

**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 March 31, 2018**

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

(State or other jurisdiction of incorporation or organization)

32-0420206

(I.R.S. Employer Identification No.)

**300 Vesey Street
New York, New York 10282**

(Address of principal executive offices)

10282

(Zip Code)

(212) 418-0100

(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post 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

(Do not check if a smaller reporting company)

Emerging growth company

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

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 7(a)(2)(B) of the Securities Act. Yes No

Class of Stock	Shares Outstanding as of May 7, 2018
Class A common stock, par value \$0.00001 per share	91,512,582
Class C common stock, par value \$0.00001 per share	17,043,963
Class D common stock, par value \$0.00001 per share	79,610,490

**VIRTU FINANCIAL, INC. AND SUBSIDIARIES
INDEX TO FORM 10-Q
FOR THE QUARTER ENDED MARCH 31, 2018**

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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.

PART I - FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

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

(in thousands, except share and interest data)	March 31, 2018	December 31, 2017
Assets		
Cash and cash equivalents	\$ 637,308	\$ 532,887
Securities borrowed	1,232,048	1,471,172
Securities purchased under agreements to resell	602	—
Receivables from broker dealers and clearing organizations	1,434,039	972,018
Trading assets, at fair value:		
Financial instruments owned	2,297,070	2,117,579
Financial instruments owned and pledged	610,536	595,043
Property, equipment and capitalized software (net of accumulated depreciation of \$373,232 and \$375,656 as of March 31, 2018 and December 31, 2017, respectively)	128,675	137,018
Goodwill	836,583	844,883
Intangibles (net of accumulated amortization of \$130,246 and \$123,409 as of March 31, 2018 and December 31, 2017, respectively)	104,387	111,224
Deferred tax assets	123,289	125,760
Assets of business held for sale	—	55,070
Other assets (\$100,811 and \$98,364, at fair value, as of March, 31, 2018 and December 31, 2017, respectively)	353,394	357,352
Total assets	<u>\$ 7,757,931</u>	<u>\$ 7,320,006</u>
Liabilities and equity		
Liabilities		
Short-term borrowings	\$ 20,944	\$ 27,883
Securities loaned	936,061	754,687
Securities sold under agreements to repurchase	265,401	390,642
Payables to broker dealers and clearing organizations	648,788	716,205
Trading liabilities, at fair value:		
Financial instruments sold, not yet purchased	2,846,453	2,384,598
Tax receivable agreement obligations	147,040	147,040
Accounts payable and accrued expenses and other liabilities	313,305	358,825
Long-term borrowings	1,121,464	1,388,548
Total liabilities	<u>\$ 6,299,456</u>	<u>\$ 6,168,428</u>
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 — 92,687,589 and 90,415,532 shares, Outstanding — 91,512,582 and 89,798,609 shares at March 31, 2018 and December 31, 2017, 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 March 31, 2018 and December 31, 2017, respectively	—	—
Class C common stock (par value \$0.00001), Authorized — 90,000,000 and 90,000,000 shares, Issued — 17,066,564 and 17,880,239 shares, Outstanding — 17,066,564 and 17,880,239, at March 31, 2018 and December 31, 2017, respectively	—	—
Class D common stock (par value \$0.00001), Authorized — 175,000,000 and 175,000,000 shares, Issued and Outstanding — 79,610,490 and 79,610,490 shares at March 31, 2018 and December 31, 2017, respectively	1	1
Treasury stock, at cost, 1,175,007 and 616,923 shares at March 31, 2018 and December 31, 2017, respectively	(25,485)	(11,041)
Additional paid-in capital	930,954	900,746
Retained Earnings (Accumulated deficit)	90,242	(62,129)
Accumulated other comprehensive income	4,232	2,991
Total Virtu Financial Inc. stockholders' equity	<u>\$ 999,945</u>	<u>\$ 830,569</u>
Noncontrolling interest	458,530	321,009
Total equity	<u>\$ 1,458,475</u>	<u>\$ 1,151,578</u>
Total liabilities and equity	<u>\$ 7,757,931</u>	<u>\$ 7,320,006</u>

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

See accompanying notes to the condensed consolidated financial statements.

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

(in thousands, except share and per share data)	For Three Months Ended March 31,	
	2018	2017
Revenues:		
Trading income, net	\$ 406,162	\$ 139,574
Interest and dividends income	17,949	4,874
Commissions, net and technology services	53,844	2,779
Other, net	337,098	60
Total revenue	815,053	147,287
Operating Expenses:		
Brokerage, exchange and clearance fees, net	87,824	52,770
Communication and data processing	49,486	18,207
Employee compensation and payroll taxes	64,670	21,347
Payments for order flow	16,256	—
Interest and dividends expense	33,624	12,280
Operations and administrative	19,919	4,846
Depreciation and amortization	15,339	6,757
Amortization of purchased intangibles and acquired capitalized software	6,851	53
Termination of office leases	19,970	—
Debt issue cost related to debt refinancing	6,021	—
Transaction advisory fees and expenses	7,496	132
Charges related to share based compensation at IPO	14	185
Financing interest expense on long-term borrowings	19,047	6,828
Total operating expenses	346,517	123,405
Income before income taxes and noncontrolling interest	468,536	23,882
Provision for income taxes	58,514	2,808
Net income	410,022	21,074
Noncontrolling interest	(235,271)	(16,494)
Net income available for common stockholders	\$ 174,751	\$ 4,580
Earnings per share		
Basic	\$ 1.89	0.10
Diluted	\$ 1.86	0.10
Weighted average common shares outstanding		
Basic	90,699,321	40,398,381
Diluted	92,406,318	40,398,381
Net income	\$ 410,022	\$ 21,074
Other comprehensive income		
Foreign exchange translation adjustment, net of taxes	2,529	785
Comprehensive income	412,551	21,859
Less: Comprehensive income attributable to noncontrolling interest	(236,559)	(17,044)
Comprehensive income attributable to common stockholders	\$ 175,992	\$ 4,815

See accompanying notes to the condensed consolidated financial statements.

Virtu Financial, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Equity

(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	Non-Controlling Interest	Total Equity
	Shares	Amounts	Shares	Amounts	Shares	Amounts	Shares	Amounts						
Balance at December 31, 2017	90,415,532	\$ 1	17,880,239	\$ —	79,610,490,000	\$ 1	(616,923,000)	\$(11,041)	\$ 900,746	\$ (62,129)	\$ 2,991	\$ 830,569	\$ 321,009	\$1,151,578
Share based compensation	744,536	—	—	—	—	—	—	—	16,632	—	—	16,632	—	16,632
Repurchase of Class C common stock	—	—	(18,154)	—	—	—	—	—	(332)	—	—	(332)	—	(332)
Treasury stock purchases	—	—	—	—	—	—	(558,084,000)	(14,444)	—	—	—	(14,444)	—	(14,444)
Stock option exercised	732,000	—	—	—	—	—	—	—	13,908	—	—	13,908	—	13,908
Net income	—	—	—	—	—	—	—	—	—	174,751	—	174,751	235,271	410,022
Foreign exchange translation adjustment	—	—	—	—	—	—	—	—	—	—	1,241	1,241	1,288	2,529
Distribution from Virtu Financial to non-controlling interest	—	—	—	—	—	—	—	—	—	—	—	—	(99,038)	(99,038)
Dividends	—	—	—	—	—	—	—	—	—	(22,380)	—	(22,380)	—	(22,380)
Issuance of common stock in connection with employee exchanges	795,521	—	—	—	—	—	—	—	—	—	—	—	—	—
Repurchase of Virtu Financial Units and corresponding number of Class C common stock in connection with employee exchanges	—	—	(795,521)	—	—	—	—	—	—	—	—	—	—	—
Balance at March 31, 2018	<u>92,687,589</u>	<u>1</u>	<u>17,066,564</u>	<u>—</u>	<u>79,610,490,000</u>	<u>1</u>	<u>(1,175,007,000)</u>	<u>(25,485)</u>	<u>930,954</u>	<u>90,242</u>	<u>4,232</u>	<u>999,945</u>	<u>458,530</u>	<u>1,458,475</u>

See accompanying notes to the condensed consolidated financial statements.

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

(in thousands)	Three Months Ended March 31,	
	2018	2017
Cash flows from operating activities		
Net Income	\$ 410,022	\$ 21,074
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	15,339	6,757
Amortization of purchased intangibles and acquired capitalized software	6,851	53
Debt issue cost related to debt refinancing	6,021	—
Amortization of debt issuance costs and deferred financing fees	1,583	214
Termination of office leases	19,970	—
Share based compensation	9,122	3,818
Deferred taxes	2,471	2,354
Gain on sale of BondPoint	(329,703)	—
Other	(7,328)	1,570
Changes in operating assets and liabilities:		
Securities borrowed	239,124	(138,458)
Securities purchased under agreements to resell	(602)	—
Receivables from broker dealers and clearing organizations	(462,022)	(213,585)
Trading assets, at fair value	(194,984)	(72,088)
Other Assets	5,848	563
Securities loaned	181,374	201,469
Securities sold under agreements to repurchase	(125,241)	—
Payables to broker dealers and clearing organizations	(67,417)	(106,290)
Trading liabilities, at fair value	461,855	324,647
Accounts payable and accrued expenses and other liabilities	(53,276)	(11)
Net cash provided by operating activities	119,007	32,087
Cash flows from investing activities		
Development of capitalized software	(7,016)	(2,016)
Acquisition of property and equipment	(4,505)	(3,843)
Proceeds from sale of BondPoint	400,192	—
Net cash provided by (used in) investing activities	388,671	(5,859)
Cash flows from financing activities		
Distribution from Virtu Financial to non-controlling interest	(99,038)	(21,011)
Dividends	(22,380)	(10,114)
Repurchase of Class C common stock	(332)	—
Purchase of treasury stock	(14,444)	(441)
Stock option exercised	13,908	—
Short-term borrowings, net	(7,500)	(3,000)
Payments on repurchase of non-voting common interest	—	(500)
Repayment of senior secured credit facility	(276,000)	(1,350)
Tax receivable agreement obligations	—	(7,045)
Debt issuance costs	—	—
Net cash used in financing activities	(405,786)	(43,461)
Effect of exchange rate changes on cash and cash equivalents	2,529	785
Net increase in cash and cash equivalents	104,421	(16,448)
Cash and cash equivalents beginning of period	532,887	181,415
Cash and cash equivalents, end of period	\$ 637,308	\$ 164,967
Supplementary disclosure of cash flow information		
Cash paid for interest	\$ 30,632	\$ 13,197
Cash paid for taxes	156	1,915

Non-cash investing activities

Share based compensation to developers relating to capitalized software

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See accompanying notes to the condensed consolidated financial statements.

Virtu Financial, Inc. and Subsidiaries**Notes to Unaudited Condensed Consolidated Financial Statements****(dollars in thousands, except shares and per share amounts, unless otherwise noted)****1. Organization and Basis of Presentation****Organization**

The accompanying consolidated financial statements include the accounts and operations of Virtu Financial, Inc. (“VFI” or, collectively with its wholly owned or controlled subsidiaries, the “Company”) beginning with its initial public offering (“IPO”) in April of 2015, along with the historical accounts and operations of Virtu Financial LLC (“Virtu Financial”) prior to the Company’s IPO. VFI is a Delaware corporation whose primary asset is its ownership interest in Virtu Financial, which it acquired pursuant to and subsequent to certain reorganization transactions (the “Reorganization Transactions”) consummated in connection with its IPO. As of March 31, 2018, VFI owned approximately 49.1% 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, through Virtu Financial and its subsidiaries (the “Group”), continues to conduct the business now conducted by such subsidiaries.

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 has broad diversification, in combination with its proprietary technology platform and low-cost structure, which enables the Company to facilitate risk transfer between global capital markets participants by supplying competitive liquidity and execution services while at the same time earning attractive margins and returns.

On July 20, 2017 (the “Closing Date”), the Company completed the all-cash acquisition (the “Acquisition”) of KCG Holdings, Inc. (“KCG”). Pursuant to the terms of the Agreement and Plan of Merger, dated as of April 20, 2017 (the “Merger Agreement”), by and among the Company, Orchestra Merger Sub, Inc., a Delaware corporation and an indirect wholly-owned subsidiary of the Company (“Merger Sub”), and KCG Merger Sub merged with and into KCG (the “Merger”), with KCG surviving the Merger as a wholly owned subsidiary of the Company. See Note 3 “Acquisition of KCG Holdings Inc.” for further details.

Virtu Financial’s principal subsidiaries include Virtu Financial BD LLC (“VFBD”) and Virtu Americas LLC (“VAL”), which are self-clearing U.S. broker-dealers, Virtu Financial Capital Markets LLC (“VFCM”), a U.S. broker-dealer, which self-clears its proprietary transactions and introduces the accounts of its affiliates and non-affiliated broker-dealers on an agency basis to other clearing firms that clear and settle transactions in those accounts. Other principal subsidiaries include Virtu Financial Global Markets LLC (“VFGM”), a U.S. trading entity focused on futures and currencies; Virtu Financial Ireland Limited (“VFIL”), formed in Ireland; Virtu Financial Asia Pty Ltd (“VFAP”), formed in Australia; and Virtu Financial Singapore Pte. Ltd. (“VFSing”), formed in Singapore, each of which are trading entities focused on asset classes in their respective geographic regions.

On January 2, 2018, the Company completed the sale of its fixed income trading venue, BondPoint, to Intercontinental Exchange (“ICE”) for total gross proceeds of \$400.2 million. See Note 4 “Sale of BondPoint” for further details.

Prior to the Acquisition of KCG, the Company was managed and operated as one business, under one reportable segment. As a result of the Acquisition of KCG, beginning in the third quarter of 2017 the Company has three operating segments: (i) Market Making; (ii) Execution Services; and (iii) Corporate. See Note 19 “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 and 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 in the Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC” or the “Codification”). The condensed consolidated financial statements of the Company include its equity interests in Virtu Financial, and its subsidiaries. The Company operates and controls all business and affairs of Virtu Financial and its operating subsidiaries indirectly through its equity interest in Virtu Financial.

Certain reclassifications have been made to the prior periods’ condensed consolidated financial statements in order to conform to the current period presentation. Such reclassifications are immaterial, individually and in the aggregate, to both

current and all previously issued financial statements taken as a whole and have no effect on previously reported condensed consolidated net income available to common stockholders.

The condensed consolidated financial statements include the accounts of the Company and its majority and wholly owned 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.

As discussed in Note 3 "Acquisition of KCG Holdings Inc.", the Company has accounted for the acquisition of KCG under the acquisition method of accounting. Under the acquisition method of accounting, the assets and liabilities of KCG, as of July 20, 2017, were recorded at their respective fair values and added to the carrying value of the Company's existing assets and liabilities. The reported financial condition, results of operations and cash flows of the Company for the periods following the Acquisition reflect KCG's and the Company's balances, and reflect the impact of purchase accounting adjustments. The financial results for the three months ended March 31, 2017 comprise solely the results of the Company.

2. Summary of Significant Accounting Policies

Use of Estimates

The Company's condensed consolidated financial statements are prepared in conformity with U.S. GAAP, which require management to make estimates and assumptions regarding measurements including the fair value of trading assets and liabilities, goodwill and intangibles, compensation accruals, capitalized software, income tax, and other matters 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 and the reported amounts of revenue and expenses during the reporting period. Accordingly, actual results could differ materially from those estimates.

Earnings Per Share

Earnings per share ("EPS") is calculated on both a basic and diluted basis. Basic EPS excludes dilution and is calculated by dividing income available to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted EPS is calculated by dividing the net income available for common stockholders by the diluted weighted average shares outstanding for that period. Diluted EPS includes the determinants of the basic EPS and, in addition, reflects the dilutive effect of shares of common stock estimated to be distributed in the future under the Company's share based compensation plans.

The Company grants restricted stock units ("RSUs"), which entitle recipients to receive nonforfeitable dividends during the vesting period on a basis equivalent to the dividends paid to holders of common stock. As a result, the unvested RSUs meet the definition of a participating security requiring the application of the two-class method. Under the two-class method, earnings available to common shareholders, including both distributed and undistributed earnings, are allocated to each class of common stock and participating securities according to dividends declared and participating rights in undistributed earnings, which may cause diluted EPS to be more dilutive than the calculation using the treasury stock method.

Cash and Cash Equivalents

Cash and cash equivalents include money market accounts, which are payable on demand, and short-term investments with an original maturity of less than 90 days.

The Company maintains cash in bank deposit accounts that, at times, may exceed federally insured limits. The Company manages this risk by selecting financial institutions deemed highly creditworthy to minimize the risk.

Securities Borrowed and Securities Loaned

The Company conducts securities borrowing and lending activities with external counterparties. In connection with these transactions, the Company receives or posts collateral, which comprises cash and/or securities. In accordance with substantially all of its stock borrow agreements, the Company is permitted to sell or repledge the securities received. Securities borrowed or loaned are recorded based on the amount of cash collateral advanced or received. The initial cash collateral advanced or received generally approximates or is greater than 102% of the fair value of the underlying securities borrowed or loaned. The Company monitors the fair value of securities borrowed and loaned, and delivers or obtains additional collateral as appropriate. Receivables and payables with the same counterparty are not offset in the condensed consolidated statements of financial condition. Interest received or paid by the Company for these transactions is recorded gross on an accrual basis under interest and dividends income or interest and dividends expense in the condensed consolidated statements of comprehensive income.

Securities Purchased Under Agreements to Resell and Securities Sold Under Agreements to Repurchase

In a repurchase agreement, securities sold under agreements to repurchase are treated as collateralized financing transactions and are recorded at contract value, plus accrued interest, which approximates fair value. It is the Company's policy that its custodian takes possession of the underlying collateral securities with a fair value approximately equal to the principal amount of the repurchase transaction, including accrued interest. For reverse repurchase agreements, the Company typically requires delivery of collateral with a fair value approximately equal to the carrying value of the relevant assets in the condensed consolidated statements of financial condition. To ensure that the fair value of the underlying collateral remains sufficient, the collateral is valued daily with additional collateral obtained or excess collateral returned, as permitted under contractual provisions. The Company does not net securities purchased under agreements to resell transactions with securities sold under agreements to repurchase transactions entered into with the same counterparty.

The Company has also entered into bilateral and tri-party term and overnight repurchase and other collateralized financing agreements which bear interest at negotiated rates. The Company receives cash and makes delivery of financial instruments to a custodian who monitors the market value of these instruments on a daily basis. The market value of the instruments delivered must be equal to or in excess of the principal amount loaned under the repurchase agreements plus the agreed upon margin requirement. The custodian may request additional collateral, if appropriate. Interest received or paid by the Company for these transactions is recorded gross on an accrual basis under interest and dividends income or interest and dividends expense in the condensed consolidated statements of comprehensive income.

Receivables from/Payables to Broker-dealers and Clearing Organizations

Amounts receivable from broker-dealers and clearing organizations may be restricted to the extent that they serve as deposits for securities sold, not yet purchased. At March 31, 2018 and December 31, 2017, receivables from and payables to broker-dealers and clearing organizations primarily represented amounts due for unsettled trades, open equity in futures transactions, securities failed to deliver or failed to receive, deposits with clearing organizations or exchanges and balances due from or due to prime brokers in relation to the Company's trading. The Company presents its balances, including outstanding principal balances on all credit facilities, on a net by counterparty basis within receivables from and payable to broker-dealers and clearing organizations when the criteria for offsetting are met.

In the normal course of business, a significant portion of the Company's securities transactions, money balances, and security positions are transacted with several third-party brokers. The Company is subject to credit risk to the extent any broker with whom it conducts business is unable to fulfill contractual obligations on its behalf. The Company monitors the financial condition of such brokers and to minimize the risk of any losses from these counterparties.

Financial Instruments Owned Including Those Pledged as Collateral and Financial Instruments Sold, Not Yet Purchased

Financial instruments owned and Financial instruments sold, not yet purchased relate to market making and trading activities, and include listed and other equity securities, listed equity options and fixed income securities.

The Company records financial instruments owned, including those pledged as collateral, and financial instruments sold, not yet purchased at fair value. Gains and losses arising from financial instrument transactions are recorded net on a trade-date basis in trading income, net, in the condensed consolidated statements of comprehensive income.

Fair Value Measurements

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. Fair value measurements are not adjusted for transaction costs. The recognition of “block discounts” for large holdings of unrestricted financial instruments where quoted prices are readily and regularly available in an active market is prohibited. The Company categorizes its financial instruments into a three level hierarchy which prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy level assigned to each financial instrument is based on the assessment of the transparency and reliability of the inputs used in the valuation of such financial instruments at the measurement date based on the lowest level of input that is significant to the fair value measurement. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurement) and the lowest priority to unobservable inputs (level 3 measurements).

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.

Transfers in or out of levels are recognized based on the beginning fair value of the period in which they occurred.

Fair Value Option

The fair value option election allows entities to make an irrevocable election of fair value as the initial and subsequent measurement attribute for certain eligible financial assets and liabilities. Unrealized gains and losses on items for which the fair value option has been elected are recorded in other, net in the condensed consolidated statements of comprehensive income. The decision to elect the fair value option is determined on an instrument by instrument basis, which must be applied to an entire instrument and is irrevocable once elected.

Derivative Instruments

Derivative instruments are used for trading purposes, including economic hedges of trading instruments, which are carried at fair value include futures, forward contracts, and options. Gains or losses on these derivative instruments are recognized currently within trading income, net in the condensed consolidated statement of comprehensive income. Fair values for exchange-traded derivatives, principally futures, are based on quoted market prices. Fair values for over-the-counter derivative instruments, principally forward contracts, are based on the values of the underlying financial instruments within the contract. The underlying instruments are currencies, which are actively traded. The Company presents its derivatives balances on a net-by-counterparty basis when the criteria for offsetting are met.

Property, Equipment and Occupancy

Property and equipment are carried at cost, less accumulated depreciation, except for the assets acquired in connection with acquisitions using the purchase accounting method, which were recorded at fair value on the respective date of acquisitions. Depreciation is provided using the straight-line method over estimated useful lives of the underlying assets. Routine maintenance, repairs and replacement costs are expensed as incurred and improvements that appreciably extend the useful life of the assets are capitalized. When property and equipment are sold or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized in income. Property and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the related carrying amount may not be recoverable. Furniture, fixtures, and equipment are depreciated over three to seven years. Leasehold improvements are amortized over the lesser of the life of the improvement or the term of the lease.

The Company recognizes rent expense under operating leases with fixed rent escalations, lease incentives and free rent periods on a straight-line basis over the lease term beginning on the date the Company takes possession of or controls the use of the space, including during free rent periods.

Lease Loss Accrual

The Company's policy is to identify excess real estate capacity and where applicable, accrue for related future costs, net of projected sub-lease income upon the date the Company ceases to use the excess real estate, which is recorded under operating and administrative in the condensed consolidated statements of comprehensive income. Such accrual is adjusted to the extent the actual terms of sub-leased property differ from the previous assumptions used in the calculation of the accrual.

Capitalized Software

The Company capitalizes costs of materials, consultants, and payroll and payroll related costs for employees incurred in developing internal-use software. Costs incurred during the preliminary project and post-implementation stages are charged to expense.

Management's judgment is required in determining the point at which various projects enter the stages at which costs may be capitalized, in assessing the ongoing value of the capitalized costs, and in determining the estimated useful lives over which the costs are amortized.

Capitalized software development costs and related accumulated amortization are included in property, equipment and capitalized software in the accompanying condensed consolidated statements of financial condition and are amortized over a period of 1.5 to 2.5 years, which represents the estimated useful lives of the underlying software.

Goodwill

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

The Company tests goodwill for impairment on an annual basis on July 1 and on an interim basis when certain events or circumstances exist. In the impairment test as of July 1, 2017, the primary valuation method used to estimate the fair value of the Company's reporting unit was the market capitalization approach based on the market price of its Class A common stock, which the Company's management believes to be an appropriate indicator of its fair value. Following the Acquisition, our impairment testing is performed for each reporting unit.

Intangible Assets

The Company amortizes finite-lived intangible assets over their estimated useful lives. Finite-lived intangible assets are tested for impairment annually or when impairment indicators are present, and if impaired, they are written down to fair value.

Exchange Memberships and Stock

Exchange memberships are recorded at cost or, if any other than temporary impairment in value has occurred, at a value that reflects management's estimate of fair value. Exchange memberships acquired in connection with the Acquisition were recorded at their fair value on the date of acquisition. Exchange stock includes shares that entitle the Company to certain trading privileges. The Company's exchange memberships and stock are included in intangibles in the condensed consolidated statements of financial condition.

Trading Income, net

Trading income, net is comprised of changes in the fair value of trading assets and liabilities (i.e., unrealized gains and losses) and realized gains and losses on trading assets and liabilities. Trading gains and losses on financial instruments owned and financial instruments sold, not yet purchased are recorded on the trade date and reported on a net basis in the condensed consolidated statements of comprehensive income. The Company recognizes the related revenue when the third party research services are rendered and payments are made.

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. Under a commission management program, the Company allows institutional clients

to allocate a portion of their gross commissions to pay for research and other services provided by third parties. As the Company acts as an agent in these transactions, it records such expenses on a net basis within Commissions and technology services in the condensed consolidated statements of comprehensive income.

Technology services revenues consist of technology licensing fees and agency commission fees. Technology licensing fees are earned from third parties for licensing of the Company's proprietary risk management and trading infrastructure technology and the provision of associated management and hosting services. These fees include both upfront and annual recurring fees, 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 the Company's control and thus it is not probable that a significant reversal of cumulative revenue recognized will not occur. Recurring fees, which exclude variable consideration, are billed and collected on a quarterly basis.

Interest and Dividends Income/Interest and Dividends Expense

Interest income and interest expense are accrued in accordance with contractual rates. Interest income consists of interest earned on collateralized financing arrangements and on cash held by brokers. Interest expense includes interest expense from collateralized transactions, margin and related lines of credit. Dividends on financial instruments owned including those pledged as collateral and financial instruments sold, not yet purchased are recorded on the ex-dividend date and interest is recognized on an accrual basis.

Brokerage, Exchange and Clearance Fees, Net

Brokerage, exchange and clearance fees, net, comprise the costs of executing and clearing trades and are recorded on a trade date basis. Rebates consist of volume discounts, credits or payments received from exchanges or other market places related to the placement and/or removal of liquidity from the order flow in the marketplace. Rebates are recorded on an accrual basis and included net within brokerage, exchange and clearance fees in the accompanying condensed consolidated statements of comprehensive income.

Payments for Order Flow

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. Payments for order flow are recorded on a trade-date basis in the condensed consolidated statements of comprehensive income.

Income Taxes

Subsequent to consummation of the Reorganization Transactions and the IPO, the Company is subject to U.S. federal, state and local income taxes on its taxable income. The Company's subsidiaries are subject to income taxes in the respective jurisdictions (including foreign jurisdictions) in which they operate. Prior to the consummation of the Reorganization Transactions and the IPO, no provision for United States federal, state and local income tax was required, as Virtu Financial is a limited liability company and is treated as a pass-through entity for United States federal, state, and local income tax purposes.

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. The deferred tax assets are recognized in full and then reduced by a valuation allowance if it is more likely than not that some or all of the deferred tax assets will not be recognized.

The Company recognizes the tax benefit from an uncertain tax position 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. The Company's 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.

Public Law No. 115-97, commonly referred to as The Tax Cuts and Jobs Act (the “2017 Tax Act”) was signed into law on December 22, 2017. The 2017 Tax Act significantly changes how the U.S. federal government taxes corporations and requires significant judgments to be made in interpretation of its provisions and significant estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies could interpret or issue guidance on how provisions of the 2017 Tax Act will be applied or otherwise administered that is different from our interpretation. As we complete our analysis of the 2017 Tax Act, collect and prepare necessary data, and interpret any additional guidance, we may make adjustments to provisional amounts that we have recorded that may materially impact our provision for income taxes in the period in which the adjustments are made. See Note 14 “Income Taxes”.

Comprehensive Income and Foreign Currency Translation

Comprehensive income consists of two components: net income and other comprehensive income (“OCI”). The Company’s OCI is comprised of foreign currency translation adjustments. Assets and liabilities of operations having non-U.S. dollar functional currencies are translated at period-end exchange rates, and revenues and expenses are translated at weighted average exchange rates for the period. Gains and losses resulting from translating foreign currency financial statements, net of related tax effects, are reflected in accumulated other comprehensive income, a separate component of stockholders’ equity.

The Company’s foreign subsidiaries generally use the U.S. dollar as their functional currency. The Company also has subsidiaries that utilize a functional currency other than the U.S. dollar, primarily comprising its subsidiaries domiciled in Ireland, which utilizes the Euro as the functional currency.

The Company may seek to reduce the impact of fluctuations in foreign exchange rates on its net investment in certain non-U.S. operations through the use of foreign currency forward contracts. For foreign currency forward contracts designated as hedges, the Company assesses its 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 forward contracts. For qualifying net investment hedges, any gains or losses, to the extent effective, are included in Accumulated other comprehensive income on the condensed consolidated statements of financial condition and Cumulative translation adjustment, net of tax, on the condensed consolidated statements of comprehensive income. The ineffective portion, if any, is recorded in Investment income and other, net on the condensed consolidated statements of operations.

Share-Based Compensation

The fair value of awards issued for compensation prior to the Reorganization Transactions and the IPO was determined by management, with the assistance of an independent third party valuation firm, using a projected annual forfeiture rate, where applicable, on the date of grant.

Share-based awards issued for compensation in connection with or subsequent to the Reorganization Transactions and the IPO pursuant to the VFI 2015 Management Incentive Plan (as amended, the “2015 Amended and Restated Management Incentive Plan”) were in the form of stock options, Class A common stock and 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 are determined based on the volume weighted average price for the three days preceding the grant, and with respect to the RSUs, a projected annual forfeiture rate. The fair value of share-based awards granted to employees is expensed based on the vesting conditions and are recognized on a straight line basis over the vesting period. The Company records as treasury stock shares repurchased from its employees for the purpose of settling tax liabilities incurred upon the issuance of Class A common stock, the vesting of RSUs or the exercise of stock options.

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.

In October 2016, the Company invested in a joint venture (“JV”) with nine other parties. One of the parties was KCG. Upon the Merger, KCG was required to relinquish their ownership in the JV. As of March 31, 2018, each of the

remaining parties owns approximately 11% of the voting shares and 11% of the equity of this JV, which is building microwave communication networks in the U.S. and Asia, and which is considered to be a VIE. The Company and all of its JV partners each pay monthly fees for the funding of the construction of the microwave communication networks. When completed, this JV may sell excess bandwidth that is not utilized by its joint venture members to third parties.

