agreement provides (i) a senior secured first lien term loan in an aggregate principal amount of $1,800.0 million, drawn in its entirety on the Credit Agreement Closing Date, the proceeds of which were used by VFH to repay all amounts outstanding under the Acquisition Credit Agreement, to pay fees and expenses in connection therewith, to fund share repurchases under the Company’s repurchase program and for general corporate purposes, and (ii) a $250.0 million senior secured first lien revolving facility to VFH, with a $20.0 million letter of credit subfacility and a $20.0 million swingline subfacility.

The term loan borrowings and revolver borrowings under the Credit Agreement bear interest at a per annum rate equal to, at the Company's election, either (i) the greatest of (a) the prime rate in effect, (b) the greater of (1) the federal funds effective rate and (2) the overnight bank funding rate, in each case plus 0.50%, (c) an adjusted term Secured Overnight Financing Rate ("SOFR") rate with an interest period of one month plus 1.00% and (d)(1) in the case of term loan borrowings, 1.50% and (2) in the case of revolver borrowings, 1.00%, plus, (x) in the case of term loan borrowings, 2.00% and (y) in the case of revolver borrowings, 1.50% or (ii) the greater of (a) an adjusted term SOFR rate for the interest period in effect and (b) (1) in the case of term loan borrowings, 0.50% and (2) in the case of revolver borrowings, 0.00%, plus, (x) in the case of term loan borrowings, 3.00% and (y) in the case of revolver borrowings, 2.50%. In addition, a commitment fee accrues at a rate of 0.50% per annum on the average daily unused amount of the revolving facility, with step-downs to 0.375% and 0.25% per annum based on VFH's first lien leverage ratio, and is payable quarterly in arrears.

The revolving facility under the Credit Agreement is subject to a springing net first lien leverage ratio which may spring into effect as of the last day of a fiscal quarter if usage of the aggregate revolving commitments exceeds a specified level as of such date. VFH is also subject to contingent principal prepayments based on excess cash flow and certain other triggering events. Borrowings under the Credit Agreement are guaranteed by Virtu Financial and VFH's material non-regulated domestic restricted subsidiaries and secured by substantially all of the assets of VFH and the guarantors, in each case, subject to certain exceptions.

The Credit Agreement contains certain customary covenants and events of default, including relating to a change of control. If an event of default occurs and is continuing, the lenders under the Credit Agreement will be entitled to take various actions, including the acceleration of amounts outstanding under the Credit Agreement and all actions permitted to be taken by a secured creditor in respect of the collateral securing the obligations under the Credit Agreement.

Under the Credit Agreement, the term loans will mature on January 13, 2029. The term loans amortize in annual installments equal to 1.0% of the original aggregate principal amount of the term loans. The revolving commitments will terminate on January 13, 2025. As of June 30, 2023, $1,782.0 million was outstanding under the term loans. We were in compliance with all applicable covenants under the Credit Agreement as of June 30, 2023.

In October 2019, the Company entered into a five-year $525 million floating-to-fixed interest rate swap agreement. In January 2020, the Company entered into a five-year $1,000.0 million floating-to-fixed interest rate swap agreement. These two interest rate swaps met the criteria to be considered and were designated as qualifying cash flow hedges under ASC 815 in the first quarter of 2020, and they effectively fixed interest payment obligations on $525.0 million and $1,000.0 million of principal under the Acquisition First Lien Term Loan Facility at rates of 4.3% and 4.4% through September 2024 and January 2025, respectively, based on the interest rates set forth in the Acquisition Credit Agreement. In April 2021, each of the swap agreements described above was novated to another counterparty and amended in connection with such novation. The amendments included certain changes to collateral posting obligations and also had the effect of increasing the effective fixed interest payment obligations to rates of 4.5%, with respect to the earlier maturing swap arrangement, and 4.6% with respect to the later maturing swap arrangement. In January 2022, in order to align the swap agreements with the Credit Agreement, the Company amended each of the swap agreements to align the floating rate term of such swap agreements to SOFR. The effective fixed interest payment obligations remained at 4.5%, with respect to the earlier maturing swap arrangement, and 4.6% with respect to the later maturing swap arrangement.

Cash Flows

Our main sources of liquidity are cash flow from the operations of our subsidiaries, our broker-dealer credit facilities (as described above), margin financing provided by our prime brokers and cash on hand.

The table below summarizes our primary sources and uses of cash for the six months ended June 30, 2023, and 2022.

	Six Months Ended June 30,	
Net cash provided by (used in):	**2023**	**2022**
Operating activities	$ (26,384)	$ 57,622
Investing activities	(55,136)	4,003
Financing activities	(215,090)	(307,830)
Effect of exchange rate changes on cash and cash equivalents	4,175	(24,978)
Net decrease in cash and cash equivalents	$ (292,435)	$ (271,183)

Operating Activities

Net cash used in operating activities was $26.4 million for the six months ended June 30, 2023, compared to net cash provided by operating activities of $57.6 million for the six months ended June 30, 2022. The change in net cash used in operating activities was primarily attributable to lower net income, as well as increases in operating assets, net of operating liabilities, related to our trading activities for the six months ended June 30, 2023 compared to the prior period.

Investing Activities

Net cash used in investing activities, which includes cash used with respect to capitalized software and cash used in the acquisition of property and equipment, was $55.1 million for the six months ended June 30, 2023, compared with net cash provided by investing activities of $4.0 million for the six months ended June 30, 2022. Net cash provided by investing activities for the six months ended June 30, 2022 included cash proceeds from the sale of strategic investments.

Financing Activities

Net cash used in financing activities was $215.1 million for the six months ended June 30, 2023, compared to $307.8 million for the six months ended June 30, 2022. The cash used in financing activities for the six months ended June 30, 2023 was primarily attributable to $145.7 million in dividends to stockholders and distributions made to noncontrolling interests and $135.0 million in purchases of treasury stock. The cash used in financing activities of $307.8 million during the same period of 2022 primarily reflects $228.8 million net dividends to stockholders and distributions to noncontrolling interests, and $353.1 million purchase of treasury stock, partially offset by $164.4 million of net proceeds from long term borrowings, and an increase of $94.9 million in short-term borrowings.

Share Repurchase Program

On November 6, 2020, the Company's Board of Directors authorized a new share repurchase program of up to $100.0 million in Class A common stock and Virtu Financial Units by December 31, 2021.

On February 11, 2021, the Company's Board of Directors authorized the expansion of the Company's share repurchase program, increasing the total authorized amount by $70.0 million to $170.0 million in Class A Common Stock and Virtu Financial Units up to December 31, 2021.

On May 4, 2021, the Company's Board of Directors authorized the expansion of the Company's share repurchase program, increasing the total authorized amount by $300 million to $470 million in Class A Common Stock and Virtu Financial Units and extending the duration of the program through May 4, 2022.

On November 3, 2021, the Company's Board of Directors authorized the expansion of the Company's current share repurchase program, increasing the total authorized amount by $750 million to $1,220 million and extended the duration through November 3, 2023.

The share repurchase program authorizes the Company to repurchase shares from time to time in open market transactions, privately negotiated transactions or by other means. Repurchases are also permitted to be made under Rule 10b5-1 plans. The timing and amount of repurchase transactions are determined by the Company's management based on its evaluation of market conditions, share price, cash sources, legal requirements and other factors. From the inception of the program through June 30, 2023, the Company repurchased approximately 38.5 million shares of Class A Common Stock and Virtu Financial Units for approximately $1,016.7 million. As of June 30, 2023, the Company has approximately of $203.3 million remaining capacity for future purchases of shares of Class A Common Stock and Virtu Financial Units under the program.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements, as well as the reported amounts of revenue and expenses during the applicable reporting period. Critical accounting policies are those that are the most important portrayal of our financial condition, results of operations and cash flows, and that require our most difficult, subjective and complex judgments as a result of the need to make estimates about the effect of matters that are inherently uncertain.

While our significant accounting policies are described in more detail in the notes to our consolidated financial statements, our most critical accounting policies are discussed below. In applying such policies, we must use some amounts that are based upon our informed judgments and best estimates. Estimates, by their nature, are based upon judgments and available information. The estimates that we make are based upon historical factors, current circumstances and the experience and judgment of management. We evaluate our assumptions and estimates on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

Valuation of Financial Instruments

Due to the nature of our operations, substantially all of our financial instrument assets, comprised of financial instruments owned, securities purchased under agreements to resell, and receivables from brokers, dealers and clearing organizations are carried at fair value based on published market prices and are marked to market daily, or are assets which are short-term in nature and are reflected at amounts approximating fair value. Similarly, all of our financial instrument liabilities that arise from financial instruments sold but not yet purchased, securities sold under agreements to repurchase, securities loaned, and payables to brokers, dealers and clearing organizations are short-term in nature and are reported at quoted market prices or at amounts approximating fair value.

Fair value is defined as the price that would be received to sell an asset or would be paid to transfer a liability (i.e., the exit price) in an orderly transaction between market participants at the measurement date. Financial instruments measured and reported at fair value are classified and disclosed in one of the following categories based on inputs:

Level 1 — Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;

Level 2 — Quoted prices in markets that are not active and financial instruments for which all significant inputs are observable, either directly or indirectly; or

Level 3 — Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable

The fair values for substantially all of our financial instruments owned and financial instruments sold but not yet purchased are based on observable prices and inputs and are classified in levels 1 and 2 of the fair value hierarchy. Instruments categorized within level 3 of the fair value hierarchy are those which require one or more significant inputs that are not observable. Estimating the fair value of level 3 financial instruments requires judgments to be made. Due to the relative immateriality of our financial instruments classified as level 3, we do not believe that a significant change to the inputs underlying the fair value of our level 3 financial instruments would have a material impact on our Condensed Consolidated Financial Statements See Note 9 "Financial Assets and Liabilities" of Part I Item 1 “Financial Statements” of this Quarterly Report on Form 10-Q for further information about fair value measurements.

Revenue Recognition

Trading Income, Net

Trading income, net, consists of trading gains and losses that are recorded on a trade date basis and reported on a net basis. Trading income, net, is comprised of changes in fair value of financial instruments owned and financial instruments sold, not yet purchased assets and liabilities (i.e., unrealized gains and losses) and realized gains and losses on equities, fixed income securities, currencies and commodities.

Interest and Dividends Income/Interest and Dividends Expense

Interest income and interest expense are accrued in accordance with contractual rates. Interest income consists of income earned on collateralized financing arrangements and on cash held by brokers and banks. Interest expense includes interest expense from collateralized transactions, margin and related short-term lending facilities. Dividends are recorded on the ex-dividend date, and interest is recognized on an accrual basis.

Commissions, net and Technology Services

Commissions, net, which primarily comprise commissions and commission equivalents earned on institutional client orders, are recorded on a trade date basis, which is the point at which the performance obligation to the customer is satisfied. Under a commission management program, we allow institutional clients to allocate a portion of their gross commissions to pay for research and other services provided by third parties. As we act as an agent in these transactions, we record such expenses on a net basis within Commissions, net and technology services in the Condensed Consolidated Statements of Comprehensive Income.

Workflow technology revenues consist of order and trade execution management and order routing services we provide through our front-end workflow solutions and network capabilities.

We provide trade order routing from our execution management system ("EMS") to our execution services offerings, with each trade order routed through the EMS representing a separate performance obligation that is satisfied at a point in time. A portion of the commissions earned on the trade is then allocated to Workflow Technology based on the stand-alone selling price paid by third-party brokers for order routing. The remaining commission is allocated to commissions, net using a residual allocation approach. Commissions earned are fixed and revenue is recognized on the trade date.

We participate in commission share arrangements, where trade orders are routed to third-party brokers from our EMS and our order management system ("OMS"). Commission share revenues from third-party brokers are generally fixed and revenue is recognized at a point in time on the trade date.

We also provide OMS and related software products and connectivity services to customers and recognize license fee revenues and monthly connectivity fees. License fee revenues, generated for the use of our OMS and other software products, are fixed and recognized at the point in time at which the customer is able to use and benefit from the license. Connectivity revenue is variable in nature, based on the number of live connections, and is recognized over time on a monthly basis using a time-based measure of progress.

