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

FORM 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2022
or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number: 001-38860

TRADEWEB MARKETS INC.

(Exact name of registrant as specified in its charter)

Delaware	**83-2456358**
(State of other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1177 Avenue of the Americas **New York, New York**	**10036**
(Address of principal executive offices)	(Zip Code)

(646) 430-6000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A common stock, par value $0.00001	TW	Nasdaq Global Select Market

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

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

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

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

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

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

Class of Stock	Shares Outstanding as of April 21, 2022
Class A Common Stock, par value $0.00001 per share	107,565,764
Class B Common Stock, par value $0.00001 per share	96,933,192
Class C Common Stock, par value $0.00001 per share	1,654,825
Class D Common Stock, par value $0.00001 per share	28,320,533

TRADEWEB MARKETS INC.

FORM 10-Q FOR THE QUARTERLY PERIOD ENDED MARCH 31, 2022

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INTRODUCTORY NOTE

The financial statements and other disclosures contained in this report include those of Tradeweb Markets Inc., which is the registrant, and those of its consolidating subsidiaries, including Tradeweb Markets LLC, which became the principal operating subsidiary of Tradeweb Markets Inc. on April 4, 2019 in a series of reorganization transactions (the “Reorganization Transactions”) that were completed in connection with Tradeweb Markets Inc.’s initial public offering (the “IPO”), which closed on April 8, 2019.

As a result of the Reorganization Transactions completed in connection with the IPO, Tradeweb Markets Inc. became a holding company whose only material assets consist of its equity interest in Tradeweb Markets LLC and related deferred tax assets. As the sole manager of Tradeweb Markets LLC, Tradeweb Markets Inc. operates and controls all of the business and affairs of Tradeweb Markets LLC and, through Tradeweb Markets LLC and its subsidiaries, conducts its business. As a result of this control, and because Tradeweb Markets Inc. has a substantial financial interest in Tradeweb Markets LLC, Tradeweb Markets Inc. consolidates the financial results of Tradeweb Markets LLC and its subsidiaries.

As used in this Quarterly Report on Form 10-Q, unless the context otherwise requires, references to:

- “We,” “us,” “our,” the “Company,” “Tradeweb” and similar references refer: (i) on or prior to the completion of the Reorganization Transactions to Tradeweb Markets LLC, which we refer to as “TWM LLC,” and, unless otherwise stated or the context otherwise requires, all of its subsidiaries and any predecessor entities, and (ii) following the completion of the Reorganization Transactions to Tradeweb Markets Inc., and, unless otherwise stated or the context otherwise requires, TWM LLC and all of its subsidiaries and any predecessor entities.

- “Bank Stockholders” refer collectively to entities affiliated with the following clients: Barclays Capital Inc., BofA Securities, Inc. (a subsidiary of Bank of America Corporation), Citigroup Global Markets Inc., Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., Goldman Sachs & Co. LLC, J.P. Morgan Securities LLC, Morgan Stanley & Co. LLC, RBS Securities Inc., UBS Securities LLC and Wells Fargo Securities, LLC, which, prior to the completion of the IPO, collectively held a 46% ownership interest in Tradeweb. Following the IPO and the application of the net proceeds therefrom, entities affiliated with BofA Securities, Inc., RBS Securities Inc. and UBS Securities LLC no longer hold LLC Interests and, except as otherwise indicated, are not considered Bank Stockholders for post-IPO periods.

- “Continuing LLC Owners” refer collectively to (i) those “Original LLC Owners,” including Refinitiv (as defined below), certain of the Bank Stockholders and members of management, that continued to own LLC Interests (as defined below) after the completion of the IPO and Reorganization Transactions, that received shares of our Class C common stock, shares of our Class D common stock or a combination of both, as the case may be, in connection with the completion of the Reorganization Transactions, and that may redeem or exchange their LLC Interests for shares of our Class A common stock or Class B common stock and (ii) solely with respect to the Tax Receivable Agreement (as defined below), also include those Original LLC Owners, including certain Bank Stockholders, that disposed of all of their LLC Interests for cash in connection with the IPO.

- “Investor Group” refer to certain investment funds affiliated with The Blackstone Group Inc. (f/k/a The Blackstone Group L.P.), an affiliate of Canada Pension Plan Investment Board, an affiliate of GIC Special Investments Pte. Ltd. and certain co-investors, which prior to the LSEG Transaction (as defined below) collectively held indirectly a 55% ownership interest in Refinitiv (as defined below).

- “LLC Interests” refer to the single class of common membership interests of TWM LLC issued in connection with the Reorganization Transactions.

- “LSEG Transaction” refer to the acquisition of the Refinitiv business by London Stock Exchange Group plc (“LSEG”), in an all share transaction, which closed on January 29, 2021.

- “Original LLC Owners” refer to the owners of TWM LLC prior to the Reorganization Transactions.

- “Refinitiv,” prior to the LSEG Transaction, refer to Refinitiv Holdings Limited, and unless otherwise stated or the context otherwise requires, all of its direct and indirect subsidiaries, and subsequent to the LSEG Transaction, refer to Refinitiv Parent Limited, and unless otherwise stated or the context otherwise requires, all of its subsidiaries. Refinitiv owns substantially all of the former financial and risk business of Thomson Reuters (as defined below), including, prior to and following the completion of the Reorganization Transactions, an indirect majority ownership interest in Tradeweb, and was controlled by the Investor Group prior to the LSEG Transaction.

- “Refinitiv Transaction” refer to the transaction pursuant to which Refinitiv indirectly acquired on October 1, 2018 substantially all of the financial and risk business of Thomson Reuters and Thomson Reuters indirectly acquired a 45% ownership interest in Refinitiv.

- “Thomson Reuters” or “TR” refer to Thomson Reuters Corporation, which prior to the LSEG Transaction indirectly held a 45% ownership interest in Refinitiv.