In addition, as a result of the Acquisition, the Company owns 50% of the voting shares and 50% of the equity of a JV which maintains microwave communication networks in the U.S. and Europe, and which is considered to be a VIE. The Company and its JV partner each pay monthly fees for the use of the microwave communication networks in connection with their respective trading activities, and the JV may sell excess bandwidth that is not utilized by the JV members to third parties.

In each of the JVs, the Company does not have the power to direct the activities of the VIE that most significantly impact the VIE's economic performance; therefore it does not have a controlling financial interest in the JV and does not consolidate the JVs. 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 JV within Accrued expenses and other liabilities on the condensed consolidated statements of financial condition. The Company records its pro-rata share of each JVs 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 VIE at March 31, 2018:

(in thousands)	Carrying Amount		Maximum Exposure to loss	VIE's assets
	Asset	Liability		
Equity investment	\$ 18,472	\$ —	\$ 18,472	\$ 51,344

The following table presents the Company's nonconsolidated VIE at December 31, 2017:

(in thousands)	Carrying Amount		Maximum Exposure to loss	VIE's assets
	Asset	Liability		
Equity investment	\$ 18,799	\$ —	\$ 18,799	\$ 41,936

Recent Accounting Pronouncements

Revenue - In May 2014, the FASB issued Accounting Standard Update ("ASU") 2014-9, *Revenue from Contracts with Customers*. ASU 2014-9 is a comprehensive new revenue recognition model that requires a company to recognize revenue to depict the transfer of goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. ASU 2014-9 also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. In August 2015, the FASB issued ASU 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*. ASU 2015-14 defers the effective date of ASU 2014-9 by one year for public companies. ASU 2015-14 applies to annual reporting periods beginning after December 15, 2017, including interim reporting periods within that reporting period. In December 2016, FASB issued ASU 2016-20 *Technical Correction and Improvement (Topic 606): Revenue from Contracts with Customers*, which amends the guidance in ASU 2014-9. The effective date and transition requirements for the ASU are the same as ASU 2015-14. The Company adopted the new revenue standard on January 1, 2018 by applying the modified retrospective method, which did not result in a transition adjustment. The new standard does not apply to revenue associated with financial instruments that are accounted for under other U.S. GAAP, and as a result, did not have an impact on the Company's condensed consolidated statements of comprehensive income, which are most closely associated with financial instruments, including trading income, net, and interest and dividends income. The new revenue standard primarily impacts revenues from technology services, commissions and soft-dollar arrangements generated by execution services. The additional disclosures required by the new standard have been included in Note 13 "Revenues from contracts with customers".

Financial Assets and Liabilities — In January 2016, the FASB issued ASU 2016-01, *Financial Instruments – Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*. The ASU affects the accounting for equity investments, financial liabilities under fair value option and presentation and disclosure requirements of financial instruments. The new ASU affects all entities that hold financial assets or owe financial liabilities and is effective for annual reporting periods (including interim periods) beginning after December 15, 2017. The Company does not currently classify any equity securities as available for sale, and it does not apply the fair value option to its own debt issuances. The Company has adopted this ASU as of March 31, 2018, and it did not have a material impact on its condensed consolidated financial statements.

Leases — In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. Under the new ASU, a lessee will be required to recognize assets and liabilities for leases with lease terms of more than 12 months. The liability will be equal to the present value of the future lease payments. The asset, referred to as a “right-of-use asset” will be based on the liability, subject to adjustment, such as for initial direct costs. For income statement purposes, leases will be classified as either operating or finance. Operating leases will result in straight-line expense (similar to current operating leases) while finance leases will result in a front-loaded expense pattern (similar to current capital leases). Classification will be based on criteria that are largely similar to those applied in current lease accounting, but without explicit bright lines. The Company’s implementation effort is on going, and it anticipates adopting this ASU on January 1, 2019. The Company is not anticipating recognizing lease assets and lease liabilities for leases with a term of twelve months or less. Upon adoption of this ASU, the Company expects to report increased assets and liabilities on its condensed consolidated statement of financial condition as a result of recognizing right-of-use assets and lease liabilities related to certain equipment under non-cancelable operating lease agreements and long-term occupancy operating leases, which currently are not reflected in its condensed consolidated statement of financial condition.

Statement of Cash Flows – In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. The ASU intended to reduce diversity in practice how certain transactions are classified in the statement of cash flows by mandating classification of certain activities. The ASU is effective for annual periods beginning after December 15, 2017, and interim periods within those annual periods. The Company has adopted this ASU as of June 30, 2017, and it did not have a material impact on its condensed consolidated statement of cash flows.

Income Taxes – In October 2016, the FASB issued ASU 2016-16, *Income Taxes (Topic 749): Intra-Entity Transfers of Assets Other Than Inventory*. The ASU requires the reporting entity to recognize the tax expense from the sale of an asset in the seller’s tax jurisdiction when the transfer occurs, even though the pre-tax effects of the transactions are eliminated in consolidation. Any deferred tax asset that arises in the buyer’s jurisdiction would also be recognized at the time of the transfer. The ASU is effective for annual periods beginning after December 15, 2018, and interim reporting periods within annual reporting periods beginning after December 15, 2019. The Company is currently evaluating the potential effects of adoption of ASU 2016-16 on the Company’s condensed consolidated financial statements.

Restricted cash – In November 2016, the FASB issued ASU 2016-18, *Statement of Cash Flow (Topic 230): Restricted Cash*, which is intended to reduce diversity in the presentation of restricted cash and restricted cash equivalents in the statements of financial conditions. The ASU requires that restricted cash and restricted cash equivalents be included as components of total cash and cash equivalents as presented on the statement of cash flows. This ASU is effective for annual reporting periods beginning after December 15, 2017, and interim periods within those fiscal years. The Company elected to early adopt this ASU effective June 30, 2017. The adoption of the ASU affected the presentation of the Company’s condensed consolidated statements of cash flows in periods in which it maintained restricted cash and restricted cash equivalents.

Accounting Changes – In January 2017, the FASB issued ASU 2017-3, *Accounting Changes and Error Correction (Topic 250) and Investments – Equity Method and Joint Ventures (Topic 323)*, which amends SEC Paragraphs Pursuant to Staff Announcements at the September 22, 2016 and November 17, 2016 EITF Meetings (SEC update). The SEC staff view is that a registrant should evaluate the impact of new accounting standards that have not yet been adopted to determine the appropriate financial disclosures on the potential material effects, especially on new standards on revenue recognition, leases, and financial instruments – credit losses. If a registrant cannot reasonably estimate the impact that adoption of the ASUs will have, the registrant should consider additional qualitative financial statement disclosures to assist the reader in assessing the significance of the impact. Additional qualitative disclosures should include a description of the effect of the accounting policies expected to be applied compared to current accounting policies. Furthermore, the registrant should describe the status of its process to implement the new standards and the significant implementation matters yet to be addressed. The Company adopted this ASU on January 1, 2017, and appropriate disclosures have been included in this Note for each recently issued accounting standard.

Goodwill - In January, 2017, the FASB issued ASU 2017-4, *Intangibles—Goodwill and Other (Topic 350), Simplifying the Test for Goodwill Impairment*. To simplify the subsequent measurement of goodwill, this ASU eliminated Step 2 from the goodwill impairment test. (In computing the implied fair value of goodwill under Step 2, an entity had to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities (including unrecognized assets and liabilities) following the procedure that would be required in determining the fair value of assets acquired and liabilities assumed in a business combination. Instead, under this ASU, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. This ASU also eliminated the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment and, if it fails that qualitative test, to perform Step 2 of the goodwill impairment test. This ASU is effective for public entities in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company does not expect the adoption of this ASU to have a material impact on its condensed consolidated financial statements.

Business Combinations - In January 2017, the FASB issued ASU 2017-1, *Business Combinations (Topic 805), Clarifying the Definition of a Business*, to amend the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The ASU is effective for reporting periods beginning after December 15, 2017. The Company adopted this ASU on January 1, 2018.

3. Acquisition of KCG Holdings, Inc.

As of the Closing Date of the Acquisition, each of KCG's issued and outstanding shares of Class A common stock, par value \$0.01 per share was cancelled and extinguished and converted into the right to receive \$20.00 in cash, without interest, less any applicable withholding taxes.

On the Closing Date, and in connection with the financing of the Acquisition, as described in Note 10 "Borrowings", the Company issued to Aranda Investments Pte. Ltd. ("Aranda"), an affiliate of Temasek Holdings (Private) Limited ("Temasek"), 6,346,155 shares of the Company's Class A common stock, pursuant to the investment agreement with Aranda (as amended, the "Aranda Investment Agreement") for an aggregate purchase price of approximately \$99.0 million. On August 10, 2017, the Company issued an additional 1,666,666 shares of its Class A common stock for an aggregate purchase price of \$26.0 million (collectively, the "Temasek Investment").

On the Closing Date, and in connection with the financing of the Acquisition, the Company issued to North Island Holdings I, LP ("NIH") 39,725,979 shares of the Company's Class A common stock for an aggregate purchase price of approximately \$613.5 million. On August 10, 2017 the Company issued an additional 338,124 shares of its Class A common stock for an aggregate purchase price of \$5.2 million (collectively, the "NIH Investment"). In connection with the Temasek Investment and NIH Investment, the Company incurred approximately \$7.8 million in fees which were recorded as a reduction to additional paid-in capital.

On July 21, 2017, the outstanding 6.875% Senior Secured Notes due 2020 issued by KCG were redeemed at a redemption price equal to 103.438% of the \$465.0 million principal amount, plus accrued and unpaid interest. The redemption was pursuant to the indenture, dated as of March 13, 2015 (as amended, restated, supplemented or otherwise modified), by and among KCG, the subsidiary guarantors party thereto and The Bank of New York Mellon, as trustee and collateral agent. See "Fourth Amended and Restated Credit Agreement" and "Senior Secured Second Lien Notes" in Note 10 "Borrowings".

Accounting treatment of the Acquisition

The Acquisition is accounted for as a purchase of KCG by the Company, pursuant to provisions of ASC 805, *Business Combinations*. Under the acquisition method of accounting, the assets and liabilities of KCG, as of July 20, 2017, were recorded at their respective fair values and added to the carrying value of the Company's existing assets and liabilities. These fair values were determined with the assistance of third party valuation professionals. The reported financial condition, results of operations and cash flows of the Company for the periods following the Acquisition reflect KCG's and the Company's balances and reflect the impact of purchase accounting adjustments.

Purchase price and goodwill

The aggregate cash purchase price of \$1.4 billion was determined as the sum of the fair value, at \$20.00 per share, of KCG shares and warrants outstanding to former KCG stockholders at closing and the fair value of KCG employee stock based awards that were outstanding, and which vested at the Closing Date.

The purchase price has been allocated to the assets acquired and liabilities assumed using their estimated fair values at the Closing Date of the Acquisition. Although the Company has substantially completed its analysis to record the allocation of the purchase price to the KCG acquired assets and liabilities, the allocation of the purchase price may be modified over the measurement period, which does not exceed twelve months from the Closing Date, as more information is obtained about the fair values of assets acquired and liabilities assumed. Adjustments to the provisional values during the measurement period will be recorded in the reporting period in which the adjustment amounts are determined. The Company has engaged third party specialists for the purchase price allocation.

Amounts allocated to intangible assets, the amortization period and goodwill were as follows:

(in thousands)	Amount	Amortization Years
Technology	\$ 67,700	1-6 years
Customer relationships	94,000	13 - 17 years
Trade names	1,000	10 years
Favorable leases	5,895	2-15 years
Exchange memberships	6,400	Indefinite
Intangible assets	\$ 174,995	
Goodwill	128,286	
Total	\$ 303,281	

Of the total Goodwill of \$128.3 million, \$96.2 million has been assigned to the Market Making segment and \$32.1 million has been assigned to the Execution Services segment. Such goodwill is attributable to the expansion of products offerings and expected synergies of the combined workforce, products and technologies of the Company and KCG.

Tax treatment of the Acquisition

The Company believes that the Acquisition will be treated as a tax-free transaction to the Company that does not result in a step up in tax basis in the acquired assets and, therefore, KCG's tax basis in its assets and liabilities generally carries over to the Company following the Acquisition. None of the goodwill is expected to be deductible for tax purposes.

The Company recorded net deferred tax assets of \$23.9 million with respect to recording KCG's assets and liabilities under the purchase method of accounting as described above as well as recording the value of other tax attributes acquired as a result of the Acquisition, as described in Note 13 "Revenues from contracts with customers".

4. Sale of BondPoint

In October 2017, the Company entered into an Asset Purchase Agreement (the "BondPoint Agreement") with ICE pursuant to which the Company has agreed to sell specified assets and to assign specified liabilities constituting its BondPoint division and fixed income venue ("BondPoint"). BondPoint is a provider of electronic fixed income trading solutions for the buy-side and sell-side offering access to centralized liquidity and automated trade execution services.

As of December 31, 2017, the Company transferred the carrying value of BondPoint to assets held for sale, refer to Note 4 "Business held for sale" in the Company's Annual Report on Form 10-K, filed with the Securities and Exchange Commission on March 13, 2018 (the "2017 Form 10-K"). On January 2, 2018, the Company completed the sale of BondPoint to Intercontinental Exchange for total gross proceeds of \$400.2 million in cash. The Company incurred one-time transaction costs of \$8.5 million, which include professional fees of \$7.1 million related to the sale and \$1.4 million compensation expense, which is recorded in Transaction advisory fees and expenses and Employee compensation and payroll taxes, respectively, on the condensed consolidated statement of comprehensive income. The Company recognized a gain on sale of \$329.0 million, which is recorded in other, net on the condensed consolidated statement of comprehensive income for the three months ended March 31, 2018.

A summary of the carrying value of BondPoint and gain on sale of BondPoint is as follows:

(in thousand)	
Total sale proceeds received	\$ 400,192
Business assets and liabilities held for sale as of December 31, 2017:	
Receivables from broker dealers and clearing organizations	3,383
Intangibles and other assets	51,687
Liabilities	(728)
Total carrying value of BondPoint as of December 31, 2017:	54,342
Goodwill adjustment allocated to BondPoint	8,300
Gain on sale of BondPoint	337,550
Transaction costs	8,568
Gain on sale of BondPoint, net of transaction costs	\$ 328,982

5. Earnings per Share

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

(in thousands)	Three Months Ended March 31,	
	2018	2017
Income before income taxes and noncontrolling interest	\$ 468,536	\$ 23,882
Provision for income taxes	58,514	2,808
Net income	410,022	21,074
Noncontrolling interest	(235,271)	(16,494)
Net income available for common stockholders	\$ 174,751	\$ 4,580

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

(in thousands, except for share or per share data)	Three Months Ended March 31,	
	2018	2017
Basic earnings per share:		
Net income available for common stockholders	\$ 174,751	\$ 4,580
Less: Dividends and undistributed earnings allocated to participating securities	(3,213)	(353)
Net income available for common stockholders, net of dividends and undistributed earnings allocated to participating securities	171,538	4,227
Weighted average shares of common stock outstanding:		
Class A	90,699,321	40,398,381
Basic Earnings per share	\$ 1.89	\$ 0.10

(in thousands, except for share or per share data)	Three Months Ended March 31,	
	2018	2017
Diluted earnings per share:		
Net income available for common stockholders, net of dividends and undistributed earnings allocated to participating securities	\$ 171,538	\$ 4,227
Weighted average shares of common stock outstanding:		
Class A		
Issued and outstanding	90,699,321	40,398,381
Issuable pursuant to 2015 Management Incentive Plan(1)	1,706,996	—
	92,406,317	40,398,381
Diluted Earnings per share	\$ 1.86	\$ 0.10

(1) The dilutive impact of unexercised stock options excludes from the computation of EPS 774,529 options for the three months ended March 31, 2017, because inclusion of the options would have been anti-dilutive.

6. Tax Receivable Agreements

In connection with the IPO and the Reorganization Transactions, the Company entered into tax receivable agreements to make payments to certain Virtu pre-IPO equityholders ("Virtu Members"), that are generally equal to 85% of the applicable cash tax savings, if any, that the Company actually realizes as a result of favorable tax attributes that were and will continue to be available to the Company as a result of the Reorganization Transactions, exchanges of membership interests for Class A common stock or Class B common stock and payments made under the tax receivable agreements. Payments will occur only after the filing of the U.S. federal and state income tax returns and realization of the cash tax savings from the favorable tax attributes. The Company made its first payment of \$7.0 million in February 2017.

As a result of (i) the purchase of equity interests in Virtu Financial from certain Virtu Members in connection with the Reorganization Transactions, (ii) the purchase of non-voting common interest units in Virtu Financial (the "Virtu Financial Units") (along with the corresponding shares of Class C common stock) from certain of the Virtu Members in connection with the IPO, (iii) the purchase of Virtu Financial Units (along with the corresponding shares of Class C common stock) and the exchange of Virtu Financial Units (along with the corresponding shares of Class C common stock) for shares of Class A common stock in connection with the secondary offerings completed in September 2016 and November 2015 (the "Secondary Offerings"), the Company recorded a deferred tax asset of \$220.8 million associated with the increase in tax basis that results from such events. Payments to certain Virtu Members in respect of the purchases were expected to range from approximately \$0.3 million to \$12.8 million per year over the next 15 years. The corresponding deduction to additional paid-in capital was approximately \$19.9 million for the difference between the tax receivable agreements liability and the related deferred tax asset.

As a result of the reduction in the U.S. corporate income tax rate as described below, the aforementioned deferred tax asset and related payment liability were subsequently reduced as described below. The amounts recorded as of March 31, 2018 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.

The 2017 Tax Act includes, among other items, a permanent reduction to the U.S. corporate income tax rate from 35% to 21% effective January 1, 2018 as further described in Note 14 "Income taxes". As a result, at December 31, 2017, the Company recorded a reduction of its tax receivable agreement obligation of \$86.6 million. As further described in Note 14 "Income Taxes", the Company also recorded a reduction of its deferred tax assets, including deferred tax assets relating to the deferred tax assets described above. At March 31, 2018 and December 31, 2017, the Company's remaining deferred tax assets were approximately \$99.1 million and \$101.6 million, respectively, and the Company's liabilities over the next 15 years, pursuant to the tax receivable agreements are approximately \$147.0 million and 147.0 million, respectively.

For 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.

7. Goodwill and Intangible Assets

Prior to the Acquisition, the Company was managed and operated as one business, and accordingly, operated under one reportable segment. As a result of the acquisition of KCG, beginning in the third quarter of 2017 the Company has three operating segments: (i) Market Making; (ii) Execution Services; and (iii) Corporate. The Company allocated goodwill to the new reporting units using a relative fair value approach. In addition, the Company performed an assessment of potential goodwill impairment for all reporting units immediately prior to the reallocation and determined that no impairment was indicated.

The following table presents the details of goodwill by segment:

(in thousands)	Market Making	Execution Services	Corporate	Total
Balance as of December 31, 2017	\$ 755,292	\$ 89,591	\$ —	\$ 844,883
Goodwill adjustment allocated to BondPoint	—	(8,300)	—	(8,300)
Balance as of March 31, 2018	<u>\$ 755,292</u>	<u>\$ 81,291</u>	<u>\$ —</u>	<u>\$ 836,583</u>

As of March 31, 2018 and December 31, 2017, the Company's total amount of goodwill recorded was \$836.6 million and \$844.9 million, respectively. As described in Note 4 "Sale of BondPoint", the Company allocated \$8.3 million goodwill to BondPoint as part of the sale. No goodwill impairment was recognized in the three months ended March 31, 2018 and 2017.

Acquired intangible assets consisted of the following as of March 31, 2018 and December 31, 2017:

(in thousands)	As of March 31, 2018					
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Useful Lives (Years)		
Purchased technology	\$ 110,000	\$ 110,000	\$ —	1.4	to	2.5
ETF issuer relationships	950	585	365	9		
ETF buyer relationships	950	586	364	9		
Leases	1,800	547	1,253	3		
FCC licenses	200	26	174	7		
Technology	60,000	15,047	44,953	1	to	6
Customer relationships	49,000	2,843	46,157	12	to	17
Favorable occupancy leases	5,895	612	5,283	7		
Exchange memberships	5,838	—	5,838	Indefinite		
	<u>\$ 234,633</u>	<u>\$ 130,246</u>	<u>\$ 104,387</u>			

(in thousands)	As of December 31, 2017					
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Useful Lives (Years)		
Purchased technology	\$ 110,000	\$ 110,000	\$ —	1.4	to	2.5
ETF issuer relationships	950	559	391	9		
ETF buyer relationships	950	560	390	9		
Leases	1,800	397	1,403	3		
FCC licenses	200	19	181	7		
Technology	60,000	9,644	50,356	1	to	6
Customer relationships	49,000	1,822	47,178	12	to	17
Favorable occupancy leases	5,895	408	5,487	7		
Exchange memberships	5,838	—	5,838	Indefinite		
	<u>\$ 234,633</u>	<u>\$ 123,409</u>	<u>\$ 111,224</u>			

Amortization expense relating to finite-lived intangible assets was approximately \$6.9 million, and \$0.05 million for the three months ended March 31, 2018, and 2017, respectively. This is included in amortization of purchased intangibles and acquired capitalized software in the accompanying condensed consolidated statements of comprehensive income.

8. 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 March 31, 2018 and December 31, 2017:

(in thousands)	2018	2017
Assets		
Due from prime brokers	\$ 153,716	\$ 219,573
Deposits with clearing organizations	257,832	112,847
Net equity with futures commission merchants	308,964	203,711
Unsettled trades with clearing organization	430,514	173,778
Securities failed to deliver	271,287	248,088
Commissions and fees	11,726	14,021
Total receivables from broker-dealers and clearing organizations	<u>\$ 1,434,039</u>	<u>\$ 972,018</u>
Liabilities		
Due to prime brokers	\$ 390,364	\$ 197,439
Net equity with futures commission merchants	40,665	44,526
Unsettled trades with clearing organization	150,205	420,029
Securities failed to receive	65,715	51,143
Commissions and fees	1,839	3,068
Total payables to broker-dealers and clearing organizations	<u>\$ 648,788</u>	<u>\$ 716,205</u>

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 short-term credit facilities (described in Note 9 “Collateralized Transactions”) of approximately \$131.4 million and \$205.7 million as of March 31, 2018 and December 31, 2017, 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.

9. 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 March 31, 2018 and December 31, 2017, substantially all of the securities received as collateral have been repledged. The fair value of the collateralized transactions at March 31, 2018 and December 31, 2017 are summarized as follows:

(in thousands)	2018	2017
Securities received as collateral:		
Securities borrowed	\$ 1,201,721	\$ 1,415,793
	<u>\$ 1,201,721</u>	<u>\$ 1,415,793</u>

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 March 31, 2018 and December 31, 2017 consisted of the following:

(in thousands)	2018	2017
Equities	\$ 571,997	\$ 586,251
U.S. and Non-U.S. government obligations	200	99
Exchange traded notes	38,339	8,693
	<u>\$ 610,536</u>	<u>\$ 595,043</u>

10. Borrowings

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 collateralized by one of the Company’s broker-dealer subsidiaries trading and deposit account with the financial institution.

On November 3, 2017, the Company entered the second credit facility (“Revolving Credit Facility”) with the same financial institution for an aggregated borrowing limit of \$500.0 million. The Revolving Credit Facility consists 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 NSCC. Each of the three broker-dealers has a sublimit under Borrowing Base A Loan, from \$25 million to \$500 million, which bears interest at the adjusted LIBOR or base rate plus 1.25% per annum. Two out of the three broker-dealers have sublimit under Borrowing Base B Loan, from \$40 million to \$100 million, which bears interest at the adjusted LIBOR 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.

The following summarizes the Company’s broker-dealer credit facilities carrying value, net of unamortized debt issuance costs, where applicable:

At March 31, 2018					
(in thousands)	Interest Rate	Financing Available	Borrowing Outstanding	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Broker-dealer credit facilities:					
Uncommitted facility	2.68%	\$ 350,000	\$ 17,500	\$ (1,580)	\$ 15,920
Revolving credit facility	3.13%	500,000	7,000	(1,976)	5,024
		<u>\$ 850,000</u>	<u>\$ 24,500</u>	<u>\$ (3,556)</u>	<u>\$ 20,944</u>
At December 31, 2017					
(in thousands)	Interest Rate	Financing Available	Borrowing Outstanding	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Broker-dealer credit facilities:					
Uncommitted facility	2.42%	\$ 150,000	\$ 25,000	\$ —	\$ 25,000
Revolving credit facility	2.81%	500,000	7,000	(4,117)	2,883
		<u>\$ 650,000</u>	<u>\$ 32,000</u>	<u>\$ (4,117)</u>	<u>\$ 27,883</u>

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.

(in thousands)	Three Months Ended March 31,	
	2018	2017
Broker-dealer credit facilities:		
Uncommitted facility	\$ 446	\$ 415
Committed facility (1)	—	7
Revolving credit facility	98	—
	<u>\$ 544</u>	<u>\$ 422</u>

(1) Facility was terminated in July 2017.

Short-Term 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 March 31, 2018		
	Weighted Average Interest Rate	Financing Available	Borrowing Outstanding
Short-Term Credit Facilities:			
Short-term credit facilities (2)	4.04%	\$ 535,000	\$ 131,382
		<u>\$ 535,000</u>	<u>\$ 131,382</u>
	At December 31, 2017		
	Weighted Average Interest Rate	Financing Available	Borrowing Outstanding
Short-Term Credit Facilities:			
Short-term credit facilities (2)	3.86%	\$ 543,000	\$ 205,677
		<u>\$ 543,000</u>	<u>\$ 205,677</u>

(2) Outstanding borrowings were included with receivable from/ payable to broker-dealers and clearing organization within the condensed consolidated statements of financial condition.

Interest expense in relation to the facilities for the three months ended March 31, 2018 and 2017 was approximately \$1.5 million and \$1.7 million, respectively.

Long-Term Borrowings

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

(in thousands)	Maturity Date	Interest Rate	At March 31, 2018			
			Outstanding Principal	Discount	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Long-term borrowings:						
Fourth Amended and Restated Credit Agreement	December 2021	4.94%	\$ 624,000	\$ (650)	\$ (13,101)	\$ 610,249
Senior secured Second Lien Notes	June 2022	6.75%	500,000	—	(21,673)	478,327
SBI bonds	January 2020	5.00%	32,932	—	(44)	32,888
			<u>\$ 1,156,932</u>	<u>\$ (650)</u>	<u>\$ (34,818)</u>	<u>\$ 1,121,464</u>
(in thousands)	Maturity Date	Interest Rate	At December 31, 2017			
			Outstanding Principal	Discount	Deferred Debt Issuance Cost	Outstanding Borrowings, net
Long-term borrowings:						
Fourth Amended and Restate Credit Agreement	December 2021	5.13%	\$ 900,000	\$ (999)	\$ (18,504)	\$ 880,497
Senior secured Second Lien Notes	June 2022	6.75%	500,000	—	(22,961)	477,039
SBI bonds	January 2020	5.00%	31,059	—	(47)	31,012
			<u>\$ 1,431,059</u>	<u>\$ (999)</u>	<u>\$ (41,512)</u>	<u>\$ 1,388,548</u>

Fourth Amended and Restated Credit Agreement

To finance the Acquisition, on June 30, 2017, Virtu Financial and VFH Parent LLC ("VFH") entered into a fourth amended and restated credit agreement (the "Fourth Amended and Restated Credit Agreement") with the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent, sole lead arranger and bookrunner, which amended and restated in its entirety the existing Credit Agreement, and upon the closing of the Acquisition of KCG, provided for an aggregate \$1.15 billion of first lien secured term loans (the "Term Loan Facility").

For the three months ended March 31, 2018, \$276.0 million of prepayments were made under the Fourth Amended and Restated Credit Agreement, for an aggregate total of \$526.0 million of principal prepayments under the Term Loan Facility since its closing. VFH also entered into a repricing transaction during January 2018 to reprice the senior secured term loans under the Fourth Amended and Restated Credit Agreement at LIBOR plus 3.25%. In connection with the debt refinancing and the debt prepayment, the Company accelerated approximately \$6.0 million unamortized financing costs incurred that were

scheduled to be amortized over the term of the loan, including original issue discount and underwriting and legal fees, which is included within debt issue cost related to debt refinancing in the consolidated statements of comprehensive income.

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

Senior Secured Second Lien Notes

To finance the Acquisition, on June 16, 2017, the Escrow Issuer and Orchestra Co-Issuer, Inc. (the “Co-Issuer”) completed the offering of \$500.0 million aggregate principal amount of 6.750% Senior Secured Second Lien Notes due 2022 (the “Notes”). The Notes were issued under an Indenture, dated June 16, 2017 (the “Indenture”), among the Escrow Issuer, the Co-Issuer and U.S. Bank National Associations, as trustee and collateral agent.

On July 20, 2017, VFH assumed all of the obligations of the Escrow Issuer under the Indenture and the Notes. The Notes are guaranteed by Virtu Financial and each of Virtu Financial’s wholly-owned domestic restricted subsidiaries that guarantees the Fourth Amended and Restated Credit Agreement.

The Indenture imposes certain limitations on the Company, and contains certain customary events of default, including, among others, payment defaults related to the failure to pay principal or interest on Notes, covenant defaults, final maturity default or cross-acceleration with respect to material indebtedness and certain bankruptcy events. The gross proceeds from the Notes were deposited into a segregated escrow account with an escrow agent. The proceeds were released from escrow as of the Closing Date and were used to finance, in part, the Acquisition, and to repay certain indebtedness of the Company and KCG. (See Note 3 “Acquisition of KCG Holdings, Inc.” for further details).

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 SBI (as described in Note 11 “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. The principal balance was ¥3.5 billion (\$32.9 million) as of March 31, 2018 and ¥3.5 billion (\$31.0 million) as of December 31, 2017. The Company recorded a loss of \$1.9 million and \$1.5 million due to the change in currency rates during the three months ended March 31, 2018 and 2017, respectively.

Aggregate future required minimum principal payments based on the terms of the long-term borrowings at March 31, 2018 were as follows:

(in thousands)	2018	\$	—
	2019		—
	2020		32,932
2021 and thereafter			1,124,000
Total principal of long-term borrowings		\$	<u>1,156,932</u>

11. 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 financial instruments noted in the preceding paragraph, 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 broadly distributed bank 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.

As of March 31, 2017, the Company began pricing 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. The Company concluded that this is a change in accounting estimate and no retrospective adjustments were necessary.