Analytics revenues are earned from providing customers with analytics products and services, including trading and portfolio analytics tools. We provide analytics products and services to customers and recognize subscription fees, which are fixed for the contract term, based on when the products and services are delivered. Analytics services can be delivered either over time (when customers are provided with distinct ongoing access to analytics data) or at a point in time (when reports are only delivered to the customer on a periodic basis). Over time performance obligations are recognized using a time-based measure of progress on a monthly basis, since the analytics products and services are continually provided to the client. Point in time performance obligations are recognized when the analytics reports are delivered to the client.

Analytics products and services can also be paid for through variable bundled arrangements with trade execution services. Customers agree to pay for analytics products and services with commissions generated from trade execution services, and commissions are allocated to the analytics performance obligation(s) using:

(i) the commission value for each customer for the products and services it receives, which is priced using the value for similar stand-alone subscription arrangements; and
(ii) a calculated ratio of the commission value for the products and services relative to the total amount of commissions generated from the customer.

For these bundled commission arrangements, the allocated commissions to each analytics performance obligation are then recognized as revenue when the analytics product is delivered, either over time or at a point in time. These allocated commissions may be deferred if the allocated amount exceeds the amount recognizable based on delivery.

Share-Based Compensation

We account for share-based compensation transactions with employees under the provisions of the Financial Accounting Standards Board's Accounting Standards Codification ("ASC") 718, Compensation: Stock Compensation. Share-based compensation transactions with employees are measured based on the fair value of equity instruments issued.

Share-based awards issued for compensation in connection with or subsequent to the Reorganization Transactions and the IPO pursuant to our Amended and Restated 2015 Management Incentive Plan, and assumed pursuant to the Amended and Restated ITG 2007 Equity Plan, were in the form of stock options, Class A Common Stock, restricted stock awards ("RSAs") and restricted stock units ("RSUs"). The fair value of the stock option grants is determined through the application of the Black-

Scholes-Merton model. The fair value of the Class A Common Stock and RSUs is determined based on the volume weighted average price for the three days preceding the grant. With respect to the RSUs, we account for forfeitures as they occur. The fair value of RSAs is determined based on the closing price as of the date of grant. The fair value of share-based awards granted to employees is expensed based on the vesting conditions and is recognized on a straight-line basis over the vesting period, or, in the case of RSAs subject to performance conditions, from the date that achievement becomes probable through the remainder of the vesting period. The assessment of the performance condition becomes certain within the year of grant. At year end there is no future assessment that would affect grants with a performance condition. We record as treasury stock shares repurchased from employees for the purpose of settling tax liabilities incurred upon the issuance of common stock, the vesting of RSUs or the exercise of stock options.

Income Taxes

We conduct our business globally through a number of separate legal entities. Consequently, our effective tax rate is dependent upon the geographic distribution of our earnings or losses and the tax laws and regulations of each legal jurisdiction in which we operate.

Certain of our wholly owned subsidiaries are subject to income taxes in foreign jurisdictions. The provision for income tax is comprised of current tax and deferred tax. Current tax represents the tax on current year tax returns, using tax rates enacted at the balance sheet date. A deferred tax asset is recognized only to the extent that it is probable that future taxable income will be available against which the asset can be utilized.

We are currently subject to audit in various jurisdictions, and these jurisdictions may assess additional income tax liabilities against us. Developments in an audit, litigation, or the relevant laws, regulations, administrative practices, principles, and interpretations could have a material effect on our operating results or cash flows in the period or periods for which that development occurs, as well as for prior and subsequent periods. We recognize the tax benefit from an uncertain tax position in accordance with ASC 740, Income Taxes, only if it is more likely than not that the tax position will be sustained on examination by the applicable taxing authority, including resolution of the appeals or litigation processes, based on the technical merits of the position. The tax benefits recognized in the Condensed Consolidated Financial Statements from such a position are measured based on the largest benefit for each such position that has a greater than fifty percent likelihood of being realized upon ultimate resolution. Many factors are considered when evaluating and estimating the tax positions and tax benefits. Such estimates involve interpretations of regulations, rulings, case law, etc. and are inherently complex. Our estimates may require periodic adjustments and may not accurately anticipate actual outcomes as resolution of income tax treatments in individual jurisdictions typically would not be known for several years after completion of any fiscal year. We believe the judgments and estimates discussed above are reasonable. However, if actual results are not consistent with our estimates or assumptions, we may be exposed to losses or gains that could be material.

Tax Receivable Agreements

We are required under the tax receivable agreements entered into in connection with our IPO to make payments to certain direct or indirect equity holders of Virtu Financial that are generally equal to 85% of the applicable cash tax savings, if any, that we realize as a result of favorable tax attributes that are available to us as a result of the Reorganization Transactions, for exchanges of membership interests for Class A Common Stock or Class B Common Stock and payments made under the tax receivable agreements. An exchange of membership interests by the Virtu Members for Class A Common Stock or Class B Common Stock (an “Exchange”) during the year will give rise to favorable tax attributes that may generate cash tax savings specific to the Exchange, to be realized over a specific period of time (generally 15 years). At each Exchange, we estimate the cumulative tax receivable agreement obligations to be reported on the consolidated financial statements. The tax attributes are computed as the difference between our basis in the partnership interest (“outside basis”) as compared to our share of the adjusted tax basis of partnership property (“inside basis”), at the time of each Exchange. The computation of inside basis requires judgments in estimating the components included in the inside basis as of the date of the Exchange (such as, cash received on hypothetical sale of assets, allocation of gain/loss at the time of the Exchange taking into account complex partnership tax rules). In addition, we estimate the period of time that may generate cash tax savings of such tax attributes and the realizability of the tax attributes.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the underlying net tangible and intangible assets of our acquisitions. Goodwill is not amortized but is assessed for impairment on an annual basis and between annual assessments whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Goodwill is assessed at the reporting unit level, which is defined as an operating segment or one level below the operating segment.

When assessing impairment, an entity may perform an initial qualitative assessment, under which it assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. In evaluating whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, an entity shall assess relevant events and circumstances, including the following:

- general economic conditions;
- limitations on accessing capital;
- fluctuations in foreign exchange rates or other developments in equity and credit markets;
- industry and market considerations such as a deterioration in the environment in which an entity operates, an increased competitive environment, a decline in market-dependent multiples or metrics (considered in both absolute terms and relative to peers), a change in the market for an entity's products or services, or a regulatory or political development;
- cost factors such as increases in raw materials, labor, or other costs that have a negative effect on earnings and cash flows;
- overall financial performance such as negative or declining cash flows or a decline in actual or planned revenue or earnings compared with actual and projected results of relevant prior periods;
- other relevant entity-specific events such as changes in management, key personnel, strategy, or customers, contemplation of bankruptcy, or litigation.

If, after assessing the totality of such events or circumstances, an entity determines that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then no further goodwill impairment testing is necessary.

If further testing is necessary, the fair value of the reporting unit is compared to its carrying value; if the fair value of the reporting unit is less than its carrying value, a goodwill impairment loss is recorded, equal to the excess of the reporting unit's carrying amount over its fair value (not to exceed the total goodwill allocated to that reporting unit). Our estimate of goodwill impairment, if indicated based on results of the qualitative assessment, is highly dependent on our estimate of a reporting unit's fair value.

We assess goodwill for impairment on an annual basis as of July 1st and on an interim basis when certain events or circumstances exist. In the impairment assessment as of July 1, 2022, we performed a qualitative assessment as described above for each reporting unit. No impairment of goodwill was identified.

Valuation of intangible assets involves the use of significant estimates and assumptions with respect to the timing and amounts of revenue growth rates, customer attrition rates, future tax rates, royalty rates, contributory asset charges, discount rate and the resulting cash flows. We amortize finite-lived intangible assets over their estimated useful lives. Our largest finite-lived intangible asset is customer relationships, which is being amortized over an estimated useful life of ten years. Had we used a shorter estimated useful life of seven years, the Company would have recorded an additional $5.4 million and $10.8 million of amortization expense for the three and six months ended June 30, 2023, and 2022, respectively. We test finite-lived intangible assets for impairment when impairment indicators are present, and if impaired, they are written down to fair value.

Recent Accounting Pronouncements

For a discussion of recently issued accounting developments and their impact or potential impact on our condensed consolidated financial statements, see Note 2 "Summary of Significant Accounting Policies" of Part I Item 1 "Financial Statements" of this Quarterly Report on Form 10-Q.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk

We are exposed to various market risks in the ordinary course of business. The risks primarily relate to changes in the value of financial instruments due to factors such as market prices, interest rates, and currency rates.

Our on-exchange market making activities are not dependent on the direction of any particular market and are designed to minimize capital at risk at any given time by limiting the notional size of our positions. Our on-exchange market making strategies involve continuously quoting two-sided markets in various financial instruments with the intention of profiting by capturing the spread between the bid and offer price. If another market participant executes against the strategy's bid or offer by crossing the spread, the strategy will attempt to lock in a return by either exiting the position or hedging in one or more different correlated instruments that represent economically equivalent value to the primary instrument. Such primary or hedging instruments include but are not limited to securities and derivatives such as: common shares, exchange traded products, American Depository Receipts ("ADRs"), options, bonds, futures, spot currencies and commodities. Substantially all of the financial instruments we trade are liquid and can be liquidated within a short time frame at low cost.

Our customer market making activities involve the taking of position risks. The risks at any point in time are limited by the notional size of positions as well as other factors. The overall portfolio risks are quantified using internal risk models and monitored by the Company's Chief Risk Officer, the independent risk group and senior management.

We use various proprietary risk management tools in managing our market risk on a continuous basis (including intraday). In order to minimize the likelihood of unintended activities by our market making strategies, if our risk management system detects a trading strategy generating revenues outside of our preset limits, it will freeze, or "lockdown", that strategy and alert risk management personnel and management.

For working capital purposes, we invest in money market funds and maintain interest and non-interest bearing balances at banks and in our trading accounts with clearing brokers, which are classified as Cash and cash equivalents and Receivables from broker-dealers and clearing organizations, respectively, on the Condensed Consolidated Statements of Financial Condition. These financial instruments do not have maturity dates; the balances are short-term, which helps to mitigate our market risks. We also invest our working capital in short-term U.S. government securities, which are included in Financial instruments owned on the Condensed Consolidated Statements of Financial Condition. Our cash and cash equivalents held in foreign currencies are subject to the exposure of foreign currency fluctuations. These balances are monitored daily and are hedged or reduced when appropriate and therefore not material to our overall cash position.

In the normal course of business, we maintain inventories of exchange-listed and other equity securities, and to a lesser extent, fixed income securities and listed equity options. The fair value of these financial instruments at June 30, 2023 and December 31, 2022 was $6.5 billion and $4.6 billion, respectively, in long positions and $5.8 billion and $4.2 billion, respectively, in short positions. We also enter into futures contracts, which are recorded on our Condensed Consolidated Statements of Financial Condition within Receivable from brokers, dealers and clearing organizations or Payable to brokers, dealers and clearing organizations as applicable.

We calculate daily the potential losses that might arise from a series of different stress events. These include both single factor and multi factor shocks to asset prices based off both historical events and hypothetical scenarios. The stress calculations include a full recalculation of any option positions, non-linear positions and leverage. Senior management and the independent risk group carefully monitor the highest stress scenarios to help mitigate the risk of exposure to extreme events.

The purchase and sale of futures contracts requires margin deposits with a Futures Commission Merchant ("FCM"). The Commodity Exchange Act requires an FCM to segregate all customer transactions and assets from the FCM's proprietary activities. A customer's cash and other equity deposited with an FCM are considered commingled with all other customer funds subject to the FCM's segregation requirements. In the event of an FCM's insolvency, recovery may be limited to the Company's pro rata share of segregated customer funds available. It is possible that the recovery amount could be less than the total cash and other equity deposited.

Interest Rate Risk, Derivative Instruments

In the normal course of business, we utilize derivative financial instruments in connection with our proprietary trading activities. We carry our trading derivative instruments at fair value with gains and losses included in Trading income, net, in the accompanying Condensed Consolidated Statements of Comprehensive Income. Fair value of derivatives that are freely tradable and listed on a national exchange is determined at their last sale price as of the last business day of the period. Since gains and losses are included in earnings, we have elected not to separately disclose gains and losses on derivative instruments, but instead to disclose gains and losses within trading revenue for both derivative and non-derivative instruments.