Numerical figures included in this Quarterly Report on Form 10-Q have been subject to rounding adjustments. Accordingly, numerical figures shown as totals in various tables may not be arithmetic aggregations of the figures that precede them. In addition, we round certain percentages presented in this Quarterly Report on Form 10-Q to the nearest whole number. As a result, figures expressed as percentages in the text may not total 100% or, when aggregated, may not be the arithmetic aggregation of the percentages that precede them.

USE OF NON-GAAP FINANCIAL MEASURES

This Quarterly Report on Form 10-Q contains “non-GAAP financial measures,” which are financial measures that are not calculated and presented in accordance with GAAP.

The Securities and Exchange Commission (“SEC”) has adopted rules to regulate the use in filings with the SEC and in other public disclosures of non-GAAP financial measures. These rules govern the manner in which non-GAAP financial measures are publicly presented and require, among other things:

- a presentation with equal or greater prominence of the most comparable financial measure or measures calculated and presented in accordance with GAAP; and

- a statement disclosing the purposes for which the registrant’s management uses the non-GAAP financial measure.

Specifically, we make use of the non-GAAP financial measures “Free Cash Flow,” “Adjusted EBITDA,” “Adjusted EBITDA margin,” “Adjusted EBIT,” “Adjusted EBIT margin,” “Adjusted Net Income” and “Adjusted Diluted EPS” in evaluating our past results and future prospects. For the definition of Free Cash Flow and a reconciliation to cash flow from operating activities, its most directly comparable financial measure presented in accordance with GAAP, see Part I, Item 2. – “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Non-GAAP Financial Measures.” For the definitions of Adjusted EBITDA, Adjusted EBIT and Adjusted Net Income and reconciliations to net income and net income attributable to Tradeweb Markets Inc., as applicable, their most directly comparable financial measures presented in accordance with GAAP, see Part I, Item 2. – “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Non-GAAP Financial Measures.” Adjusted EBITDA margin and Adjusted EBIT margin are defined as Adjusted EBITDA and Adjusted EBIT, respectively, divided by revenue for the applicable period. Adjusted Diluted EPS is defined as Adjusted Net Income divided by the diluted weighted average number of shares of Class A common stock and Class B common stock outstanding for the applicable period (including the effect of potentially dilutive securities determined using the treasury stock method), the weighted average number of other participating securities reflected in earnings per share using the two-class method and assuming the full exchange of all outstanding LLC Interests held by non-controlling interests for shares of Class A common stock or Class B common stock.

We present Free Cash Flow because we believe it is a useful indicator of liquidity that provides information to management and investors about the amount of cash generated from our core operations after expenditures for capitalized software development costs and furniture, equipment and leasehold improvements.

We present Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT and Adjusted EBIT margin because we believe they assist investors and analysts in comparing our operating performance across reporting periods on a consistent basis by excluding items that we do not believe are indicative of our core operating performance. Management and our board of directors use Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT and Adjusted EBIT margin to assess our financial performance and believe they are helpful in highlighting trends in our core operating performance, while other measures can differ significantly depending on long-term strategic decisions regarding capital structure, the tax jurisdictions in which we operate and capital investments. Further, our executive incentive compensation is based in part on components of Adjusted EBITDA and Adjusted EBITDA margin.

We use Adjusted Net Income and Adjusted Diluted EPS as supplemental metrics to evaluate our business performance in a way that also considers our ability to generate profit without the impact of certain items. Each of the normal recurring adjustments and other adjustments described in the definition of Adjusted Net Income helps to provide management with a measure of our operating performance over time by removing items that are not related to day-to-day operations or are non-cash expenses.

Free Cash Flow, Adjusted EBITDA, Adjusted EBIT, Adjusted Net Income and Adjusted Diluted EPS have limitations as analytical tools, and you should not consider such measures either in isolation or as substitutes for analyzing our results as reported under GAAP. Some of these limitations include the following:

- Free Cash Flow, Adjusted EBITDA, Adjusted EBIT, Adjusted Net Income and Adjusted Diluted EPS do not reflect every expenditure, future requirements for capital expenditures or contractual commitments;
- Adjusted EBITDA, Adjusted EBIT, Adjusted Net Income and Adjusted Diluted EPS do not reflect changes in our working capital needs;
- Adjusted EBITDA and Adjusted EBIT do not reflect any interest expense, or the amounts necessary to service interest or principal payments on any debt obligations;
- Adjusted EBITDA and Adjusted EBIT do not reflect income tax expense, which in post-IPO periods is a necessary element of our costs and ability to operate;
- although depreciation and amortization are eliminated in the calculation of Adjusted EBITDA, and the depreciation and amortization related to acquisitions and the Refinitiv Transaction are eliminated in the calculation of Adjusted EBIT, the assets being depreciated and amortized will often have to be replaced in the future, and Adjusted EBITDA and Adjusted EBIT do not reflect any costs of such replacements;
- in post-IPO periods, Adjusted EBITDA, Adjusted EBIT, Adjusted Net Income and Adjusted Diluted EPS do not reflect the noncash component of certain employee compensation expense or payroll taxes associated with certain option exercises;
- Adjusted EBITDA, Adjusted EBIT, Adjusted Net Income and Adjusted Diluted EPS do not reflect the impact of earnings or charges resulting from matters we consider not to be indicative, on a recurring basis, of our ongoing operations; and
- other companies in our industry may calculate Free Cash Flow, Adjusted EBITDA, Adjusted EBIT, Adjusted Net Income and Adjusted Diluted EPS or similarly titled measures differently than we do, limiting their usefulness as comparative measures.