Fair value measurements for those items measured on a recurring basis are summarized below as of March 31, 2018:

(in thousands)	March 31, 2018				
	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	\$ 956,518	\$ 1,139,469	\$ —	\$ —	\$ 2,095,987
U.S. and Non-U.S. government obligations	800	18,207	—	—	19,007
Corporate Bonds	—	75,534	—	—	75,534
Exchange traded notes	64,730	30,368	—	—	95,098
Currency forwards	—	702,889	—	(700,655)	2,234
Options	9,210	—	—	—	9,210
	<u>1,031,258</u>	<u>1,966,467</u>	<u>—</u>	<u>(700,655)</u>	<u>2,297,070</u>
Financial instruments owned, pledged as collateral:					
Equity securities	\$ 309,313	\$ 262,684	\$ —	\$ —	\$ 571,997
U.S. and Non-U.S. government obligations	200	—	—	—	200
Exchange traded notes	22,418	15,921	—	—	38,339
	<u>331,931</u>	<u>278,605</u>	<u>—</u>	<u>—</u>	<u>610,536</u>
Other Assets					
Equity investment	\$ —	\$ —	\$ 42,478	\$ —	\$ 42,478
Exchange stock	2,154	—	—	—	2,154
Other ⁽¹⁾	—	56,179	—	—	56,179
	<u>2,154</u>	<u>56,179</u>	<u>42,478</u>	<u>—</u>	<u>100,811</u>
Liabilities					
Financial instruments sold, not yet purchased, at fair value:					
Equity securities	\$ 1,584,268	\$ 1,132,360	\$ —	\$ —	\$ 2,716,628
U.S. and Non-U.S. government obligations	1,998	25,207	—	—	27,205
Corporate Bonds	40,007	—	—	—	40,007
Exchange traded notes	3,714	38,393	—	—	42,107
Currency forwards	—	725,422	—	(720,464)	4,958
Options	15,548	—	—	—	15,548
	<u>1,645,535</u>	<u>1,921,382</u>	<u>—</u>	<u>(720,464)</u>	<u>2,846,453</u>

(1) Other primarily consists of a \$56.2 million receivable from Bats related to the sale of KCG Hotspot.

Fair value measurements for those items measured on a recurring basis are summarized below as of December 31, 2017:

December 31, 2017

(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	\$ 758,596	\$ 1,167,995	\$ —	\$ —	\$ 1,926,591
Non-U.S. government obligations	5,968	16,815	—	—	22,783
Corporate Bonds	—	60,975	—	—	60,975
Exchange traded notes	13,576	68,819	—	—	82,395
Currency forwards	—	2,045,487	—	(2,027,697)	17,790
Options	7,045	—	—	—	7,045
	<u>\$ 785,185</u>	<u>\$ 3,360,091</u>	<u>\$ —</u>	<u>\$ (2,027,697)</u>	<u>\$ 2,117,579</u>
Financial instruments owned, pledged as collateral:					
Equity securities	\$ 410,670	\$ 175,581	\$ —	\$ —	\$ 586,251
U.S. and Non-U.S. government obligations	99	—	—	—	99
Exchange traded notes	82	8,611	—	—	8,693
	<u>\$ 410,851</u>	<u>\$ 184,192</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 595,043</u>
Other Assets					
Equity investment	\$ —	\$ —	\$ 40,588	\$ —	\$ 40,588
Exchange stock	1,952	—	—	—	1,952
Other ⁽²⁾	—	55,824	—	—	55,824
	<u>\$ 1,952</u>	<u>\$ 55,824</u>	<u>\$ 40,588</u>	<u>\$ —</u>	<u>\$ 98,364</u>
Liabilities					
Financial instruments sold, not yet purchased, at fair value:					
Equity securities	\$ 847,816	\$ 1,355,616	\$ —	\$ —	\$ 2,203,432
Exchange traded notes	1,514	54,248	—	—	55,762
Currency forwards	—	2,032,017	—	(2,024,991)	7,026
Options	5,839	—	—	—	5,839
	<u>\$ 874,109</u>	<u>\$ 3,535,480</u>	<u>\$ —</u>	<u>\$ (2,024,991)</u>	<u>\$ 2,384,598</u>

(2) Other primarily consists of a \$55.8 million receivable from Bats related to the sale of KCG Hotspot.

SBI Investment

As of March 31, 2018, the fair value of SBI Investment was determined using the discounted cash flow method, an income approach, with the discount rate of 15.0% applied to the cash flow forecasts. The Company also used a market approach based on 14x average price/earnings multiples of comparable companies to corroborate the income approach. The fair value of the SBI Investment at March 31, 2018 was determined by taking the weighted average of enterprise valuations based on discounted cash flow on projected income from the next five years, the implied enterprise valuations on comparable companies, and the implied enterprise valuations on comparable transactions. 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 price/earnings multiples would result in a significantly lower (higher) fair value measurement. Changes in the fair value of the SBI Investment are reflected in other, net in the condensed consolidated statements of comprehensive income.

There were no transfers of financial instruments between levels during the three months ended March 31, 2018 and 2017.

Receivable from Bats Global Markets, Inc. (“Bats”)

In March 2015, KCG sold KCG Hotspot, an institutional spot foreign exchange electronic communications networks (“ECN”), to Bats, which is now a subsidiary of CBOE Holdings, Inc. KCG and Bats agreed to share certain tax benefits, which as of March 31, 2018 comprise a \$50.0 million payment and an annual payment of up to \$6.6 million, both of which were paid in April 2018.

The Company has elected the fair value option related to the receivable from Bats and considers the receivable to be a Level 2 asset in the fair value hierarchy as the fair value is derived from observable significant inputs such as contractual cash

flows and market discount rates. The remaining additional potential payments of \$56.6 million are recorded at a fair value of \$56.2 million in other assets on the condensed consolidated statements of financial condition as of March 31, 2018.

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 statement 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 categorized as Level 2 in the fair value hierarchy, which is based on quoted prices from the market.

The table below summarizes financial assets and liabilities not measured at fair value on a recurring basis as of March 31, 2018:

	March 31, 2018				
	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	\$ 637,308	\$ 637,308	\$ 637,308	\$ —	\$ —
Securities borrowed	1,232,048	1,232,048	—	1,232,048	—
Securities purchased under agreements to resell	602	602	—	602	—
Receivables from broker dealers and clearing organizations	1,434,039	1,434,039	70,143	1,363,896	—
Total Assets	\$ 3,303,997	\$ 3,303,997	\$ 707,451	\$ 2,596,546	\$ —
Liabilities					
Short-term borrowings	\$ 20,944	\$ 20,944	\$ —	\$ 20,944	\$ —
Long-term borrowings	1,121,464	1,193,167	—	1,193,167	—
Securities loaned	936,061	936,061	—	936,061	—
Securities sold under agreements to repurchase	265,401	265,401	—	265,401	—
Payables to broker dealer and clearing organizations	648,788	648,788	861	647,927	—
Total Liabilities	\$ 2,992,658	\$ 3,064,361	\$ 861	\$ 3,063,500	\$ —

The table below summarizes financial assets and liabilities not measured at fair value on a recurring basis as of December 31, 2017:

	December 31, 2017				
	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	\$ 532,887	\$ 532,887	\$ 532,887	\$ —	\$ —
Securities borrowed	1,471,172	1,471,172	—	1,471,172	—
Receivables from broker dealers and clearing organizations	972,018	972,018	36,513	935,505	—
Total Assets	\$ 2,976,077	\$ 2,976,077	\$ 569,400	\$ 2,406,677	\$ —
Liabilities					
Short-term borrowings	\$ 27,883	\$ 27,883	\$ —	\$ 27,883	\$ —
Long-term borrowings	1,388,548	1,465,489	—	1,465,489	—
Securities loaned	754,687	754,687	—	754,687	—
Securities sold under agreements to repurchase	390,642	390,642	—	390,642	—
Payables to broker dealer and clearing organizations	716,205	716,205	2,925	713,280	—
Total Liabilities	\$ 3,277,965	\$ 3,354,906	\$ 2,925	\$ 3,351,981	\$ —

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

March 31, 2018

(in thousands)	December 31, 2017	Purchases	Total Realized and Unrealized Gains / (Losses)	Net Transfers into (out of) Level 3	Settlement	March 31, 2018	Change in Net Unrealized Gains / (Losses) on Investments still held at March 31, 2018
Assets							
Other assets:							
Equity investment	\$ 40,588	\$ —	\$ 1,890	\$ —	\$ —	\$ 42,478	\$ 1,890
Total	\$ 40,588	\$ —	\$ 1,890	\$ —	\$ —	\$ 42,478	\$ 1,890

December 31, 2017

(in thousands)	December 31, 2016	Purchases	Total Realized and Unrealized Gains / (Losses)	Net Transfers into (out of) Level 3	Settlement	December 31, 2017	Change in Net Unrealized Gains / (Losses) on Investments still held at December 31, 2017
Assets							
Other assets:							
Equity investment	\$ 36,031	\$ —	\$ 4,557	\$ —	\$ —	\$ 40,588	\$ 4,557
Other	—	3,000	—	—	(3,000)	—	—
Total	\$ 36,031	\$ 3,000	\$ 4,557	\$ —	\$ (3,000)	\$ 40,588	\$ 4,557

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 March 31, 2018 and December 31, 2017.

March 31, 2018

(in thousands)	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Condensed Consolidated Statement of Financial Condition	Net Amounts of Assets Presented in the Condensed Consolidated Statement of Financial Condition	Gross Amounts Not Offset In the Statement of Financial Condition		Net Amount
				Financial Instruments	Cash Collateral Received	
Offsetting of Financial Assets:						
Securities borrowed	\$ 1,232,048	\$ —	\$ 1,232,048	\$ (1,202,760)	\$ (2,624)	\$ 26,664
Securities purchased under agreements to resell	602	—	602	(602)	—	—
Trading assets, at fair value:						
Currency forwards	702,889	(700,655)	2,234	—	—	2,234
Options	9,210	—	9,210	(1)	—	9,209
Total	\$ 1,944,749	\$ (700,655)	\$ 1,244,094	\$ (1,203,363)	\$ (2,624)	\$ 38,107

(in thousands)	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Statement of Financial Condition	Net Amounts of Assets Presented in the Consolidated Statement of Financial Condition	Gross Amounts Not Offset In the Statement of Financial Condition		Net Amount
				Financial Instruments	Cash Collateral Pledged	
Offsetting of Financial Liabilities:						
Securities loaned	\$ 936,061	\$ —	\$ 936,061	\$ (929,457)	\$ (884)	\$ 5,720
Securities sold under agreements to repurchase	265,401	—	265,401	(265,401)	—	—
Trading liabilities, at fair value:						
Currency forwards	725,422	(720,464)	4,958	—	—	4,958
Options	15,548	—	15,548	(1)	—	15,547
Total	\$ 1,942,432	\$ (720,464)	\$ 1,221,968	\$ (1,194,859)	\$ (884)	\$ 26,225

December 31, 2017

(in thousands)	Gross Amounts of Recognized Assets	Gross Amounts Offset in the Consolidated Statement of Financial Condition	Net Amounts of Assets Presented in the Consolidated Statement of Financial Condition	Gross Amounts Not Offset In the Statement of Financial Condition		Net Amount
				Financial Instruments	Cash Collateral Received	
Offsetting of Financial Assets:						
Securities borrowed	\$ 1,471,172	\$ —	\$ 1,471,172	\$ (1,418,672)	\$ (13,318)	\$ 39,182
Trading assets, at fair value:						
Currency forwards	2,045,487	(2,027,697)	17,790	—	—	17,790
Options	7,045	—	7,045	(45)	—	7,000
Total	\$ 3,523,704	\$ (2,027,697)	\$ 1,496,007	\$ (1,418,717)	\$ (13,318)	\$ 63,972

(in thousands)	Gross Amounts of Recognized Liabilities	Gross Amounts Offset in the Consolidated Statement of Financial Condition	Net Amounts of Assets Presented in the Consolidated Statement of Financial Condition	Gross Amounts Not Offset In the Statement of Financial Condition		Net Amount
				Financial Instruments	Cash Collateral Pledged	
Offsetting of Financial Liabilities:						
Securities loaned	\$ 754,687	\$ —	\$ 754,687	\$ (737,731)	\$ (10,776)	\$ 6,180
Securities sold under agreements to repurchase	390,642	—	390,642	(390,642)	—	—
Trading liabilities, at fair value:						
Currency forwards	2,032,017	(2,024,991)	7,026	—	—	7,026
Options	5,839	—	5,839	(56)	—	5,783
Total	\$ 3,183,185	\$ (2,024,991)	\$ 1,158,194	\$ (1,128,429)	\$ (10,776)	\$ 18,989

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.

(in thousands)	March 31, 2018				
	Remaining Contractual Maturity				
	Overnight and Continuous	Less than 30 days	30 - 60 days	61 - 90 Days	Total
Repurchase agreements:					
Equity securities	\$ 401	\$ —	\$ 65,000	\$ 200,000	\$ 265,401
U.S. and Non-U.S. government obligations	—	—	—	—	—
Total	\$ 401	\$ —	\$ 65,000	\$ 200,000	\$ 265,401
Securities lending transactions:					
Equity securities	\$ 936,061	\$ —	\$ —	\$ —	\$ 936,061
Total	\$ 936,061	\$ —	\$ —	\$ —	\$ 936,061

(in thousands)	December 31, 2017				
	Remaining Contractual Maturity				
	Overnight and Continuous	Less than 30 days	30 - 60 days	61 - 90 Days	Total
Repurchase agreements:					
Equity securities	\$ —	\$ 100,000	\$ 90,000	\$ 200,000	\$ 390,000
U.S. and Non-U.S. government obligations	642	—	—	—	642
Total	\$ 642	\$ 100,000	\$ 90,000	\$ 200,000	\$ 390,642
Securities lending transactions:					
Equity securities	\$ 754,687	\$ —	\$ —	\$ —	\$ 754,687
Total	\$ 754,687	\$ —	\$ —	\$ —	\$ 754,687

12. Derivative Instruments

The fair value of the Company's derivative instruments on a gross basis consisted of the following at March 31, 2018 and December 31, 2017:

(in thousands)	Financial Statements Location	March 31, 2018		December 31, 2017	
		Fair Value	Notional	Fair Value	Notional
Derivatives Assets					
Derivative instruments not designated as hedging instruments:					
Equities futures	Receivables from broker dealers and clearing organizations	\$ 183	\$ 4,836,630	\$ (505)	\$ 1,985,770
Commodity futures	Receivables from broker dealers and clearing organizations	39,965	20,971,297	971	21,231,001
Currency futures	Receivables from broker dealers and clearing organizations	32,042	2,075,544	26,548	3,994,412
Fixed income futures	Receivables from broker dealers and clearing organizations	23	10,096	73	44,395
Options	Financial instruments owned	9,210	793,423	7,045	682,369
Currency forwards	Financial instruments owned	702,889	100,689,302	2,045,487	124,000,221
Derivatives Liabilities					
Derivative instruments not designated as hedging instruments:					
Equities futures	Payables to broker dealers and clearing organizations	\$ 208	\$ 139,033	\$ (575)	\$ 142,658
Commodity futures	Payables to broker dealers and clearing organizations	645	118,427	(1,602)	130,042
Currency futures	Payables to broker dealers and clearing organizations	(3,279)	2,531,734	(13,947)	7,756,958
Fixed income futures	Payables to broker dealers and clearing organizations	(169)	13,016	(1)	2,584
Options	Financial instruments sold, not yet purchased	15,548	769,273	5,839	681,147
Currency forwards	Financial instruments sold, not yet purchased	725,058	100,700,387	2,032,017	123,993,234
Derivative instruments designated as hedging instruments:					
Currency forwards	Financial instruments sold, not yet purchased	(364)	15,964	(514)	16,115

Amounts included in receivables from and payables to broker-dealers and clearing organizations represent net variation margin on long and short futures contracts.

The following table summarizes the net gain from derivative instruments not designated as hedging instruments under ASC 815, which are recorded in trading income, net, and from those designated as hedging instrument under ASC 815, which are recorded in accumulated other comprehensive income in the accompanying condensed consolidated statements of comprehensive income for the three months ended March 31, 2018 and 2017.

(in thousands)	Financial Statements Location	March 31,	
		2018	2017
Derivative instruments not designated as hedging instruments:			
Futures	Trading income, net	\$ (436,414)	\$ 165,590
Currency forwards	Trading income, net	85,910	(51,381)
Options	Trading income, net	1,102	1
		<u>\$ (349,402)</u>	<u>\$ 114,210</u>
Derivative instruments designated as hedging instruments:			
Foreign exchange - forward contract	Accumulated other comprehensive income	<u>\$ 150</u>	<u>\$ —</u>

13. Revenues from Contracts with Customers

Revenue Recognitions

The Company adopted ASC Topic 606, Revenue from Contracts with Customers as of January 1, 2018 in the condensed consolidated financial statements by applying the modified retrospective method. The Company's revenue recognition methods for its contracts with customers prior to the adoption of Topic 606 are consistent with its methods after the adoption of Topic 606. Accordingly, the adoption of the new standard did not result in a transition adjustment to opening retained earnings, and as a result, revenues for contracts with customers would not have been adjusted in prior periods and are not presented herein on an adjusted basis.

The new revenue guidance does not apply to revenue associated with financial instruments, including loans and securities that are accounted for under other U.S. GAAP, and as a result, did not have an impact on the elements of the Company's condensed consolidated statement of comprehensive income most closely associated with financial instruments, including trading income, net and interest and dividend income. The new standard primarily impacts the presentation of the following revenue streams:

- **Commissions, net.** The Company earns commission revenue by acting as an agent on behalf of customers. The Company's performance obligations consist of trade execution and clearing services and are satisfied on the trade date; accordingly, commissions revenues are recorded on the trade date. Commission revenues are paid on settlement date; therefore, a receivable is recognized as of the trade date. Under a commission management program, the Company allows institutional clients to allocate a portion of their gross commissions to pay for research and other services provided by third parties. As the Company acts as an agent in these transactions, it records such expenses on a net basis within Commissions and technology services in the condensed consolidated statements of comprehensive income.
- **Technology services.** The Company's technology services revenues consist of technology licensing fees and agency commission fees. Technology licensing fees are earned from third parties for licensing of the Company's proprietary risk management and trading infrastructure technology and the provision of associated management and hosting services. These fees include both upfront and annual recurring fees as well as, in certain cases, contingent fees based on customer revenues, which represent variable consideration. The services offered under these contracts are delivered as an integrated package and are interdependent and have the same pattern of transfer to the customer; accordingly, the Company measures and recognizes them as a single performance obligation. The performance obligation is satisfied over time, and, therefore, 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 the Company's control and thus it is not probable that a significant reversal of cumulative revenue recognized will not occur. Recurring fees, which exclude variable consideration, are billed and collected on a quarterly basis and are included within Receivables from broker dealers and clearing organizations.

Disaggregation of Revenues

The following tables present the Company's revenue from contracts with customers disaggregated by the services described above, by timing of revenue recognition, reconciled to the Company's reportable segments, as well as disaggregation of the Company's revenues by services and geographic region, for the three months ended March 31, 2018:

(in thousands)	Market Making	Execution Services	Corporate
Revenues from contract with Customers:			
Commissions, net	8,501	43,008	—
Technology services	—	2,335	—
Total revenue from contract with customers	8,501	45,343	—
Other sources of revenue	424,035	338,436	(1,262)
Total Revenues	432,536	383,779	(1,262)
Timing of revenue recognition:			
Services transferred at a point in time	432,536	381,444	(1,262)
Services transferred over time	—	2,335	—
Total Revenues	432,536	383,779	(1,262)

Information on Remaining Performance Obligations and Revenue Recognized

As of March 31, 2018, the aggregate amount of the transaction price allocated to the performance obligations relating to Technology Services 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 contract liability when payment is received, prior to the time at which the satisfaction of the service obligation. We had receivables related to revenues from contracts with customers of \$5.6 million and \$7.1 million as of March 31, 2018 and December 31, 2017.

14. 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 months ended March 31, 2018 and 2017, the income attributable to these noncontrolling interests is reported in the condensed consolidated statements of comprehensive income, but the related U.S. income tax expense attributable to these noncontrolling interests is not reported by the Company as it is the obligation of the individual partners. The Company's provisions for income taxes and effective tax rates were \$58.5 million and 12.5% and \$2.8 million and 11.8% for the three months ended March 31, 2018 and 2017, 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 March 31, 2018 and December 31, 2017 are current income tax receivables of \$103.6 million and \$115.2 million, respectively. The balances primarily comprises the income tax benefit of KCG net operating losses that were generated prior to the Acquisition and that are eligible to be carried back by the Company. Included in Accounts payable and accrued expenses and other liabilities on the condensed consolidated statements of financial condition at March 31, 2018 and December 31, 2017 are current tax liabilities of \$52.6 million and \$7.6 million, respectively. The balances 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 (Note 6 "Tax Receivable Agreements") and the Acquisition of KCG (Note 3 "Acquisition of KCG Holdings, Inc."), differences in the valuation of financial assets and liabilities, and in connection with other temporary differences arising from the deductibility of compensation and depreciation expenses in different time periods for book and income tax return purposes.

There are no expiration dates on the deferred tax assets. The Company's deferred tax asset at March 31, 2018 and December 31, 2017 includes an alternative minimum tax credit carryforward of \$0.6 million and \$0.6 million, respectively,

which can be either be refunded over a period of years or applied against future income tax liability pursuant to the 2017 Tax Act. 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. As a result of the Acquisition of KCG, the Company has non-U.S. net operating losses at March 31, 2018 and December 31, 2017 of \$231.8 million and \$231.8 million, respectively, and has recorded a related deferred tax asset of \$43.5 million and \$43.5 million, respectively. A full valuation allowance was also recorded against this deferred tax asset at March 31, 2018 and December 31, 2017 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 March 31, 2018 and December 31, 2017 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 March 31, 2018, the Company's tax years for 2013 through 2017 and 2010 through 2017 are subject to examination by U.S. and non-U.S. tax authorities, respectively. As a result of the Acquisition of KCG, the Company has assumed any KCG tax exposures. KCG is currently subject to U.S. federal income tax examinations for 2013 through 2017, and to non-U.S. income tax examinations for the tax years 2007 through 2017. In addition, the Company is subject to state and local income tax examinations in various jurisdictions for the tax years 2007 through 2017. The final outcome of these examinations is not yet determinable. However, the Company anticipates that adjustments to the unrecognized tax benefits, if any, will not result in a material change to the financial condition, results of operations and cash flows.

The 2017 Tax Act was signed into law on December 22, 2017 and significantly revises the U.S. corporate income tax by, among other things, lowering the statutory corporate tax rate from 35% to 21%, and eliminating certain deductions. The Company has not completed its determination of the accounting implications of the 2017 Tax Act on its tax accruals. However, the Company has reasonably estimated the effects of the 2017 Tax Act and recorded provisional amounts in our financial statements as of December 31, 2017. The Company recorded a provisional deferred tax expense for the impact of the 2017 Tax Act of approximately \$90.6 million, which is primarily composed of the remeasurement of federal net deferred tax assets as a result of the permanent reduction in the U.S. statutory corporate tax rate to 21% from 35%. During the first quarter of 2018, the Company did not make any adjustments due to the 2017 Tax Act. The Company expects to complete its analysis of the 2017 Tax Act by the third quarter of 2018, which is within the one-year measurement period prescribed by SEC Staff Accounting Bulletin No. 118. As the Company completes its analysis, collects and prepares necessary data, and interprets any additional guidance issued by the U.S. Treasury Department, the IRS, and other standard-setting bodies, it may make adjustments to the provisional amounts. Those adjustments may materially impact the Company's provision for income taxes in the period in which the adjustments are made.

15. Commitments, Contingencies and Guarantees

Legal 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. The Company and its subsidiaries are subject to several of these matters at the present time. 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 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. 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 matters will not 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 for potential claims, including securities actions, against the Company and its respective directors and officers.

In connection with the Acquisition of KCG, a previously filed complaint, which was initially captioned *Greenway v. KCG Holdings, Inc., et al.*, Case No. 2017-421-JTL and filed on behalf of a putative class in Delaware Chancery Court, was recaptioned *Chester County Employees' Retirement Fund v. KCG Holdings, Inc., et al.*, amended and refiled on February 14, 2018 to include claims for the alleged breach of fiduciary duties against former KCG board members, claims against each of Virtu and Jefferies for allegedly aiding and abetting the KCG board members' alleged breaches of fiduciary duty and a claim against Virtu and Jefferies for alleged civil conspiracy. No amount of damages is stated in the amended complaint, which Virtu intends to defend vigorously.

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 securities. In addition, there has been an increased focus by Congress, federal and state regulators, SROs and the media on market structure issues, and in particular, high frequency trading, best execution, internalization, ATS manner of operations, market fragmentation and complexity, colocation, cybersecurity, access to market data feeds and remuneration arrangements, such as payment for order flow and exchange fee structures. The Company has received information requests from various authorities, including the SEC, requesting, among other items, information regarding these market structure matters, to which the Company has responded or is in the process of responding.

The Company is currently the subject of various regulatory reviews and investigations by federal, state and foreign regulators and SROs, including the SEC and the Financial Industry Regulatory Authority. In some instances, these matters may rise to a disciplinary action and/or a civil or administrative action. For example, the Autorité des Marchés Financiers ("AMF") fined the Company's European subsidiary in the amount of €5.0 million (approximately \$5.4 million) based on its allegations that the subsidiary of a predecessor entity engaged in price manipulation and violations of the AMF General Regulation and Euronext Market Rules. The fine was subsequently reduced in 2017 to €3.3 million (approximately \$3.9 million). The Company had fully reserved for the monetary penalty as of March 31, 2018 and anticipates paying the fine during the year ended December 31, 2018.

Indemnification Arrangements

Consistent with standard business practices in the normal course of business, the Company has provided general indemnifications to its managers, officers, directors, employees, and agents against expenses, 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.

16. 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. For details related to the Company's IPO and Reorganization Transactions and other public offerings, refer to Note 16 "Capital structure" in the Company's 2017 Form 10-K.

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. 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, 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.

Acquisition of KCG

On the Closing Date and in connection with the financing of the Acquisition, the Company issued 6,346,155 shares of the Company's Class A common stock to Aranda for an aggregate purchase price of approximately \$99.0 million and 39,725,979 shares of the Company Class A Common Stock to NIH for an aggregate purchase price of approximately \$613.5 million. On August 10, 2017, the Company issued an additional 1,666,666 shares of its Class A Common Stock for an aggregate purchase price of \$26.0 million and an additional 338,124 shares of its Class A Common Stock for an aggregate purchase price of \$5.2 million. See Note 3 "Acquisition of KCG Holdings, Inc." for further details.

Employee Exchanges

In February 2017 and 2018, pursuant to the exchange agreement by and among the Company, Virtu Financial and holders of Virtu Financial common units, certain current and former employees elected to exchange 683,762 and 795,521 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.

As a result of the completion of the IPO, the Reorganization Transactions, the Secondary Offerings, employee exchanges, and the share issuance in connection with the Acquisition, the Company holds approximately 49.1% interest in Virtu Financial at March 31, 2018.

17. Share-based Compensation

Share-based compensation prior to the Company's Reorganization completed on April 15, 2015 and IPO commenced on April 16, 2015:

During the period prior to the Company's Reorganization and IPO, Class A-2 profits interests were issued to Employee Holdco, a holding company that holds the interests on behalf of certain key employees or stakeholders. During the three months ended March 31, 2018 and 2017, the Company recorded expense relating to non-voting common interest units, which were originally granted as Class A-2 profits interests and were reclassified into non-voting common interest units in connection with the Reorganization Transactions. The non-voting common interest units are subject to the same vesting requirements as the prior Class A-2 profits interests, which were either fully vested upon issuance or vested over a period of up to four years, and in each case are subject to repurchase provisions upon certain termination events. These awards were accounted for as equity awards and were measured at fair value at the date of grant. The Company recognized compensation expense related to the vesting of non-voting common interest units (formerly Class A-2 profits interests) of \$0.0 million and \$0.2 million for the three months ended March 31, 2018 and 2017, respectively. As of March 31, 2018 and December 31, 2017, total unrecognized share-based compensation expense related to unvested non-voting common interest units (formerly Class A-2 profits interests), was \$0.0 million and \$0.1 million, respectively; and this amount is expected to be recognized over a weighted average period of 0 and 0.1 years, respectively.

Additionally, Class B interests were issued to Employee Holdco on behalf of certain key employees and stakeholders on various dates prior to the IPO. Class B interests were subject to time based vesting over four years and only fully vested upon the consummation of a qualifying capital transaction by the Company, including an IPO. In connection with the Reorganization Transactions, Class B Interests were reclassified into non-voting common interest units. The Company recognized compensation expense in respect of non-voting common interest units (formerly Class B interests) vested of \$0 and \$0.2 million for the three months ended March 31, 2018 and 2017, respectively. The compensation expense related to non-voting common interest units (formerly Class B interests) was included within charges related to share based compensation at IPO in the condensed consolidated statements of comprehensive income. As of March 31, 2018 and December 31, 2017, total unrecognized share-based compensation expense related to unvested non-voting common interest units (formerly Class B interests) was \$0 and \$0.1 million, respectively; and this amount is expected to be recognized over a weighted average period of 0 and 0.8 years, respectively.

Additionally, in connection with the compensation charges related to non-voting common interest units (formerly Class B interests) mentioned above, the Company capitalized \$0.00 million and \$0.01 million for the three months ended March 31, 2018 and 2017, respectively. The amortization costs related to these capitalized compensation charges and previously capitalized compensation charges related to East MIP Class B interests and Class B interests were approximately \$0.01 million and \$0.0 million for the three months ended March 31, 2018 and 2017, respectively. The costs attributable to employees incurred in development of software for internal use were included within charges related to share based compensation at IPO in the condensed consolidated statements of comprehensive income.

The fair value of the Class A-2 profit and Class B interest was estimated by the Company using an option pricing methodology based on expected volatility, risk-free rates and expected life. Expected volatility is calculated based on companies in the same peer group as the Company.

In connection with the Reorganization Transactions, all Class A-2 profits interests and Class B interests were reclassified into non-voting common interest units. As of March 31, 2018 and December 31, 2017, there were 11,512,297 and 12,301,067 non-voting common interest units outstanding, respectively, and 788,770 and 729,272 non-voting common interest units and corresponding Class C common stock were exchanged into Class A common stock, forfeited or repurchased during the three months ended March 31, 2018 and 2017, respectively.