We also use derivative instruments for risk management purposes, including cash flow hedges used to manage interest rate risk on long-term borrowings and net investment hedges used to manage foreign exchange risk. We have entered into floating-to-fixed interest rate swap agreements in order to manage interest rate risk associated with our long-term debt obligations. Additionally, we may seek to reduce the impact of fluctuations in foreign exchange rates on our net investment in certain non-U.S. operations through the use of foreign currency forward contracts. For interest rate swap agreements and foreign currency forward contracts designated as hedges, we assess our risk management objectives and strategy, including identification of the hedging instrument, the hedged item and the risk exposure and how effectiveness is to be assessed prospectively and retrospectively. The effectiveness of the hedge is assessed based on the overall changes in the fair value of the interest rate swaps or forward contracts. For instruments that meet the criteria to be considered hedging instruments under ASC 815, any gains or losses, to the extent effective, are included in Accumulated other comprehensive income on the Condensed Consolidated Statements of Financial Condition and Other comprehensive income on the Condensed Consolidated Statements of Comprehensive Income. The ineffective portion, if any, is recorded in Other, net on the Condensed Consolidated Statements of Comprehensive Income.

Futures Contracts. As part of our proprietary market making trading strategies, we use futures contracts to gain exposure to changes in values of various indices, commodities, interest rates or foreign currencies. A futures contract represents a commitment for the future purchase or sale of an asset at a specified price on a specified date. Upon entering into a futures contract, we are required to pledge to the broker an amount of cash, U.S. government securities or other assets equal to a certain percentage of the contract amount. Subsequent payments, known as variation margin, are made or received by us each day, depending on the daily fluctuations in the fair values of the underlying securities. We recognize a gain or loss equal to the daily variation margin.

Due from Broker-Dealers and Clearing Organizations. Management periodically evaluates our counterparty credit exposures to various brokers and clearing organizations with a view to limiting potential losses resulting from counterparty insolvency.

Foreign Currency Risk

As a result of our international market making and execution services activities and accumulated earnings in our foreign subsidiaries, our income and net worth are subject to fluctuation in foreign exchange rates. While we generate revenues in several currencies, the majority of our operating expenses are denominated in U.S. dollars. Therefore, depreciation in these other currencies against the U.S. dollar would negatively impact revenue upon translation to the U.S. dollar. The impact of any translation of our foreign denominated earnings to the U.S. dollar is mitigated, however, through the impact of daily hedging practices that are employed by the company.

Approximately 16.8% and 20.7% of our total revenues for the six months ended June 30, 2023 and 2022, respectively, were denominated in non-U.S. dollar currencies. We estimate that a hypothetical 10% adverse change in the value of the U.S. dollar relative to our foreign denominated earnings would have resulted in decreases in total revenues of $18.9 million and $27.1 million for the six months ended June 30, 2023 and 2022, respectively.

Assets and liabilities of subsidiaries with non-U.S. dollar functional currencies are translated into U.S. dollars at period-end exchange rates. Income, expense and cash flow items are translated at average exchange rates prevailing during the period. The resulting currency translation adjustments are recorded as foreign exchange translation adjustment in our Condensed Consolidated Statements of Comprehensive Income and Condensed Consolidated Statements of Changes in Equity. Our primary currency translation exposures historically relate to net investments in subsidiaries having functional currencies denominated in the Euro, Pound Sterling, and Canadian dollar.

Financial Instruments with Off Balance Sheet Risk

We enter into various transactions involving derivatives and other off-balance sheet financial instruments. These financial instruments include futures, forward contracts, swaps, and exchange-traded options. These derivative financial instruments are used to conduct trading activities and manage market risks and are, therefore, subject to varying degrees of market and credit risk. Derivative transactions are entered into for trading purposes or to economically hedge other positions or transactions.

Futures and forward contracts provide for delayed delivery of the underlying instrument. In situations where we write listed options, we receive a premium in exchange for giving the buyer the right to buy or sell the security at a future date at a contracted price. The contractual or notional amounts related to these financial instruments reflect the volume and activity and do not necessarily reflect the amounts at risk. Futures contracts are executed on an exchange, and cash settlement is made on a daily basis for market movements, typically with a central clearing house as the counterparty. Accordingly, futures contracts generally do not have credit risk. The credit risk for forward contracts, options, and swaps is limited to the unrealized market valuation gains recorded in the Condensed Consolidated Statements of Financial Condition. Market risk is substantially dependent upon the value of the underlying financial instruments and is affected by market forces, such as volatility and changes in interest and foreign exchange rates.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, management has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of June 30, 2023. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of June 30, 2023, our disclosure controls and procedures were effective to ensure information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the periods specified in the SEC's rules and forms and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, with the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error and mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of controls.

The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, a control may become inadequate because of changes in conditions or because the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and may not be detected.

Changes to Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) occurred during the three months ended June 30, 2023 that has or is reasonably likely to materially affect, our internal control over financial reporting.

PART II

ITEM 1. LEGAL PROCEEDINGS

The information required by this item is set forth in the “Legal Proceedings” section in Note 14 "Commitments, Contingencies and Guarantees" to the Company’s Condensed Consolidated Financial Statements included in Part I Item 1 “Financial Statements”, which is incorporated by reference herein.

ITEM 1A. RISK FACTORS

There have been no material changes to the Risk Factors described in Part I Item 1A. “Risk Factors” in our 2022 Form 10-K.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Pursuant to the exchange agreement (the “Exchange Agreement”) entered into on April 15, 2015 by and among the Company, Virtu Financial and holders of Virtu Financial Units, Virtu Financial Units (along with the corresponding shares of our Class C Common Stock or Class D Common Stock, as applicable) may be exchanged at any time for shares of our Class A Common Stock or Class B Common Stock, as applicable, on a one-for-one basis, subject to customary conversion rate adjustments for stock splits, stock dividends and reclassifications.

Total share repurchases for the three months ended June 30, 2023 were as follows:

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
April 1, 2023 - April 30, 2023				
Class A Common Stock / Virtu Financial Units repurchases	836,246	$ 19.05	836,246	$ 228,873,408
May 1, 2023 - May 31, 2023				
Class A Common Stock / Virtu Financial Units repurchases	955,944	17.83	955,944	211,825,972
June 1, 2023 - June 30, 2023				
Class A Common Stock / Virtu Financial Units repurchases	482,768	18.16	473,621	203,222,414
Total Common Stock / Virtu Financial Unit repurchases	2,274,958	$ 18.35	2,265,811	

(1) Includes the repurchase of 9,147 shares from employees in order to satisfy statutory tax withholding requirements upon the net settlement of equity awards for the three months ended June 30, 2023

On November 6, 2020, the Company's Board of Directors authorized a new share repurchase program of up to $100.0 million in Class A common stock and Virtu Financial Units by December 31, 2021. On February 11, 2021, the Company's Board of Directors authorized the expansion of the program by an additional $70 million in Class A Common Stock and Virtu Financial Units. On May 4, 2021, the Company's Board of Directors authorized the expansion of the Company's share repurchase program, increasing the total authorized amount by $300 million to $470 million in Class A Common Stock and Virtu Financial Units and extending the duration of the program through May 4, 2022. Additionally, on November 3, 2021 the Company's Board of Directors authorized the expansion of the program by an additional $750 million to $1,220 million and extending the duration of the program through November 3, 2023. The share repurchase program authorizes the Company to repurchase shares from time to time in open market transactions, privately negotiated transactions or by other means. Repurchases are also permitted to be made under Rule 10b5-1 plans. The timing and amount of repurchase transactions are determined by the Company's management based on its evaluation of market conditions, share price, cash sources, legal requirements and other factors. From the inception of the program through June 30, 2023, the Company repurchased approximately 38.5 million shares of Class A Common Stock and Virtu Financial Units for approximately $1,016.7 million. As of June 30, 2023, the Company has approximately $203.3 million remaining capacity for future purchases of shares of Class A Common Stock and Virtu Financial Units under the program.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

None.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

Exhibit Number	Description
3.1*	Second Amended and Restated Certificate of Incorporation of the Registrant.
3.2	Second Amended and Restated Certificate of Incorporation of the Registrant (Redline Version) (incorporated herein by reference to Appendix A to the Company’s Definitive Proxy Statement on Schedule 14A (File No. 001-37352), filed on April 27, 2023).
3.3	Amended and Restated By-laws of the Registrant (incorporated herein by reference to Exhibit 3.2 to the Company’s Quarterly Report on Form 10-Q, as amended (File No. 001-37352), filed on May 29, 2015).
31.1*	Certification of Chief Executive Officer required by Rule 13a-14(a)/15d-14(a) under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer required by Rule 13a-14(a)/15d-14(a) under the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase
101.DEF*	XBRL Taxonomy Extension Definition Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith.
† Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Virtu Financial, Inc.

DATE:	July 28, 2023	By:	/s/ Douglas A. Cifu Douglas A. Cifu Chief Executive Officer
DATE:	July 28, 2023	By:	/s/ Sean P. Galvin Sean P. Galvin Chief Financial Officer

SECOND AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

of

VIRTU FINANCIAL, INC.

(Pursuant to Section 242 and 245 of
the General Corporation Law of the State of Delaware)

Virtu Financial, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), hereby certifies as follows:

FIRST: The name of the Corporation is Virtu Financial, Inc. The date of filing of its original certificate of incorporation (the "Original Certificate of Incorporation") with the Secretary of State of the State of Delaware was October 17, 2013.

SECOND: The Original Certificate of Incorporation was last amended and restated by the Amended and Restated Certificate of Incorporation filed with the Secretary of State of the State of Delaware on April 15, 2015.

THIRD: This Amended and Restated Certificate of Incorporation (this "Amended Certificate of Incorporation") amends and restates in its entirety the Corporation's certificate of incorporation as currently in effect and has been duly adopted in accordance with the provisions of Sections 242 and 245 of the General Corporation Law of the State of Delaware (as from time to time in effect, the "General Corporation Law"), by written consent of the holders of all of the outstanding stock entitled to vote thereon in accordance with the provisions of Section 228 of the General Corporation Law.

FOURTH: This Amended Certificate of Incorporation amends and restates in its entirety the original certificate of incorporation of the Corporation to read as follows:

1. Name. The name of the Corporation is Virtu Financial, Inc.

2. Address; Registered Office and Agent. The address of the Corporation's registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, City of Wilmington, County of New Castle, State of Delaware 19801, and the name of its registered agent at such address is The Corporation Trust Company.

3. Purposes. The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

4. Number of Shares.

4.1 The total number of shares of all classes of stock that the Corporation shall have authority to issue is 1,490,000,000 shares, consisting of:

(i) 1,440,000,000 shares of common stock, divided into (a) 1,000,000,000 shares of Class A common stock, with the par value of $0.00001 per share (the "Class A Common Stock"), (b) 175,000,000 shares of Class B common stock, with the par value of $0.00001 per share (the "Class B Common Stock" and, together with Class A Common Stock, the "Economic Common Stock"), (c) 90,000,000 shares of Class C common stock, with the par value of $0.00001 per share (the "Class C Common Stock"), and (d) 175,000,000 shares of Class D common stock, with the par value of $0.00001 per share (the "Class D Common Stock" and, together with the Class C Common Stock, the "Non-Economic Common Stock" and collectively with the Class A Common Stock, the Class B Common Stock and the Class C Common Stock, the "Common Stock"); and (ii) 50,000,000 shares of preferred stock, with the par value of $0.00001 per share (the "Preferred Stock").

4.2 Subject to the rights of the holders of any one or more series of Preferred Stock then outstanding, the number of authorized shares of any class of the Common Stock or the Preferred Stock may be increased or decreased, in each case by the affirmative vote of the holders of a majority of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon, voting together as a single class, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law, and no vote of the holders of any class of the Common Stock or the Preferred Stock voting separately as a class will be required therefor. Notwithstanding the immediately preceding sentence, the number of authorized shares of any particular class may not be decreased below the number of shares of such class then outstanding, plus:

(i) in the case of Class A Common Stock, the number of shares of Class A Common Stock issuable in connection with (x) the conversion of all shares of Class B Common Stock issuable as described in clause (ii) below, (y) the exchange of all outstanding shares of Class C Common Stock and all shares of Class C Common Stock issuable as described in clause (iii) below, together with the corresponding Common Units constituting the remainder of any Class C Paired Interests in which such shares are included, pursuant to Section 2.01 of the Exchange Agreement and (z) the exercise of outstanding options, warrants, exchange rights, conversion rights or similar rights for Class A Common Stock;

(ii) in the case of Class B Common Stock, the number of shares of Class B Common Stock issuable in connection with (x) the exchange of all outstanding shares of Class D Common Stock and all shares of Class D Common Stock issuable as described in clause (iv) below, together with the corresponding Common Units constituting the remainder of any Class D Paired Interests in which such shares are included, pursuant to Section 2.01 of the Exchange Agreement and (y) the exercise of outstanding options, warrants, exchange rights, conversion rights or similar rights for Class B Common Stock;

(iii) in the case of Class C Common Stock, the number of shares of Class C Common Stock issuable in connection with (x)the conversion of all outstanding shares of Class D Common Stock, (y) the conversion of all shares of Class D Common Stock issuable as described in clause (iv) below and (z) the exercise of outstanding options, warrants, exchange rights, conversion rights or similar rights for Class C Common Stock; and

(iv) in the case of Class D Common Stock, the number of shares of Class D Common Stock issuable in connection with the exercise of outstanding options, warrants, exchange rights, conversion rights or similar rights for Class D Common Stock.