We compensate for these limitations by relying primarily on our GAAP results and using Free Cash Flow, Adjusted EBITDA, Adjusted EBIT, Adjusted Net Income and Adjusted Diluted EPS only as supplemental information.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). You can generally identify forward-looking statements by our use of forward-looking terminology such as "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "projection," "seek," "should," "will" or "would," or the negative thereof or other variations thereon or comparable terminology. In particular, statements about the markets in which we operate, including our expectations about market trends, our market opportunity and the growth of our various markets, our expansion into new markets, any potential tax savings we may realize as a result of our organizational structure, our dividend policy and our expectations, beliefs, plans, strategies, objectives, prospects or assumptions regarding future events, our performance or otherwise, contained in this Quarterly Report on Form 10-Q are forward-looking statements. In addition, statements contained in this Quarterly Report on Form 10-Q relating to the COVID-19 pandemic (including any variants of COVID-19), the potential impacts of which are inherently uncertain, are forward-looking statements.

We have based these forward-looking statements on our current expectations, assumptions, estimates and projections. While we believe these expectations, assumptions, estimates and projections are reasonable, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which are beyond our control. These and other important factors may cause our actual results, performance or achievements to differ materially from those expressed or implied by these forward-looking statements, or could affect our share price.

Some of the factors that could cause actual results to differ materially from those expressed or implied by the forward-looking statements include:

- changes in economic, political, social and market conditions and the impact of these changes on trading volumes;
- our failure to compete successfully;
- our failure to adapt our business effectively to keep pace with industry changes;
- consolidation and concentration in the financial services industry;
- our dependence on dealer clients that, in some cases, are also stockholders;
- our dependence on third parties for certain market data and certain key functions;
- our ability to implement our business strategies profitably;
- our ability to successfully integrate any acquisition or to realize benefits from any strategic alliances, partnerships or joint ventures;
- our inability to maintain and grow the capacity of our trading platforms, systems and infrastructure;
- design defects, errors, failures or delays with our platforms or solutions;
- systems failures, interruptions, delays in services, cybersecurity incidents, catastrophic events and any resulting interruptions;
- inadequate protection of our intellectual property;
- extensive regulation of our industry;
- our ability to retain the services of certain members of our management;
- limitations on operating our business and incurring additional indebtedness as a result of covenant restrictions under our $500.0 million senior secured revolving credit facility (the "Revolving Credit Facility") with Citibank, N.A., as administrative agent and collateral agent, and the other lenders party thereto, and certain Refinitiv indebtedness;
- our dependence on distributions from TWM LLC to fund our expected dividend payments and to pay our taxes and expenses, including payments under the tax receivable agreement (the "Tax Receivable Agreement") entered into in connection with the IPO;
- our ability to realize any benefit from our organizational structure;

- Refinitiv's, and indirectly LSEG's, control of us and our status as a controlled company; and
- other risks and uncertainties, including those listed under Part I, Item 1A. "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2021 (the "2021 Form 10-K"), filed with the Securities and Exchange Commission ("SEC") and in other filings we may make from time to time with the SEC.

Given these risks and uncertainties, you are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements contained in this Quarterly Report on Form 10-Q are not guarantees of future performance and our actual results of operations, financial condition or liquidity, and the development of the industry and markets in which we operate, may differ materially from the forward-looking statements contained in this Quarterly Report on Form 10-Q. In addition, even if our results of operations, financial condition or liquidity, and events in the industry and markets in which we operate, are consistent with the forward-looking statements contained in this Quarterly Report on Form 10-Q, they may not be predictive of results or developments in future periods.

Any forward-looking statement that we make in this Quarterly Report on Form 10-Q speaks only as of the date of such statement. Except as required by law, we do not undertake any obligation to update or revise, or to publicly announce any update or revision to, any of the forward-looking statements, whether as a result of new information, future events or otherwise, after the date of this Quarterly Report on Form 10-Q.

Investors and others should note that we announce material financial and operational information using our investor relations website, press releases, SEC filings and public conference calls and webcasts. Information about Tradeweb, our business and our results of operations may also be announced by posts on Tradeweb's accounts on the following social media channels: Instagram, LinkedIn and Twitter. The information that we post through these social media channels may be deemed material. As a result, we encourage investors, the media and others interested in Tradeweb to monitor these social media channels in addition to following our investor relations website, press releases, SEC filings and public conference calls and webcasts. These social media channels may be updated from time to time on our investor relations website.

PART I — FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS

Tradeweb Markets Inc. and Subsidiaries
Condensed Consolidated Statements of Financial Condition
(in thousands, except share and per share amounts)
(Unaudited)

	March 31, 2022	December 31, 2021
Assets		
Cash and cash equivalents	$ 828,061	$ 972,048
Restricted cash	1,000	1,000
Receivable from brokers and dealers and clearing organizations	91,085	—
Deposits with clearing organizations	35,466	20,523
Accounts receivable, net of allowance for credit losses of $73 and $273 at March 31, 2022 and December 31, 2021, respectively	164,968	129,937
Furniture, equipment, purchased software and leasehold improvements, net of accumulated depreciation and amortization	35,141	31,060
Lease right-of-use assets	28,820	20,496
Software development costs, net of accumulated amortization	152,241	156,203
Goodwill	2,780,259	2,780,259
Intangible assets, net of accumulated amortization	1,153,216	1,180,016
Receivable from affiliates	2,441	3,313
Deferred tax asset	651,091	618,970
Other assets	77,334	76,355
Total assets	$ 6,001,123	$ 5,990,180
Liabilities and Equity		
Liabilities		
Securities sold under agreements to repurchase	$ 20,511	$ —
Payable to brokers and dealers and clearing organizations	70,512	—
Accrued compensation	74,941	154,824
Deferred revenue	27,667	24,930
Accounts payable, accrued expenses and other liabilities	47,489	38,832
Lease liabilities	31,926	24,331
Payable to affiliates	4,574	4,860
Deferred tax liability	20,659	21,011
Tax receivable agreement liability	409,113	412,449
Total liabilities	707,392	681,237
Commitments and contingencies (Note 12)		
Equity		
Preferred stock, $0.00001 par value; 250,000,000 shares authorized; none issued or outstanding	—	—
Class A common stock, $0.00001 par value; 1,000,000,000 shares authorized; 107,348,079 and 106,286,821 shares issued and outstanding as of March 31, 2022 and December 31, 2021, respectively	1	1
Class B common stock, $0.00001 par value; 450,000,000 shares authorized; 96,933,192 and 96,933,192 shares issued and outstanding as of March 31, 2022 and December 31, 2021, respectively	1	1
Class C common stock, $0.00001 par value; 350,000,000 shares authorized; 1,654,825 and 1,654,825 shares issued and outstanding as of March 31, 2022 and December 31, 2021, respectively	—	—
Class D common stock, $0.00001 par value; 300,000,000 shares authorized; 28,320,533 and 28,873,139 shares issued and outstanding as of March 31, 2022 and December 31, 2021, respectively	—	—
Additional paid-in capital	4,388,663	4,401,366
Accumulated other comprehensive income (loss)	(1,964)	1,604
Retained earnings	261,915	242,623
Total stockholders' equity attributable to Tradeweb Markets Inc.	4,648,616	4,645,595
Non-controlling interests	645,115	663,348
Total equity	5,293,731	5,308,943
Total liabilities and equity	$ 6,001,123	$ 5,990,180