Share-based compensation after the Company's Reorganization completed on April 15, 2015 and IPO completed on April 16, 2015:

Pursuant to 2015 Management Incentive Plan as described in Note 16 "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 the 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 three months ended March 31, 2018 and 2017:

	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
December 31, 2016	8,234,000	\$ 19.00	8.29	2,058,500	\$ 19.00
Granted	—	—	—	—	—
Exercised	—	—	—	—	—
Forfeited or expired	(195,000)	—	—	—	—
March 31, 2017	<u>8,039,000</u>	\$ 19.00	8.05	2,009,750	\$ 19.00
December 31, 2017	7,783,000	\$ 19.00	7.29	3,891,500	\$ 19.00
Granted	—	—	—	—	—
Exercised	(732,000)	19.00	—	(732,000)	19.00
Forfeited or expired	—	—	—	—	—
March 31, 2018	<u>7,051,000</u>	\$ 19.00	7.05	3,182,000	\$ 19.00

The expected life has been 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.

The Company recognized \$1.4 million and \$1.4 million of compensation expense in relation to the stock options issued and outstanding for the three months ended March 31, 2018 and 2017, respectively. As of March 31, 2018 and December 31, 2017, total unrecognized share-based compensation expense related to unvested stock options was \$6.1 million and \$7.5 million, respectively, and these amounts are to be recognized over a weighted average period of 1.1 and 1.3 years, respectively.

Class A common stock and Restricted Stock Units

Pursuant to the 2015 Management Incentive Plan as described in Note 16 "Capital structure", subsequent to the IPO, shares of immediately vested Class A common stock and restricted stock units were granted, the latter which vest 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 is being recognized on a straight line basis over the vesting period. For the three months ended March 31, 2018, there were 594,536 shares of immediately vested Class A common stock granted as part of 2017 year-end compensation, with a fair value of \$11.3 million which was recorded as an increase to the condensed consolidated statements of changes in equity. In addition, the Company accrued compensation expense of \$3.9 million and \$4.7 million for the three months ended March 31, 2018 and 2017 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 and accrued expenses and other liabilities on the condensed consolidated statements of financial condition.

The following table summarizes activity related to the RSUs:

	Number of Shares	Weighted Average Fair Value
At December 31, 2016	1,573,441	\$ 18.28
Granted	—	—
Forfeited	(95,481)	18.38
Vested	—	—
At March 31, 2017	<u>1,477,960</u>	\$ 18.28
At December 31, 2017	853,047	\$ 17.94
Granted	1,044,690	20.64
Forfeited	(30,626)	18.52
Vested	—	—
At March 31, 2018	<u>1,867,111</u>	\$ 18.85

The Company recognized \$4.0 million and \$2.6 million of compensation expense in relation to the restricted stock units for the three months ended March 31, 2018 and 2017, respectively. As of March 31, 2018 and December 31, 2017, total unrecognized share-based compensation expense related to unvested RSUs was \$34.8 million and \$14.3 million, respectively, and this amount is to be recognized over a weighted average period of 1.9 and 1.5, respectively.

18. Regulatory Requirement

As of March 31, 2018 and December 31, 2017, broker-dealer subsidiaries of the Company are subject to the SEC Uniform Net Capital Rule 15c3-1, which requires the maintenance of minimum net capital of \$1.0 million for each of the three broker-dealer subsidiaries. Pursuant to NYSE and NYSE MKT (formerly NYSE Amex) rules, Virtu Financial Capital Markets LLC was also required to maintain \$3.7 million and \$4.1 million of capital in connection with the operation of its designated market maker ("DMM") business as of March 31, 2018 and December 31, 2017, respectively. The required amount is determined under the exchange rules as the greater of \$1 million or 15% of the market value of 60 trading units for each symbol in which the broker-dealer subsidiary is registered as the DMM.

The regulatory capital and regulatory capital requirements of these subsidiaries as of March 31, 2018 was as follows:

(in thousands)	Regulatory Capital	Regulatory Capital Requirement	Excess Regulatory Capital
Virtu Americas LLC	\$ 411,168	\$ 1,000	\$ 410,168
Virtu Financial BD LLC	88,280	1,000	87,280
Virtu Financial Capital Markets LLC	8,563	4,696	3,867

The regulatory capital and regulatory capital requirements of these subsidiaries as of December 31, 2017 was as follows:

(in thousands)	Regulatory Capital	Regulatory Capital Requirement	Excess Regulatory Capital
Virtu Americas LLC	\$ 379,875	\$ 1,000	\$ 378,875
Virtu Financial BD LLC	40,683	1,000	39,683
Virtu Financial Capital Markets LLC	8,308	5,114	3,194

19. Geographic Information and Business Segments

The Company operates its business in the U.S. and internationally, primarily in Europe and Asia. Significant transactions and balances between geographic regions occur primarily as a result of certain 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 months ended March 31, 2018 and 2017:

(in thousands)	2018	2017
Revenues:		
United States	\$ 743,152	\$ 91,987
Ireland	14,023	28,251
United Kingdom	11,600	—
Singapore	46,200	27,006
Others	78	43
Total revenues	815,053	147,287

Prior to the Acquisition, the Company was managed and operated as one business, and, accordingly, operated under one reportable segment. As a result of the acquisition of KCG, beginning in the third quarter of 2017 the Company has three operating segments: (i) Market Making; (ii) Execution Services; and (iii) Corporate.

The Market Making segment principally consists of market making in the cash, futures and options markets across global equities, options, 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, ECNs and alternative trading systems ATs. 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 Bulletin Board marketplaces operated by the OTC Markets Group Inc. and the AIM.

The Execution Services segment comprises agency-based trading and trading venues, offering execution services in global equities, options, futures and fixed income on behalf of institutions, banks and broker dealers as well as technology services revenues. 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. Agency-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 executing program, block and riskless principal trades in global equities and ETFs; (iii) a fixed income ECN that also offers trading applications; and (iv) an ATS for U.S. equities. Technology licensing fees are earned from third parties for licensing of the Company's proprietary risk management and trading infrastructure technology and the provision of associated management and hosting services.

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 March 31, 2018 and 2017 are summarized in the following table:

(in thousands)	Market Making	Execution Services	Corporate (1)	Consolidated Total
2018:				
Total revenue	\$ 432,536	\$ 383,779	\$ (1,262)	\$ 815,053
Income before income taxes and noncontrolling interest	163,163	331,185	(25,812)	468,536
2017:				
Total revenue	\$ 144,448	\$ 2,779	\$ 60	\$ 147,287
Income (loss) before income taxes and noncontrolling interest	23,465	489	(72)	23,882

(1) Amounts shown in the Corporate segment include eliminations of income statement and balance sheet items included in the Company's other segments.

20. Related Party Transactions

The Company incurs expenses and maintains balances with its affiliates in the ordinary course of business. As of March 31, 2018, and December 31, 2017 the Company had a receivable of \$1.3 million and a receivable of \$0.1 million to its affiliates, respectively.

The Company conducts securities lending transactions with Industrial and Commercial Bank of China ("ICBC"), which is partially owned by Temasek and its affiliates. As of March 31, 2018, the Company had a securities loaned contract of \$0.7 million with ICBC. The Company had a securities borrowed contract of \$23.1 million and a securities loaned contract of \$1.1 million outstanding with ICBC as of December 31, 2017.

The Company purchases network connections services from affiliates of Level 3 Communications ("Level 3"). Temasek and its affiliates have a significant ownership interest in Level 3. For the three months ended March 31, 2018 and 2017, the Company paid \$0.7 million and \$0.7 million, respectively, to Level 3 for these services.

The Company purchases and leases computer equipment and maintenance and support from affiliates of Dell Inc. ("Dell"). Temasek and its affiliates have a significant ownership interest in Dell. For the three months ended March 31, 2018 and 2017, the Company paid \$0.6 million and \$0.8 million, respectively, to Dell for these purchases and leases.

The Company purchases market data and software licenses from affiliates of Markit Group Holdings Limited ("MarkIt"). Temasek and its affiliates have a significant ownership interest in MarkIt. For the three months ended March 31, 2018, the Company paid \$0.4 million to MarkIt for these services. The amount paid to MarkIt was immaterial for the three months ended March 31, 2017.

The Company has held a minority interest in SBI since 2016 (See Note 11 "Financial assets and liabilities"). The Company pays exchange fees to SBI for the trading activities conducted on its proprietary trading system. The Company paid \$2.3 million and \$1.5 million for the three months ended March 31, 2018 and for the period since the completion of the minority interest investment to March 31, 2017, respectively.

The Company makes payments to two JVs (See Note 2, "Summary of Significant Accounting Policies") to fund the construction of the microwave communication networks, and to purchase microwave communication networks, which are recorded within communications and data processing on the condensed consolidated statements of comprehensive income. The Company made payments of \$5.6 million and \$0.1 million to the JVs for the three months ended March 31, 2018 and 2017, respectively.

21. 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 April 13, 2018, the Company received \$39.3 million tax distribution from Virtu Financial.

On April 19, 2018, the Company prepaid \$100.0 million of principal under its Fourth Amended and Restated Credit Agreement, as amended. The total principal outstanding under the senior secured facility is \$524.0 million.

On May 4, 2018, 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 Restricted Stock Unit that will be paid on June 15, 2018 to holders of record as of June 1, 2018.

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

The following management's discussion and analysis covers the three months ended March 31, 2018 and 2017 and should be read in conjunction with the condensed consolidated financial statements of Virtu Financial, Inc. (the "Company") for the three months ended March 31, 2018 and 2017. 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 this quarterly report on Form 10-Q, 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 this quarterly report on Form 10-Q or in Part I "Item 1A. Risk factors" in our 2017 Form 10-K as filed with the Securities and Exchange Commission ("SEC") on March 13, 2018, 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:

- reduced 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;
- 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;
- compliance with laws and regulations, including those specific to our industry;
- obligations to comply with applicable regulatory capital requirements;
- litigation or other legal and regulatory-based liabilities;
- proposed legislation that would impose taxes on certain financial transactions in the European Union, the U.S. and other jurisdictions;
- obligations to comply with laws and regulations applicable to our international operations;
- enhanced media and regulatory scrutiny and its impact upon public perception of us or of companies in our industry;
- need to maintain and continue developing proprietary technologies;
- failure to maintain system security or otherwise maintain confidential and proprietary information;
- the effect of the Acquisition of KCG on existing business relationships, operating results, and ongoing business operations generally;

- the significant costs and significant indebtedness that we incurred in connection with the Acquisition of KCG, and the integration of KCG into our business;
- the risk that we may encounter significant difficulties or delays in integrating the two businesses and that the anticipated benefits, costs savings and synergies or capital release may not be achieved;
- the assumption of potential liabilities relating to KCG's business;
- 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;
- 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, inflation, monetary conditions and foreign currency and 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) and political conditions (such as military actions and terrorist activities);
- risks associated with potential growth and associated corporate actions;
- 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.

Basis of Preparation

Our condensed consolidated financial statements for the three months ended March 31, 2018 reflect our operations and those of our consolidated subsidiaries. As discussed in Note 1 "Organization and basis of presentation" and in Note 3 "Acquisition of KCG Holdings Inc." of Part I Item 1 "Condensed Consolidated Financial Statements (Unaudited)" of this quarterly report on Form 10-Q, we are accounting for the acquisition of KCG Holdings, Inc. ("Acquisition of KCG") under the acquisition method of accounting. Under the acquisition method of accounting, the assets and liabilities of KCG, as of July 20, 2017 (the "Closing Date"), were recorded at their respective fair values and added to the carrying value of our existing assets and liabilities. Our reported financial condition, results of operations and cash flows for the periods following the Acquisition of KCG reflect KCG's and our balances and reflect the impact of purchase accounting adjustments, including revised amortization and depreciation expense for acquired assets. As we are the accounting acquirer, the financial results for the three months ended March 31, 2018 comprise our results and the results of KCG for the three months ended March 31, 2018. All periods prior to the Closing Date comprise solely our results.

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. We believe that our broad diversification, in combination with our proprietary technology platform and low-cost structure, enables us to facilitate risk transfer between global capital markets participants by supplying competitive liquidity and execution services 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 market making 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 and other liquidity centers. Our market data, order routing, transaction processing, risk management and market surveillance technology modules manage our market making activities in an efficient manner and enable us to scale our market making activities globally and 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 like Virtu serve an important role in maintaining and improving the overall health and efficiency of the global capital markets by continuously posting bids and offers for financial instruments and thereby providing market participants a transparent and efficient means to transfer risk. All market participants benefit from the increased liquidity, lower overall trading costs and execution certainty that Virtu provides.

As described in “Acquisition of KCG” below, on the Closing Date, we completed the Acquisition of KCG. KCG was a leading independent securities firm offering clients a range of services designed to address trading needs across asset classes, product types and geographies. KCG combined advanced technology with specialized client service across market making, agency execution and trading venues and also engaged in principal trading via exchange-based electronic market making. KCG offered multiple access points to trade global equities, options, futures, fixed income, currencies and commodities available via voice or electronically.

Prior to the Acquisition of KCG, Virtu operated as a single reportable business segment. As a result of the Acquisition of KCG, beginning in the third quarter of 2017, Virtu has three operating segments: Market Making, Execution Services, and Corporate. Our management allocates resources, assesses performance and manages our business according to these segments:

We believe that the most relevant asset class distinctions and venues for the markets we serve include the following:

Asset Classes	Selected Venues in Which We Make Markets
Americas Equities	BATS, BM&F Bovespa, CHX, CME, MexDer, NASDAQ, NYSE, NYSE Arca, NYSE American, TSX, major private liquidity pools
Rest of World Equities	Amsterdam, Aquis, ASX, BATS Europe, Bolsa de Madrid, Borsa Italiana, Brussels, EUREX, Euronext -Paris, ICE Futures Europe, Johannesburg Stock Exchange, Lisbon, LSE, OSE, SBI Japannext, SGX, SIX Swiss Exchange, TOCOM, TSE
Global FICC, Options, and Other	BOX, BrokerTec, CME, Currenex, EBS, eSpeed, Hotspot, ICE, ICE Futures Europe, LMAX, NASDAQ Energy Exchange, NYSE Arca Options, PHLX, Reuters/Fxall, SGX, TOCOM

Market Making

We provide competitive and deep liquidity that helps to create more efficient markets around the world. We stand ready, at any time, to buy or sell a broad range of securities, and we generate revenue 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 execution technology enables us to provide competitive bids and offers in over 25,000 securities, at over 235 venues, in 36 countries worldwide.

We believe the overall level of volumes and realized volatility in the various markets we serve have the greatest impact on our 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 will increase.

Execution Services

We offer agency execution services and trading venues that provide transparent trading in global equities, ETFs, futures and fixed income to institutions, banks and broker dealers. We generally earn commissions as an agent between principals for transactions. Agency based, execution-only trading in the segment is done primarily 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 orders in Virtu BondPoint (a fixed income ECN, which we sold in January 2018 as further described

in Note 4, Sale of BondPoint) and in Virtu MatchIt (our ATS for U.S. equities), We also earn technology services revenues by providing our proprietary technology and infrastructure to select third parties for a service fee.

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 KCG

On the Closing Date, pursuant to the terms of the Agreement and Plan of Merger, dated as of April 20, 2017 (the "Merger Agreement"), by and among the Company, Orchestra Merger Sub, Inc., a Delaware corporation and an indirect wholly-owned subsidiary of the Company ("Merger Sub"), and KCG, Merger Sub merged with and into KCG (the "Merger"), with KCG surviving the Merger as a wholly owned subsidiary of the Company.

In connection with the financing of the Acquisition, on the Closing Date, the Company issued to (i) Aranda Investments Pte. Ltd. ("Aranda"), an affiliate of Temasek Holding (Private) Limited ("Temasek"), 6,346,155 shares of the Company's Class A common stock, par value \$0.00001 per share (the "Class A Common Stock") for an aggregate purchase price of approximately \$99.0 million and (ii) North Island Holdings I, LP ("NIH") 39,725,979 shares of Class A Common Stock for an aggregate purchase price of approximately \$613.5 million. On August 10, 2017, the Company issued additional 1,666,666 shares and 338,124 shares of Class A Common Stock to Aranda and NIH respectively, for an aggregate additional purchase price of approximately \$26.0 million and \$5.2 million, respectively.

Also in connection with the financing of the Acquisition, on June 16, 2017, Orchestra Borrower LLC (the "Escrow Issuer") a wholly owned subsidiary of Virtu Financial LLC ("Virtu Financial") and Orchestra Co-Issuer, Inc. (the "Co-Issuer") completed the offering of \$500 million aggregate principal amount of 6.750% Senior Secured Second Lien Notes due 2022 (the "Notes") as more fully described under - *Senior Secured Second Lien Notes*. On July 20, 2017, VFH Parent LLC ("VFH") assumed all of the obligations of the Escrow Issuer under the Notes and the indenture governing the Notes.

On June 30, 2017, Virtu Financial and VFH entered into a fourth amended and restated credit agreement (the "Fourth Amended and Restated Credit Agreement") for \$1.15 billion first lien secured term loans with the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent, sole lead arranger and bookrunner, which amended and restated in its entirety VFH's existing credit agreement.

On July 21, 2017, the outstanding 6.875% Senior Secured Notes due 2020 issued by KCG were redeemed at a redemption price equal to 103.438% of the principal amount, plus accrued and unpaid interest, pursuant to the indenture, dated as of March 13, 2015 (as amended, restated, supplemented or otherwise modified), by and among KCG, the subsidiary guarantors party thereto and The Bank of New York Mellon, as trustee and collateral agent.

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 initial public offering in April 2011 (the "IPO") (the "2015 Management Incentive Plan"). The 2015 Management Incentive Plan, which was amended and restated in 2017 (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, 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.

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 vests in equal annual installments over a period of four years from the grant date and expires not later than 10 years from the grant date. Subsequent to the IPO and during the three months ended March 31, 2018, options to purchase 1,444,500 shares in the aggregate were forfeited and 732,000 options were exercised. The fair value of the stock option grants was determined through the application of the Black-Scholes-Merton model and will be recognized on a straight line basis over the vesting period. In connection with and subsequent to the IPO, 1,677,318 shares of immediately vested Class A Common Stock and 2,690,692 restricted stock units were granted, which vest over a period of up to 4 years and are settled in shares of Class A Common Stock. The fair value of the Class A Common Stock and restricted stock units was determined based on the volume weighted average price for the three days preceding the grant, and with respect to the restricted stock units will be recognized on a straight line basis over the vesting period.

Parent Company Financial Information

There are no material differences between our financial statements and the financial statements of Virtu Financial LLC (“Virtu Financial”) except as follows: (i) cash and cash equivalents reflected on our Condensed Consolidated Statement of Financial Condition in the amount of \$59.3 million; (ii) deferred tax assets reflected on our Condensed Consolidated Statement of Financial Condition in the amount of \$122.1 million and tax receivable agreement obligation in the amount of \$147.0 million, in each case as described in greater detail in Note 6 “Tax Receivable Agreements”; (iii) a portion of the member's equity of Virtu Financial is represented as non-controlling interest on our Condensed Consolidated Statement of Financial Condition; and (iv) provision for corporate income tax in the amount of \$52.1 million as reflected on our Condensed Consolidated Statements of Comprehensive Income.

Components of Our Results of Operations

The following tables show the total revenues and Adjusted Net Trading Income by operating segment for the three months ended March 31, 2018 and 2017:

(in thousands)	Three Months Ended March 31,	
	2018	2017
Market Making		
Total revenue	432,536	144,448
Total operating expenses	269,373	123,405
Income before income taxes and noncontrolling interest	163,163	21,043
Execution Services		
Total revenue	383,779	2,779
Total operating expenses	52,593	—
Income before income taxes and noncontrolling interest	331,186	2,779
Corporate		
Total revenue	(1,262)	60
Total operating expenses	24,550	—
Income before income taxes and noncontrolling interest	(25,812)	60
Consolidated		
Total revenue	815,053	147,287
Total operating expenses	346,517	123,405
Income before income taxes and noncontrolling interest	468,536	23,882

(in thousands)	Three Months Ended March 31,	
	2018	2017
Revenues:		
Trading income, net	\$ 406,162	\$ 139,574
Interest and dividends income	17,949	4,874
Commissions, net and technology services	53,844	2,779
Other, net	337,098	60
Total revenue	815,053	147,287
Operating Expenses:		
Brokerage, exchange and clearance fees, net	87,824	52,770
Communication and data processing	49,486	18,207
Employee compensation and payroll taxes	64,670	21,347
Payments for order flow	16,256	—
Interest and dividends expense	33,624	12,280
Operations and administrative	19,919	4,846
Depreciation and amortization	15,339	6,757
Amortization of purchased intangibles and acquired capitalized software	6,851	53
Termination of office leases	19,970	—
Debt issue cost related to debt refinancing	6,021	—
Transaction advisory fees and expenses	7,496	132
Charges related to share based compensation at IPO	14	185
Financing interest expense on long-term borrowings	19,047	6,828
Total operating expenses	346,517	123,405
Income before income taxes and noncontrolling interest	468,536	23,882
Provision for income taxes	58,514	2,808
Net income	\$ 410,022	\$ 21,074

Total Revenues

The majority of our revenue is generated through market making activities and is recorded as trading income, net. In addition, we generate revenues from interest and dividends income as well as the technology services revenue generated by using our proprietary technology to provide technology infrastructure and agency execution services to select third parties. Following the Acquisition of KCG, we also earn commissions and commission equivalents terms, as well as, in certain cases, contingent fees based on client revenues, which represents 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 the Company's control and thus it is not probable that a significant reversal of cumulative revenue recognized will not occur. Recurring fees, which exclude variable consideration, are billed and collected on a monthly basis.

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, in the asset classes we serve. Our trading income is highly diversified by asset class and geography and is comprised of small amounts earned on millions of trades on various exchanges, primarily in the following three categories: Americas Equities, Rest of World Equities, and Global FICC, options and other. Our trading income, net, results from gains and losses associated with economically neutral trading strategies, which are designed to capture small bid ask spreads and often involve making markets in a derivative versus a correlated instrument that is not a derivative. These transactions often result in a gain or loss on the derivative and a corresponding loss or gain on the non-derivative. Trading income, net, accounted for 49.8% and 94.8% of our total revenues for the three months ended March 31, 2018, and 2017, 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 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. Technology services revenues include technology licensing fees and agency commission fees. Technology licensing fees are charged for the licensing of our proprietary technology and the provision of related services, including hosting, management and support. These fees include an up-front component and a recurring fee for the relevant terms, which may include both fixed and variable components. Revenue is recognized ratably for these services over the contractual term of the agreement.

Agency commission fees are charged for agency trades executed by us on behalf of third party broker-dealers, institutions and other financial institutions. We began providing agency execution services in April 2016, and 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 volume executed. Revenues on transactions for which we charge explicit commissions or commission equivalents, which include the majority of our institutional client orders, are included within commissions, net and technology services. Commissions and fees are primarily affected by changes in our equity, fixed income and futures transaction volumes with institutional clients; 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.

Other, Net. In July 2016, we made a minority investment in SBI Japannext Co., Ltd. ("SBI"), a proprietary trading system based in Tokyo. In connection with the investment, we issued bonds to certain affiliates of SBI 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.

We have interests in two telecommunications joint ventures ("JV"). 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. In addition, We also recorded gains or losses on certain one-time transactions within other, net.

Operating Expenses

Brokerage, Exchange and Clearance Fees, Net. Brokerage, exchange and clearance fees 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 and clearance fees 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 trading activity, or volumes, in the markets we serve. Execution fees are paid primarily to exchanges and venues where we trade. Clearance fees are paid to clearing houses and clearing agents. Rebates based on volume discounts, credits or payments received from exchanges or other market places are netted against brokerage, exchange and clearance fees.

Payments for Order Flow. Payments for order flow are a result of the Acquisition of KCG, and they primarily represent payments to broker dealer clients, in the normal course of business, for directing their order flow to us primarily in U.S. equities. Payments for order flow will fluctuate as we modify our rates and as the percentage of our clients with policies not to accept payments for order flow varies. Payments for order flow also fluctuate based on U.S. equity share and option volumes, our profitability and the mix of market orders, limit orders, and customers.

Communication and Data Processing. Communication and data processing represent primarily fixed expenses for leased equipment, equipment co-location, network lines and connectivity for our trading centers and co-location facilities. More specifically, communications expense consists primarily of the cost of voice and data telecommunication lines supporting our business, including connectivity to data centers and exchanges, markets and liquidity pools around the world, and data processing expense consists primarily of market data 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. Subsequent to the completion of a series of reorganization transactions prior to the IPO pursuant to which the Company became the sole managing member of Virtu Financial (the "Reorganization Transactions"). Employee compensation and payroll taxes includes non-cash compensation expenses with respect to the stock options and restricted stock units granted in connection with and subsequent to the IPO pursuant to the 2015 Management Incentive 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, 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 2.5 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 \$1.9 million, \$2.0 million and \$175.0 million of assets acquired in connection with the acquisitions of certain assets from Nyenburgh Holding B.V., Teza Technologies (the "Teza Acquisition") and KCG, respectively. These assets are amortized over their useful lives, ranging from 1 to 17 years, except for certain assets which were categorized as having indefinite useful lives.

Termination of office leases. Termination of office leases represents the one-time expense write-off on the present value of the future lease obligations on the office leases we abandoned in connection with the Acquisition of KCG. The aggregated write-off amount includes legal fees, broker fees and other miscellaneous expense associated with the abandonment.

Debt Issue Costs Related to Debt Refinancing. As a result of the refinancing or early termination of our debt, we accelerate the capitalized debt issue costs and the discount on debt that would otherwise be amortized or accreted over the life of the loan.

Transaction Advisory Fees and Expenses. Transaction advisory fees and expenses primarily reflect professional fees incurred by us in connection with the Company's October 2017 sale of specified assets and assignment of specified liabilities constituting the Company's BondPoint division and fixed income venue ("BondPoint").

Charges Related to Share Based Compensation at IPO. At the consummation of the IPO and through the three months ended March 31, 2018, we recognized non-cash compensation expenses in respect of the outstanding time-vested Class B and East MIP Class B interests, net of capitalization and amortization of costs attributable to employees incurred in development of software for internal use, as defined and discussed in Note 17 "Share-based compensation" of Part I "Financial Information" of this quarterly report on Form 10-Q.

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

Prior to the consummation of the Reorganization Transactions and the IPO, our business was historically operated through a limited liability company that is treated as a partnership for U.S. federal income tax purposes, and as such most of our income was not subject to U.S. federal and certain state income taxes. Our income tax expense for historical periods reflects taxes payable by certain of our non-U.S. subsidiaries. Subsequent to the consummation of the Reorganization Transactions and the IPO, 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 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 mix of jurisdictions to which they relate, changes in how we do business, acquisitions (including the Acquisition of KCG) 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.

Public Law No. 115-97, commonly referred to as the Tax Cuts and Jobs Act (the "2017 Tax Act") was signed into law on December 22, 2017 and significantly revises the U.S. corporate income tax by, among other things, lowering the statutory corporate tax rate from 35% to 21%, and eliminating certain deductions. We have not completed our determination of the accounting implications of the 2017 Tax Act on our tax accruals. However, we have reasonably estimated the effects of the 2017 Tax Act and recorded provisional amounts in our financial statements as of March 31, 2018. We recorded a provisional deferred tax expense for the impact of the 2017 Tax Act of approximately \$90.6 million, which is primarily composed of the remeasurement of federal net deferred tax assets as a result of the permanent reduction in the U.S. statutory corporate tax rate to 21% from 35%. As we complete our analysis of the 2017 Tax Act, collect and prepare necessary data, and interpret any additional guidance issued by the U.S. Treasury Department, the IRS, and other standard-setting bodies, we may make adjustments to the provisional amounts. Those adjustments may materially impact our provision for income taxes in the period in which the adjustments are made.

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 14 "Income taxes" of Part I "Financial Information" 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 ("GAAP"), we use the following 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 and expense, net, less direct costs associated with those revenues, including brokerage, exchange and clearance fees,

net, and payments for order flow. Management believes that this measurement 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 market making 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, 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, reserve for legal matters, transaction advisory fees and expenses, termination of office leases, acquisition related retention bonus, trading related settlement income, other, net, share based compensation, charges related to share based compensation at IPO, 2015 Management Incentive Plan, and charges related to share based compensation at IPO.
- “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 including IPO-related adjustments and other non-cash items, assuming that all vested and unvested Virtu Financial Units have been exchanged for Class A Common Stock, and applying a corporate tax rate of 35.5% to 37%.

Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS are non-GAAP financial measures used by management in evaluating operating performance and in making strategic decisions. Additional information provided regarding the breakdown of total Adjusted Net Trading Income by category is also a non-GAAP financial measure but is not used by the Company in evaluating operating performance and in making strategic decisions. In addition, these non-GAAP financial 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 Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS provide 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. Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS 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 Fourth Amended and Restated 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 and Normalized

Adjusted EPS differently, and as a result our measures of Adjusted Net Trading Income, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS may not be directly comparable to those of other companies. Although we use these 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.

Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS 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 Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS should not be construed as an indication that our future results will be unaffected by unusual or nonrecurring items. Adjusted Net Trading Income, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS and our EBITDA-based 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 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, Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS 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 Adjusted Net Trading Income, EBITDA, Adjusted EBITDA, Normalized Adjusted Net Income, Normalized Adjusted Net Income before income taxes, Normalized provision for income taxes and Normalized Adjusted EPS 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 non-GAAP financial measure to the most directly comparable GAAP measure.

The following tables reconcile condensed consolidated statements of comprehensive income to arrive at EBITDA, Adjusted EBITDA, Adjusted Net Trading Income, and selected Operating Margins.

Reconciliation of Trading income, net to Adjusted Net Trading Income	For the Three Months Ended March 31,	
	2018	2017
Trading income, net	406,162	139,574
Interest and dividends income	17,949	4,874
Commissions, net and technology services	53,844	2,779
Brokerage, exchange and clearance fees, net	(87,824)	(52,770)
Payments for order flow	(16,256)	—
Interest and dividends expense	(33,624)	(12,280)
Adjusted Net Trading Income	340,251	82,177
Reconciliation of Net Income to EBITDA and Adjusted EBITDA		
Net Income	410,022	21,074
Financing interest expense on long-term borrowings	19,047	6,828
Debt issue cost related to debt refinancing	6,021	—
Depreciation and amortization	15,339	6,757
Amortization of purchased intangibles and acquired capitalized software	6,851	53
Provision for Income Taxes	58,514	2,808
EBITDA	515,794	37,520
Severance	3,744	877
Transaction advisory fees and expenses	7,496	132
Termination of office leases	19,970	—
Connectivity early termination	2,500	—
Gain on sale of business	(337,549)	—
Other, net	451	(60)
Equipment write-off	936	—
Share based compensation	7,902	7,579
Charges related to share based compensation at IPO, 2015 Management Incentive Plan	1,398	1,425
Charges related to share based compensation awards at IPO	14	185
Adjusted EBITDA	222,656	47,658
Selected Operating Margins		
Net Income Margin (1)	120.5%	25.6%
EBITDA Margin (2)	151.6%	45.7%
Adjusted EBITDA Margin (3)	65.4%	58.0%

(1) Calculated by dividing net income by Adjusted Net Trading Income.