5. Classes of Shares. The designation, relative rights, preferences and limitations of the shares of each class of stock are as follows:

5.1 Common Stock.

(i) Voting Rights.

(1) Each holder of Class A Common Stock or Class C Common Stock, as such, will be entitled to one vote for each share of Class A Common Stock or Class C Common Stock held of record by such holder on all matters on which stockholders generally are entitled to vote, and each holder of Class B Common Stock or Class D Common Stock, as such, will be entitled to ten votes for each share of Class B Common Stock or Class D Common Stock held of record by such holder on all matters on which stockholders generally are entitled to vote, except that, in each case, to the fullest extent permitted by law and subject to Section 5.1(i)(2), holders of shares of each class of Common Stock, as such, will have no voting power with respect to, and will not be entitled to vote on, any amendment to this Amended Certificate of Incorporation (including any certificate of designations relating to any series of Preferred Stock) that relates solely to the terms of any outstanding Preferred Stock if the holders of such Preferred Stock are entitled to vote as a separate class thereon under this Amended Certificate of Incorporation (including any certificate of designations relating to any series of Preferred Stock) or under the General Corporation Law.

(2) (a) The holders of the outstanding shares of Class A Common Stock and Class C Common Stock, voting together as a single class, shall be entitled to vote separately upon any amendment to this Amended Certificate of Incorporation (including by merger, consolidation, reorganization or similar event) that would alter or change the powers, preferences, or special rights of such classes of Common Stock in a manner that is disproportionately adverse as compared to the Class B Common Stock or Class D Common Stock and (b) the holders of the outstanding shares of Class B Common Stock and Class D Common Stock, voting together as a single class, shall be entitled to vote separately upon any amendment to this Amended Certificate of Incorporation (including by merger, consolidation, reorganization or similar event) that would alter or change the powers, preferences, or special rights of such classes of Common Stock in a manner that is disproportionately adverse as compared to the Class A Common Stock or Class C Common Stock, it being understood that any merger, consolidation or other business combination shall not be deemed an amendment hereof if such merger, consolidation or other business combination (x) constitutes a Disposition Event in which holders of Paired Interests are required to exchange such Paired Interests pursuant to Section 2.03 of the Exchange Agreement in such Disposition Event and receive consideration in such Disposition Event in accordance with the terms of the Exchange Agreement as in effect prior to such Disposition Event or (y) would be permitted by Section 5.1(iv).

(3) Except as otherwise required in this Amended Certificate of Incorporation or by applicable law, the holders of Common Stock will vote together as a single class on all matters (or, if any holders of Preferred Stock are entitled to vote together with the holders of Common Stock, as a single class with the holders of Preferred Stock).

(ii) Dividends; Stock Splits or Combinations.

(1) Subject to applicable law and the rights, if any, of the holders of any outstanding series of Preferred Stock or any class or series of stock having a preference senior to or the right to

participate with the Economic Common Stock with respect to the payment of dividends, dividends of cash or property may be declared and paid on the Economic Common Stock out of the assets of the Corporation that are by law available therefor, at the times and in the amounts as the board of directors of the Corporation (the "Board") in its discretion may determine.

(2) Dividends of cash or property may not be declared or paid on the Class A Common Stock unless a dividend of the same amount and same type of cash or property (or combination thereof) is concurrently declared or paid on the Class B Common Stock. Dividends of cash or property may not be declared or paid on the Class B Common Stock unless a dividend of the same amount and same type of cash or property (or combination thereof) is concurrently declared or paid on the Class A Common Stock.

(3) Except as provided in Section 5.1 (ii)(4) with respect to stock dividends, dividends of cash or property may not be declared or paid on the Non-Economic Common Stock.

(4) In no event will any stock dividend, stock split, reverse stock split, combination of stock, reclassification or recapitalization be declared or made on any class of Common Stock (each, a "Stock Adjustment") unless (a) a corresponding Stock Adjustment for all other classes of Common Stock not so adjusted at the time outstanding is made in the same proportion and the same manner and (b) the Stock Adjustment has been reflected in the same economically equivalent manner on all Common Units. Stock dividends with respect to each class of Common Stock may only be paid with shares of stock of the same class of Common Stock.

(5) Notwithstanding anything to the contrary, if a dividend in the form of capital stock of a subsidiary of the Corporation is declared or paid on the Class A Common Stock and the Class B Common Stock, the relative per share voting rights of the capital stock of such subsidiary so distributed in respect of the Class A Common Stock and the Class B Common Stock shall be in the same proportion as the relative voting rights of a share of Class A Common Stock and a share of Class B Common Stock.

(iii) Liquidation. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation, after payment or provision for payment of the debts and other liabilities of the Corporation and of the preferential and other amounts, if any, to which the holders of Preferred Stock are entitled, if any, the holders of all outstanding shares of Common Stock will be entitled to receive, *pari passu,* an amount per share equal to the par value thereof, and thereafter the holders of all outstanding shares of Economic Common Stock will be entitled to receive the remaining assets of the Corporation available for distribution ratably in proportion to the number of shares of Economic Common Stock. Without limiting the rights of the holders of Non-Economic Common Stock to exchange their shares of Non-Economic Common Stock, together with the corresponding Common Units constituting the remainder of any Paired Interests in which such shares are included, for shares of Economic Common Stock in accordance with Section 2.01 of the Exchange Agreement (or for the consideration payable in respect of shares of Economic Common Stock in such voluntary or involuntary liquidation, dissolution or winding up), the holders of shares of Non-Economic Common Stock, as such, will not be entitled to receive, with respect to such shares, any assets of the Corporation in excess of the par value thereof, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation.

(iv) Merger, Consolidation, Tender or Exchange Offer. Except as expressly provided in this Article 5, the Economic Common Stock shall have the same rights and privileges and rank equally, share ratably and be identical in all respects as to all matters, and the Non-Economic Common Stock shall have the same rights and privileges and rank equally, share ratably and be identical as to all matters. Without limiting the generality of the foregoing, (1) in the event of a merger, consolidation or other business combination requiring the approval of the holders of the Corporation's capital stock entitled to vote thereon (whether or not the Corporation is the surviving entity), the holders of the Class A Common Stock shall have the right to receive, or the right to elect to receive, the same form of consideration, if any, as the holders of the Class B Common Stock and the holders of the Class A Common Stock shall have the right to receive, or the right to elect to receive, at least the same amount of consideration, if any, on a per share basis as the holders of the Class B Common Stock, and the holders of the Class C Common Stock shall have the right to receive, or the right to elect to receive, the same form of consideration (if any) as the holders of the Class D Common Stock and the holders of the Class C Common Stock shall have the right to receive, or the right to elect to receive, at least the same amount of consideration (if any) on a per share basis as the holders of the Class D Common Stock and (2) in the event of (a) any tender or exchange offer to acquire any shares of Common Stock by any third party pursuant to an agreement to which the Corporation is a party or (b) any tender or exchange offer by the Corporation to acquire any shares of Common Stock, pursuant to the terms of the applicable tender or exchange offer, the holders of the Class A Common Stock shall have the right to receive, or the right to elect to receive, the same form of consideration as the holders of the Class B Common Stock and the holders of the Class A Common Stock shall have the right to receive, or the right to elect to receive, at least the same amount of consideration on a per share basis as the holders of the Class B Common Stock, and the holders of the Class C Common Stock shall have the right to receive, or the right to elect to receive, the same form of consideration (if any) as the holders of the Class D Common Stock and the holders of the Class C Common Stock shall have the right to receive, or the right to elect to receive, at least the same amount of consideration (if any) on a per share basis as the holders of the Class D Common Stock; provided that, for the purposes of the foregoing clauses (1) and (2) and notwithstanding the first sentence of this Section 5.1(iv), (i) in the event any such consideration includes securities, (I) the consideration payable to holders of Class A Common Stock shall be deemed the same form of consideration and at least the same amount of consideration on a per share basis as the holders of Class B Common Stock on a per share basis if the only difference in the per share distribution to the holders of Class B Common Stock is that the securities distributed to such holders have not more than ten times the voting power of any securities distributed to the holder of a share of Class A Common Stock and (II) the consideration payable to holders of Class D Common Stock shall be deemed the same form of consideration and at least the same amount of consideration on a per share basis as the holders of Class C Common Stock on a per share basis if the only difference in the per share distribution to the holders of Class D Common Stock is that the securities distributed to such holders have not more than ten times the voting power of any securities distributed to the holder of a share of Class C Common Stock (in each case, so long as such securities issued to the holders of Class B Common Stock or the Class D Common Stock, as the case may be, remain subject to automatic conversion on terms no more favorable to such holders than those set forth in Section 6.2) and (ii) payments under or in respect of the tax receivable or similar agreement entered by the Corporation from time to time with any holders of Common Stock and/or securities of Virtu Financial shall not be considered part of the consideration payable in respect of any share of Common Stock.

5.1 Preferred Stock. Shares of Preferred Stock may be issued from time to time in one or more series of any number of shares, provided that the aggregate number of shares issued and not retired of any and all such series shall not exceed the total number of shares of Preferred Stock hereinabove authorized, and with such powers, including voting powers, if any, and the designations, preferences and relative, participating, optional or other special rights, if any, and any qualifications, limitations or restrictions thereof, all as shall hereafter be stated and expressed in the resolution or resolutions providing for the designation and issue of such shares of Preferred Stock from time to time adopted by the Board pursuant to authority so to do which is hereby expressly vested in the Board. The powers, including voting powers, if any, preferences and relative, participating, optional and other special rights of each series of Preferred Stock, and the qualifications, limitations or restrictions thereof, if any, may differ from those of any and all other series at any time outstanding. Each series of shares of Preferred Stock: (i) may have such voting rights or powers, full or limited, if any; (ii) may be subject to redemption at such time or times and at such prices, if any; (iii) may be entitled to receive dividends (which may be cumulative or non-cumulative) at such rate or rates, on such conditions and at such times, and payable in preference to, or in such relation to, the dividends payable on any other class or classes or series of stock, if any; (iv) may have such rights upon the voluntary or involuntary liquidation, winding up or dissolution of, upon any distribution of the assets of, or in the event of any merger, sale or consolidation of, the Corporation, if any; (v) may be made convertible into or exchangeable for, shares of any other class or classes or of any other series of the same or any other class or classes of stock of the Corporation (or any other securities of the Corporation or any other Person) at such price or prices or at such rates of exchange and with such adjustments, if any; (vi) may be entitled to the benefit of a sinking fund to be applied to the purchase or redemption of shares of such series in such amount or amounts, if any; (vii) may be entitled to the benefit of conditions and restrictions upon the creation of indebtedness of the Corporation or any subsidiary, upon the issue of any additional shares (including additional shares of such series or of any other series) and upon the payment of dividends or the making of other distributions on, and the purchase, redemption or other acquisition by the Corporation or any subsidiary of, any outstanding shares of the Corporation, if any; (viii) may be subject to restrictions on transfer or registration of transfer, or on the amount of shares that may be owned by any Person or group of Persons; and (ix) may have such other relative, participating, optional or other special rights, qualifications, limitations or restrictions thereof, if any; all as shall be stated in said resolution or resolutions of the Board providing for the designation and issue of such shares of Preferred Stock.