The accompanying notes are an integral part of these condensed consolidated financial statements.

Tradeweb Markets Inc. and Subsidiaries
Condensed Consolidated Statements of Income
(in thousands, except share and per share amounts)
(Unaudited)

	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
Revenues		
Transaction fees and commissions	$ 251,805	$ 217,816
Subscription fees	41,455	37,868
Refinitiv market data fees	15,558	15,117
Other	2,668	2,598
Total revenue	**311,486**	**273,399**
Expenses		
Employee compensation and benefits	117,991	103,622
Depreciation and amortization	44,450	40,966
Technology and communications	15,776	13,544
General and administrative	10,313	3,459
Professional fees	7,857	9,728
Occupancy	3,497	3,753
Total expenses	199,884	175,072
Operating income	**111,602**	**98,327**
Net interest income (expense)	(447)	(493)
Income before taxes	**111,155**	**97,834**
Provision for income taxes	(13,710)	(16,269)
Net income	**97,445**	**81,565**
Less: Net income attributable to non-controlling interests	14,480	13,706
Net income attributable to Tradeweb Markets Inc.	**$ 82,965**	**$ 67,859**
Earnings per share attributable to Tradeweb Markets Inc. Class A and B common stockholders:		
Basic	$ 0.41	$ 0.34
Diluted	$ 0.40	$ 0.33
Weighted average shares outstanding:		
Basic	204,061,347	199,064,607
Diluted	207,497,102	205,028,717

The accompanying notes are an integral part of these condensed consolidated financial statements.

Tradeweb Markets Inc. and Subsidiaries
Condensed Consolidated Statements of Comprehensive Income
(in thousands)
(Unaudited)

	Three Months Ended March 31,	
	2022	**2021**
Net income	$ 97,445	$ 81,565
Other comprehensive income (loss), net of tax:		
Foreign currency translation adjustments, with no tax benefit for each of the three months ended March 31, 2022 and 2021	(4,098)	(343)
Other comprehensive income (loss), net of tax	(4,098)	(343)
Comprehensive income	93,347	81,222
Less: Net income attributable to non-controlling interests	14,480	13,706
Less: Foreign currency translation adjustments attributable to non-controlling interests	(530)	(46)
Comprehensive income attributable to Tradeweb Markets Inc.	$ 79,397	$ 67,562

	Three Months Ended March 31,	
	2022	**2021**
Comprehensive income - Tradeweb Markets Inc.		
Net income attributable to Tradeweb Markets Inc.	$ 82,965	$ 67,859
Other comprehensive income (loss):		
Foreign currency translation adjustments attributable to Tradeweb Markets Inc.	(3,568)	(297)
Comprehensive income attributable to Tradeweb Markets Inc.	$ 79,397	$ 67,562
Comprehensive income - Non-controlling interests		
Net income attributable to non-controlling interests	$ 14,480	$ 13,706
Other comprehensive income (loss):		
Foreign currency translation adjustments attributable to non-controlling interests	(530)	(46)
Comprehensive income attributable to non-controlling interests	$ 13,950	$ 13,660

The accompanying notes are an integral part of these condensed consolidated financial statements.

Tradeweb Markets Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Equity
(in thousands, except share and per share amounts)
(Unaudited)

	Tradeweb Markets Inc. Stockholders' Equity												
	Class A Common Stock		Class B Common Stock		Class C Common Stock		Class D Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Non-Controlling Interests	Total Equity
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount					
Balance at December 31, 2021	106,286,821	$ 1	96,933,192	$ 1	1,654,825	$ —	28,873,139	$ —	$ 4,401,366	$ 1,604	$ 242,623	$ 663,348	$ 5,308,943
Activities related to exchanges of LLC Interests	552,606	—	—	—	—	—	(552,606)	—	—	—	—	—	—
Issuance of common stock from equity incentive plans	1,068,080	—	—	—	—	—	—	—	692	—	—	—	692
Share repurchases pursuant to the Share Repurchase Program	(559,428)	—	—	—	—	—	—	—	—	—	(47,323)	—	(47,323)
Tax receivable agreement liability and deferred taxes arising from LLC Interest ownership exchanges and the issuance of common stock from equity incentive plans	—	—	—	—	—	—	—	—	38,676	—	—	—	38,676
Adjustments to non-controlling interests	—	—	—	—	—	—	—	—	30,005	—	—	(30,005)	—
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	—	—	(2,178)	(2,178)
Dividends ($0.08 per share)	—	—	—	—	—	—	—	—	—	—	(16,350)	—	(16,350)
Stock-based compensation expense under the PRSU Plan	—	—	—	—	—	—	—	—	6,351	—	—	—	6,351
Stock-based compensation expense under the RSU Plan	—	—	—	—	—	—	—	—	6,102	—	—	—	6,102
Stock-based compensation expense under the Option Plan	—	—	—	—	—	—	—	—	1,229	—	—	—	1,229
Payroll taxes paid for stock-based compensation	—	—	—	—	—	—	—	—	(95,758)	—	—	—	(95,758)
Net income	—	—	—	—	—	—	—	—	—	—	82,965	14,480	97,445
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	—	(3,568)	—	(530)	(4,098)
Balance at March 31, 2022	107,348,079	$ 1	96,933,192	$ 1	1,654,825	$ —	28,320,533	$ —	$ 4,388,663	$ (1,964)	$ 261,915	$ 645,115	$ 5,293,731

The accompanying notes are an integral part of these condensed consolidated financial statements.