(2) Calculated by dividing EBITDA by Adjusted Net Trading Income.

(3) Calculated by dividing Adjusted EBITDA by Adjusted Net Trading Income.

The following tables reconcile 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.

(in thousands, except share and per share data)	Three Months Ended March 31,	
	2018	2017
Reconciliation of Net Income to Normalized Adjusted Net Income		
Net income	410,022	21,074
Provision for income taxes	58,514	2,808
Income before income taxes	468,536	23,882
Amortization of purchased intangibles and acquired capitalized software	6,851	53
Debt issue cost related to debt refinancing	6,021	—
Severance	3,744	877
Transaction advisory fees and expenses	7,496	132
Termination of office leases	19,970	—
Connectivity early termination	2,500	—
Gain on sale of business	(337,549)	—
Equipment write-off	936	—
Other, net	451	(60)
Share based compensation	7,902	7,579
Charges related to share based compensation at IPO, 2015 Management Incentive Plan	1,398	1,425
Charges related to share based compensation awards at IPO	14	185
Normalized Adjusted Net Income before income taxes	188,270	34,073
Normalized provision for income taxes ¹	43,302	12,096
Normalized Adjusted Net Income	144,968	21,977
Weighted Average Adjusted shares outstanding (2)	190,056,747	140,837,161
Normalized Adjusted EPS	0.76	0.16

(1) Reflects U.S. federal, state, and local income tax rate applicable to corporations of approximately 35.5% to 37%.

(2) Assumes that (1) holders of all vested and unvested non-vesting common interest units in Virtu Financial ("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 and restricted stock units outstanding under the 2015 Management Incentive Plan during the three months ended March 31, 2018 and 2017.

The following tables reconcile trading income, net to Adjusted Net Trading Income by operating segment (in thousands):

	Three Months Ended March 31, 2018			
	Market Making	Execution Services	Corporate	Total
Trading income, net	\$ 405,709	\$ 453	\$ —	\$ 406,162
Commissions, net and technology services	8,501	45,343	—	53,844
Interest and dividends income	17,769	145	35	17,949
Brokerage, exchange and clearance fees, net	(69,072)	(18,752)	—	(87,824)
Payments for order flow	(16,196)	(60)	—	(16,256)
Interest and dividends expense	(33,207)	(417)	—	(33,624)
Adjusted Net Trading Income	<u>\$ 313,504</u>	<u>\$ 26,712</u>	<u>\$ 35</u>	<u>\$ 340,251</u>

	Three Months Ended March 31, 2017			
	Market Making	Execution Services	Corporate	Total
Trading income, net	\$ 139,574	\$ —	\$ —	\$ 139,574
Commissions, net and technology services	—	2,779	—	2,779
Interest and dividends income	4,874	—	—	4,874
Brokerage, exchange and clearance fees, net	(52,770)	—	—	(52,770)
Payments for order flow	—	—	—	—
Interest and dividends expense	(12,280)	—	—	(12,280)
Adjusted Net Trading Income	<u>\$ 79,398</u>	<u>\$ 2,779</u>	<u>\$ —</u>	<u>\$ 82,177</u>

The following tables show our Adjusted Net Trading Income and average daily Adjusted Net Trading Income by category for the three months ended March 31, 2018 and 2017 (in thousands, except percentages):

Adjusted Net Trading Income by Category:	Three Months Ended March 31,		
	2018	2017	% Change
Market Making:			
Americas Equities	215,696	28,052	669%
ROW Equities	33,351	18,734	78%
Global FICC, Options and Other	66,259	34,130	94%
Unallocated(1)	(1,802)	(1,518)	NM
Total Market Making	313,504	79,398	295%
Execution Services			
Corporate	35	—	NM
Adjusted Net Trading Income	340,251	82,512	312%
Average Daily			
Adjusted Net Trading Income by Category:	Three Months Ended March 31,		
	2018	2017	% Change
Market Making:			
Americas Equities	3,536	452	682%
ROW Equities	547	302	81%
Global FICC, Options and Other	1,086	550	97%
Unallocated(1)	(30)	(24)	NM
Total Market Making	5,139	1,280	301%
Execution Services			
Corporate	1	—	NM
Adjusted Net Trading Income	5,578	1,330	319%

(1) Under our methodology for recording “trading income, net” in our condensed consolidated statements of comprehensive income from Part I “Financial Information” of this quarterly report on Form 10-Q, we recognize revenues based on the exit price of assets and liabilities in accordance with applicable U.S. GAAP rules, and when we calculate Adjusted Net Trading Income for corresponding reporting periods, we start with trading income, net, so calculated. By contrast, when we calculate Adjusted Net Trading Income by category, we do so on a daily basis, and as a result prices used in recognizing revenues may differ. Because we provide liquidity on a global basis, across asset classes and time zones, the timing of any particular Adjusted Net Trading Income calculation may defer or accelerate the amount in a particular category from one day to another, and, at the end of a reporting period, from one reporting period to another. The purpose of the Unallocated category is to ensure that Adjusted Net Trading Income by category sums to total Adjusted Net Trading Income, which can be reconciled to Trading Income, Net, calculated in accordance with GAAP. We do not allocate any resulting differences based on the timing of revenue recognition.

Three Months Ended March 31, 2018 Compared to Three Months Ended March 31, 2017

Total Revenues

Our total revenues increased \$667.8 million, or 453.4%, to \$815.1 million for the three months ended March 31, 2018, compared to \$147.3 million for the three months ended March 31, 2017. This increase was primarily attributable to the Acquisition of KCG, which resulted an increase in trading income, net, of \$266.6 million, increase in commissions, net and technology services of \$51.1 million, and increase in interest and dividend income of \$13.1 million. There was a significant increase in other, net, of \$337.0 million, which was primarily due to the gain on the sale of our BondPoint division and fixed income venue. On January 2, 2018, the Company completed the sale of BondPoint to ICE for total gross proceeds of \$400.2

million in cash, and recognized a gain on sale of \$330.4 million, which is recorded in other, net. The Company incurred one-time professional fees of \$7.1 million related to the sale, which is recorded in transaction advisory fees and expenses.

The following table shows the total revenues by operating segment for the three months ended March 31, 2018 and 2017.

(in thousands, except for percentage)	Three Months Ended March 31,		
	2018	2017	% Change
Market Making			
Trading income, net	\$ 405,709	\$ 139,574	191%
Interest and dividends income	17,769	4,874	265%
Commissions, net and technology services	8,501	—	NM
Other, net	557	—	NM
Total revenues from Market Making	432,536	144,448	199%
Execution Services			
Trading income, net	\$ 453	\$ —	NM
Interest and dividends income	145	—	NM
Commissions, net and technology services	45,343	2,779	1532%
Other, net	337,838	—	NM
Total revenues from Execution Services	383,779	2,779	13710%
Corporate			
Trading income, net	\$ —	\$ —	NM
Interest and dividends income	35	—	NM
Commissions, net and technology services	—	—	NM
Other, net	(1,297)	60	(2262)%
Total revenues from Corporate	(1,262)	60	(2203)%
Consolidated			
Trading income, net	\$ 406,162	\$ 139,574	191%
Interest and dividends income	17,949	4,874	268%
Commissions, net and technology services	53,844	2,779	1838%
Other, net	337,098	60	NM
Total revenues	815,053	147,287	453%

Trading Income, Net. Trading income, net is primarily earned by our Market Making segment. Trading income, net increased \$266.6 million, or 191.0%, to \$406.2 million for the three months ended March 31, 2018, compared to \$139.6 million for the three months ended March 31, 2017. The increase was primarily attributable to the Acquisition of KCG. Rather than analyzing trading income, net, in isolation, we generally evaluate it in the broader context of our Adjusted Net Trading Income, together with interest and dividends income, interest and dividends expense and brokerage, exchange and clearance fees, net, each of which are described below.

Interest and Dividends Income. Interest and dividends income is primarily earned by our Market Making segment. Interest and dividends income increased \$13.1 million, or 268.3%, to \$17.9 million for the three months ended March 31, 2018, compared to \$4.9 million for the three months ended March 31, 2017. This increase was primarily attributable to the Acquisition of KCG. As indicated above, rather than analyzing interest and dividends income in isolation, we generally evaluate it in the broader context of our Adjusted Net Trading Income.

Commissions, Net and Technology Services. Commissions, net and technology services revenues are primarily earned by our Execution Services segment. Commissions, net and technology services revenues increased \$51.1 million, or 1,837.5%, to \$53.8 million for the three months ended March 31, 2018, compared to \$2.8 million for the three months ended March 31, 2017. The increase was primarily due to the Acquisition of KCG, as well as agency fee revenues arising from new customers we on-boarded.

Other, Net. Other, net revenues are primarily earned by our Corporate segment. Other, net increased \$337.0 million, or 561,730.0%, to \$337.1 million for the three months ended March 31, 2018, compared to \$0.1 million for the three months ended March 31, 2017. The increase was primarily due to the gain the sale of BondPoint of \$334.0 million, as discussed in Note 4. “Sale of BondPoint” of Part I “Financial Information” of this quarterly report on Form 10-Q.

Adjusted Net Trading Income

Adjusted Net Trading Income increased \$258.1 million, or 314.0%, to \$340.3 million for the three months ended March 31, 2018, compared to \$82.2 million for the three months ended March 31, 2017. This increase was primarily attributable to the Acquisition of KCG, which resulted in a significant increase in Americas Equities of \$187.6 million, or 668.9%, from the Market Making segment, and a significant increase of \$23.6 million, or 757.8%, from Execution Services for the three months ended March 31, 2018. The number of trading days for the three months ended March 31, 2018 and 2017 were both 64.

Operating Expenses

Our operating expenses increased \$223.1 million, or 180.8%, to \$346.5 million for the three months ended March 31, 2018, compared to \$123.4 million for the three months ended March 31, 2017. The increase in operating expenses was primarily attributable to the Acquisition of KCG, which caused increases in all expense areas except for charges related to share based compensation at IPO.

Brokerage, Exchange and Clearance Fees, Net. Brokerage exchange and clearance fees, net, increased \$35.1 million, or 66.4%, to \$87.8 million for the three months ended March 31, 2018, compared to \$52.8 million for the three months ended March 31, 2017. This increase was primarily attributable to the increases in market volume and volatility traded in Americas Equities instruments in which we make markets as a result of the Acquisition of KCG. As indicated above, rather than analyzing brokerage, exchange and clearance fees, net, in isolation, we generally evaluate it in the broader context of our Adjusted Net Trading Income.

Communication and Data Processing. Communication and data processing expense increased \$31.3 million, or 171.8%, to \$49.5 million for the three months ended March 31, 2018, compared to \$18.2 million for the three months ended March 31, 2017. This increase was primarily due to the Acquisition of KCG, which brought on additional connections, co-location connectivity, market data and other subscriptions, as well as one-time cancellation fees on certain connections or subscriptions. The increase was partially offset by the reductions in connectivity connections as a result of an on-going effort to consolidate various communication and data processing subscriptions.

Employee Compensation and Payroll Taxes. Employee compensation and payroll taxes increased \$43.3 million, or 202.9%, to \$64.7 million for the three months ended March 31, 2018, compared to \$21.3 million for the three months ended March 31, 2017. The increase in compensation levels was primarily attributable to the increase in headcount as a result of the Acquisition of KCG. Incentive compensation is recorded at management’s discretion and is generally accrued in connection with the overall level of profitability. We have capitalized and therefore excluded employee compensation and benefits related to software development of \$7.1 million, and \$2.7 million for the three months ended March 31, 2018, and 2017, respectively.

Payments for order flow. Payments for order flow, which we did not incur prior to the Acquisition of KCG, were \$16.3 million for the three months ended March 31, 2018, and were attributable to the Acquisition of KCG. Payments for order flow primarily represent payments to broker-dealer clients, in the normal course of business, for directing to us their order flow primarily in U.S. equities. Payments for order flow also fluctuate based on U.S. equity share and option volumes, our profitability and the mix of market orders, limit orders, and customer mix.

Interest and Dividends Expense. Interest and dividends expense increased \$21.3 million, or 173.8%, to \$33.6 million for the three months ended March 31, 2018, compared to \$12.3 million for the three months ended March 31, 2017. This increase was primarily attributable to higher interest expense incurred on cash collateral received as part of securities lending transactions resulting from the Acquisition of KCG. 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 \$15.1 million, or 311.0%, to \$19.9 million for the three months ended March 31, 2018, compared to \$4.8 million for the three months ended March 31, 2017. This increase was primarily attributable to the increases in legal and other professional fees resulting from the Acquisition of KCG.

The increase was partially offset by the cancellation of various legal and professional expenses as a result of an on-going effort to consolidate professional services.

Depreciation and Amortization. Depreciation and amortization increased \$8.6 million, or 127.0%, to \$15.3 million for the three months ended March 31, 2018, compared to \$6.8 million for the three months ended March 31, 2017. This increase was primarily attributable to depreciation and amortization of additional assets resulting from the Acquisition of KCG and an increase in capital expenditures on telecommunication, networking and other assets.

Amortization of Purchased Intangibles and Acquired Capitalized Software. Amortization of purchased intangibles and acquired capitalized software increased \$6.8 million, or 12,826.4%, to \$6.9 million for the three months ended March 31, 2018, compared to \$0.1 million for the three months ended March 31, 2017. The increase was primarily due to additional intangible assets recognized as part of purchase price accounting for the acquisition of certain technology assets from Teza Technologies and the Acquisition of KCG in the amount of \$2.0 million and \$175.0 million, respectively.

Termination of Office Leases. Termination of office leases was \$20.0 million for the three months ended March 31, 2018. We abandoned certain offices as an effort of integration and consolidating office space in connection with the Acquisition of KCG. We did not incur such expenses during the three months ended March 31, 2017.

Debt issue cost related to Debt refinancing. Debt issue costs related to debt refinancing increased \$6.0 million, for the three months ended March 31, 2018. The expense was primarily attributable to the acceleration of the debt issue costs associated with the \$276 million prepayment made towards our senior secured first lien term loan, as discussed in Note 10 "Borrowings" of Part I "Financial Information" of this quarterly report on Form 10-Q.

Transaction Advisory Fees and Expenses. Transaction advisory fees and expense increased \$7.4 million, to \$7.5 million for the three months ended March 31, 2018, compared to \$0.1 million for the three months ended March 31, 2017. The expense primarily represents the non-recurring professional fees associated with the sale of BondPoint.

Charges related to share based compensation at IPO. Charges related to share based compensation at IPO decreased \$(0.2) million, or (92.4)%, to \$14,000 for the three months ended March 31, 2018, compared to \$0.2 million for the three months ended March 31, 2017. The decrease was primarily attributable to the fact that certain Class B and East MIP Class B interests became fully vested.

Financing Interest Expense on Long-Term Borrowings. Financing interest expense on long-term borrowings increased \$12.2 million, or 179.0%, to \$19.0 million, compared to \$6.8 million for the three months ended March 31, 2018. This increase was primarily attributable to the increase in outstanding principal as a result from the refinancing of the senior secured first lien term loan and the offering of the Notes, as discussed in Note 10 "Borrowings" of Part I "Financial Information" of this quarterly report on Form 10-Q.

Provision for Income Taxes

Following the consummation of the Reorganization Transactions, 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 increased \$55.7 million, to \$58.5 million for the three months ended March 31, 2018, compared to \$2.8 million for the three months ended March 31, 2017. The increase was primarily due to an increase in expenses as a result of increase in income before income taxes and noncontrolling interest.

Liquidity and Capital Resources

General

As of March 31, 2018, we had \$637.3 million in cash and cash equivalents. These balances are maintained primarily to support operating activities for capital expenditures and for short-term access to liquidity, and for other general corporate purposes. As of March 31, 2018, we had borrowings under our short-term credit facilities of approximately \$131.4 million, borrowing under broker dealer facilities of \$24.5 million, and long-term debt outstanding in an aggregate principal amount of approximately \$1,156.9 million. As of March 31, 2018, our regulatory capital requirements for domestic U.S. subsidiaries were 6.7 million, in aggregate.

The majority of our 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 broker. For purposes of providing additional liquidity, we maintain an uncommitted credit facility with two of our wholly owned broker-dealer subsidiaries. Additionally, we also maintain a revolving credit facility with three of our wholly owned broker-dealer subsidiaries, as discussed in Note 10 "Borrowings" of Part I "Financial Information" of this quarterly report on Form 10-Q.

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 more than 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 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.

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 equityholders of Virtu Financial that are generally equal to 85% of the applicable cash tax savings, if any, that we actually realize as a result of favorable tax attributes that will be 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. We will retain the remaining 15% of any such cash tax savings. We expect that future payments to certain direct or indirect equityholders of Virtu Financial described in Note 6 "Tax Receivable Agreements" to the condensed consolidated financial statements included in Part I "Financial Information" of this quarterly report on Form 10-Q are expected to aggregate to approximately \$147.0 million, ranging from approximately \$0.3 million to \$12.8 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. 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 the cash flow from operations generated by our subsidiaries as well as from excess tax distributions that we receive from our subsidiaries.

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 equityholders of Virtu Financial in amounts equal to the present value of future payments we are obligated to make under the tax receivable agreements. 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 Fourth Amended and Restated Credit Agreement or the indenture governing our Notes 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

Certain of our principal operating subsidiaries are subject to separate regulation and capital requirements in the United States and other jurisdictions. Virtu Financial BD LLC, Virtu Financial Capital Markets LLC and Virtu Americas LLC, which become our subsidiary following the Acquisition of KCG, are registered U.S. broker-dealers, and their primary regulators include the SEC, the Chicago Stock Exchange and FINRA. Virtu Financial Ireland Limited is a registered investment firm under the Market in Financial Instruments Directive, and its primary regulator is the Central Bank of Ireland.

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, the Chicago Stock Exchange and FINRA for certain capital withdrawals. Virtu Financial Capital Markets LLC is also subject to rules set forth by NYSE MKT (formerly NYSE Amex) and is required to maintain a certain level of capital in connection with the operation of its designated market maker business. Virtu Financial Ireland Limited is regulated by the Central Bank of Ireland as an Investment Firm and in accordance with European Union law is required to maintain a minimum amount of regulatory capital based upon its positions, financial conditions, and other factors. In addition to periodic requirements to report its regulatory capital and submit other regulatory reports, Virtu Financial Ireland Limited is required to obtain consent prior to receiving capital contributions or making capital distributions from its regulatory capital. Failure to comply with its regulatory capital requirements could result in regulatory sanction or revocation of its regulatory license. KCG Europe Limited, as an FCA-regulated investment firm is also subject to similar prudential capital requirements.

See Note 18 "Regulatory requirement" of Part I "Financial Information" of this quarterly report on Form 10-Q for a discussion of regulatory capital requirements of our regulated subsidiaries.

Long-Term Borrowings

We maintain various broker-dealer facilities and short-term credit facilities as part of our daily trading operations. See Note 10 "Borrowings" of Part I "Financial Information" of this quarterly report on Form 10-Q for details on the Company's various credit facilities. As of March 31, 2018, the outstanding principal balance on our broker-dealer facilities was \$24.5 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 \$131.4 million, which was netted within receivables from broker dealers and clearing organizations on the condensed consolidated statement of financial condition" of Part I "Financial Information" of this quarterly report on Form 10-Q.

Fourth Amended and Restated Credit Agreement

In connection with the Acquisition of KCG, we entered into the Fourth Amended and Restated Credit Agreement, which amended and restated in its entirety the existing credit agreement. The Fourth Amended and Restated Credit Agreement, provided for a \$540.0 million first lien secured term loan, drawn in its entirety on June 30, 2017, and continued VFH's existing \$100.0 million first lien senior secured revolving credit facility. Also on June 30, 2017, the Escrow Issuer entered into that certain Escrow Credit Agreement with the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent (the "Escrow Credit Agreement"), which provided for a \$610.0 million term loan (the "Escrow Term Loan"), the proceeds of which were deposited into escrow pending the closing of the Acquisition of KCG.

Upon the closing of the Acquisition of KG, the proceeds of the Escrow Term Loan were released to fund in part the consideration for the Acquisition of KCG, the obligations of the Escrow Issuer in respect of the Escrow Term Loan were automatically assumed by VFH, the Escrow Term Loan was deemed to be outstanding under the Fourth Amended and Restated Credit Agreement and the Escrow Credit Agreement and related credit documents automatically terminated and were superseded by the provisions of the Fourth Amended and Restated Credit Agreement. In addition, the first lien senior secured revolving credit facility under the Fourth Amended and Restated Credit Agreement was terminated.

Under the Fourth Amended and Restated Credit Agreement, the \$1,150.0 million aggregate principal amount of first lien senior secured term loans, including the Escrow Term Loan ("the Term Loan Facility"), will mature on December 30, 2021 and will require scheduled annual amortization payments on each of the first four anniversaries of the closing of the Acquisition of KCG in an amount equal to the sum of 7.5% of the original aggregate principal amount of the term loan issued under the Fourth Amended and Restated Credit Agreement and 7.5% of the aggregate principal amount of the Escrow Term Loan outstanding on the closing date of the Acquisition of KCG.

All obligations under the Term Loan Facility are unconditionally guaranteed by Virtu Financial and the Company's existing direct and indirect wholly-owned domestic restricted subsidiaries (including, KCG and its wholly-owned domestic restricted subsidiaries), subject to certain exceptions, including exceptions for our broker dealer subsidiaries and certain immaterial subsidiaries. The Term Loan Facility and related guarantees are secured by first-priority perfected liens, subject to certain exceptions, on substantially all of VFH's and the guarantors' existing and future assets, including substantially all material personal property and a pledge of the capital stock of VFH, the guarantors (other than Virtu Financial) and the direct domestic subsidiaries of VFH and the guarantors and 100% of the non-voting capital stock and up to 65.0% of the voting capital stock of foreign subsidiaries that are directly owned by VFH or any of the guarantors.

The term loans outstanding under the Fourth Amended and Restated Credit Agreement bear interest:

- at VFH's option, at either (a) the greatest of (i) the prime rate in effect, (ii) the NYFRB rate plus 0.50%, (iii) an adjusted LIBOR rate for a Eurodollar borrowing with an interest period of one month plus 1.00%, and (iv) 2.00% plus, in each case, 2.75% per annum (reduced to 2.25% per annum after the repricing transaction in January 2018); or (b) the greater of (i) an adjusted LIBOR rate for the interest period in effect and (ii) 1.00% plus, in each case, 3.75% per annum (reduced to 3.25% per annum after such repricing transaction).

Under the Fourth Amended and Restated Credit Agreement, we must comply on a quarterly basis with:

- a maximum total net leverage ratio of 5.00 to 1.0 with a step-down to (i) 4.25 to 1.0 from and after the fiscal quarter ending March 31, 2019, (ii) 3.50 to 1.0 from and after the fiscal quarter ending March 31, 2020 and (iii) 3.25 to 1.0 from the fiscal quarter ending March 31, 2021 and thereafter; and
- a minimum interest coverage ratio of 2.75 to 1.0, stepping up to 3.00 to 1.0 from and after the fiscal quarter ending March 31, 2019.

The Fourth Amended and Restated Credit Agreement contains certain customary affirmative covenants. The negative covenants in the Fourth Amended and Restated Credit Agreement include, among other things, limitations on our ability to do the following, subject to certain exceptions: (i) incur additional debt; (ii) create liens on certain assets; (iii) make certain loans or investments (including acquisitions); (iv) pay dividends on or make distributions in respect of our capital stock or make other restricted junior payments; (v) consolidate, merge, sell or otherwise dispose of all or substantially all of our assets; (vi) sell or otherwise dispose of assets, including equity interests in our subsidiaries; (vii) enter into certain transactions with our affiliates; (viii) enter into swaps, forwards and similar agreements; (ix) enter into sale-leaseback transactions; (x) restrict liens and subsidiary dividends; (xi) change our fiscal year; and (xii) modify the terms of certain debt agreements.

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

A portion of certain financing costs incurred in connection with the original credit facility that were scheduled to be amortized over the term of the loan, including original issue discount and underwriting and legal fees, were accelerated at the closing of the refinancing.

We were in compliance with all applicable covenants under the Fourth Amended and Restated Credit Agreement as of March 31, 2018.

As of May 7, 2018, we have made total prepayments in the amount of \$626.0 million under the Fourth Amended and Restated Credit Agreement.

Senior Secured Second Lien Notes

On June 16, 2017, the Escrow Issuer and the Co-Issuer completed the offering of \$500 million aggregate principal amount of Notes. The Notes were issued under an Indenture, dated as of June 16, 2017 (the "Indenture"), among the Escrow Issuer, the Co-Issuer and U.S. Bank National Association, as the trustee and collateral agent. The Notes mature on June 15, 2022. Interest on the Notes accrues at 6.750% per annum, payable every six months through maturity on each June 15 and December 15, beginning on December 15, 2017.

On July 20, 2017, VFH assumed all of the obligations of the Escrow Issuer under the Indenture and the Notes. The Notes are guaranteed by Virtu Financial and each of Virtu Financial's wholly-owned domestic restricted subsidiaries that guarantee the Fourth Amended and Restated Credit Agreement, including KCG and certain of its subsidiaries and the Escrow Issuer. We refer to VFH and the Co-Issuer together as, the "Issuers."

The Notes and the related guarantees are secured by second-priority perfected liens on substantially all of the Issuers' and guarantors' existing and future assets, subject to certain exceptions, including all material personal property, a pledge of the capital stock of the Issuers, the guarantors (other than Virtu Financial) and the direct subsidiaries of the Issuers and the guarantors and 100% of the non-voting capital stock and up to 65.0% of the voting capital stock of any now-owned or later-

acquired foreign subsidiaries that are directly owned by the Issuers or any of the guarantors, which assets will also secure obligations under the Fourth Amended and Restated Credit Agreement on a first-priority basis.

The Indenture imposes certain limitations on our ability to (i) incur or guarantee additional indebtedness or issue preferred stock; (ii) pay dividends, make certain investments and make repayments on indebtedness that is subordinated in right of payment to the Notes and make other “restricted payments” (as such term is defined in the Indenture); (iii) create liens on their assets to secure debt; (iv) enter into transactions with affiliates; (v) merge, consolidate or amalgamate with another company; (vi) transfer and sell assets; and (vii) permit restrictions on the payment of dividends by Virtu Financial’s subsidiaries. The Indenture also contains customary events of default, including, among others, payment defaults related to the failure to pay principal or interest on Notes, covenant defaults, final maturity default or cross-acceleration with respect to material indebtedness and certain bankruptcy events.

Prior to June 15, 2019, we may redeem some or all of the Notes at a redemption price equal to 100% of the principal amount plus accrued and unpaid interest, if any, to (but not including) the date of redemption, plus an applicable “make whole” premium (calculated based upon the yield of certain U.S. treasury securities plus 0.50%).

Prior to June 15, 2019, we may redeem up to 35% of the aggregate principal amount of the Notes at a redemption price equal to 106.750% of the principal amount thereof, plus accrued and unpaid interest, if any, to (but not including) the date of redemption with the net cash proceeds from certain equity offerings.

On or after June 15, 2019, we may redeem some or all of the Notes, at the following redemption prices (expressed as percentages of principal amount), plus accrued and unpaid interest to (but not including) the date of redemption, if redeemed during the 12-month period beginning on June 15 of the years indicated below:

Period	Percentage
2019	103.375%
2020	101.688%
2021 and thereafter	100.000%

Upon the occurrence of specified change of control events as defined in the Indenture, we must offer to repurchase the Notes at 101% of the principal amount, plus accrued and unpaid interest, if any, to (but excluding) the purchase date.

We were in compliance with all applicable covenants under the indenture governing our Notes as of March 31, 2018.

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 three months ended March 31, 2018, and 2017 .

Net cash provided by (used in):	Three Months Ended March 31,	
	2018	2017
Operating activities	119,007	32,087
Investing activities	388,671	(5,859)
Financing activities	(405,786)	(43,461)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	2,529	785
Net increase (decrease) in cash, cash equivalents, and restricted cash	104,421	(16,448)

Operating Activities

Net cash provided by operating activities was \$119.0 million for the three months ended March 31, 2018, compared to \$32.1 million for the three months ended March 31, 2017. The increase of \$86.9 million in net cash provided by operating activities was primarily attributable to the Acquisition of KCG, which significantly increased our trading capital.

Investing Activities

Net cash provided by investing activities was \$388.7 million for the three months ended March 31, 2018, compared to net cash used of \$(5.9) million for the three months ended March 31, 2017. The increase of \$394.5 million was primarily attributable to the net cash provided by the proceeds received from the sale of BondPoint, see Note 4 "Sale of BondPoint" of Part I "Financial Information" of this quarterly report on Form 10-Q.

Financing Activities

Net cash used in financing activities was \$(405.8) million for the three months ended March 31, 2018 and net cash used in financing activities of \$(43.5) million for the three months ended March 31, 2017. The increase in usage of \$(362.3) million was primarily attributable to the \$276 million prepayment made under the Fourth Amended and Restated Credit Agreement during the three months ended March 31, 2018.

Off-Balance Sheet Arrangements

We do not invest in any off-balance sheet vehicles that provide liquidity, capital resources, market or credit risk support, or engage in any activities that expose us to any liability that is not reflected in our condensed consolidated financial statements.

Inflation

We believe inflation has not had a material effect on our financial condition, results of operations, or cash flows for three months ended March 31, 2018 and 2017.

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 condensed 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. See Note 11 "Financial assets and liabilities" of the Part I "Financial Information" on the 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. 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 and technology services in the condensed consolidated statements of comprehensive income. The Company recognizes the related revenue when the third party research services are rendered and payments are made.

Technology services revenues consist of fees paid by third parties for licensing of our proprietary risk management and trading infrastructure technology and provision of associated management and hosting services. These fees include both upfront and annual recurring fees, as well as, in certain cases, contingent fees based on client revenues, which represents 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 the Company's control and thus it is not probable that a significant reversal of cumulative revenue recognized will not occur. Recurring fees, which exclude variable consideration, are billed and collected on a monthly basis.