6. Conversion and Exchange of Shares.

6.1 Voluntary Conversion of Class B Common Stock and Class D Common Stock.

(i) Each share of Class B Common Stock or Class D Common Stock may be converted into one fully paid and non-assessable share of Class A Common Stock or Class C Common Stock, respectively, at any time at the option of the holder of such share of Class B Common Stock or Class D Common Stock. In order to exercise the conversion privilege, the holder of any shares of Class B Common Stock or Class D Common Stock to be converted shall present and surrender the certificate or certificates representing such shares (if certificated) during usual business hours at the principal executive offices of the Corporation or, if any agent for the registration or transfer of shares of Class B Common Stock or Class D Common Stock is then duly appointed and acting (the "Class B Transfer Agent" and the "Class D Transfer Agent," respectively), at the office of the Class B Transfer Agent or Class D Transfer Agent, as applicable, accompanied by written notice that the holder elects to convert the shares of Class B Common Stock or Class D Common Stock, as applicable, represented by such certificate or certificates, to the extent specified in such notice. If required by the Corporation, any certificate for shares of Class B Common Stock or Class D Common Stock surrendered for conversion shall be accompanied by instruments of transfer, in form reasonably satisfactory to the Corporation and the Class B Transfer Agent or Class D Transfer Agent, as applicable, duly executed by the holder of such shares or such holder's duly authorized representative. As promptly as practicable after the receipt of such notice and the surrender of the certificate or certificates representing such shares of Class B Common Stock or Class D Common Stock as aforesaid and in any event within three (3) days of the receipt of such notice and certificates, if such shares are certificated, the Corporation shall issue and deliver at such office to such holder, or on such holder's written order, a certificate or certificates for the number of full shares of Class A Common Stock or Class C Common Stock, as applicable, (if certificated) issuable upon the conversion of such shares. To the extent such shares of Class B Common Stock or Class D Common Stock as aforesaid are settled through the facilities of The Depository Trust Company, the Corporation shall, upon such holder's written order, issue and deliver the number of full shares of Class A Common Stock or Class C Common Stock, as applicable, issuable upon the conversion of such shares through the facilities of The Depository Trust Company to the account of the participant of The Depository Trust Company designated by such holder. Each conversion of shares of Class B Common Stock or Class D Common Stock shall be deemed to have been effected on (i) the date on which such notice shall have been received by the Corporation, the Class B Transfer Agent or the Class D Transfer Agent, as applicable (subject to receipt by the Corporation, the Class B Transfer Agent or the Class D Transfer Agent, as applicable, within five (5) Business Days thereafter of any required instruments of transfer as aforesaid), or (ii) such later date specified in or pursuant to such notice, and the Person or Persons in whose name or names any certificate or certificates for shares of Class A Common Stock or Class C Common Stock shall be issuable upon such conversion as aforesaid shall be deemed to have become on said date the holder or holders of record of the shares represented thereby.

(ii) Notwithstanding anything in this Section 6.1 to the contrary, any holder may withdraw or amend a notice of conversion, in whole or in part, prior to the effectiveness of the conversion, at any time prior to 5:00 p.m., New York City time, on the Business Day immediately preceding the date of the conversion (or any such later time as may be required by applicable law) by delivery of a written notice of withdrawal to the Corporation, the Class B Transfer Agent or the Class D Transfer Agent, as applicable, specifying (1) if applicable, the certificate numbers of the withdrawn shares of Class B Common Stock or Class D Common Stock, (2) if any, the number of shares of Class B Common Stock or Class D Common Stock as to which the notice of conversion remains in effect and (3) if the holder so determines, a new conversion date or any other new or revised information permitted in a notice of conversion. A notice of conversion may specify that the conversion is to be contingent (including as to timing) upon the consummation of a purchase by another Person (whether in a tender or exchange offer, an underwritten offering or otherwise) of shares of the Class A Common Stock or Class C Common Stock into which the Class B Common Stock or Class D Common Stock, respectively, is convertible, or contingent (including as to timing) upon the closing of an announced merger, consolidation or other transaction or event in which the Class A Common Stock or Class C Common Stock would be exchanged or converted or become exchangeable for or convertible into cash or other securities or property.

6.2 <u>Automatic Conversion of Class B Common Stock and Class D Common Stock</u>.

(i) Each outstanding share of Class B Common Stock or Class D Common Stock will, automatically and without further action on the part of the Corporation or any holder of Class B Common Stock or Class D Common Stock, convert into one fully paid and non-assessable share of Class A Common Stock or Class C Common Stock, respectively, (a) immediately prior to any Transfer of such Class B Common Stock or Class D Common Stock, as applicable, by the initial registered holder thereof, other than a Transfer to any Permitted Transferee or (b) upon the occurrence of the Triggering Event. Upon any conversion pursuant to this Section 6.2, the certificate or certificates that represented immediately prior thereto the shares of Class B Common Stock or Class D Common Stock that were so converted, automatically and without further action, shall represent the same number of shares of Class A Common Stock or Class C Common Stock, respectively, without the need for surrender or exchange thereof. As promptly as practicable following a conversion pursuant to this Section 6.2, the Corporation shall deliver or cause to be delivered to any holder whose shares of Class B Common Stock or Class D Common Stock have been converted as a result of such conversion the number of shares of Class A Common Stock or Class C Common Stock deliverable upon such conversion, as applicable, registered in the name of such holder. To the extent such shares are settled through the facilities of The Depository Trust Company, the Corporation will, upon the written instruction of such holder, deliver the shares of Class A Common Stock or Class C Common Stock deliverable to such holder, through the facilities of The Depository Trust Company, to the account of the participant of The Depository Trust Company designated by such holder. Each share of Class B Common Stock and Class D Common Stock that is converted pursuant to this Section 6.2 shall thereupon be retired by the Corporation and shall not be available for reissuance.

(ii) The Corporation may, from time to time, establish such policies and procedures relating to the conversion of the Class B Common Stock and Class D Common Stock and the general administration of its multi-class common stock structure, including the issuance of stock certificates with respect thereto, as it may deem necessary or advisable, and may request that holders of shares of Class B Common Stock or Class D Common Stock furnish affidavits or other proof to the Corporation as it deems necessary to verify the ownership of Class B Common Stock or Class D Common Stock, as applicable, and to confirm that a conversion to Class A Common Stock or Class C Common Stock, respectively has not occurred.

6.3 <u>Unconverted Shares</u>. If less than all of the shares of Class B Common Stock or Class D Common Stock evidenced by a certificate or certificates surrendered to the Corporation are converted, the Corporation shall execute and deliver to, or upon the written order of, the holder of such certificate or certificates a new certificate or certificates evidencing the number of shares of Common Stock which are not converted without charge to the holder.

6.4 No Conversion Rights of Class A Common Stock and Class C Common Stock. The Class A Common Stock and Class C Common Stock shall not have any conversion rights.

6.5 Reservation of Shares of Class A Common Stock for Conversion Right. The Corporation will at all times reserve and keep available out of its authorized and unissued shares of Class A Common Stock, solely for the purposes of conversions of Class B Common Stock, the number of shares of Class A Common Stock that are issuable upon conversion of all outstanding shares of Class B Common Stock, including any shares of Class B Common Stock issuable upon the exchange of all outstanding shares of Class D Common Stock, together with the corresponding Common Units constituting the remainder of any Class D Paired Interests in which such shares are included, pursuant to Section 2.01 of the Exchange Agreement. The Corporation covenants that all the shares of Class A Common Stock that are issued upon conversion of such Class B Common Stock will, upon issuance, be validly issued, fully paid and non-assessable.

6.6 Reservation of Shares of Class C Common Stock for Conversion Right. The Corporation will at all times reserve and keep available out of its authorized and unissued shares of Class C Common Stock, solely for the purposes of conversions of Class D Common Stock, the number of shares of Class C Common Stock that are issuable upon conversion of all outstanding shares of Class D Common Stock. The Corporation covenants that all the shares of Class C Common Stock that are issued upon conversion of Class D Common Stock will, upon issuance, be validly issued, fully paid and non-assessable.

6.7 Retirement of Non-Economic Common Stock. In the event that no Class D Paired Interests remain exchangeable for shares of Class B Common Stock, the Class D Common Stock will be transferred to the Corporation and thereupon shall be retired. In the event that no Class C Paired Interests remain exchangeable for shares of Class A Common Stock, the Class C Common Stock will be transferred to the Corporation and thereupon shall be retired. In the event that any outstanding share of Non-Economic Common Stock shall cease to be held by a holder of Common Units, such share shall automatically and without further action on the part of the Corporation or its holder be transferred to the Corporation and thereupon shall be retired and cease to be outstanding and may not be reissued by the Corporation.

6.8 Distributions with Respect to Converted Shares. No conversion pursuant to this Article 6 shall impair the right of the converting stockholder to receive any dividends or other distributions payable on shares so converted in respect of a record date that occurs prior to the effective date for such conversion. For the avoidance of doubt, no converting stockholder shall be entitled to receive, in respect of a single record date, dividends or other distributions both on shares that are converted by such stockholder and on shares received by such stockholder in such conversion.

6.9 Exchange of Class C Common Stock and Class D Common Stock. Shares of Class C Common Stock or Class D Common Stock may be exchanged, together with the corresponding Common Units constituting the remainder of any Class C Paired Interests or Class D Paired Interests in which such shares are included, as applicable, at any time and from time to time for shares of Class A Common Stock or Class B Common Stock, respectively, in accordance with Section 2.01 of the Exchange Agreement.

6.10 Taxes. The issuance of shares of Economic Common Stock upon the exercise by holders of shares of Non-Economic Common Stock of their right under Section 2.01 of the Exchange Agreement to exchange Paired Interests will be made without charge to the holders of the shares of Non-Economic Common Stock for any transfer taxes, stamp taxes or duties or other similar tax in respect of the issuance; provided, however, that if any such shares of Economic Common Stock are to be issued in a name other than that of the then record holder of the shares of Non-Economic Common Stock being exchanged (or The Depository Trust Company or its nominee for the account of a participant of The Depository Trust Company that will hold the shares for the account of such holder), then such holder and/or the Person in whose name such shares are to be delivered, shall pay to the Corporation the amount of any tax that may be payable in respect of any transfer involved in the issuance or shall establish to the reasonable satisfaction of the Corporation that the tax has been paid or is not payable.

7. Board of Directors.

7.1 Number of Directors.

(i) The business and affairs of the Corporation shall be managed by, or under the direction of, the Board. Unless and except to the extent that the Amended and Restated By-laws of the Corporation (as such By-laws may be amended from time to time, the "By-laws'") shall so require, the election of the directors of the Corporation (the "Directors'") need not be by written ballot. Except as otherwise provided for or fixed pursuant to the provisions of Section 5.2 of this Amended Certificate of Incorporation relating to the rights of the holders of any series of Preferred Stock to elect additional Directors, the total number of Directors constituting the entire Board shall be not less than three (3) nor more than twenty (20), with the then authorized number of Directors being fixed from time to time by the Board.

(ii) During any period when the holders of any series of Preferred Stock have the right to elect additional Directors as provided for or fixed pursuant to the provisions of Section 5.2 ("Preferred

Stock Directors"), upon the commencement, and for the duration, of the period during which such right continues: (i) the then total authorized number of Directors shall automatically be increased by such specified number of Preferred Stock Directors, and the holders of the related Preferred Stock shall be entitled to elect the Preferred Stock Directors pursuant to the provisions of the Board's designation for the series of Preferred Stock, and (ii) each such Preferred Stock Director shall serve until such Preferred Stock Director's successor shall have been duly elected and qualified, or until such Preferred Stock Director's right to hold such office terminates pursuant to such provisions, whichever occurs earlier, subject to his or her earlier death, disqualification, resignation or removal. Except as otherwise provided by the Board in the resolution or resolutions establishing such series, whenever the holders of any series of Preferred Stock having such right to elect Preferred Stock Directors are divested of such right pursuant to the provisions of such stock, the terms of office of all such Preferred Stock Directors elected by the holders of such Preferred Stock, or elected to fill any vacancies resulting from the death, resignation, disqualification or removal of such Preferred Stock Directors, shall forthwith terminate and the total and authorized number of Directors shall be reduced accordingly.

7.2 Staggered Board. The Board (other than Preferred Stock Directors) shall be divided into three (3) classes, as nearly equal in number as possible, designated Class I, Class II and Class III. Class I Directors shall initially serve until the first annual meeting of stockholders following the effectiveness of this Amended Certificate of Incorporation; Class II Directors shall initially serve until the second annual meeting of stockholders following the effectiveness hereof; and Class III Directors shall initially serve until the third annual meeting of stockholders following the effectiveness hereof. Commencing with the first annual meeting of stockholders following the effectiveness hereof, each Director of each class the term of which shall then expire shall be elected to hold office for a three-year term and until such Director's successor has been duly elected and qualified. In case of any increase or decrease, from time to time, in the number of Directors (other than Preferred Stock Directors), the number of Directors in each class shall be apportioned as nearly equal as possible. The Board is authorized to assign members of the Board already holding office to Class I, Class II and Class III.