Tradeweb Markets Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Equity – (Continued)
(in thousands, except share and per share amounts)
(Unaudited)

	Tradeweb Markets Inc. Stockholders' Equity												
	Class A Common Stock		Class B Common Stock		Class C Common Stock		Class D Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Non-Controlling Interests	Total Equity
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount					
Balance at December 31, 2020	98,075,465	$ 1	96,933,192	$ 1	3,139,821	$ —	30,871,381	$ —	$ 4,143,094	$ 4,314	$ 156,041	$ 715,712	$ 5,019,163
Activities related to exchanges of LLC Interests	3,479,269	—	—	—	(1,484,996)	—	(1,994,273)	—	—	—	—	—	—
Tax receivable agreement liability and deferred taxes arising from LLC Interest ownership exchanges	—	—	—	—	—	—	—	—	65,177	—	—	—	65,177
Issuance of common stock from equity incentive plans	3,088,545	—	—	—	—	—	—	—	46,397	—	—	—	46,397
Deferred taxes arising from issuance of common stock from equity incentive plans	—	—	—	—	—	—	—	—	6,417	—	—	—	6,417
Adjustments to non-controlling interests	—	—	—	—	—	—	—	—	80,665	85	—	(80,750)	—
Distributions to non-controlling interests	—	—	—	—	—	—	—	—	—	—	—	(2,504)	(2,504)
Dividends ($0.08 per share)	—	—	—	—	—	—	—	—	—	—	(16,030)	—	(16,030)
Stock-based compensation expense under the PRSU Plan	—	—	—	—	—	—	—	—	5,997	—	—	—	5,997
Stock-based compensation expense under the RSU Plan	—	—	—	—	—	—	—	—	2,523	—	—	—	2,523
Stock-based compensation expense under the Option Plan	—	—	—	—	—	—	—	—	2,240	—	—	—	2,240
Payroll taxes paid for stock-based compensation	—	—	—	—	—	—	—	—	(45,464)	—	—	—	(45,464)
Net income	—	—	—	—	—	—	—	—	—	—	67,859	13,706	81,565
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	—	(297)	—	(46)	(343)
Balance at March 31, 2021	104,643,279	$ 1	96,933,192	$ 1	1,654,825	$ —	28,877,108	$ —	$ 4,307,046	$ 4,102	$ 207,870	$ 646,118	$ 5,165,138

The accompanying notes are an integral part of these condensed consolidated financial statements.

Tradeweb Markets Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows
(in thousands)
(Unaudited)

	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
Cash flows from operating activities		
Net income	$ 97,445	$ 81,565
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation and amortization	44,450	40,966
Stock-based compensation expense	13,712	10,760
Deferred taxes	11,640	15,997
(Increase) decrease in operating assets:		
Receivable from/payable to brokers and dealers and clearing organizations, net	(20,573)	(101)
Deposits with clearing organizations	(14,996)	906
Accounts receivable	(36,437)	(38,831)
Receivable from/payable to affiliates, net	692	(6,491)
Other assets	(1,079)	7,226
Increase (decrease) in operating liabilities:		
Securities sold under agreements to repurchase	20,511	—
Accrued compensation	(81,025)	(59,275)
Deferred revenue	2,766	3,995
Accounts payable, accrued expenses and other liabilities	8,137	770
Employee equity compensation payable	—	(1,915)
Net cash provided by operating activities	45,243	55,572
Cash flows from investing activities		
Purchases of furniture, equipment, software and leasehold improvements	(9,061)	(4,359)
Capitalized software development costs	(8,979)	(8,266)
Net cash used in investing activities	(18,040)	(12,625)
Cash flows from financing activities		
Share repurchases pursuant to the Share Repurchase Program	(47,323)	—
Proceeds from stock-based compensation exercises	692	46,397
Dividends	(16,350)	(16,030)
Distributions to non-controlling interests	(2,178)	(2,504)
Payroll taxes paid for stock-based compensation	(93,927)	(45,464)
Payments on tax receivable agreement liability	(8,995)	(6,849)
Net cash used in financing activities	(168,081)	(24,450)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(3,109)	161
Net increase (decrease) in cash, cash equivalents and restricted cash	(143,987)	18,658
Cash, cash equivalents and restricted cash		
Beginning of period	973,048	792,280
End of period	$ 829,061	$ 810,938
Supplemental disclosure of cash flow information		
Income taxes paid, net of (refunds)	$ 2,764	$ (4,175)
Non-cash financing activities		
Withholding taxes payable relating to stock-based compensation settlements included in accrued compensation	$ 1,831	$ —
Items arising from LLC Interest ownership changes:		
Establishment of liabilities under tax receivable agreement	$ 5,659	$ 27,666
Deferred tax asset	$ 44,335	$ 99,260

Reconciliation of cash, cash equivalents and restricted cash as shown on the statements of financial condition:	March 31, 2022	December 31, 2021
Cash and cash equivalents	$ 828,061	$ 972,048
Restricted cash	1,000	1,000
Cash, cash equivalents and restricted cash shown in the statement of cash flows	$ 829,061	$ 973,048

The accompanying notes are an integral part of these condensed consolidated financial statements.