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.

The fair value of awards issued for compensation prior to the Reorganization Transactions and the IPO was determined by management, with the assistance of an independent third party valuation firm, using a projected annual forfeiture rate, where applicable, on the date of grant.

Share-based awards issued for compensation in connection with or subsequent to the Reorganization Transactions and the IPO pursuant to our 2015 Management Incentive Plan were in the form of stock options, Class A common stock and restricted stock units. 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 restricted stock units is determined based on the volume weighted average price for the three days preceding the grant, and with respect to the restricted stock units, a projected annual forfeiture rate. 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. 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 restricted stock units or the exercise of stock options.

Income Taxes and Tax Receivable Agreement Obligations

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.

The 2017 Tax Act significantly changes how the U.S. federal government taxes corporations. The 2017 Tax Act requires significant judgments to be made in interpretation of its provisions and significant estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies could interpret or issue guidance on how provisions of the 2017 Tax Act will be applied or otherwise administered that is different from our interpretation. As we complete our analysis of the 2017 Tax Act, collect and prepare necessary data, and interpret any additional guidance, we may make adjustments to provisional amounts that we have recorded that may materially impact our provision for income taxes in the period in which the adjustments are made.

Our tax receivable agreement obligations are closely tied to our U.S. income tax returns, and may be affected by the aforementioned factors that impact our provision for income taxes and actual tax returns, including the impact of the 2017 Tax Act.

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 tested for impairment on an annual basis and between annual tests whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Goodwill is tested at the reporting unit level, which is defined as an operating segment or one level below the operating segment.

The goodwill impairment test is a two-step process. The first step is used to identify potential impairment and compares the fair value of a reporting unit with its carrying amount, including goodwill. If the carrying amount of a reporting unit exceeds its fair value, the second step of the goodwill impairment test must be performed. The second step is used to measure the amount of impairment loss, if any, and compares the implied fair value of reporting unit goodwill with the carrying amount of that goodwill. If the carrying amount of reporting unit goodwill exceeds the implied fair value of that goodwill, an impairment loss must be recognized in an amount equal to that excess.

We test goodwill for impairment on an annual basis on July 1 and on an interim basis when certain events or circumstances exist. In the impairment test as of July 1, 2017, the primary valuation method used to estimate the fair value of the our reporting unit was the market capitalization approach based on the market price of its Class A Common Stock, which management believes to be an appropriate indicator of its fair value. Following the Acquisition of KCG, the impairment testing is performed for each segment unit.

We amortize finite-lived intangible assets over their estimated useful lives. We test finite-lived intangible assets for impairment annually or 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 “Financial Information” of this quarterly report on Form 10-Q.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT 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 instantaneously 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 Depositary 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 costs.

The market making activities, where we interact with customers, involve taking on 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 "CRO"), 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.

Interest Rate Risk, Derivative Instruments

In the normal course of business, we utilize derivative financial instruments in connection with our proprietary trading activities. We do not designate our derivative financial instruments as hedging instruments under ASC 815 Derivatives and Hedging, other than derivatives used to reduce the impact of fluctuations in foreign exchange rates on our net investment in certain non-U.S. operations as discussed in Note 12 "Derivatives instruments" of Part I "Financial Information" of this quarterly report on Form 10-Q. Instead, we carry our derivative instruments at fair value with gains and losses included in trading income, net, in the accompanying condensed consolidated statements of comprehensive income (loss). 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.

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 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, a 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.

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 (loss) and changes in equity. Our primary currency translation exposures historically relate to net investments in subsidiaries having functional currencies denominated in the Euro.

Market Risk

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 instantaneously 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 Depositary 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 costs.

The market making activities, where we interact with customers, involve taking on 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 CRO, the independent risk group and senior 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 brokers, 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.

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.

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 March 31, 2018 and December 31, 2017 was \$2.9 billion and \$2.7 billion, respectively, in long positions and \$2.8 billion and \$2.4 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 ensure that the Company is not unduly exposed to any extreme events.

The potential change in fair value is estimated to be a gain of \$6.5 million using a hypothetical 10% increase in equity prices as of March 31, 2018, and an estimated loss of \$9.5 million using a hypothetical 10% decrease in equity prices at March 31, 2018. These estimates take into account the offsetting effect of such hypothetical price movements on the fair value of short positions against long positions, the effect on the fair value of options, futures, nonlinear positions and leverage as well as assumed correlations with non-equity asset classes, such as fixed income, commodities and foreign exchange. The Company relies on internally developed systems in order to model and calculate stress risks to a variety of different scenarios.

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.

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, 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 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, (the "Exchange Act")) as of March 31, 2018. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of March 31, 2018, 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 Securities and Exchange Commission'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 March 31, 2018 that has or is reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION**ITEM 1. LEGAL PROCEEDINGS**

The information required by this item is set forth in the "Legal Proceedings" section in Note 15 "Commitment, contingencies and guarantees" to the Company's Condensed Consolidated Financial Statements included in Part I "Financial Information".

ITEM 1A. RISK FACTORS

There have been no material changes to the Risk Factors described in Part I "Item 1A. Risk factors" in our 2017 Form 10-K as filed with the Securities and Exchange Commission ("SEC") on March 13, 2018.

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 non-voting common interest units in Virtu Financial (the "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.

On February 8, 2018, the Company's board of directors authorized a new share repurchase program of up to \$50.0 million in Class A common stock and common units by March 31, 2019. The Company may repurchase shares from time to time in open market transactions, privately negotiated transactions or by other means. Repurchases may also be made under Rule 10b5-1 plans. The timing and amount of repurchase transactions will be determined by the Company's management based on its evaluation of market conditions, share price, legal requirements and other factors. The program may be suspended, modified or discontinued at any time without prior notice. There are no assurances that any further repurchases will actually occur. The following table contains information about the Company's purchases of its Class A common stock during the period from January 1, 2018 to the date of this report (in thousands, except average price paid per share):

Period	Total Number of Shares Purchased	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
January 1, 2018 - January 31, 2018				
Common stock repurchases	—	—	—	—
February 1, 2018 - February 28, 2018				
Common stock repurchases	375,000	29.27	375,000	39,023,750
March 1, 2018 - March 13, 2018				
Common stock repurchases	—	—	—	—
Total Common stock repurchases	<u>375,000</u>	<u>29.27</u>	<u>375,000</u>	<u>39,023,750</u>

Pursuant to the Exchange Agreement, on February 15, 2018, certain current and former employees elected to exchange 420,521 Virtu Financial Units (along with the corresponding shares of our Class C common stock) held directly or on their behalf on a one-for-one basis for shares of our Class A common stock. The shares of our Class A common stock were issued in reliance on the registration exemption contained in Section 4(a)(2) of the Securities Act, on the basis that the transaction did not involve a public offering. No underwriters were involved in the transaction.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

None.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

<u>Exhibit Number</u>	<u>Description</u>
3.1	<u>Amended and Restated Certificate of Incorporation of Virtu Financial, Inc. (incorporated herein by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q, as amended (File No. 001-37352) filed on May 29, 2015).</u>
3.2	<u>Amended and Restated By-laws of Virtu Financial, Inc. (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).</u>
10.1	<u>Amended and Restated Registration Rights Agreement, dated April 20, 2017, by and among Virtu Financial, Inc., TJMT Holdings LLC, Aranda Investments Pte. Ltd., Havelock Fund Investments Pte Ltd., North Island Holdings I, LP and the additional holders named therein (incorporated herein by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q (File No. 001-37352), filed on May 10, 2017).</u>
10.2	<u>Virtu Financial, Inc. 2015 Management Incentive Plan Employee Restricted Stock Unit and Common Stock Award Agreement, dated as of January 23, 2018, by and between Virtu Financial, Inc. and Joseph Molluso (incorporated herein by reference to Exhibit 10.8 to the Company's Annual Report on Form 10-K (File No. 001-37352), filed on March 13, 2018).</u>
10.3	<u>Virtu Financial, Inc. 2015 Management Incentive Plan Employee Restricted Stock Unit and Common Stock Award Agreement, dated as of January 23, 2018, by and between Virtu Financial, Inc. and Douglas A. Cifu (incorporated herein by reference to Exhibit 10.9 to the Company's Annual Report on Form 10-K (File No. 001-37352), filed on March 13, 2018).</u>
10.4	<u>Virtu Financial, Inc. 2015 Amended and Restated Management Incentive Plan Employee Restricted Stock Award Agreement, dated as of February 2, 2018, by and between Virtu Financial, Inc. and Douglas A. Cifu (incorporated herein by reference to Exhibit 10.10 to the Company's Annual Report on Form 10-K (File No. 001-37352), filed on March 13, 2018).</u>
10.5	<u>Amendment No. 1, dated as of January 2, 2018, to the Fourth Amended and Restated Credit Agreement, dated June 30, 2017, by and between Virtu Financial LLC, VFH Parent LLC, the lenders party thereto and JPMorgan Chase Bank, N.A. (incorporated herein by reference to Exhibit 10.29 to the Company's Annual Report on Form 10-K (File No. 001-37352), filed on March 13, 2018).</u>
10.6	<u>Third Amendment, dated as of January 5, 2018, to the Third Amended and Restated Limited Liability Company Agreement of Virtu Financial LLC, dated as of April 15, 2015 (incorporated herein by reference to Exhibit 10.30 to the Company's Annual Report on Form 10-K (File No. 001-37352), filed on March 13, 2018).</u>
10.7*	<u>Employment Agreement, dated as of June 24, 2015, by and between Stephen Cavoli and Virtu Financial Operating LLC.</u>
10.8*	<u>Virtu Financial, Inc. 2015 Management Incentive Plan Employee Restricted Stock Unit Award Agreement, dated as of August 24, 2015, by and between Virtu Financial, Inc. and Stephen Cavoli.</u>
10.9*	<u>Virtu Financial, Inc. 2015 Management Incentive Plan Employee Restricted Stock Unit and Common Stock Award Agreement, dated as of December 31, 2016, by and between Virtu Financial, Inc. and Stephen Cavoli.</u>
10.10*	<u>Virtu Financial, Inc. Amended and Restated 2015 Management Incentive Plan Employee Restricted Stock Unit Agreement, dated as of March 21, 2018, by and between Virtu Financial, Inc. and Joseph Molluso.</u>
31.1*	<u>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.</u>
31.2*	<u>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.</u>
32.1*	<u>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 (furnished herewith).</u>
32.2*	<u>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 (furnished herewith).</u>
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

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* Filed herewith.

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: May 7, 2018

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

DATE: May 7, 2018

By: /s/ Joseph Molluso
Joseph Molluso
Chief Financial Officer



Virtu Financial Operating LLC

900 Third Avenue, 29th Fl. New York, New York 10022 Telephone:

212.418.0100

Facsimile: 212.418.0123

June 24, 2015

Mr. Stephen Cavoli
step_hencav_oli@gmail.com

Dear Stephen:

Virtu Financial Operating LLC, a Delaware limited liability company (the "Company"), is pleased to offer you the position of Senior Vice President, Strategy and Market Development, with a start date of September 28, 2015 (the "Start Date"). This letter is intended to describe the terms and conditions of your employment with the Company, effective your start date, and to welcome you to the Company.

You will report to Douglas A. Cifu, Chief Executive Officer of Virtu Financial. This is a full-time regular position, and you agree to devote all of your business time and attention to the business of the Company and, where appropriate, its affiliates. Your starting salary will be the bi-weekly equivalent of Four Hundred Thousand Dollars (\$400,000) per year, payable in accordance with our normal payroll procedures.

You will also be eligible for discretionary bonuses, in the sole and absolute discretion of the Company. You understand that all bonuses are discretionary and are not considered earned until final approval by the Company, and you must be an employee of the Company or one of its affiliates on the date that bonuses are paid by the Company for such year in order to be eligible for any bonus for such period. For the year ended December 31, 2015, you will receive a minimum bonus of Three Hundred Fifty Thousand (\$350,000), provided you are employed by the Company or any of its affiliates when bonuses are paid for such year.

You will also receive as of your start date a grant (the "Grant") of Restricted Stock Units ("RSUs") in Virtu Financial, Inc. ("VF Inc.") in an amount equal to Two Million Dollars (\$2,000,000) divided by the closing price of VF Inc.'s Class A Common Stock as of your start date, which RSUs shall vest in four equal installments on the first, second, third and fourth anniversaries of your start date, and which grant shall be subject to the approval of VF Inc.'s Compensation Committee and the terms and conditions of VF Inc.'s 2015 Management Incentive Plan and the terms and conditions of the definitive award documentation.

In addition, after any applicable waiting period, you will be eligible for all employee benefits offered by the Company to employees in similar positions. The Company retains the right to modify or change its benefits and compensation policy from time to time, as it deems necessary. The Company also retains the right to assign your employment agreement to a Company affiliate or require that your employment be based in any office of the Company or its affiliates. For avoidance of doubt, the position is exempt from overtime requirements.



At-Will Employment Agreement

Your employment with the Company is "at-will." Therefore, your employment relationship with the Company is for an unspecified duration and can be terminated at any time, with or without cause or notice, for any reason or no reason whatsoever, at the option of either Company or you. This at-will employment relationship cannot be modified by any express or implied contract, either orally or in writing, except as described below. The at-will relationship also cannot be modified by any Company policies, procedures or practices, nor by any subsequent promotions, increases in compensation, performance evaluations, or changes in job duties. The at-will employment relationship will apply to each position you hold with the Company and can only be amended by an express written agreement signed by a Company officer explicitly stating that your employment is no longer at-will.

Company Policies and Agreements

As an employee of the Company, you will be expected to abide by the Company's rules, regulations, policies and practices. In addition, as a condition of your employment, we will ask you to sign a Proprietary Invention Assignment, Noncompetition and Confidentiality Agreement which requires, among other provisions, the assignment of patent rights to any invention made during your employment at the Company. You will also be required to submit satisfactory documentation regarding your identification and right to work in the United States no later than three days after your employment begins.

Mutual Arbitration

You and the Company both knowingly and voluntarily agree to a pre-dispute arbitration clause so that should any controversy or dispute arise in connection with your employment, the cessation of your employment or the interpretation of this offer letter, you and the Company agree to arbitration any and all such claims at a site in New York, before a neutral panel of the American Arbitration Association or JAMS, as dictated by the underlying facts and circumstances giving rise to your claim(s). Where no such forum is required by regulatory rules or directed by a court of competent jurisdiction, such forum shall be selected at the sole discretion of the Company. In the course of any arbitration pursuant to this offer letter, you and the Company agree: (a) to request that a written award be issued by the panel, and (b) that each side is entitled to receive any and all relief they would be entitled to receive in a court proceeding. You and the Company knowingly and voluntarily agree to enter into this arbitration clause and to waive any rights that might otherwise exist to request a jury trial or other court proceeding, except that you agree that the Company may seek and obtain from a court any injunctive or equitable relief necessary to maintain (and/or to restore) the status quo or to prevent the possibility of irreversible or irreparable harm pending final resolution of mediation, arbitration or court proceedings, as applicable. The agreement between you and the Company to arbitrate disputes includes, but is not limited to, any claims of unlawful discrimination and/or unlawful harassment under Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Americans with Disabilities Act, the New York Civil Rights Laws, the New York Executive Law, the New York City Human Rights Law, or any other federal, state or local law relating to discrimination in employment and any claims relating to wage and hour claims and any other statutory or common law claims.

Verification of Resume and Job Application

You hereby certify that the information contained in your resume and on any documents or in any statements that you have provided to the Company is true and correct to the best of your knowledge. You further authorize the Company to have such information verified and to contact individuals concerning your previous employment and any other pertinent information that they may have. Further, you release all parties and persons from any and all liability for any damages that may result from furnishing such information to the



Company as well as from any use or disclosure of such information by the Company or any of its agents, employees, or representatives. You understand that any misinterpretation, falsification, or material omission of information on this application may result in your failure to receive an offer or, if you are hired, your immediate dismissal from employment, and that this offer is subject to revocation in the event that you have provided fraudulent information during the hiring process, or we discover adverse information in the course of our background check.

You also understand that all offers of employment are conditioned on the Company's receipt of satisfactory responses to reference requests, the provision of satisfactory proof of your identity and legal authority to work in the United States, and completion of a satisfactory background check.

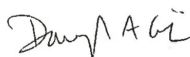
You agree that you will not disparage the Company, its members, officers, directors, employees or independent contractors in any manner harmful to its business or personal reputation, and you agree to keep confidential any non-public information regarding the Company, its members, officers, directors, employees or independent contractors. You also agree that you will perform your job duties to the best of your abilities at all times. You agree that you will not disclose any confidential proprietary information or trade secrets acquired during your employment with the Company and that this obligation shall continue after your employment with the Company ends.

This letter and the Proprietary Invention Assignment, Noncompetition and Confidentiality Agreement, incorporated by reference herein, set forth the terms of your employment with the Company and supersede any and all prior and contemporaneous negotiations, representations, understandings and agreements, express or implied, whether written or oral. This letter may not be modified or amended, except by a written agreement signed by you and a Company officer.

To acknowledge acceptance of the terms above, please sign a copy of this letter and fax it to the Company's General Counsel, Justin Waldie, at (212) 418-0123, or return via email to jwaldie@virtu.com. If you have any questions regarding your employment here at Virtu Financial Operating LLC, please feel free to call Justin at (212) 418-0113.


Stephen, we are excited about you joining our team. We all look forward to working with you!

Very truly yours,


 Douglas A. Cifu
 Chief Executive Officer

AGREED TO AND ACCEPTED:

Signature:



Print Name:

STEPHEN J CAVOLI

Date:

6/24/2015

VIRTU FINANCIAL, INC.
2015 MANAGEMENT INCENTIVE PLAN EMPLOYEE
RESTRICTED STOCK UNIT AWARD AGREEMENT

THIS RESTRICTED STOCK UNIT AWARD AGREEMENT (the "Agreement"), is entered into as of August 24, 2015 (the "Date of Grant"), by and between Virtu Financial, Inc., a Delaware corporation (the "Company"), and Stephen Cavoli (the "Participant").

WHEREAS, the Company has adopted the Virtu Financial, Inc. 2015 Management Incentive Plan (the "Plan"), pursuant to which Restricted Stock Units ("RSUs") may be granted; and

WHEREAS, the Board of Directors of the Company has determined that it is in the best interests of the Company and its stockholders to grant the RSUs provided for herein to the Participant subject to the terms set forth herein.

NOW, THEREFORE, for and in consideration of the premises and the covenants of the parties contained in this Agreement, and for other good and valuable consideration, the receipt of which is hereby acknowledged, the parties hereto, for themselves, their successors and assigns, hereby agree as follows:

1. Grant of Restricted Stock Units.

(a) Grant. The Company hereby grants to the Participant a total of 93,765 RSUs, on the terms and conditions set forth in this Agreement and as otherwise provided in the Plan. The RSUs shall vest in accordance with Section 2. The RSUs shall be credited to a separate book-entry account maintained for the Participant on the books of the Company.

(b) Incorporation by Reference. The provisions of the Plan are incorporated herein by reference. Except as otherwise expressly set forth herein, this Agreement shall be construed in accordance with the provisions of the Plan and any interpretations, amendments, rules and regulations promulgated by the Committee from time to time pursuant to the Plan. Any capitalized terms not otherwise defined in this Agreement shall have the definitions set forth in the Plan. The Committee shall have final authority to interpret and construe the Plan and this Agreement and to make any and all determinations under them, and its decision shall be binding and conclusive upon the Participant and his legal representative in respect of any questions arising under the Plan or this Agreement. The Participant acknowledges that he has received a copy of the Plan and has had an opportunity to review the Plan and agrees to be bound by all the terms and provisions of the Plan.

2. Vesting; Settlement.

(a) Except as may otherwise be provided herein, subject to the Participant's continued employment or service with the Company or an Affiliate, the RSUs shall vest in equal installments on each of the first four (4) anniversaries of the Date of Grant (each such date, a "Vesting Date"). Upon each Vesting Date, such portion of the RSUs that vest on such date shall no longer be subject to the transfer restrictions pursuant to Section 9(a) hereof or cancellation pursuant to Section 4 hereof. Any fractional RSUs resulting from the application of the vesting schedule shall be aggregated and the RSUs resulting from such aggregation shall vest on the final Vesting Date.

(b) Vested RSUs shall be settled within ten (10) days following the Vesting Date for such RSUs in shares of Class A Common Stock, or cash, as determined by the Committee in its sole discretion.

3. Dividend Equivalents. In the event of any issuance of a cash dividend on the shares of Class A Common Stock (a "Dividend"), the Participant shall be credited, as of the payment date for such Dividend, with an additional number of RSUs (each, an "Additional RSU") equal to the quotient obtained by dividing (a) the product of (i) the number of RSUs granted pursuant to this Agreement and outstanding as of the record date for such Dividend multiplied by (ii) the amount of the Dividend per share, divided by (b) the Fair Market Value per share on the payment date for such Dividend, such quotient to be rounded to the nearest hundredth. Once credited, each Additional RSU shall be treated as an RSU granted hereunder and shall be subject to all terms and conditions set forth in this Agreement and the Plan.

4. Termination of Employment or Service.

If the Participant's employment or service with the Company and its Affiliates terminates for any reason, all unvested RSUs shall be cancelled immediately and the Participant shall not be entitled to receive any payments with respect thereto.

5. Rights as a Stockholder. The Participant shall not be deemed for any purpose to be the owner of any shares of Class A Common Stock underlying the RSUs unless, until and to the extent that (i) the Company shall have issued and delivered to the Participant the shares of Class A Common Stock underlying the RSUs and (ii) the Participant's name shall have been entered as a stockholder of record with respect to such shares of Class A Common Stock on the books of the Company. The Company shall cause the actions described in clauses (i) and (ii) of the preceding sentence to occur promptly following settlement as contemplated by this Agreement, subject to compliance with applicable laws.

6. Compliance with Legal Requirements.

(a) Generally. The granting and settlement of the RSUs, and any other obligations of the Company under this Agreement, shall be subject to all applicable U.S. federal, state and local laws, rules and regulations, all applicable non-U.S. laws, rules and regulations and to such approvals by any regulatory or governmental agency as may be required. The Participant agrees to take all steps the Committee or the Company determines are reasonably necessary to comply with all applicable provisions of U.S. federal and state securities law and non-U.S. securities law in exercising his rights under this Agreement.

(b) Taxes and Withholding. Vesting and settlement of the RSUs shall be subject to the Participant satisfying any applicable U.S. federal, state and local tax withholding obligations and non U.S. tax withholding obligations. The Company shall have the right and is hereby authorized to withhold from any amounts payable to the Participant in connection with the RSUs or otherwise the amount of any required withholding taxes in respect of the RSUs, their settlement or any payment or transfer of the RSUs and to take any such other action as the Committee or the Company deem necessary to satisfy all obligations for the payment of such withholding taxes. In its sole discretion, the Company may permit the Participant to satisfy, in whole or in part, the tax obligations by withholding shares of Class A Common Stock that would otherwise be deliverable to the Participant upon settlement of the RSUs with a Fair Market Value equal to such withholding liability.

7. Clawback. Notwithstanding anything to the contrary contained herein, the Committee may cancel the RSU award if the Participant, without the consent of the Company, has engaged in or engages in activity that is in conflict with or adverse to the interest of the Company or any Affiliate while employed by or providing services to the Company or any Affiliate, including fraud or conduct contributing to any financial restatements or irregularities, or violates a non-competition, non-solicitation, non-disparagement or non-disclosure covenant or agreement with the Company or any Affiliate, including for the avoidance of doubt Exhibit A to this Agreement, as determined by the Committee. In

such event, the Participant will forfeit any compensation, gain or other value realized thereafter on the vesting or settlement of the RSUs, the sale or other transfer of the RSUs, or the sale of shares of Class A Common Stock acquired in respect of the RSUs, and must promptly repay such amounts to the Company. If the Participant receives any amount in excess of what the Participant should have received under the terms of the RSUs for any reason (including without limitation by reason of a financial restatement, mistake in calculations or other administrative error), all as determined by the Committee, then the Participant shall be required to promptly repay any such excess amount to the Company. To the extent required by applicable law and/or the rules and regulations of NASDAQ or any other securities exchange or inter-dealer quotation system on which the Class A Common Stock is listed or quoted, or if so required pursuant to a written policy adopted by the Company, the RSUs shall be subject (including on a retroactive basis) to clawback, forfeiture or similar requirements (and such requirements shall be deemed incorporated by reference into this Agreement).

8. Restrictive Covenants.

(a) The Participant shall be subject to the confidentiality and restrictive covenants set forth on Exhibit A attached hereto.

(b) In the event that the Participant violates any of the restrictive covenants referred to in this Section 8, in addition to any other remedy which may be available at law or in equity, the RSUs shall be automatically forfeited effective as of the date on which such violation first occurs. The foregoing rights and remedies are in addition to any other rights and remedies that may be available to the Company and shall not prevent (and the Participant shall not assert that they shall prevent) the Company from bringing one or more actions in any applicable jurisdiction to recover damages as a result of the Participant's breach of such restrictive covenants.

9. Miscellaneous.

(a) Transferability. The RSUs may not be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered (a "Transfer") by the Participant other than by will or by the laws of descent and distribution, pursuant to a qualified domestic relations order or as otherwise permitted under Section 15(b) of the Plan. Any attempted Transfer of the RSUs contrary to the provisions hereof, and the levy of any execution, attachment or similar process upon the RSUs, shall be null and void and without effect.

(b) Waiver. Any right of the Company contained in this Agreement may be waived in writing by the Committee. No waiver of any right hereunder by any party shall operate as a waiver of any other right, or as a waiver of the same right with respect to any subsequent occasion for its exercise, or as a waiver of any right to damages. No waiver by any party of any breach of this Agreement shall be held to constitute a waiver of any other breach or a waiver of the continuation of the same breach.

(c) Section 409A. The RSUs are intended to be exempt from, or compliant with, Section 409A of the Code. Notwithstanding the foregoing or any provision of the Plan or this Agreement, if any provision of the Plan or this Agreement contravenes Section 409A of the Code or could cause the Participant to incur any tax, interest or penalties under Section 409A of the Code, the Committee may, in its sole discretion and without the Participant's consent, modify such provision to (i) comply with, or avoid being subject to, Section 409A of the Code, or to avoid the incurrence of taxes, interest and penalties under Section 409A of the Code, and/or (ii) maintain, to the maximum extent practicable, the original intent and economic benefit to the Participant of the applicable provision without materially increasing the cost to the Company or contravening the provisions of Section 409A of the Code. This Section 9(c) does not create an obligation on the part of the Company to modify the Plan or this

Agreement and does not guarantee that the RSUs will not be subject to interest and penalties under Section 409A.

(d) General Assets. All amounts credited in respect of the RSUs to the book-entry account under this Agreement shall continue for all purposes to be part of the general assets of the Company. The Participant's interest in such account shall make the Participant only a general, unsecured creditor of the Company.

(e) Notices. Any notices provided for in this Agreement or the Plan shall be in writing and shall be deemed sufficiently given if either hand delivered or if sent by fax, pdf/email or overnight courier, or by postage paid first class mail. Notices sent by mail shall be deemed received three business days after mailing but in no event later than the date of actual receipt. Notices shall be directed, if to the Participant, at the Participant's address indicated by the Company's records, or if to the Company, to the attention of the General Counsel at the Company's principal executive office.

(f) Severability. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, and each other provision of this Agreement shall be severable and enforceable to the extent permitted by law.

(g) No Rights to Employment or Service. Nothing contained in this Agreement shall be construed as giving the Participant any right to be retained, in any position, as an employee, consultant or director of the Company or its Affiliates or shall interfere with or restrict in any way the rights of the Company or its Affiliates, which are hereby expressly reserved, to remove, terminate or discharge the Participant at any time for any reason whatsoever.

(h) Fractional Shares. In lieu of issuing a fraction of a share of Class A Common Stock resulting from adjustment of the RSUs pursuant to Section 12 of the Plan or otherwise, the Company shall be entitled to pay to the Participant an amount in cash equal to the Fair Market Value of such fractional share.

(i) Beneficiary. The Participant may file with the Committee a written designation of a beneficiary on such form as may be prescribed by the Committee and may, from time to time, amend or revoke such designation.

(i) Successors. The terms of this Agreement shall be binding upon and inure to the benefit of the Company and its successors and assigns, and of the Participant and the beneficiaries, executors, administrators, heirs and successors of the Participant.

(k) Entire Agreement. This Agreement and the Plan contain the entire agreement and understanding of the parties hereto with respect to the subject matter contained herein and supersede all prior communications, representations and negotiations in respect thereto. No change, modification or waiver of any provision of this Agreement shall be valid unless the same be in writing and signed by the parties hereto, except for any changes permitted without consent under Section 12 or 14 of the Plan.

(l) Governing Law and Venue. This Agreement shall be construed and interpreted in accordance with the laws of the State of Delaware, without regard to principles of conflicts of laws thereof, or principles of conflicts of laws of any other jurisdiction which could cause the application of the laws of any jurisdiction other than the State of Delaware.

(i) Dispute Resolution; Consent to Jurisdiction. All disputes between or among any Persons arising out of or in any way connected with the Plan, this Agreement or the RSUs shall

be solely and finally settled by the Committee, acting in good faith, the determination of which shall be final. Any matters not covered by the preceding sentence shall be solely and finally settled in accordance with the Plan, and the Participant and the Company consent to the personal jurisdiction of the United States Federal and state courts sitting in Wilmington, Delaware as the exclusive jurisdiction with respect to matters arising out of or related to the enforcement of the Committee's determinations and resolution of matters, if any, related to the Plan or this Agreement not required to be resolved by the Committee. Each such Person hereby irrevocably consents to the service of process of any of the aforementioned courts in any such suit, action or proceeding by the mailing of copies thereof by registered or certified mail, postage prepaid, to the last known address of such Person, such service to become effective ten (10) days after such mailing.

(ii) Waiver of Jury Trial. Each party hereto hereby waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in any legal proceeding directly or indirectly arising out of or relating to this Agreement or the transactions contemplated (whether based on contract, tort or any other theory). Each party hereto (A) certifies that no representative, agent or attorney of any other party has represented, expressly or otherwise, that such other party would not, in the event of litigation, seek to enforce the foregoing waiver and (B) acknowledges that it and the other parties hereto have been induced to enter into this Agreement by, among other things, the mutual waivers and certifications in this section.