7.3 Vacancies and Newly Created Directorships. Subject to the rights of the holders of any one or more series of Preferred Stock then outstanding and subject to obtaining any required stockholder votes or consents under the Stockholders Agreement, newly created directorships resulting from any increase in the authorized number of Directors or any vacancies on the Board resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled by the affirmative vote of a majority of the remaining Directors then in office, even if less than a quorum of the Board or, prior to the Triggering Event, by the affirmative vote of the holders of a majority of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class. Any Director so chosen shall hold office until the next election of the class for which such Director shall have been chosen and until his or her successor shall be duly elected and qualified or until such Director's earlier death, disqualification, resignation or removal. No decrease in the number of Directors shall shorten the term of any Director then in office.

7.4 Removal of Directors. Except for Preferred Stock Directors and subject to obtaining any required stockholder votes or consents under the Stockholders Agreement, any Director or the entire Board may be removed from office at any time, but only for cause by the affirmative vote of the holders of seventy-five percent (75%) of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class; provided, however, that prior to the Triggering Event, any Director may be removed with or without cause by the affirmative vote of the holders of a majority of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class.

8. Meetings of Stockholders.

8.1 Action by Written Consent. From and after the Triggering Event, any action required or permitted to be taken by the stockholders of the Corporation may be effected only at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders. Prior to the Triggering Event, any action required or permitted to be taken by the stockholders of the Corporation may be effected by the consent in writing of the holders of a majority of the total voting power of the Corporation entitled to vote thereon, voting together as a single class in lieu of a duly called annual or special meeting of stockholders.

8.2 Special Meetings of Stockholders. Subject to any special rights of the holders of any series of Preferred Stock, and to the requirements of applicable law, special meetings of stockholders of the Corporation may be called only (i) by or at the direction of the Board pursuant to a written resolution adopted by a majority of the total number of Directors that the Corporation would have if there were no vacancies or (ii) by or at the direction of the Chairman, the Vice Chairman or the Chief Executive Officer. In addition, prior to the Triggering Event, special meetings of stockholders of the Corporation may be called by the Secretary of the Corporation at the request of the holders of a majority of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class. Any business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of meeting.

8.3 Election of Directors by Written Ballot. Unless and except to the extent that the By-laws shall so require, the election of the Directors need not be by written ballot.

9. Business Combinations.

9.1 Section 203 of the General Corporation Law. The Corporation will not be subject to the provisions of Section 203 of the General Corporation Law.

9.2 Limitations on Business Combinations. Notwithstanding Section 9.1, the Corporation shall not engage in any business combination (as defined below), at any point in time at which the Corporation's Class A Common Stock is registered under Section 12(b) or 12(g) of the Exchange Act, with any interested stockholder (as defined below) for a period of three (3) years following the time that such stockholder became an interested stockholder, unless:

(i) prior to such time, the Board approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder, or

(ii) upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least eighty-five (85)% of the voting stock (as defined below) of the Corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned by (i) persons who are Directors and also officers or (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer, or

(iii) at or subsequent to such time, the business combination is approved by the Board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two thirds of the outstanding voting stock of the Corporation which is not owned by the interested stockholder.

9.3 Definitions. For purposes of this Article 9:

(i) "affiliate" means a person that directly, or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, another person.

(ii) "associate," when used to indicate a relationship with any person, means: (i) any corporation, partnership, unincorporated association or other entity of which such person is a director, officer or partner or is, directly or indirectly, the owner of twenty-percent (20%) or more of any class of voting stock; (ii) any trust or other estate in which such person has at least a twenty-percent (20%) beneficial interest or as to which such person serves as trustee or in a similar fiduciary capacity; and (iii) any relative or spouse of such person, or any relative of such spouse, who has the same residence as such person.

(iii) "business combination," when used in reference to the Corporation and any interested stockholder, means:

(1) any merger or consolidation of the Corporation or any direct or indirect majority-owned subsidiary of the Corporation (a) with the interested stockholder, or (b) with any other corporation, partnership, unincorporated association or other entity if the merger or consolidation is caused by the interested stockholder and as a result of such merger or consolidation Section 9.2 is not applicable to the surviving entity;

(2) any sale, lease, exchange, mortgage, pledge, transfer or other disposition (in one transaction or a series of transactions), except proportionately as a stockholder of the Corporation, to or with the interested stockholder, whether as part of a dissolution or otherwise, of assets of the Corporation or of any direct or indirect majority-owned subsidiary of the Corporation which assets have an aggregate market value equal to ten percent (10%) or more of either the aggregate market value of all the assets of the Corporation determined on a consolidated basis or the aggregate market value of all the outstanding stock of the Corporation;

(3) any transaction which results in the issuance or transfer by the Corporation or by any direct or indirect majority-owned subsidiary of the Corporation of any stock of the Corporation or of such subsidiary to the interested stockholder, except: (a) pursuant to the exercise, exchange or conversion of securities exercisable for, exchangeable for or convertible into stock of the Corporation or any such subsidiary which securities were outstanding prior to the time that the interested stockholder became such; (b) pursuant to a merger under Section 251(g) of the General Corporation Law; (c) pursuant to a dividend or distribution paid or made, or the exercise, exchange or conversion of securities exercisable for, exchangeable for or convertible into stock of the Corporation or any such subsidiary which security is distributed, pro rata to all holders of a class or series of stock of the Corporation subsequent to the time the interested stockholder became such; (d) pursuant to an exchange offer by the Corporation to purchase stock made on the same terms to all holders of said stock; or (e) any issuance or transfer of stock by the Corporation; provided, however, that in no

case under items (c)-(e) of this subsection (3) shall there be an increase in the interested stockholder's proportionate share of the stock of any class or series of the Corporation or of the voting stock of the Corporation (except as a result of immaterial changes due to fractional share adjustments);

(4) any transaction involving the Corporation or any direct or indirect majority-owned subsidiary of the Corporation which has the effect, directly or indirectly, of increasing the proportionate share of the stock of any class or series, or securities convertible into the stock of any class or series, of the Corporation or of any such subsidiary which is owned by the interested stockholder, except as a result of immaterial changes due to fractional share adjustments or as a result of any purchase or redemption of any shares of stock not caused, directly or indirectly, by the interested stockholder; or

(5) any receipt by the interested stockholder of the benefit, directly or indirectly (except proportionately as a stockholder of the Corporation), of any loans, advances, guarantees, pledges, or other financial benefits (other than those expressly permitted in subsections (1)-(4) above) provided by or through the Corporation or any direct or indirect majority-owned subsidiary.

(iv) "control," including the terms "controlling," "controlled by" and "under common control with," means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting stock, by contract, or otherwise. A person who is the owner of twenty percent (20%) or more of the outstanding voting stock of the Corporation, partnership, unincorporated association or other entity shall be presumed to have control of such entity, in the absence of proof by a preponderance of the evidence to the contrary. Notwithstanding the foregoing, a presumption of control shall not apply where such person holds voting stock, in good faith and not for the purpose of circumventing this Article 9, as an agent, bank, broker, nominee, custodian or trustee for one or more owners who do not individually or as a group have control of such entity.

(v) "interested stockholder" means any person (other than the Corporation or any direct or indirect majority- owned subsidiary of the Corporation) that (i) is the owner of fifteen percent (15%) or more of the outstanding voting stock of the Corporation, or (ii) is an affiliate or associate of the Corporation and was the owner of fifteen percent (15%) or more of the outstanding voting stock of the Corporation at any time within the three (3) year period immediately prior to the date on which it is sought to be determined whether such person is an interested stockholder, and the affiliates and associates of such person; provided, however, that the term "interested stockholder" shall not include (a) the Principal Stockholders or Principal Stockholder transferees or (b) any person whose ownership of shares in excess of the fifteen percent (15%) limitation set forth herein is the result of any action taken solely by the Corporation; provided that such person specified in this clause (b) shall be an interested stockholder if thereafter such person acquires additional shares of voting stock of the Corporation, except as a result of further corporate action not caused, directly or indirectly, by such person. For the purpose of determining whether a person is an interested stockholder, the voting stock of the Corporation deemed to be outstanding shall include stock deemed to be owned by the person through application of the definition of "owner" below but shall not include any other unissued stock of the Corporation which may be issuable pursuant to any agreement, arrangement or understanding, or upon exercise of conversion rights, warrants or options, or otherwise.

(vi) "owner," including the terms "own" and "owned," when used with respect to any stock, means a person that individually or with or through any of its affiliates or associates:

(1) beneficially owns such stock, directly or indirectly; or

(2) has (a) the right to acquire such stock (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding, or upon the exercise of conversion rights, exchange rights, warrants or options, or otherwise; provided, however, that a person shall not be deemed the owner of stock tendered pursuant to a tender or exchange offer made by such person or any of such person's affiliates or associates until such tendered stock is accepted for purchase or exchange; or (b) the right to vote such stock pursuant to any agreement, arrangement or understanding; provided, however, that a person shall not be deemed the owner of any stock because of such person's right to vote such stock if the agreement, arrangement or understanding to vote such stock arises solely from a revocable proxy or consent given in response to a proxy or consent solicitation made to ten (10) or more persons; or

(3) has any agreement, arrangement or understanding for the purpose of acquiring, holding, voting (except voting pursuant to a revocable proxy or consent as described in item (b) of subsection (2) above), or disposing of such stock with any other person that beneficially owns, or whose affiliates or associates beneficially own, directly or indirectly, such stock.

(vii) "person" means any individual, corporation, partnership, unincorporated association or other entity.

(viii) "stock" means, with respect to any corporation, capital stock and, with respect to any other entity, any equity interest.

(ix) "Principal Stockholder transferee" means any Person who acquires voting stock of the Corporation from a Principal Stockholder (other than in connection with a public offering) and who is designated in writing by such Principal Stockholder as a "Principal Stockholder transferee."

(x) "voting stock" means stock of any class or series entitled to vote generally in the election of directors.

10. Corporate Opportunities.

10.1 Certain Acknowledgement. In recognition and anticipation that, subject to certain contractual commitments entered into with the Corporation and/or its subsidiaries, (i) certain directors, principals, officers, employees and/or other representatives of investment funds or vehicles affiliated with the Principal Stockholders and their respective Affiliates may serve as directors, officers or agents of the Corporation or any of its subsidiaries, (ii) the Principal Stockholders and their Affiliates may now engage and may continue to engage in the same or similar activities or related lines of business as those in which the Corporation, directly or indirectly, may engage and/or other business activities that overlap with or compete with those in which the Corporation, directly or indirectly, may engage, and (iii) certain members of the Board who are not officers or employees of the Corporation (other than Mr. Vincent Viola) ("Non-Employee Directors") and their respective Affiliates may now engage and may continue to engage in the same or similar activities or related lines of business as those in which the Corporation, directly or indirectly, may engage and/or other business activities that overlap with or compete with those in which the Corporation, directly or indirectly, may engage, the provisions of this Article 10 are set forth to regulate and define the conduct of certain affairs of the Corporation with respect to certain classes or categories of business opportunities as they may involve any of the Principal Stockholders, certain of the Non-Employee Directors or their respective Affiliates and the powers, rights, duties and liabilities of the Corporation and its Directors, officers and stockholders in connection therewith.