Notes to Condensed Consolidated Financial Statements
(Unaudited)

Tradeweb Markets Inc. and Subsidiaries
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Organization

Tradeweb Markets Inc. (the "Corporation") was incorporated as a Delaware corporation on November 7, 2018 to carry on the business of Tradeweb Markets LLC ("TWM LLC") following the completion of a series of reorganization transactions on April 4, 2019 (the "Reorganization Transactions"), in connection with Tradeweb Markets Inc.'s initial public offering (the "IPO"), which closed on April 8, 2019. Following the Reorganization Transactions, Refinitiv Holdings Limited (unless otherwise stated or the context otherwise requires, together with all of its direct and indirect subsidiaries, "Refinitiv") owned an indirect majority ownership interest in the Company (as defined below).

On January 29, 2021, London Stock Exchange Group plc ("LSEG") completed its acquisition of Refinitiv from a consortium, including certain investment funds affiliated with The Blackstone Group Inc. (f/k/a The Blackstone Group L.P.) ("Blackstone") as well as Thomson Reuters Corporation ("TR"), in an all share transaction (the "LSEG Transaction").

In connection with the LSEG Transaction, the Corporation became a consolidating subsidiary of LSEG. Prior to the LSEG Transaction, the Corporation was a consolidating subsidiary of BCP York Holdings ("BCP"), a company owned by certain investment funds affiliated with Blackstone, through BCP's previous majority ownership interest in Refinitiv.

The Corporation is a holding company whose principal asset is LLC Interests (as defined below) of TWM LLC. As the sole manager of TWM LLC, the Corporation operates and controls all of the business and affairs of TWM LLC and, through TWM LLC and its subsidiaries, conducts the Corporation's business. As a result of this control, and because the Corporation has a substantial financial interest in TWM LLC, the Corporation consolidates the financial results of TWM LLC and reports a non-controlling interest in the Corporation's condensed consolidated financial statements. As of March 31, 2022, Tradeweb Markets Inc. owns 87.2% of TWM LLC and the non-controlling interest holders own the remaining 12.8% of TWM LLC. As of December 31, 2021, Tradeweb Markets Inc. owned 86.9% of TWM LLC and the non-controlling interest holders owned the remaining 13.1% of TWM LLC.

Unless the context otherwise requires, references to the "Company" refer to Tradeweb Markets Inc. and its consolidated subsidiaries, including TWM LLC, following the completion of the Reorganization Transactions, and TWM LLC and its consolidated subsidiaries prior to the completion of the Reorganization Transactions.

The Company is a leader in building and operating electronic marketplaces for a global network of clients across the institutional, wholesale and retail client sectors. The Company's principal subsidiaries include:

- Tradeweb LLC ("TWL"), a registered broker-dealer under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), a member of the Financial Industry Regulatory Authority ("FINRA"), a registered independent introducing broker with the Commodities Future Trading Commission ("CFTC") and a member of the National Futures Association ("NFA").
- Dealerweb Inc. ("DW") (formerly known as Hilliard Farber & Co., Inc.), a registered broker-dealer under the Exchange Act and a member of FINRA. DW is also registered as an introducing broker with the CFTC and a member of the NFA.
- Tradeweb Direct LLC ("TWD") (formerly known as BondDesk Trading LLC), a registered broker-dealer under the Exchange Act and a member of FINRA.
- Execution Access, LLC ("EA"), acquired in June 2021 in connection with the NFI Acquisition (as defined below), a registered broker-dealer under the Exchange Act and a member of FINRA.
- Tradeweb Europe Limited ("TEL"), a Multilateral Trading Facility regulated by the Financial Conduct Authority (the "FCA") in the UK, which maintains branches in Asia which are regulated by certain Asian securities regulators.
- TW SEF LLC ("TW SEF"), a Swap Execution Facility ("SEF") regulated by the CFTC.
- DW SEF LLC ("DW SEF"), a SEF regulated by the CFTC.
- Tradeweb Japan K.K. ("TWJ"), a security house regulated by the Japanese Financial Services Agency ("JFSA") and the Japan Securities Dealers Association ("JSDA").

- Tradeweb EU B.V. (“TWEU”), a Trading Venue and Approved Publication Arrangement regulated by the Netherlands Authority for the Financial Markets (“AFM”).
- Tradeweb Execution Services Limited (“TESL”), an Investment Firm (“BIPRU Firm”) regulated by the FCA in the UK.
- Tradeweb Commercial Information Consulting (Shanghai) Co., Ltd. a wholly-owned foreign enterprise (WOFE) for the purpose of providing consulting and marketing activities in China. The Tradeweb offshore electronic trading platform is recognized by the People’s Bank of China for the provision of Bond Connect and CIBM Direct.

In June 2021, the Company acquired Nasdaq’s U.S. fixed income electronic trading platform, formerly known as eSpeed (the “NFI Acquisition”), which was a fully executable central order limit book (CLOB) for electronic trading in on-the-run (OTR) U.S. government bonds.

A majority interest of Refinitiv (formerly the Thomson Reuters Financial & Risk Business) was acquired by BCP on October 1, 2018 (the “Refinitiv Transaction”) from TR. The Refinitiv Transaction resulted in a new basis of accounting for certain of the Company’s assets and liabilities beginning on October 1, 2018. See Note 2 – Significant Accounting Policies for a description of pushdown accounting applied as a result of the Refinitiv Transaction.