(m) Headings; Gender. The headings of the Sections hereof are provided for convenience only and are not to serve as a basis for interpretation or construction, and shall not constitute a part, of this Agreement. Masculine pronouns and other words of masculine gender shall refer to both men and women as appropriate.

(n) Counterparts. This Agreement may be executed in one or more counterparts (including via facsimile and electronic image scan (pdf)), each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other parties.


(o) Electronic Signature and Delivery. This Agreement may be accepted by return signature or by electronic confirmation. By accepting this Agreement, the Participant consents to the electronic delivery of prospectuses, annual reports and other information required to be delivered by U.S. Securities and Exchange Commission rules (which consent may be revoked in writing by the Participant at any time upon three business days' notice to the Company, in which case subsequent prospectuses, annual reports and other information will be delivered in hard copy to the Participant).

(p) Electronic Participation in Plan. The Company may, in its sole discretion, decide to deliver any documents related to current or future participation in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through an on-line or electronic system established and maintained by the Company or a third party designated by the Company.

[Remainder of page intentionally blank]

IN WITNESS WHEREOF, this Agreement has been executed by the Company and the Participant as of the day first written above.

VIRTU FINANCIAL, INC.

By: 
Name: Douglas A. Cifu
Title: Chief Executive Officer

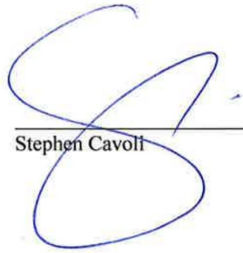

Stephen Cavoli

Exhibit A

I. Confidentiality.

- a. The Participant shall, and shall direct his or her Affiliates and their respective directors, officers, members, stockholders, partners, employees, attorneys, accountants, consultants, trustees and other advisors (the "**Participant Parties**") who have access to Confidential Information to keep confidential and not disclose any Confidential Information to any Person, other than a Participant Party who agrees to keep such Confidential Information confidential in accordance with this Section of this Exhibit A, without the express consent of the Company, unless:
 - i. such disclosure shall be required by applicable law;
 - ii. such disclosure is reasonably required in connection with any tax audit involving the Company or its Affiliates;
 - iii. such disclosure is reasonably required in connection with any litigation against or involving the Company; or
 - iv. such disclosure is reasonably required in connection with any proposed Transfer of all or any part of the Participant's RSUs; provided that with respect to any such use of any Confidential Information referred to in this clause (iv), advance notice must be given to the Company so that it may require any proposed transferee to enter into a confidentiality agreement with terms substantially similar to the terms of this Section 1 of this Exhibit A (excluding this clause (iv)) prior to the disclosure of such Confidential Information.
- b. In the event that the Participant or any Participant Party is required to disclose any of the Confidential Information, the Participant shall use reasonable efforts to provide the Company with prompt written notice so that the Company may seek a protective order or other appropriate remedy and/or waive compliance with the provisions of this Agreement, and the Participant shall use reasonable efforts to cooperate with the Company in any effort the Company undertakes to obtain a protective order or other remedy. In the event that such protective order or other remedy is not obtained, or that the Company waives compliance with the provisions of this Section 1 of Exhibit A, the Participant and the Participant Parties shall furnish only that portion of the Confidential Information that is legally required and shall exercise all reasonable efforts to obtain reasonably reliable assurance that the Confidential Information shall be accorded confidential treatment.
- c. Notwithstanding anything in this Agreement to the contrary, the Participant may disclose to any subsequent employer the restrictions to which the Participant is subject pursuant to this Agreement.

2. Non-Compete; Non-Solicit; Non-Disparagement. During the Restrictive Covenant Period, the Participant:

- a. shall not directly or indirectly engage in any Competitive Activity;

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- b. shall not directly or indirectly solicit, or assist any other Person to solicit, as an employee or consultant, any employee, former employee or member of the Company, Virtu Financial LLC or any of their respective Affiliates (the "**Company Parties**");
 - c. shall not, and shall cause his or her controlled Affiliates not to, hire, or assist any other Person to hire, as an employee or consultant, any employee, former employee, member or retired member of the Company Parties; and
 - d. shall not take, and shall take reasonable steps to cause his or her Affiliates not to take, any action or make any public statement, whether or not in writing, that disparages or denigrates the Company Parties or their respective directors, officers, employees, members, representatives and agents; provided, however, that nothing in this Section 2(d) of this Exhibit A shall prevent the Participant from (i) testifying truthfully in any legal or administrative proceeding if such testimony is compelled or requested or (ii) complying with applicable legal requirements.
3. Enforcement of Covenants. The Participant agrees that (i) the agreements and covenants contained in Section 2 of this Exhibit A are reasonable in scope and duration and necessary to protect and preserve the Company Parties' legitimate business interests and to prevent any unfair advantage conferred on the Participant taking into account, and in specific consideration of, the undertakings and obligations of the parties under the Agreement, (ii) but for the Participant's agreement to be bound by the agreements and covenants contained under Section 2 of this Exhibit A, the Company Parties would not have entered into or consummated those transactions contemplated by the Agreement, and (iii) irreparable harm would result to the Company Parties as a result of a violation or breach (or potential violation or breach) by the Participant (or his or her Affiliates) of Section 2 of this Exhibit A and the Company Parties shall have the right to specifically enforce the provisions of Section 2 of this Exhibit A in any federal court located in the State of Delaware or any Delaware state court, in addition to any other remedy to which they are entitled at law or in equity. If a final judgment of a court of competent jurisdiction or other Governmental Authority determines that any term, provision, covenant or restriction contained in Section 2 of this Exhibit A is invalid or unenforceable, then the parties hereto agree that the court of competent jurisdiction or other Governmental Authority will have the power to modify Section 2 of this Exhibit A (including by reducing the scope, duration or geographic area of the term or provision, deleting specific words or phrases or replacing any invalid or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision) so as to effect the original intention of the invalid or unenforceable term or provision. To the fullest extent permitted by law, in the event that any proceeding is brought under or in connection with Section 2 of this Exhibit A, the prevailing party in such proceeding (whether at final or on appeal) shall be entitled to recover from the other party all costs, expenses, and reasonable attorneys' fees incident to any such proceeding. The term "prevailing party" as used herein means the party in whose favor the final judgment or award is entered in any such proceeding.
4. Certain Definitions
- a. "**Algorithmic Liquidity Trading**" means trading Financial Assets through the use of an electronically automated trading system that generates order sets (which, for purposes of clarity, can consist of a single order) with the intention of (i) creating profit by providing two-sided liquidity to the market, (ii) making a profit margin consistent with the business of making the bid offer spread or less per unit of the Financial Asset(s) being traded (including by providing either one-sided or two sided liquidity to the market), or (iii) creating Simultaneous order sets that are generated with the intention of locking in an Arbitrage profit. For the avoidance of doubt, "Algorithmic Liquidity Trading" does not include trading in which an Order or Orders are

manually generated and submitted for execution by a natural person (including, without limitation, Stop Orders, Limit Orders, Volume-Weighted Average Price Orders and other common Order types that may involve multiple instructions to a third party and which may involve such third party employing an algorithm in executing the Order provided the algorithm executes only on one side of the market as a "buy" or "sell" Order, and including a portfolio rebalancing Order (which for the avoidance of doubt may involve both a "buy" and a "sell" component within a single Order)).

- b. "**Arbitrage**" means arbitrage consistent with the practice of high frequency trading.
- c. "**Competitive Activity**" means (i) serving as a director, officer, employee, trader, manager, consultant, agent or advisor of, or otherwise directly or through an Affiliate providing services to a Competitive Enterprise; (ii) designing or developing any Competitive Technology; (iii) directly or through an Affiliate (A) engaging in Strategy Competition or (B) retaining or otherwise engaging any other Person to undertake any of the actions described in clauses (i), (ii), (iii)(A) or (iv) of this definition; (iv) serving as a director, officer, employee, trader, manager, consultant, agent or advisor of, or otherwise directly or through an Affiliate providing services to any business, financial institution, investment bank or other business enterprise (in any form, including without limitation as a corporation, partnership, limited liability company or other Person) that is, or whose Affiliate is, engaged in Strategy Competition, in each case except in a capacity that does not involve or require the Participant to engage in any activities described in clauses (i), (ii) or (iii) of this definition above or have any direct management oversight of or involvement in Strategy Competition; (v) acquiring directly or through an Affiliate in the aggregate directly or beneficially, whether as a shareholder, partner, member or otherwise, any equity (including stock options or warrants, whether or not exercisable), voting or profit participation interests (collectively, "**Ownership Interests**") in a Competitive Enterprise, or any derivative where the reference asset is an Ownership Interest in a Competitive Enterprise, other than a passive investment of not more than, as calculated at the time of acquisition (but after giving effect to any transaction or transactions to occur in connection with such acquisition), 1% (measured by voting power or value, whichever is greater) of the fully diluted Ownership Interests of a Competitive Enterprise (for the avoidance of doubt, such percentage interest shall be calculated based on the Participant's percentage of direct and indirect ownership of the Competitive Enterprise and not any intermediary, such as a holding company or partnership) (it being understood that this clause (v) shall not apply to prohibit the holding of an Ownership Interest if, at the time of acquisition of such Ownership Interest, the Person in which such direct or indirect Ownership Interest is acquired is not a Competitive Enterprise and the Participant is not aware at the time of such acquisition, after reasonable inquiry, that such Person has any plans to become a Competitive Enterprise); or (vi) directly or through an Affiliate owning any Ownership Interests in any Person listed in Schedule I of this Exhibit A (or any parent company or entity of a Person listed in Schedule I of this Exhibit A or any successors thereto, other than a parent company or entity that is not a Competitive Enterprise) (a "**Restricted Investment**"), or any derivative where the reference asset is an Ownership Interest in a Restricted Investment, except to the extent such Ownership Interests or derivatives are held through an index fund, an exchange traded fund, a mutual fund, hedge fund, or other form of collective investment or fund, or through a managed account, in each case, where a third party that is not affiliated with the Participant exercises sole investment discretion in respect of such fund or account and such third party has not disclosed at the time the Participant makes his or her investment that it holds or intends to hold any Ownership Interests in a Restricted Investment.
- d. "**Competitive Enterprise**" means any Person or business enterprise (in any form, including without limitation as a corporation, partnership, limited liability company or other Person), or

subsidiary, division, unit, group or portion thereof, whose primary business is (A) engaging in Strategy Competition; or (B) engaging in any other business in which the Company Parties engage in a material way, or have concrete plans to engage in a material way as of the Relevant Date, in each case as reasonably determined by the Company. For the sake of clarity, in the case of a subsidiary, division, unit, group or portion whose primary business is described above:

(1) the larger business enterprise or Person owning such subsidiary, division, unit, group or portion shall not be deemed to be a Competitive Enterprise unless the primary business of such larger business enterprise or Person is engaged in Strategy Competition and (2) the subsidiary, division, unit, group or portion whose primary business is engaging in Strategy Competition shall be deemed a Competitive Enterprise.

- e. "**Competitive Technology**" means any system, program, hardware or software (including any network architecture, system architecture, messaging architecture, trade processing and clearing systems and architecture, database architecture and storage of market and trading data for purposes of statistical analysis, network infrastructure, market data processing and messaging types that support such market data processing, order processing or any other software or hardware): (i) only if developed for one or more financial institution(s) or designed primarily for use by, or sale or license to, one or more financial institutions, is (A) used (or will be used in the future in its current or any enhanced or modified form) in Strategy Competition to evaluate, route or execute orders or trades in any Financial Asset or (B) used (or will be used in the future in its current or any enhanced or modified form) in Strategy Competition for the efficient processing and dissemination of market data or messaging for Financial Assets, or (ii) in any case, is specifically designed or intended for use in Strategy Competition.
- f. "**Confidential Information**" means any information related to the activities of the Company Parties that the Participant may acquire from the Company, other than information that (i) is already available through publicly available sources of information (other than as a result of disclosure by the Participant), (ii) was available to the Participant on a non-confidential basis prior to its disclosure to the Participant by the Company, or (iii) becomes available to the Participant on a non-confidential basis from a third party, provided such third party is not known by the Participant, after reasonable inquiry, to be bound by this Agreement or another confidentiality agreement with the Company. Such Confidential Information may include information that pertains or relates to the business and affairs of any other Company matters. Confidential Information may be used by the Participant and its Participant Parties only in connection with Company matters and in connection with the maintenance of the Participant's interest in the Company.
- g. "**Financial Asset**" means commodities, currencies, equities, notes, bonds, securities, evidence of indebtedness and derivatives thereof.
- h. "**Governmental Authority**" means any transnational, domestic or foreign federal, state or local governmental, regulatory or administrative authority, department, court, agency or official, including any political subdivision thereof.
- i. "**Jaguar Trading**" means trading through the use of electronically automated means to analyze and act upon Economic Numerical Data (i.e., economic data released by government agencies, quasi-governmental agencies, or industry groups commonly tracked by investors (e.g., ADP or Gallup employment data, the Michigan Consumer Sentiment Index and National Association of Realtors home-sale data)) with the intent to enter a position within two seconds after the public (or equivalent) release of such economic numerical data, including by using models and algorithms to predict the effect on prices of such economic numerical data. Economic Numerical

Data does not include financial instrument price and volume data. Jaguar Trading does not include trading in which each instruction to acquire or dispose of a specified quantity of a single instrument is individually manually generated and submitted for execution by a natural person (and not by any algorithmic means), even if such Order is executed within two seconds after the release of such economic numerical data (for example, and without limitation, the execution of a previously placed Stop Order triggered after the release of economic numerical data).

- j. "**Order**" means an instruction to acquire or dispose of a specified quantity or amount of a Financial Asset.
- k. "**Relevant Date**" means, (i) for as long as the Termination Date has not occurred, the date that the Participant engages in any activity that is prohibited by Section 2 of this Exhibit A and (ii) if the Termination Date has occurred such Termination Date.
- l. "**Restrictive Covenant Period**" means, any time until the eighteen month anniversary of the Termination Date.
- m. "**Simultaneous**" means, with respect to more than one event, the occurrence of such events occurring within 500 milliseconds of each other.
- n. "**Strategy Competition**" means, (i) trading activities that utilize trading strategies that constitute Algorithmic Liquidity Trading or Jaguar Trading or (ii) any other strategy in which the Company Parties engage in a material way or have concrete plans to engage in a material way as of the Relevant Date, in each case as reasonably determined by the Company.
- o. "**Termination Date**" means, the date the Participant ceases to be employed by the Company, Virtu Financial LLC or any of their respective controlled Affiliates.

Schedule 1 of Exhibit A Restricted Investments

All Options	Jump Trading
Allston Trading	KCG Holdings
AQR	Millenium
Athena Capital	Nyenburgh
Automat	Optiver
Automated Trading Desk	Peak 6
Blue Fire Capital	Point72 (f/k/a SAC Capital)
Breakwater Capital	Quantlab
Buttonwood	Renaissance
Chicago Trading Company	RGM Advisors
Chopper Trading	Ronin Capital
Citadel	RSJ Algorithm Trading
CTC	SIG Susquehanna
DE Shaw	Simplex Spot Trading
DRW Trading Group	Sun Trading
Final	Teza Trading
Flow Traders	Tibra
Gelber	Tower Research Capital
Hard 8 Future	Tradebot
Headlands Capital	Tradeworx
Hudson River Trading	Trading Machine
IBKR	TransMarket Group
IMC Asset Management	Two Sigma
Infinium Group	Wolverine
Interactive Brokers (Timber Hill)	Xambala
International Algorithmic	Zomojo
Jane Street	

VIRTU FINANCIAL, INC.
2015 MANAGEMENT INCENTIVE PLAN EMPLOYEE
RESTRICTED STOCK UNIT AND COMMON STOCK AWARD AGREEMENT

THIS RESTRICTED STOCK UNIT AND COMMON STOCK AWARD AGREEMENT (the "Agreement"), is entered into as of December 31, 2016 (the "Date of Grant"), by and between Virtu Financial, Inc., a Delaware corporation (the "Company"), and Stephen Cavoli (the "Participant").

WHEREAS, the Company has adopted the Virtu Financial, Inc. 2015 Management Incentive Plan (the "Plan"), pursuant to which shares of Class A Common Stock and Restricted Stock Units ("RSUs") may be granted; and

WHEREAS, the Compensation Committee of the Board of Directors of the Company has determined that it is in the best interests of the Company and its stockholders to grant the shares of Class A Common Stock in recognition of Participant's service to the Company and its Affiliates from January 1, 2016 through December 31, 2016, and RSUs provided for herein to the Participant subject to the terms set forth herein.

NOW, THEREFORE, for and in consideration of the premises and the covenants of the parties contained in this Agreement, and for other good and valuable consideration, the receipt of which is hereby acknowledged, the parties hereto, for themselves, their successors and assigns, hereby agree as follows:

1. Grant of Common Stock and Restricted Stock Units.

(a) Grant. The Company hereby grants to the Participant a total number of shares of Class A Common Stock equal to \$60,000.00 divided by the Issue Price (the "Shares"), and a total number of RSUs equal to \$90,000.00 divided by the Issue Price, in each case on the terms and conditions set forth in this Agreement and as otherwise provided in the Plan. The RSUs shall be credited to a separate book- entry account maintained for the Participant on the books of the Company, which may be maintained by a third party. The "Issue Price" shall mean the volume weighted average price of shares of the Company's Class A Common Stock traded during the three days preceding the Date of Grant, as determined by the Company.

(b) Incorporation by Reference. The provisions of the Plan are incorporated herein by reference. Except as otherwise expressly set forth herein, this Agreement shall be construed in accordance with the provisions of the Plan and any interpretations, amendments, rules and regulations promulgated by the Committee from time to time pursuant to the Plan. Any capitalized terms not otherwise defined in this Agreement shall have the definitions set forth in the Plan. The Committee shall have final authority to interpret and construe the Plan and this Agreement and to make any and all determinations under them, and its decision shall be binding and conclusive upon the Participant and his legal representative in respect of any questions arising under the Plan or this Agreement. The Participant acknowledges that he has received a copy of the Plan and has had an opportunity to review the Plan and agrees to be bound by all the terms and provisions of the Plan.

2. Vesting; Settlement of Restricted Stock Units.

(a) The Shares shall be one hundred percent (100%) vested as of the Date of Grant.

(b) Except as may otherwise be provided herein, subject to the Participant's continued employment or service with the Company or an Affiliate, the RSUs shall vest in equal installments on each of the first three (3) anniversaries of the Date of Grant (each such date, a "Vesting Date"). Upon

each Vesting Date, such portion of the RSUs that vest on such date shall no longer be subject to the transfer restrictions pursuant to Section 9(a) hereof or cancellation pursuant to Section 4 hereof. Any fractional RSUs resulting from the application of the vesting schedule shall be aggregated and the RSUs resulting from such aggregation shall vest on the final Vesting Date.

(c) Vested RSUs shall be settled within ten (10) days following the Vesting Date for such RSUs in shares of Class A Common Stock, or cash, as determined by the Committee in its sole discretion.

3. Dividend Equivalents. In the event of any issuance of a cash dividend on the shares of Class A Common Stock (a “Dividend”), the Participant shall be entitled to receive, with respect to each RSU granted pursuant to this Agreement and outstanding as of the record date for such Dividend, payment of an amount equal to the Dividend at the same time as the Dividend is paid to holders of shares of Class A Common Stock generally.

4. Termination of Employment or Service. If the Participant’s employment or service with the Company and its Affiliates terminates for any reason, all unvested RSUs shall be cancelled immediately and the Participant shall not be entitled to receive any payments with respect thereto.

5. Rights as a Stockholder. The Participant shall not be deemed for any purpose to be the owner of any shares of Class A Common Stock constituting the Shares or underlying the RSUs unless, until and to the extent that (i) the Company shall have issued and delivered to the Participant the shares of Class A Common Stock constituting the Shares or underlying the RSUs and (ii) the Participant’s name shall have been entered as a stockholder of record with respect to such shares of Class A Common Stock on the books of the Company. The Company shall cause the actions described in clauses (i) and (ii) of the preceding sentence to occur promptly following settlement as contemplated by this Agreement, subject to compliance with applicable laws.

6. Compliance with Legal Requirements.

(a) Generally. The granting of the Shares and the granting and settlement of the RSUs, and any other obligations of the Company under this Agreement, shall be subject to all applicable U.S. federal, state and local laws, rules and regulations, all applicable non-U.S. laws, rules and regulations and to such approvals by any regulatory or governmental agency as may be required. The Participant agrees to take all steps the Committee or the Company determines are reasonably necessary to comply with all applicable provisions of U.S. federal and state securities law and non-U.S. securities law in exercising his rights under this Agreement.

(b) Taxes and Withholding. The grant of the Shares and the vesting and settlement of the RSUs shall be subject to the Participant satisfying any applicable U.S. federal, state and local tax withholding obligations and non-U.S. tax withholding obligations. The Participant shall be required to pay to the Company, and the Company shall have the right and is hereby authorized to withhold any cash, shares of Class A Common Stock, other securities or other property or from any compensation or other amounts owing to the Participant, the amount (in cash, Class A Common Stock, other securities or other property) of any required withholding taxes in respect of the Shares or in respect of the RSUs, settlement of the RSUs or any payment or transfer of the RSUs, and to take any such other action as the Committee or the Company deem necessary to satisfy all obligations for the payment of such withholding taxes. In its sole discretion, the Company may permit the Participant to satisfy, in whole or in part, the tax obligations by (A) withholding shares of Class A Common Stock from the Shares having a Fair Market Value equal to such withholding liability and (B) withholding shares of Class A Common Stock that would otherwise be deliverable to the Participant upon settlement of the RSUs with a Fair Market Value equal to such withholding liability.

7. **Clawback.** Notwithstanding anything to the contrary contained herein, the Committee may cancel the Shares and RSU award if the Participant, without the consent of the Company, has engaged in or engages in activity that is in conflict with or adverse to the interest of the Company or any Affiliate while employed by or providing services to the Company or any Affiliate, including fraud or conduct contributing to any financial restatements or irregularities, or violates a non-competition, non-solicitation, non-disparagement or non-disclosure covenant or agreement with the Company or any Affiliate, including for the avoidance of doubt Exhibit A to this Agreement, as determined by the Committee. In such event, the Participant will forfeit any compensation, gain or other value realized thereafter on the vesting or settlement of the RSUs, the sale or other transfer of the Shares and the RSUs, or the sale of shares of Class A Common Stock acquired in respect of the RSUs, and must promptly repay such amounts to the Company. If the Participant receives any amount in excess of what the Participant should have received with respect to the Shares or under the terms of the RSUs for any reason (including without limitation by reason of a financial restatement, mistake in calculations or other administrative error), all as determined by the Committee, then the Participant shall be required to promptly repay any such excess amount to the Company. To the extent required by applicable law and/or the rules and regulations of NASDAQ or any other securities exchange or inter-dealer quotation system on which the Class A Common Stock is listed or quoted, or if so required pursuant to a written policy adopted by the Company, the Shares and the RSUs shall be subject (including on a retroactive basis) to clawback, forfeiture or similar requirements (and such requirements shall be deemed incorporated by reference into this Agreement).

8. **Restrictive Covenants.**

(a) The Participant shall be subject to the confidentiality and restrictive covenants set forth on Exhibit A attached hereto.

(b) In the event that the Participant violates any of the restrictive covenants referred to in this Section 8, in addition to any other remedy which may be available at law or in equity, the RSUs shall be automatically forfeited effective as of the date on which such violation first occurs. The foregoing rights and remedies are in addition to any other rights and remedies that may be available to the Company and shall not prevent (and the Participant shall not assert that they shall prevent) the Company from bringing one or more actions in any applicable jurisdiction to recover damages as a result of the Participant's breach of such restrictive covenants.

9. **Miscellaneous.**

(a) Transferability. The RSUs may not be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered (a "Transfer") by the Participant other than by will or by the laws of descent and distribution, pursuant to a qualified domestic relations order or as otherwise permitted under Section 15(b) of the Plan. Any attempted Transfer of the RSUs contrary to the provisions hereof, and the levy of any execution, attachment or similar process upon the RSUs, shall be null and void and without effect.

(b) Waiver. Any right of the Company contained in this Agreement may be waived in writing by the Committee. No waiver of any right hereunder by any party shall operate as a waiver of any other right, or as a waiver of the same right with respect to any subsequent occasion for its exercise, or as a waiver of any right to damages. No waiver by any party of any breach of this Agreement shall be held to constitute a waiver of any other breach or a waiver of the continuation of the same breach.

(c) Section 409A. The RSUs are intended to be exempt from, or compliant with, Section 409A of the Code. Notwithstanding the foregoing or any provision of the Plan or this Agreement,

if any provision of the Plan or this Agreement contravenes Section 409A of the Code or could cause the Participant to incur any tax, interest or penalties under Section 409A of the Code, the Committee may, in its sole discretion and without the Participant's consent, modify such provision to (i) comply with, or avoid being subject to, Section 409A of the Code, or to avoid the incurrence of taxes, interest and penalties under Section 409A of the Code, and/or (ii) maintain, to the maximum extent practicable, the original intent and economic benefit to the Participant of the applicable provision without materially increasing the cost to the Company or contravening the provisions of Section 409A of the Code. This Section 9(c) does not create an obligation on the part of the Company to modify the Plan or this Agreement and does not guarantee that the RSUs will not be subject to interest and penalties under Section 409A.

(d) General Assets. All amounts credited in respect of the RSUs to the book-entry account under this Agreement shall continue for all purposes to be part of the general assets of the Company. The Participant's interest in such account shall make the Participant only a general, unsecured creditor of the Company.

(e) Notices. Any notices provided for in this Agreement or the Plan shall be in writing and shall be deemed sufficiently given if either hand delivered or if sent by fax, pdf/email or overnight courier, or by postage paid first class mail. Notices sent by mail shall be deemed received three business days after mailing but in no event later than the date of actual receipt. Notices shall be directed, if to the Participant, at the Participant's address indicated by the Company's records, or if to the Company, to the attention of the General Counsel at the Company's principal executive office.

(f) Severability. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, and each other provision of this Agreement shall be severable and enforceable to the extent permitted by law.

(g) No Rights to Employment or Service. Nothing contained in this Agreement shall be construed as giving the Participant any right to be retained, in any position, as an employee, consultant or director of the Company or its Affiliates or shall interfere with or restrict in any way the rights of the Company or its Affiliates, which are hereby expressly reserved, to remove, terminate or discharge the Participant at any time for any reason whatsoever.

(h) Fractional Shares. In lieu of issuing a fraction of a share of Class A Common Stock resulting from adjustment of the Shares or the RSUs pursuant to Section 12 of the Plan or otherwise, the Company shall be entitled to pay to the Participant an amount in cash equal to the Fair Market Value of such fractional share.

(i) Beneficiary. The Participant may file with the Committee a written designation of a beneficiary on such form as may be prescribed by the Committee and may, from time to time, amend or revoke such designation.

(j) Successors. The terms of this Agreement shall be binding upon and inure to the benefit of the Company and its successors and assigns, and of the Participant and the beneficiaries, executors, administrators, heirs and successors of the Participant.

(k) Entire Agreement. This Agreement and the Plan contain the entire agreement and understanding of the parties hereto with respect to the subject matter contained herein and supersede all prior communications, representations and negotiations in respect thereto. No change, modification or waiver of any provision of this Agreement shall be valid unless the same be in writing and signed by the parties hereto, except for any changes permitted without consent under Section 12 or 14 of the Plan.

(l) Governing Law and Venue. This Agreement shall be construed and interpreted in accordance with the laws of the State of Delaware, without regard to principles of conflicts of laws thereof, or principles of conflicts of laws of any other jurisdiction which could cause the application of the laws of any jurisdiction other than the State of Delaware.

(i) Dispute Resolution; Consent to Jurisdiction. All disputes between or among any Persons arising out of or in any way connected with the Plan, this Agreement, the Shares or the RSUs shall be solely and finally settled by the Committee, acting in good faith, the determination of which shall be final. Any matters not covered by the preceding sentence shall be solely and finally settled in accordance with the Plan, and the Participant and the Company consent to the personal jurisdiction of the United States Federal and state courts sitting in Wilmington, Delaware as the exclusive jurisdiction with respect to matters arising out of or related to the enforcement of the Committee's determinations and resolution of matters, if any, related to the Plan or this Agreement not required to be resolved by the Committee. Each such Person hereby irrevocably consents to the service of process of any of the aforementioned courts in any such suit, action or proceeding by the mailing of copies thereof by registered or certified mail, postage prepaid, to the last known address of such Person, such service to become effective ten (10) days after such mailing.

(ii) Waiver of Jury Trial. Each party hereto hereby waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in any legal proceeding directly or indirectly arising out of or relating to this Agreement or the transactions contemplated (whether based on contract, tort or any other theory). Each party hereto (A) certifies that no representative, agent or attorney of any other party has represented, expressly or otherwise, that such other party would not, in the event of litigation, seek to enforce the foregoing waiver and (B) acknowledges that it and the other parties hereto have been induced to enter into this Agreement by, among other things, the mutual waivers and certifications in this section.

(m) Headings; Gender. The headings of the Sections hereof are provided for convenience only and are not to serve as a basis for interpretation or construction, and shall not constitute a part, of this Agreement. Masculine pronouns and other words of masculine gender shall refer to both men and women as appropriate.

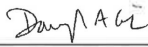
(n) Counterparts. This Agreement may be executed in one or more counterparts (including via facsimile and electronic image scan (pdf)), each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other parties.

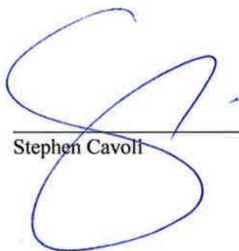
(o) Electronic Signature and Delivery. This Agreement may be accepted by return signature or by electronic confirmation. By accepting this Agreement, the Participant consents to the electronic delivery of prospectuses, annual reports and other information required to be delivered by U.S. Securities and Exchange Commission rules (which consent may be revoked in writing by the Participant at any time upon three business days' notice to the Company, in which case subsequent prospectuses, annual reports and other information will be delivered in hard copy to the Participant).

(p) Electronic Participation in Plan. The Company may, in its sole discretion, decide to deliver any documents related to current or future participation in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through an on-line or electronic system established and maintained by the Company or a third party designated by the Company.

IN WITNESS WHEREOF, this Agreement has been executed by the Company and the Participant as of the day first written above.

VIRTU FINANCIAL, INC.