10.2 Scope. The Corporation waives, to the maximum extent permitted by law, the application of the doctrine of corporate opportunity, or any other analogous doctrine, with respect to the Corporation, to the Principal Stockholders, any Directors or any of their respective Affiliates; provided that the foregoing waiver shall not apply to Directors (other than Mr. Viola) that are officers of the Corporation and/or any of its subsidiaries (each Person entitled such waiver, an "Exempted Person"). To the maximum extent permitted by law, except to the extent otherwise provided in any agreement between an Exempted Person and the Corporation and/or any of its subsidiaries, no Exempted Person shall have any obligation to refrain from (i) engaging in the same or similar activities or lines of business as the Corporation or any of its Affiliates or developing or marketing any products or services that compete, directly or indirectly, with those of the Corporation or any of its Affiliates today or in which the Corporation or any of its Affiliates proposes to engage or develop, (ii) investing or owning any interest publicly or privately in, or developing a business relationship with, any Person engaged in the same or similar activities or lines of business as, or otherwise in competition with, the Corporation or any of its Affiliates or (iii) doing business with any client or customer of the Corporation or any of its Affiliates (each of the activities referred to in clauses (i)-(iii) above, a "Specified Activity"). The Corporation renounces any interest or expectancy in, or in being offered an opportunity to participate in, any Specified Activity that may be presented to or become known to any Exempted Person. Notwithstanding anything to the contrary in this Article 10, no Exempted Person shall be liable to the Corporation or its stockholders or to any Affiliate of the Corporation for breach of any fiduciary duty solely by reason of the fact that such Exempted Person engages in any of the Specified Activities. To the fullest extent permitted by law, the Corporation hereby renounces any interest or expectancy in, or right to be offered an opportunity to participate in, any business opportunity which may be a corporate opportunity for an Exempted Person and the Corporation or any of its Affiliates, except as provided in Section 10.3 hereof. Subject to Section 10.3, in the event that any Exempted Person acquires knowledge of a potential transaction or other business opportunity which may be a corporate opportunity for itself, herself or himself and the Corporation or any of its Affiliates, such Exempted Person shall, to the fullest extent permitted by law, have no duty to communicate or offer such transaction or other business opportunity to the Corporation or any of its Affiliates and, to the fullest extent permitted by law, shall not be liable to the Corporation or its stockholders or to any Affiliate of the Corporation for breach of any fiduciary duty as a stockholder, director or officer of the Corporation solely by reason of the fact that such Exempted Person pursues or acquires such corporate opportunity for itself, herself or himself, or offers or directs such corporate opportunity to another Person. For the avoidance of doubt, subject to certain contractual commitments entered into with the Corporation and/or its subsidiaries, Mr. Douglas A. Cifu shall be permitted to become engaged in, or provide services to, any other business or activity, whether as owner, partner, investor, consultant, agent, employee, co-venturer or otherwise, in which Mr. Viola is engaged as of the date hereof or permitted to become engaged in, to the extent that Mr. Cifu's level of participation in such businesses or activities are consistent with his participation in such businesses and activities as the date hereof.

10.3 Allocation of Corporate Opportunities. Notwithstanding anything in Section 10.2 to the contrary, the Corporation does not renounce its interest in any corporate opportunity offered to any Director who serves as an officer of the Corporation (other than Mr. Viola and, to the extent permitted by the last sentence of Section 10.2, Mr. Cifu).

10.4 Certain Matters Deemed Not Corporate Opportunities. In addition to and notwithstanding the foregoing provisions of this Article 10, a corporate opportunity shall not be deemed to belong to the Corporation if it is a business opportunity that the Corporation is not financially able or contractually permitted or legally able to undertake, or that is, from its nature, not in the line of the Corporation's business or is of no practical advantage to it or that is one in which the Corporation has no interest or reasonable expectancy.

10.5 Amendment of this Article. No amendment or repeal of this Article 10 in accordance with the provisions of Article 14 shall apply to or have any effect on the liability or alleged liability of any Exempted Person for or with respect to any activities or opportunities of which such Exempted Person becomes aware or otherwise relies on the protection afforded to such Exempted Person prior to such amendment or repeal. This Article 10 shall not limit any protections or defenses available to, or indemnification or advancement rights of, any Director or officer of the Corporation under this Amended Certificate of Incorporation, the By-laws or applicable law.

10.6 Notice of this Article. To the fullest extent permitted by law, any Person purchasing or otherwise acquiring any interest in any shares of capital stock of the Corporation shall be deemed to have notice of and to have consented to the provisions of this Article 10.

10.7 Certain Definitions. For purposes of this Article 10:

(i) "Corporation" means the Corporation, any of its subsidiaries (including Virtu Financial and its subsidiaries) and/or any of its Affiliates; and

(ii) "Affiliate" means (a) in respect of the Principal Stockholders, any Person that, directly or indirectly, is controlled by the Principal Stockholders, controls the Principal Stockholders or is under common control with the Principal Stockholders and shall include any principal, member, director, partner, stockholder, officer, employee or other representative of any of the foregoing (other than the Corporation and any entity that is controlled by the Corporation); provided, that (i) the Viola Entities shall not be deemed "Affiliates" of the Silver Lake Entities and vice versa, (ii) the Viola Entities shall not be deemed "Affiliates" of the Temasek Entities and vice versa and (iii) the Silver Lake Entities shall not be deemed "Affiliates" of the Temasek Entities and vice versa, (b) in respect of a Non-Employee Director, any Person that, directly or indirectly, is controlled by such Non-Employee Director (other than the Corporation and any entity that is controlled by the Corporation) and (c) in respect of the Corporation, any Person that, directly or indirectly, is controlled by the Corporation.

11. Limitation of Liability.

11.1 To the fullest extent permitted under the General Corporation Law, as amended from time to time, no Director or officer of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a Director or officer of the Corporation.

11.2 Any amendment or repeal of Section 11.1 shall not adversely affect any right or protection of a Director or officer of the Corporation hereunder in respect of any act or omission occurring prior to the time of such amendment or repeal.

12. Indemnification

12.1 Right to Indemnification. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any Person (a "Covered Person") who was or is a party or is threatened to be made a party to or otherwise involved any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding"), by reason of the fact that he or she, or a Person for whom he or she is the legal representative, is or was a Director or officer of the Corporation or, while a Director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, agent or trustee of another entity or enterprise, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including, without limitation, attorneys' fees and expenses, judgments, fines, excise taxes or penalties under the Employee Retirement Income Security Act of 1974, as amended, and amounts paid or to be paid in settlement) reasonably incurred by such Covered Person. Notwithstanding the preceding sentence, except as otherwise provided in Section 12.3, the Corporation shall be required to indemnify a Covered Person in connection with a Proceeding (or part thereof) commenced by such Covered Person only if the commencement of such Proceeding (or part thereof) by the Covered Person was authorized by the Board.

12.2 Prepayment of Expenses. To the extent not prohibited by applicable law, the Corporation shall pay the expenses (including attorneys' fees) incurred by a Covered Person in defending any Proceeding in advance of its final disposition; provided, however, that to the extent required by applicable law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Covered Person to repay all amounts advanced if it should be ultimately determined that the Covered Person is not entitled to be indemnified under this Article 12 or otherwise.

12.3 Claims. If a claim for indemnification or advancement of expenses under this Article 12 is not paid in full within thirty (30) days after a written claim therefor by the Covered Person has been received by the Corporation, the Covered Person may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Covered Person is not entitled to the requested indemnification or advancement of expenses under applicable law. In (i) any suit brought by a Covered Person to enforce a right to indemnification hereunder (but not in a suit brought by a Covered Person to enforce a right to an advancement of expenses) it shall be a defense that, and (ii) any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that, such Person has not met any applicable standard for indemnification set forth in the General Corporation Law. Neither the failure of the Corporation (including by its Directors who are not parties to such action, a committee of such Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the Covered Person is proper in the circumstances because the Covered Person has met the applicable standard of conduct set forth in the General Corporation Law, nor an actual determination by the Corporation (including by its Directors who are not parties to such action, a committee of such Directors, independent legal counsel, or its stockholders) that the Covered Person has not met such applicable standard of conduct, shall create a presumption that such Person has not met the applicable standard of conduct or, in the case of such a suit brought by the Covered Person, be a defense to such suit.

12.4 Nonexclusivity of Rights. The rights conferred on any Covered Person by this Article 12 shall not be exclusive of any other rights that such Covered Person may have or hereafter acquire under any statute, provision of this Amended Certificate of Incorporation, the By-laws, agreement, vote of stockholders or disinterested Directors or otherwise.

12.5 Other Sources. Subject to Section 12.6, Corporation's obligation, if any, to indemnify or to advance expenses to any Covered Person who was or is serving at its request as a director, officer, employee or agent of another entity or enterprise shall be reduced by any amount such Covered Person may collect as indemnification or advancement of expenses from such other entity or enterprise.

12.6 Indemnitor of First Resort. In all events, (i) the Corporation hereby agrees that it is the indemnitor of first resort (i.e. its obligation to a Covered Person to provide advancement and/or indemnification to such Covered Person are primary and any obligation of any Principal Stockholder (including any Affiliate thereof other than the Corporation) to provide advancement or indemnification hereunder or under any other indemnification agreement (whether pursuant to contract, by-laws or charter), or any obligation of any insurer of any Principal Stockholder to provide insurance coverage, for the same expenses, liabilities, judgments, penalties, fines and amounts paid in settlement (including all interest, assessments and other charges paid or payable in connection with or in respect of such expenses, liabilities, judgments, penalties, fines and amounts paid in settlement) incurred by such Covered Person are secondary and (ii) if any Principal Stockholder (or any Affiliate thereof, other than the Corporation) pays or causes to be paid, for any reason, any amounts otherwise indemnifiable hereunder or under any other indemnification agreement (whether pursuant to contract, by-laws or charter) with such Covered Person, then (x) such Principal Stockholder (or such Affiliate, as the case may be), as the case may be, shall be fully subrogated to all rights of such Covered Person with respect to such payment and (y) the Corporation shall fully indemnify, reimburse and hold harmless such Principal Stockholder (or such other Affiliate), as the case may be, for all such payments actually made by such Principal Stockholder (or such other Affiliate).

12.7 Amendment or Repeal. Any amendment or repeal of the foregoing provisions of this Article 12 shall not adversely affect any right or protection hereunder of any Covered Person in respect of any act or omission occurring prior to the time of such amendment or repeal.

12.8 Other Indemnification and Prepayment of Expenses. This Article 12 shall not limit the right of the Corporation, to the extent and in the manner permitted by applicable law, to indemnify and to advance expenses to Persons other than Covered Persons when and as authorized by appropriate corporate action.

12.9 Reliance. Covered Persons who after the date of the adoption of this provision become or remain a Covered Person described in Article 12 will be conclusively presumed to have relied on the rights to indemnity, advance of expenses and other rights contained in this Article 12 in entering into or continuing the service. The rights to indemnification and to the advance of expenses conferred in this Article 12 will apply to claims made against any Covered Person described in Article 12 arising out of acts or omissions in respect of the Corporation or one of its subsidiaries that occurred or occur both prior and subsequent to the adoption hereof. The rights conferred upon Covered Persons in this Article 12 shall be contract rights and such rights shall continue as to a Covered Person who has ceased to be a Director or officer and shall inure to the benefit of the Covered Person's heirs, executors and administrators. Any amendment, alteration or repeal of this Article 12 that adversely affects any right of a Covered Person or its successors shall be prospective only and shall not limit, eliminate, or impair any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment or repeal.

12.10 Insurance. The Corporation may purchase and maintain insurance, at its expense, to protect itself and any Director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the General Corporation Law.

13. Adoption, Amendment or Repeal of By-Laws. In furtherance and not in limitation of the powers conferred by law, the Board is expressly authorized to make, alter, amend or repeal the By-laws subject to the power of the stockholders of the Corporation entitled to vote with respect thereto to make, alter, amend or repeal the By-laws; provided, that with respect to the powers of stockholders entitled to vote with respect thereto to make, alter, amend or repeal the By-laws, from and after the Triggering Event, in addition to any other vote otherwise required by law, the affirmative vote of the holders of seventy-five percent (75%) of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class, shall be required to make, alter, amend or repeal the By-laws.

14. Adoption, Amendment and Repeal of Certificate. Subject to Article 5, the Corporation reserves the right to amend, alter, change or repeal any provision contained in this Amended Certificate of Incorporation, in the manner now or hereafter prescribed by the General Corporate Law, and all rights, preferences and privileges of whatsoever nature conferred upon stockholders, Directors or any other Persons whomsoever by and pursuant to this Amended Certificate of Incorporation in its present form or as hereafter amended, are granted and held subject to this reservation. Notwithstanding anything to the contrary contained in this Amended Certificate of Incorporation, and notwithstanding that a lesser percentage may be permitted from time to time by applicable law, no provision of Sections 7.2, 7.3 and 7.4 of Article 7, Section 8.1 and 8.2 of Article 8 or Article 9, 10, 13, 14 or 15 may be altered, amended or repealed in any respect, nor may any provision or by-law inconsistent therewith be adopted, unless in addition to any other vote required by this Amended Certificate of Incorporation or otherwise required by law, (i) prior to the Triggering Event, such alteration, amendment, repeal or adoption is approved by, in addition to any other vote otherwise required by law, the affirmative vote of the holders of a majority of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class, and (ii) from and after the Triggering Event, such alteration, amendment, repeal or adoption is approved by, in addition to any other vote otherwise required by law, the affirmative vote of the holders of seventy-five percent (75%) of the total voting power of the outstanding shares of capital stock of the Corporation entitled to vote generally in the election of Directors, voting together as a single class, at a meeting of the stockholders called for that purpose.