In connection with the Reorganization Transactions, TWM LLC’s limited liability company agreement (the “TWM LLC Agreement”) was amended and restated to, among other things, (i) provide for a new single class of common membership interests in TWM LLC (the “LLC Interests”), (ii) exchange all of the then existing membership interests in TWM LLC for LLC Interests and (iii) appoint the Corporation as the sole manager of TWM LLC. As used herein, references to “Continuing LLC Owners” refer collectively to (i) those “Original LLC Owners,” including an indirect subsidiary of Refinitiv, certain investment and commercial banks (collectively, the “Bank Stockholders”) and members of management, that continued to own LLC Interests after the completion of the IPO and Reorganization Transactions, that received shares of Class C common stock, par value $0.00001 per share, of the Corporation (the “Class C common stock”), shares of Class D common stock, par value $0.00001 per share, of the Corporation (the “Class D common stock”) or a combination of both, as the case may be, in connection with the completion of the Reorganization Transactions, and that may redeem or exchange their LLC Interests for shares of Class A common stock, par value $0.00001 per share, of the Corporation (the “Class A common stock”) or Class B common stock, par value $0.00001 per share, of the Corporation (the “Class B common stock”) and (ii) solely with respect to the Tax Receivable Agreement (as defined in Note 6 – Tax Receivable Agreement), also includes those Original LLC Owners, including certain Bank Stockholders, that disposed of all of their LLC Interests for cash in connection with the IPO.

As of March 31, 2022:

- The public investors collectively owned 107,348,079 shares of Class A common stock, representing 7.9% of the combined voting power of Tradeweb Markets Inc.’s issued and outstanding common stock and indirectly, through Tradeweb Markets Inc., owned 45.8% of the economic interest in TWM LLC;
- Refinitiv collectively owned 96,933,192 shares of Class B common stock and 22,988,329 shares of Class D common stock, representing 88.1% of the combined voting power of Tradeweb Markets Inc.’s issued and outstanding common stock and directly and indirectly, through Tradeweb Markets Inc., owned 51.2% of the economic interest in TWM LLC; and
- The Bank Stockholders that continue to own LLC Interests collectively owned 1,654,825 shares of Class C common stock and 5,220,129 shares of Class D common stock, representing 4.0% of the combined voting power of Tradeweb Markets Inc.’s issued and outstanding common stock and directly own 2.9% of the economic interest in TWM LLC. As of March 31, 2022, only Credit Suisse Securities (USA) LLC remained as Bank Stockholders.
- Other stockholders that continue to own LLC Interests also collectively owned 112,075 shares of Class D common stock, representing less than 0.1% of the combined voting power of Tradeweb Markets Inc.’s issued and outstanding common stock and directly own less than 0.1% of the economic interest in TWM LLC.

In addition, for the three months ended March 31, 2022, the Company’s basic and diluted earnings per share calculation is impacted by 53,756 of weighted average shares resulting from unvested restricted stock units and unsettled vested performance-based restricted stock units that were considered participating securities for purposes of calculating earnings per share in accordance with the two-class method, and the Company’s diluted earnings per share calculation includes 3,435,755 weighted average shares resulting from the dilutive effect of its equity incentive plans. See Note 13 – Earnings Per Share for additional details.

2. Significant Accounting Policies

The following is a summary of significant accounting policies:

Basis of Presentation

The condensed consolidated financial statements include the accounts of the Company and its subsidiaries. All intercompany transactions and balances have been eliminated in consolidation. As discussed in Note 1 – Organization, as a result of the Reorganization Transactions, Tradeweb Markets Inc. consolidates TWM LLC and its subsidiaries and TWM LLC is considered to be the predecessor to Tradeweb Markets Inc. for financial reporting purposes. Tradeweb Markets Inc. had no business transactions or activities and no substantial assets or liabilities prior to the Reorganization Transactions. The condensed consolidated financial statements represent the financial condition and results of operations of the Company and report a non-controlling interest related to the LLC Interests held by the Continuing LLC Owners.

These condensed consolidated financial statements are unaudited and should be read in conjunction with the audited consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2021. The consolidated financial information as of December 31, 2021 has been derived from audited financial statements not included herein. These unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and the rules and regulations of the U.S. Securities and Exchange Commission ("SEC") with respect to interim financial reporting and Form 10-Q. In accordance with such rules and regulations, certain disclosures that are normally included in annual financial statements have been omitted. These unaudited condensed consolidated financial statements reflect all normal and recurring adjustments that are, in the opinion of management, necessary for a fair statement of the results for the interim periods presented. Operating results for interim periods are not necessarily indicative of the results that may be expected for the full year.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates and the difference may be material to the condensed consolidated financial statements.

Business Combinations

Business combinations are accounted for under the purchase method of accounting pursuant to Accounting Standards Codification ("ASC") 805, *Business Combinations* ("ASC 805"). The total cost of an acquisition is allocated to the underlying net assets based on their respective estimated fair values. The excess of the purchase price over the estimated fair values of the net assets acquired is recorded as goodwill. The fair value of assets acquired and liabilities assumed is determined based on assumptions that reasonable market participants would use in the principal (or most advantageous) market for the asset or liability. Determining the fair value of certain assets acquired and liabilities assumed is judgmental in nature and often involves the use of significant estimates and assumptions, including assumptions with respect to future cash flows, discount rates, growth rates, customer attrition rates and asset lives.

Transaction costs incurred to effect a business combination are expensed as incurred. During the three months ended March 31, 2022 and 2021, the Company incurred a total of none and $1.8 million, respectively in transaction costs included as a component of professional fees in the condensed consolidated statements of income. The transaction costs related to the NFI Acquisition.

Pushdown Accounting

In connection with the Refinitiv Transaction, a majority interest of Refinitiv was acquired by BCP on October 1, 2018 from TR. The Refinitiv Transaction was accounted for by Refinitiv in accordance with the acquisition method of accounting pursuant to ASC 805, and pushdown accounting was applied to Refinitiv to record the fair value of the assets and liabilities of Refinitiv as of October 1, 2018, the date of the Refinitiv Transaction. The Company, as a consolidating subsidiary of Refinitiv, also accounted for the Refinitiv Transaction using pushdown accounting which resulted in a new fair value basis of accounting for certain of the Company's assets and liabilities beginning on October 1, 2018. Under the pushdown accounting applied, the excess of the fair value of the Company above the fair value accounting basis of the net assets and liabilities of the Company as of October 1, 2018 was recorded as goodwill. The fair value of assets acquired and liabilities assumed was determined based on assumptions that reasonable market participants would use in the principal (or most advantageous) market for the asset or liability. The adjusted valuations primarily affected the values of the Company's long-lived and indefinite-lived intangible assets, including software development costs.