By: 
Name: Douglas A. Cifu
Title: Chief Executive Officer


Stephen Cavoli

[Signature Page to Restricted Stock Unit and Common Stock Award Agreement]

Exhibit A

1. Confidentiality.

- a. The Participant shall, and shall direct his or her Affiliates and their respective directors, officers, members, stockholders, partners, employees, attorneys, accountants, consultants, trustees and other advisors (the “**Participant Parties**”) who have access to Confidential Information to keep confidential and not disclose any Confidential Information to any Person, other than a Participant Party who agrees to keep such Confidential Information confidential in accordance with this Section 1 of this Exhibit A, without the express consent of the Company, unless:
 - i. such disclosure shall be required by applicable law;
 - ii. such disclosure is reasonably required in connection with any tax audit involving the Company or its Affiliates;
 - iii. such disclosure is reasonably required in connection with any litigation against or involving the Company; or
 - iv. such disclosure is reasonably required in connection with any proposed Transfer of all or any part of the Participant’s Shares or RSUs; provided that with respect to any such use of any Confidential Information referred to in this clause (iv), advance notice must be given to the Company so that it may require any proposed transferee to enter into a confidentiality agreement with terms substantially similar to the terms of this Section 1 of this Exhibit A (excluding this clause (iv)) prior to the disclosure of such Confidential Information.
- b. In the event that the Participant or any Participant Party is required to disclose any of the Confidential Information, the Participant shall use reasonable efforts to provide the Company with prompt written notice so that the Company may seek a protective order or other appropriate remedy and/or waive compliance with the provisions of this Agreement, and the Participant shall use reasonable efforts to cooperate with the Company in any effort the Company undertakes to obtain a protective order or other remedy. In the event that such protective order or other remedy is not obtained, or that the Company waives compliance with the provisions of this Section 1 of Exhibit A, the Participant and the Participant Parties shall furnish only that portion of the Confidential Information that is legally required and shall exercise all reasonable efforts to obtain reasonably reliable assurance that the Confidential Information shall be accorded confidential treatment.
- c. Notwithstanding anything in this Agreement to the contrary, the Participant may disclose to any subsequent employer the restrictions to which the Participant is subject to pursuant to this Agreement.

2. Non-Compete; Non-Solicit; Non-Disparagement. During the Restrictive Covenant Period, the Participant:

- a. shall not directly or indirectly engage in any Competitive Activity;
- b. shall not directly or indirectly solicit, or assist any other Person to solicit, as an employee or consultant, any employee, former employee or member of the Company, Virtu Financial LLC or any of their respective Affiliates (the “**Company Parties**”);

- c. shall not, and shall cause his or her controlled Affiliates not to, hire, or assist any other Person to hire, as an employee or consultant, any employee, former employee, member or retired member of the Company Parties; and
 - d. shall not take, and shall take reasonable steps to cause his or her Affiliates not to take, any action or make any public statement, whether or not in writing, that disparages or denigrates the Company Parties or their respective directors, officers, employees, members, representatives and agents; provided, however, that nothing in this Section 2(d) of this Exhibit A shall prevent the Participant from (i) testifying truthfully in any legal or administrative proceeding if such testimony is compelled or requested or (ii) complying with applicable legal requirements.
3. Enforcement of Covenants. The Participant agrees that (i) the agreements and covenants contained in Section 2 of this Exhibit A are reasonable in scope and duration and necessary to protect and preserve the Company Parties' legitimate business interests and to prevent any unfair advantage conferred on the Participant taking into account, and in specific consideration of, the undertakings and obligations of the parties under the Agreement, (ii) but for the Participant's agreement to be bound by the agreements and covenants contained under Section 2 of this Exhibit A, the Company Parties would not have entered into or consummated those transactions contemplated by the Agreement, and (iii) irreparable harm would result to the Company Parties as a result of a violation or breach (or potential violation or breach) by the Participant (or his or her Affiliates) of Section 2 of this Exhibit A and the Company Parties shall have the right to specifically enforce the provisions of Section 2 of this Exhibit A in any federal court located in the State of Delaware or any Delaware state court, in addition to any other remedy to which they are entitled at law or in equity. If a final judgment of a court of competent jurisdiction or other Governmental Authority determines that any term, provision, covenant or restriction contained in Section 2 of this Exhibit A is invalid or unenforceable, then the parties hereto agree that the court of competent jurisdiction or other Governmental Authority will have the power to modify Section 2 of this Exhibit A (including by reducing the scope, duration or geographic area of the term or provision, deleting specific words or phrases or replacing any invalid or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision) so as to effect the original intention of the invalid or unenforceable term or provision. To the fullest extent permitted by law, in the event that any proceeding is brought under or in connection with Section 2 of this Exhibit A, the prevailing party in such proceeding (whether at final or on appeal) shall be entitled to recover from the other party all costs, expenses, and reasonable attorneys' fees incident to any such proceeding. The term "prevailing party" as used herein means the party in whose favor the final judgment or award is entered in any such proceeding.
4. Certain Definitions.
- a. "**Algorithmic Liquidity Trading**" means trading Financial Assets through the use of an electronically automated trading system that generates order sets (which, for purposes of clarity, can consist of a single order) with the intention of (i) creating profit by providing two-sided liquidity to the market, (ii) making a profit margin consistent with the business of making the bid- offer spread or less per unit of the Financial Asset(s) being traded (including by providing either one-sided or two sided liquidity to the market), or (iii) creating Simultaneous order sets that are generated with the intention of locking in an Arbitrage profit. For the avoidance of doubt, "Algorithmic Liquidity Trading" does not include trading in which an Order or Orders are manually generated and submitted for execution by a natural person (including, without limitation, Stop Orders, Limit Orders, Volume-Weighted Average Price Orders and other common Order types that may involve multiple instructions to a third party and which may involve such third party employing an algorithm in executing the Order provided the algorithm

executes only on one side of the market as a “buy” or “sell” Order, and including a portfolio- rebalancing Order (which for the avoidance of doubt may involve both a “buy” and a “sell” component within a single Order)).

- b. “**Arbitrage**” means arbitrage consistent with the practice of high frequency trading.
- c. “**Competitive Activity**” means (i) serving as a director, officer, employee, trader, manager, consultant, agent or advisor of, or otherwise directly or through an Affiliate providing services to a Competitive Enterprise; (ii) designing or developing any Competitive Technology; (iii) directly or through an Affiliate (A) engaging in Strategy Competition or (B) retaining or otherwise engaging any other Person to undertake any of the actions described in clauses (i), (ii), (iii)(A) or (iv) of this definition; (iv) serving as a director, officer, employee, trader, manager, consultant, agent or advisor of, or otherwise directly or through an Affiliate providing services to any business, financial institution, investment bank or other business enterprise (in any form, including without limitation as a corporation, partnership, limited liability company or other Person) that is, or whose Affiliate is, engaged in Strategy Competition, in each case except in a capacity that does not involve or require the Participant to engage in any activities described in clauses (i), (ii) or (iii) of this definition above or have any direct management oversight of or involvement in Strategy Competition; (v) acquiring directly or through an Affiliate in the aggregate directly or beneficially, whether as a shareholder, partner, member or otherwise, any equity (including stock options or warrants, whether or not exercisable), voting or profit participation interests (collectively, “**Ownership Interests**”) in a Competitive Enterprise, or any derivative where the reference asset is an Ownership Interest in a Competitive Enterprise, other than a passive investment of not more than, as calculated at the time of acquisition (but after giving effect to any transaction or transactions to occur in connection with such acquisition), 1% (measured by voting power or value, whichever is greater) of the fully diluted Ownership Interests of a Competitive Enterprise (for the avoidance of doubt, such percentage interest shall be calculated based on the Participant’s percentage of direct and indirect ownership of the Competitive Enterprise and not any intermediary, such as a holding company or partnership) (it being understood that this clause (v) shall not apply to prohibit the holding of an Ownership Interest if, at the time of acquisition of such Ownership Interest, the Person in which such direct or indirect Ownership Interest is acquired is not a Competitive Enterprise and the Participant is not aware at the time of such acquisition, after reasonable inquiry, that such Person has any plans to become a Competitive Enterprise); or (vi) directly or through an Affiliate owning any Ownership Interests in any Person listed in Schedule 1 of this Exhibit A (or any parent company or entity of a Person listed in Schedule 1 of this Exhibit A or any successors thereto, other than a parent company or entity that is not a Competitive Enterprise) (a “**Restricted Investment**”), or any derivative where the reference asset is an Ownership Interest in a Restricted Investment, except to the extent such Ownership Interests or derivatives are held through an index fund, an exchange traded fund, a mutual fund, hedge fund, or other form of collective investment or fund, or through a managed account, in each case, where a third party that is not affiliated with the Participant exercises sole investment discretion in respect of such fund or account and such third party has not disclosed at the time the Participant makes his or her investment that it holds or intends to hold any Ownership Interests in a Restricted Investment.
- d. “**Competitive Enterprise**” means any Person or business enterprise (in any form, including without limitation as a corporation, partnership, limited liability company or other Person), or subsidiary, division, unit, group or portion thereof, whose primary business is (A) engaging in Strategy Competition; or (B) engaging in any other business in which the Company Parties engage in a material way, or have concrete plans to engage in a material way as of the Relevant Date, in each case as reasonably determined by the Company. For the sake of clarity, in the case

of a subsidiary, division, unit, group or portion whose primary business is described above:

(1) the larger business enterprise or Person owning such subsidiary, division, unit, group or portion shall not be deemed to be a Competitive Enterprise unless the primary business of such larger business enterprise or Person is engaged in Strategy Competition and
(2) the subsidiary, division, unit, group or portion whose primary business is engaging in Strategy Competition shall be deemed a Competitive Enterprise.

- e. **“Competitive Technology”** means any system, program, hardware or software (including any network architecture, system architecture, messaging architecture, trade processing and clearing systems and architecture, database architecture and storage of market and trading data for purposes of statistical analysis, network infrastructure, market data processing and messaging types that support such market data processing, order processing or any other software or hardware): (i) only if developed for one or more financial institution(s) or designed primarily for use by, or sale or license to, one or more financial institutions, is (A) used (or will be used in the future in its current or any enhanced or modified form) in Strategy Competition to evaluate, route or execute orders or trades in any Financial Asset or (B) used (or will be used in the future in its current or any enhanced or modified form) in Strategy Competition for the efficient processing and dissemination of market data or messaging for Financial Assets, or (ii) in any case, is specifically designed or intended for use in Strategy Competition.
- f. **“Confidential Information”** means any information related to the activities of the Company Parties that the Participant may acquire from the Company, other than information that (i) is already available through publicly available sources of information (other than as a result of disclosure by the Participant), (ii) was available to the Participant on a non-confidential basis prior to its disclosure to the Participant by the Company, or (iii) becomes available to the Participant on a non-confidential basis from a third party, provided such third party is not known by the Participant, after reasonable inquiry, to be bound by this Agreement or another confidentiality agreement with the Company. Such Confidential Information may include information that pertains or relates to the business and affairs of any other Company matters. Confidential Information may be used by the Participant and its Participant Parties only in connection with Company matters and in connection with the maintenance of the Participant’s interest in the Company.
- g. **“Financial Asset”** means commodities, currencies, equities, notes, bonds, securities, evidence of indebtedness and derivatives thereof.
- h. **“Governmental Authority”** means any transnational, domestic or foreign federal, state or local governmental, regulatory or administrative authority, department, court, agency or official, including any political subdivision thereof.
- i. **“Jaguar Trading”** means trading through the use of electronically automated means to analyze and act upon Economic Numerical Data (i.e., economic data released by government agencies, quasi-governmental agencies, or industry groups commonly tracked by investors (e.g., ADP or Gallup employment data, the Michigan Consumer Sentiment Index and National Association of Realtors home-sale data)) with the intent to enter a position within two seconds after the public (or equivalent) release of such economic numerical data, including by using models and algorithms to predict the effect on prices of such economic numerical data. Economic Numerical Data does not include financial instrument price and volume data. Jaguar Trading does not include trading in which each instruction to acquire or dispose of a specified quantity of a single instrument is individually manually generated and submitted for execution by a natural person (and not by any algorithmic means), even if such Order is executed within two seconds after the

release of such economic numerical data (for example, and without limitation, the execution of a previously placed Stop Order triggered after the release of economic numerical data).

- j. **“Order”** means an instruction to acquire or dispose of a specified quantity or amount of a Financial Asset.
- k. **“Relevant Date”** means, (i) for as long as the Termination Date has not occurred, the date that the Participant engages in any activity that is prohibited by Section 2 of this Exhibit A and (ii) if the Termination Date has occurred such Termination Date.
- l. **“Restrictive Covenant Period”** means, any time until the eighteen (18) month anniversary of the Termination Date.
- m. **“Simultaneous”** means, with respect to more than one event, the occurrence of such events occurring within 500 milliseconds of each other.
- n. **“Strategy Competition”** means, (i) trading activities that utilize trading strategies that constitute Algorithmic Liquidity Trading or Jaguar Trading or (ii) any other strategy in which the Company Parties engage in a material way or have concrete plans to engage in a material way as of the Relevant Date, in each case as reasonably determined by the Company.
- o. **“Termination Date”** means, the date the Participant ceases to be employed by the Company, Virtu Financial LLC or any of their respective controlled Affiliates.

Schedule 1 of Exhibit A Restricted Investments

All Options	Jump Trading
Allston Trading	KCG Holdings
AQR	Millenium
Athena Capital	Nyenburgh
Automat	Optiver
Automated Trading Desk	Peak 6
Blue Fire Capital	Point72 (f/k/a SAC Capital)
Breakwater Capital	Quantlab
Buttonwood	Renaissance
Chicago Trading Company	RGM Advisors
Chopper Trading	Ronin Capital
Citadel	RSJ Algorithm Trading
CTC	SIG Susquehanna
DE Shaw	Simplex Spot Trading
DRW Trading Group	Sun Trading
Final	Teza Trading
Flow Traders	Tibra
Gelber	Tower Research Capital
Hard 8 Future	Tradebot
Headlands Capital	Tradeworx
Hudson River Trading	Trading Machine
IBKR	TransMarket Group
IMC Asset Management	Two Sigma
Infinium Group	Wolverine
Interactive Brokers (Timber Hill)	Xambala
International Algorithmic	Zomojo
Jane Street	

VIRTU FINANCIAL, INC.
AMENDED AND RESTATED
2015 MANAGEMENT INCENTIVE PLAN
EMPLOYEE
RESTRICTED STOCK UNIT AGREEMENT

THIS RESTRICTED STOCK UNIT AWARD AGREEMENT (the "Agreement"), is entered into as of March 21, 2018 (the "Date of Grant"), by and between Virtu Financial, Inc., a Delaware corporation (the "Company"), and Joseph Molluso (the "Participant").

WHEREAS, the Company has adopted the Virtu Financial, Inc. Amended and Restated 2015 Management Incentive Plan (the "Plan"), pursuant to which Restricted Stock Units ("RSUs") may be granted; and

WHEREAS, the Compensation Committee of the Board of Directors of the Company has determined that it is in the best interests of the Company and its stockholders to grant the RSUs provided for herein to the Participant subject to the terms set forth herein.

NOW, THEREFORE, for and in consideration of the premises and the covenants of the parties contained in this Agreement, and for other good and valuable consideration, the receipt of which is hereby acknowledged, the parties hereto, for themselves, their successors and assigns, hereby agree as follows:

1. Grant of Restricted Stock Units.

(a) Grant. The Company hereby grants to the Participant a total of 120,000 RSUs on the terms and conditions set forth in this Agreement and as otherwise provided in the Plan. The RSUs shall be credited to a separate book-entry account maintained for the Participant on the books of the Company, which may be maintained by a third party.

(b) Incorporation by Reference. The provisions of the Plan are incorporated herein by reference. Except as otherwise expressly set forth herein, this Agreement shall be construed in accordance with the provisions of the Plan and any interpretations, amendments, rules and regulations promulgated by the Committee from time to time pursuant to the Plan. Any capitalized terms not otherwise defined in this Agreement shall have the definitions set forth in the Plan. The Committee shall have final authority to interpret and construe the Plan and this Agreement and to make any and all determinations under them, and its decision shall be binding and conclusive upon the Participant and his legal representative in respect of any questions arising under the Plan or this Agreement. The Participant acknowledges that he has received a copy of the Plan and has had an opportunity to review the Plan and agrees to be bound by all the terms and provisions of the Plan.

2. Vesting and Settlement.

(a) Except as may otherwise be provided herein, subject to the Participant's continued employment or service with the Company or an Affiliate, the RSUs shall vest in equal installments on each of the first three (3) anniversaries of the Date of Grant (each such date, a "Vesting Date"). Upon each Vesting Date, such portion of the RSUs that vest on such date shall no longer be subject to the transfer restrictions pursuant to Section 9(a) hereof or cancellation pursuant to Section 4 hereof. Any fractional RSUs resulting from the application of the vesting schedule shall be aggregated and the RSUs resulting from such aggregation shall vest on the final Vesting Date.

(c) Vested RSUs shall be settled within ten (10) days following the Vesting Date for such RSUs in shares of Class A Common Stock, or cash, as determined by the Committee in its sole discretion.

3. Dividend Equivalents. In the event of any issuance of a cash dividend on the shares of Class A Common Stock (a "Dividend"), the Participant shall be entitled to receive, with respect to each RSU granted pursuant to this Agreement and outstanding as of the record date for such Dividend, payment of an amount equal to the Dividend at the same time as the Dividend is paid to holders of shares of Class A Common Stock generally.

4. Termination of Employment or Service. If the Participant's employment or service with the Company and its Affiliates is terminated at any time prior to the third and final Vesting Date (i) by the Company without Cause, (ii) due to death or Disability or (iii) by Participant for Good Reason, a number of RSUs equal to (a) 40,000 multiplied by a fraction, the numerator of which is the number of calendar days the Participant was employed since the later of (x) the Date of Grant or (y) the most recent anniversary of the Date of Grant, and the denominator of which is 365, plus (b) in the event that such termination occurs prior to second Vesting Date, the number of RSUs otherwise scheduled to vest on the next anniversary of the Date of Grant, shall be deemed vested immediately. Except as otherwise provided in this Section 4, upon the Participant's termination of employment or service with the Company and its Affiliates, all unvested RSUs shall be cancelled immediately and the Participant shall not be entitled to receive any payments with respect thereto.

For purposes of this Section 3, "Good Reason" shall mean the termination of Participant's employment at his initiative after, without Participant's prior written consent, one (1) or more of the following events: (i) a reduction in the Participant's base salary; (ii) any material diminution or adverse change in the duties, authority, responsibilities, or positions of Participant at present; (iii) requiring Participant to report to an officer or employee other than the Company's Chief Executive Officer; (iv) the Company's requiring Participant to be based at a location in excess of fifty (50) miles from the location of Executive's principal job location, except for required travel on the Company's business to an extent substantially consistent with Participant's position; or (v) the failure of the Company to obtain the assumption in writing of its obligation to perform this Agreement by any successor to all or substantially all of the assets or business of the Company after a merger, consolidation, sale, or similar transaction; provided, however, that prior to resigning for Good Reason, Participant shall give written notice to the Company of the facts and circumstances claimed to provide a basis for such resignation not more than sixty (60) days following his knowledge of such facts and circumstances, and the Company shall have thirty (30) days after receipt of such notice to cure such facts and circumstances (and if so cured then Participant shall not be permitted to resign for Good Reason in respect thereof). Any termination of employment by Executive for Good Reason shall be communicated to the Company by written notice, which shall include Executive's date of termination of employment (which, except as set forth in the preceding sentence, shall be a date not later than thirty (30) days after delivery of such notice).

5. Rights as a Stockholder. The Participant shall not be deemed for any purpose to be the owner of any shares of Class A Common Stock underlying the RSUs unless, until and to the extent that (i) the Company shall have issued and delivered to the Participant the shares of Class A

Common Stock underlying the RSUs and (ii) the Participant's name shall have been entered as a stockholder of record with respect to such shares of Class A Common Stock on the books of the Company. The Company shall cause the actions described in clauses (i) and (ii) of the preceding sentence to occur promptly following settlement as contemplated by this Agreement, subject to compliance with applicable laws.

6. Compliance with Legal Requirements.

(a) Generally. The granting and settlement of the RSUs, and any other obligations of the Company under this Agreement, shall be subject to all applicable U.S. federal, state and local laws, rules and regulations, all applicable non-U.S. laws, rules and regulations and to such approvals by any regulatory or governmental agency as may be required. The Participant agrees to take all steps the Committee or the Company determines are reasonably necessary to comply with all applicable provisions of U.S. federal and state securities law and non-U.S. securities law in exercising his rights under this Agreement.

(b) Taxes and Withholding. The vesting and settlement of the RSUs shall be subject to the Participant satisfying any applicable U.S. federal, state and local tax withholding obligations and non-U.S. tax withholding obligations. The Participant shall be required to pay to the Company, and the Company shall have the right and is hereby authorized to withhold any cash, shares of Class A Common Stock, other securities or other property or from any compensation or other amounts owing to the Participant, the amount (in cash, Class A Common Stock, other securities or other property) of any required withholding taxes in respect of the RSUs, settlement of the RSUs or any payment or transfer of the RSUs, and to take any such other action as the Committee or the Company deem necessary to satisfy all obligations for the payment of such withholding taxes. In its sole discretion, the Company may permit the Participant to satisfy, in whole or in part, the tax obligations by withholding shares of Class A Common Stock that would otherwise be deliverable to the Participant upon settlement of the RSUs with a Fair Market Value equal to such withholding liability.

7. Clawback. Notwithstanding anything to the contrary contained herein, the Committee may cancel the RSU award if the Participant, without the consent of the Company, has engaged in or engages in activity that is in conflict with or adverse to the interest of the Company or any Affiliate while employed by or providing services to the Company or any Affiliate, including fraud or conduct contributing to any financial restatements or irregularities, or violates a non-competition, non-solicitation, non-disparagement, non-disclosure or confidentiality covenant or agreement with the Company or any Affiliate, as determined by the Committee. In such event, the Participant will forfeit any compensation, gain or other value realized thereafter on the vesting or settlement of the RSUs, the sale or other transfer of the RSUs, or the sale of shares of Class A Common Stock acquired in respect of the RSUs, and must promptly repay such amounts to the Company. If the Participant receives any amount in excess of what the Participant should have received under the terms of the RSUs for any reason (including without limitation by reason of a financial restatement, mistake in calculations or other administrative error), all as determined by the Committee, then the Participant shall be required to promptly repay any such excess amount to the Company. To the extent required by applicable law and/or the rules and regulations of NASDAQ or any other securities exchange or inter-dealer quotation system on which the Class A Common Stock is listed or quoted, or if so required pursuant to a written policy adopted by the Company, the RSUs shall be subject (including on a retroactive basis) to clawback, forfeiture or similar requirements (and such requirements shall be deemed incorporated by reference into this Agreement).

8. Contractual Obligations.

(a) Nothing in this Agreement shall supersede, modify, replace or cancel any existing contractual obligations, including but not limited to restrictive covenants, applicable to you in any employment agreement, offer letter, prior equity award agreement or any other agreement or contract with the Company or its Affiliates.

(b) In the event that the Participant violates any of the contractual obligations referred to in this Section 8, in addition to any other remedy which may be available at law or in equity, the RSUs shall be automatically forfeited effective as of the date on which such violation first occurs. The foregoing rights and remedies are in addition to any other rights and remedies that may be available to the Company and shall not prevent (and the Participant shall not assert that they shall prevent) the Company from bringing one or more actions in any applicable jurisdiction to recover damages as a result of the Participant's breach of such restrictive covenants.

9. Miscellaneous.

(a) Transferability. The RSUs may not be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered (a "Transfer") by the Participant other than by will or by the laws of descent and distribution, pursuant to a qualified domestic relations order or as otherwise permitted under Section 15(b) of the Plan. Any attempted Transfer of the RSUs contrary to the provisions hereof, and the levy of any execution, attachment or similar process upon the RSUs, shall be null and void and without effect.

(b) Waiver. Any right of the Company contained in this Agreement may be waived in writing by the Committee. No waiver of any right hereunder by any party shall operate as a waiver of any other right, or as a waiver of the same right with respect to any subsequent occasion for its exercise, or as a waiver of any right to damages. No waiver by any party of any breach of this Agreement shall be held to constitute a waiver of any other breach or a waiver of the continuation of the same breach.

(c) Section 409A. The RSUs are intended to be exempt from, or compliant with, Section 409A of the Code. Notwithstanding the foregoing or any provision of the Plan or this Agreement, if any provision of the Plan or this Agreement contravenes Section 409A of the Code or could cause the Participant to incur any tax, interest or penalties under Section 409A of the Code, the Committee may, in its sole discretion and without the Participant's consent, modify such provision to (i) comply with, or avoid being subject to, Section 409A of the Code, or to avoid the incurrence of taxes, interest and penalties under Section 409A of the Code, and/or (ii) maintain, to the maximum extent practicable, the original intent and economic benefit to the Participant of the applicable provision without materially increasing the cost to the Company or contravening the provisions of Section 409A of the Code. This Section 9(c) does not create an obligation on the part of the Company to modify the Plan or this Agreement and does not guarantee that the RSUs will not be subject to interest and penalties under Section 409A.

(d) General Assets. All amounts credited in respect of the RSUs to the book-entry account under this Agreement shall continue for all purposes to be part of the general assets of the Company. The Participant's interest in such account shall make the Participant only a general, unsecured creditor of the Company.

(e) Notices. Any notices provided for in this Agreement or the Plan shall be in writing and shall be deemed sufficiently given if either hand delivered or if sent by fax, pdf/email or overnight courier, or by postage paid first class mail. Notices sent by mail shall be deemed received

three business days after mailing but in no event later than the date of actual receipt. Notices shall be directed, if to the Participant, at the Participant's address indicated by the Company's records, or if to the Company, to the attention of the General Counsel at the Company's principal executive office.

(f) Severability. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, and each other provision of this Agreement shall be severable and enforceable to the extent permitted by law.

(g) No Rights to Employment or Service. Nothing contained in this Agreement shall be construed as giving the Participant any right to be retained, in any position, as an employee, consultant or director of the Company or its Affiliates or shall interfere with or restrict in any way the rights of the Company or its Affiliates, which are hereby expressly reserved, to remove, terminate or discharge the Participant at any time for any reason whatsoever.

(h) Fractional Shares. In lieu of issuing a fraction of a share of Class A Common Stock resulting from adjustment of the RSUs pursuant to Section 12 of the Plan or otherwise, the Company shall be entitled to pay to the Participant an amount in cash equal to the Fair Market Value of such fractional share.

(i) Beneficiary. The Participant may file with the Committee a written designation of a beneficiary on such form as may be prescribed by the Committee and may, from time to time, amend or revoke such designation.

(j) Successors. The terms of this Agreement shall be binding upon and inure to the benefit of the Company and its successors and assigns, and of the Participant and the beneficiaries, executors, administrators, heirs and successors of the Participant.

(k) Entire Agreement. This Agreement and the Plan contain the entire agreement and understanding of the parties hereto with respect to the subject matter contained herein and supersede all prior communications, representations and negotiations in respect thereto, except as set forth in Section 8 hereof. No change, modification or waiver of any provision of this Agreement shall be valid unless the same be in writing and signed by the parties hereto, except for any changes permitted without consent under Section 12 or 14 of the Plan.

(l) Governing Law and Venue. This Agreement shall be construed and interpreted in accordance with the laws of the State of Delaware, without regard to principles of conflicts of laws thereof, or principles of conflicts of laws of any other jurisdiction which could cause the application of the laws of any jurisdiction other than the State of Delaware.

(i) Dispute Resolution; Consent to Jurisdiction. All disputes between or among any Persons arising out of or in any way connected with the Plan, this Agreement or the RSUs shall be solely and finally settled by the Committee, acting in good faith, the determination of which shall be final. Any matters not covered by the preceding sentence shall be solely and finally settled in accordance with the Plan, and the Participant and the Company consent to the personal jurisdiction of the United States Federal and state courts sitting in Wilmington, Delaware as the exclusive jurisdiction with respect to matters arising out of or related to the enforcement of the Committee's determinations and resolution of matters, if any, related to the Plan or this Agreement not required to be resolved by the Committee. Each such Person hereby irrevocably consents to the service of process of any of the aforementioned courts in any such suit, action or proceeding by the mailing of copies thereof by registered or certified mail, postage prepaid, to the last known address of such Person, such service to become effective ten (10) days after such mailing.

(ii) Waiver of Jury Trial. Each party hereto hereby waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in any legal proceeding directly or indirectly arising out of or relating to this Agreement or the transactions contemplated (whether based on contract, tort or any other theory). Each party hereto (A) certifies that no representative, agent or attorney of any other party has represented, expressly or otherwise, that such other party would not, in the event of litigation, seek to enforce the foregoing waiver and (B) acknowledges that it and the other parties hereto have been induced to enter into this Agreement by, among other things, the mutual waivers and certifications in this section.

(m) Headings; Gender. The headings of the Sections hereof are provided for convenience only and are not to serve as a basis for interpretation or construction, and shall not constitute a part, of this Agreement. Masculine pronouns and other words of masculine gender shall refer to both men and women as appropriate.

(n) Counterparts. This Agreement may be executed in one or more counterparts (including via facsimile and electronic image scan (pdf)), each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other parties.

(o) Electronic Signature and Delivery. This Agreement may be accepted by return signature or by electronic confirmation. By accepting this Agreement, the Participant consents to the electronic delivery of prospectuses, annual reports and other information required to be delivered by U.S. Securities and Exchange Commission rules (which consent may be revoked in writing by the Participant at any time upon three business days' notice to the Company, in which case subsequent prospectuses, annual reports and other information will be delivered in hard copy to the Participant).

(p) Electronic Participation in Plan. The Company may, in its sole discretion, decide to deliver any documents related to current or future participation in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through an on-line or electronic system established and maintained by the Company or a third party designated by the Company.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, this Agreement has been executed by the Company and the Participant as of the day first written above.

VIRTU FINANCIAL, INC.

By: ___
Name: Douglas A. Cifu
Title: Chief Executive Officer

Joseph Molluso

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 March 31, 2018 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: May 7, 2018 By: /s/ Douglas A. Cifu

Douglas A. Cifu
Chief Executive Officer

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

I, Joseph Molluso, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the period ending March 31, 2018 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: May 7, 2018 By: /s/ Joseph Molluso

Joseph Molluso

Chief Financial Officer

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 of Virtu Financial, Inc. (the "Company") on Form 10-Q for the period ended March 31, 2018 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: May 7, 2018

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 of Virtu Financial, Inc. (the "Company") on Form 10-Q for the period ended March 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Joseph Molluso, 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/ Joseph Molluso

Joseph Molluso

Chief Financial Officer

Date: May 7, 2018