15. Forum for Adjudication of Disputes. Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (a) any derivative action or proceeding brought on behalf of the Corporation, (b) any action asserting a claim of breach of a fiduciary duty owed by any Director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (c) any action asserting a claim arising pursuant to any provision of the General Corporation Law or (d) any action asserting a claim governed by the internal affairs doctrine. Any Person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of consent to the provision of this Article 15.

16. Severability. If any provision or provisions of this Amended Certificate of Incorporation shall be held to be invalid, illegal or unenforceable as applied to any circumstance for any reason whatsoever: (i) the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Amended Certificate of Incorporation (including, without limitation, each portion of any paragraph of this Amended Certificate of Incorporation containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and (ii) to the fullest extent possible, the provisions of this Amended Certificate of Incorporation (including, without limitation, each such portion of any paragraph of this Amended Certificate of Incorporation containing any such provision held to be invalid, illegal or unenforceable) shall be construed so as to permit the Corporation to protect its Directors, officers, employees and agents from personal liability in respect of their good faith service to or for the benefit of the Corporation to the fullest extent permitted by law.

17. Definitions. As used in this Amended Certificate of Incorporation, unless the context otherwise requires or as set forth in another Article or Section of this Amended Certificate of Incorporation, the term:

(a) "Affiliate" means, with respect to any Person, any other Person directly or indirectly controlling, controlled by, or under common control with such Person; provided, that (i) neither the Corporation nor any of its subsidiaries will be deemed an Affiliate of any stockholder of the Corporation or any of such stockholders' Affiliates and (ii) no stockholder of the Corporation will be deemed an Affiliate of any other stockholder of the Corporation, in each case, solely by reason of any investment in the Corporation or any rights conferred on such stockholder pursuant to the Stockholders Agreement (including any representatives of such stockholder serving on the Board).

(b) "Amended Certificate of Incorporation" is defined in the recitals.

(c) "Board" is defined in Section 5.1(ii)(1).

(d) "Business Day" means any day that is not a Saturday, a Sunday or other day on which banks are required or authorized by Law to be closed in the City of New York.

(e) "By-laws" is defined in Section 7.1.

(f) "Chairman" means the Chairman of the Board.

(g) "Chief Executive Officer" means the Chief Executive Officer of the Corporation.

(h) "Class A Common Stock" is defined in Section 4.1.

(i) "Class B Common Stock" is defined in Section 4.1.

(j) "Class B Transfer Agent" is defined in Section 6.1(i).

(k) "Class C Common Stock" is defined in Section 4.1.

(l) "Class C Paired Interest" means one Common Unit together with one share of Class C Common Stock, subject to adjustment pursuant to Section 2.02(a) of the Exchange Agreement.

(m) "Class D Common Stock" is defined in Section 4.1.

(n) "Class D Paired Interest" means one Common Unit together with one share of Class D Common Stock, subject to adjustment pursuant to Section 2.02(b) of the Exchange Agreement.

(o) "Class D Transfer Agent" is defined in Section 6.1(i).

(p) "Common Stock" is defined in Section 4.1.

(q) "Common Unit" means a non-voting common interest unit of Virtu Financial.

(r) "control" (including the terms "controlling" and "controlled"), with respect to the relationship between or among two or more Persons, means the possession, directly or indirectly, of the power to direct or cause the direction of the affairs or management of such subject Person, whether through the ownership of voting securities, as trustee or executor, by contract or otherwise.

(s) "Corporation" means Virtu Financial, Inc.

(t) "Covered Person" is defined in Section 12.1.

(u) "Director" is defined in Section 7.1.

(v) "Disposition Event" means any merger, consolidation or other business combination of the Corporation, whether effectuated through one transaction or series of related transactions (including a tender offer followed by a merger in which holders of Class A Common Stock receive the same consideration per share paid in the tender offer), unless, following such transaction, all or substantially all of the holders of the voting power of all outstanding classes of Common Stock and series of Preferred Stock that are generally entitled to vote in the election of Directors prior to such transaction or series of transactions, continue to hold a majority of the voting power of the surviving entity (or its parent) resulting from such transaction or series of transactions in substantially the same proportions as immediately prior to such transaction or series of transactions.

(w) "Economic Common Stock" is defined in Section 4.1.

(x) "Exchange Act" means the Securities Exchange Act of 1934, as amended, and any successor law or statute, together with the rules and regulations promulgated thereunder.

(y) "Exchange Agreement" means the Exchange Agreement, dated as of April 15, 2015, by and among Virtu Financial, the Corporation and the holders of Common Units and shares of Class C Common Stock and Class D Common Stock, as the same may be amended, restated, supplemented and/or otherwise modified, from time to time.

(z) "Exempted Person" is defined in Section 10.2.

(aa) "Family Member" shall mean with respect to any natural person, the spouse, parents, grandparents, lineal descendants, siblings of such person or such person's spouse, and lineal descendants of siblings of such person or such person's spouse. Lineal descendants shall include adopted persons, but only so long as they are adopted during minority.

(ab) "General Corporation Law" is defined in the recitals.

(ac) "Non-Economic Common Stock" is defined in Section 4.1.

(ad) "Paired Interest" means one Class C Paired Interest or one Class D Paired Interest.

(ae) "Permitted Transferees" means, with respect to any Viola Equityholder, (i) Mr. Vincent Viola or any of his Family Members or any trust, family-partnership or estate-planning vehicle so long as Mr. Viola and/or his Family Members are the sole economic beneficiaries thereof, (ii) any corporation, limited liability company, partnership or other entity of which all of the economic beneficial ownership thereof belongs to Mr. Viola, his Family Members or any trust, family-partnership or estate-planning vehicle whose economic beneficiaries consist solely of Mr. Viola and/or his Family Members, (iii) a charitable institution controlled by Mr. Viola and/or his Family Members, (iv) an individual mandated under a qualified domestic relations order and (v) a legal or personal representative of Viola Equityholder and/or his Family Members in the event of the death or disability thereof.

(af) "Person" means any individual, partnership, firm, corporation, limited liability company, association, trust, unincorporated organization or other entity.

(ag) "Preferred Stock" is defined in Section 4.1.

(ah) "Preferred Stock Directors" is defined in Section 7.1.

(ai) "Principal Stockholders" means the Viola Entities, the Silver Lake Entities and the Temasek Entities.

(aj) (jj) "Proceeding" is defined in Section 12.1.

(ak) "Silver Lake Entities" means any investment funds managed, sponsored, controlled or advised by Silver Lake Group L.L.C. and their respective successors and Affiliates.

(al) "Specified Activity" is defined in Section 10.2.

(am) "Stock Adjustment" is defined in Section 5.1(ii)(4).

(an) "Stockholders Agreement" means the Stockholders Agreement, dated April 15, 2015, by and among the Corporation, TJMT Holdings LLC, Vincent Viola, SLP III EW Feeder I, L.P., SLP Virtu Investors, LLC, Silver Lake Technology Associates III, L.P. and the other persons party thereto or that may become parties thereto from time to time, as the same may be amended, restated, supplemented and/or otherwise modified, from time to time.

(ao) "Temasek Entities" means Havelock Fund Investments Pte Ltd., Temasek Holdings (Private) Limited ("Temasek Holdings") and Temasek Holdings' direct and indirect wholly owned subsidiaries the boards of directors or equivalent governing bodies of which comprise solely nominees or employees of (i) Temasek Holdings, (ii) Temasek Pte Ltd. (a wholly owned subsidiary of Temasek Holdings) and/or (iii) wholly owned direct and indirect subsidiaries of Temasek Pte Ltd.

(ap) "Transfer" of a share of Class B Common Stock or Class D Common Stock means, directly or indirectly, any sale, assignment, transfer, exchange, gift, bequest, pledge, hypothecation or other disposition or encumbrance of such share or any legal or beneficial interest in such share, in whole or in part, whether or not for value and whether voluntary or involuntary or by operation of law; provided, however, that the following shall not be considered a "Transfer": (i) the granting of a revocable proxy to officers or directors of the Corporation at the request of the Board in connection with actions to be taken at annual or special meetings of stockholders or in connection with any action by written consent of the stockholders solicited by the Board (at such times as action by written consent of stockholders is permitted under this Amended Certificate of Incorporation); (ii) entering into a voting trust, agreement or arrangement (with or without granting a proxy) solely with the Corporation and/or its stockholders that (x) is disclosed either in a Schedule 13D filed with the Securities and Exchange Commission or in writing to the Secretary of the Corporation, (y) either has a term not exceeding one (1) year or is terminable by the holder of the shares subject thereto at any time and (z) does not involve any payment of cash, securities, property or other consideration to the holder of the shares subject thereto other than the mutual promise to vote shares in a designated manner; (iii) entering into a customary voting or support agreement (with or without granting a proxy) in connection with any merger, consolidation or other business combination of the Corporation, whether effectuated through one transaction or series of related transactions (including a tender offer followed by a merger in which holders of Class A Common Stock receive the same consideration per share paid in the tender offer); (iv) the pledge of shares of capital stock of the Corporation by a stockholder that creates a mere security interest in such shares pursuant to a bona fide loan or indebtedness transaction so long as such stockholder continues to exercise sole voting control over such pledged shares; provided, however, that a foreclosure on such shares or other similar action by the pledgee shall constitute a "Transfer" or (v) the fact that the spouse of any holder of Class B Common Stock or Class D Common Stock possesses or obtains an interest in such holder's shares of Class B Common Stock or Class D Common Stock arising solely by reason of the application of the community property laws of any jurisdiction, so long as no other event or circumstance shall exist or have occurred that constitutes a “Transfer” of such shares of Class B Common Stock or Class D Common Stock.

(aq) “Triggering Event” means the first date on which Viola Equityholders cease collectively to beneficially own (as such term is defined in Rule 13d-3 and Rule l3d-5 under the Exchange Act) shares representing at least twenty-five percent (25%) of the issued and outstanding shares of Common Stock.

(ar) “Vice Chairman” means the Vice Chairman of the Board.

(as) “Viola Entities” means Mr. Vincent Viola, TJMT Holdings LLC and any of their respective successors and Affiliates.

(at) “Viola Equityholders” means TJMT Holdings LLC and any Permitted Transferee of a Viola Equityholder that owns shares of Common Stock.

(au) “Virtu Financial” means Virtu Financial LLC, a Delaware limited liability company, or any successor thereto.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation of Virtu Financial, Inc. has been duly executed by the authorized officer below this 13th day of June, 2023.

VIRTU FINANCIAL, INC.

By:

Name: Douglas A. Cifu

Title: Chief Executive Officer

[Signature Page to Amended and Restated Certificate of Incorporation]

EXHIBIT 31.1

CEO CERTIFICATION
PURSUANT TO SECTION 302 OF THE
SARBANES — OXLEY ACT OF 2002

I, Douglas A. Cifu, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ending June 30, 2023 of Virtu Financial, Inc. (the “registrant”) as filed with the Securities and Exchange Commission on the date hereof;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: July 28, 2023

By: /s/ Douglas A. Cifu
Douglas A. Cifu
Chief Executive Officer

EXHIBIT 31.2

CFO CERTIFICATION
PURSUANT TO SECTION 302 OF THE
SARBANES — OXLEY ACT OF 2002

I, Sean Galvin, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ending June 30, 2023 of Virtu Financial, Inc. (the “registrant”) as filed with the Securities and Exchange Commission on the date hereof;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: July 28, 2023

By: /s/ Sean P. Galvin
Sean Galvin
Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Virtu Financial, Inc. (the "Company") for the period ended June 30, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Douglas A. Cifu, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, in my capacity as an officer of the Company that, to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Douglas A. Cifu
Douglas A. Cifu
Chief Executive Officer

Date: July 28, 2023

EXHIBIT 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Virtu Financial, Inc. (the “Company”) for the period ended June 30, 2023 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Sean P. Galvin, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, in my capacity as an officer of the Company that, to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Sean P. Galvin
Sean Galvin
Chief Financial Officer

Date: July 28, 2023