Cash and Cash Equivalents

Cash and cash equivalents consists of cash and highly liquid investments (such as short-term money market instruments) with original maturities at the time of purchase of three months or less.

Allowance for Credit Losses

The Company continually monitors collections and payments from its clients and maintains an allowance for credit losses. The allowance for credit losses is based on an estimate of the amount of potential credit losses in existing accounts receivable, as determined from a review of aging schedules, past due balances, historical collection experience and other specific account data. Careful analysis of the financial condition of the Company's counterparties is also performed.

Additions to the allowance for credit losses are charged to credit loss expense, which is included in general and administrative expenses in the condensed consolidated statements of income. Aged balances that are determined to be uncollectible, are written off against the allowance for credit losses. See Note 11 – Credit Risk for additional information.

Receivable from and Payable to Brokers and Dealers and Clearing Organizations

Receivable from and payable to brokers and dealers and clearing organizations consists of proceeds from transactions executed on the Company's wholesale platform which failed to settle due to the inability of a transaction party to deliver or receive the transacted security. These securities transactions are generally collateralized by those securities. Until the failed transaction settles, a receivable from (and a matching payable to) brokers and dealers and clearing organizations is recognized for the proceeds from the unsettled transaction.

Deposits with Clearing Organizations

Deposits with clearing organizations are comprised of cash deposits.

Furniture, Equipment, Purchased Software and Leasehold Improvements

Furniture, equipment, purchased software and leasehold improvements are carried at cost less accumulated depreciation. Depreciation for furniture, equipment and purchased software is computed on a straight-line basis over the estimated useful lives of the related assets, ranging from three to seven years. Leasehold improvements are amortized over the lesser of the estimated useful lives of the leasehold improvements or the remaining term of the lease for office space.

Furniture, equipment, purchased software and leasehold improvements are tested for impairment whenever events or changes in circumstances suggest that an asset's carrying value may not be fully recoverable.

As of March 31, 2022 and December 31, 2021, accumulated depreciation related to furniture, equipment, purchased software and leasehold improvements totaled $60.2 million and $56.0 million, respectively. Depreciation expense for furniture, equipment, purchased software and leasehold improvements was $4.7 million and $5.4 million for the three months ended March 31, 2022 and 2021, respectively.

Software Development Costs

The Company capitalizes costs associated with the development of internal use software at the point at which the conceptual formulation, design and testing of possible software project alternatives have been completed. The Company capitalizes employee compensation and related benefits and third party consulting costs incurred during the application development stage which directly contribute to such development. Such costs are amortized on a straight-line basis over three years. Software development costs acquired as part of the NFI Acquisition are amortized over one year. Costs capitalized as part of the Refinitiv Transaction pushdown accounting allocation are amortized over nine years. The Company reviews the amounts capitalized for impairment whenever events or changes in circumstances indicate that the carrying amounts of the assets may not be fully recoverable, or that their useful lives are shorter than originally expected. Non-capitalized software costs and routine maintenance costs are expensed as incurred.

As of March 31, 2022 and December 31, 2021, accumulated amortization related to software development costs totaled $127.4 million and $114.5 million, respectively. Amortization expense for software development costs was $12.9 million and $10.7 million for the three months ended March 31, 2022 and 2021, respectively.

Goodwill

Goodwill includes the excess of the fair value of the Company above the fair value accounting basis of the net assets and liabilities of the Company as previously applied under pushdown accounting in connection with the Refinitiv Transaction. Goodwill also includes the cost of acquired companies in excess of the fair value of identifiable net assets at the acquisition date, including the NFI Acquisition. Goodwill is not amortized, but is tested for impairment annually on October 1st and between annual tests, whenever events or changes in circumstances indicate that the carrying amount may not be fully 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 consists of one reporting unit for goodwill impairment testing purposes. An impairment loss is recognized if the estimated fair value of a reporting unit is less than its net book value. Such loss is calculated as the difference between the estimated fair value of goodwill and its carrying value.

Goodwill was last tested for impairment on October 1, 2021 and no impairment of goodwill was identified.

Intangible Assets

Intangible assets with a finite life are amortized over the estimated lives, ranging from seven to thirteen years. These intangible assets subject to amortization are tested for impairment whenever events or changes in circumstances suggest that an asset’s or asset group’s carrying value may not be fully recoverable. Intangible assets with an indefinite useful life are tested for impairment at least annually. An impairment loss is recognized if the sum of the estimated discounted cash flows relating to the asset or asset group is less than the corresponding book value.

As of March 31, 2022 and December 31, 2021, accumulated amortization related to intangible assets totaled $353.8 million and $327.0 million, respectively. Amortization expense for definite-lived intangible assets was $26.8 million and $24.9 million for the three months ended March 31, 2022 and 2021, respectively.

Equity Investments Without Readily Determinable Fair Values

Equity Investments without a readily determinable fair value are measured at cost, less impairment, plus or minus observable price changes (in orderly transactions) of an identical or similar investment of the same issuer. If the Company determines that the equity investment is impaired on the basis of a qualitative assessment, the Company will recognize an impairment loss equal to the amount by which the investment’s carrying amount exceeds its fair value. Equity investments are included as a component of other assets on the condensed consolidated statements of financial condition.

Securities Sold Under Agreements to Repurchase

From time to time, the Company sells securities under agreements to repurchase in order to facilitate the clearance of securities. Securities sold under agreements to purchase are treated as collateralized financings and are presented in the condensed consolidated statements of financial condition at the amounts of cash received. Receivables and payables arising from these agreements are not offset in the condensed consolidated statements of financial condition.

Leases

At lease commencement, a right-of-use asset and a lease liability are recognized for all leases with an initial term in excess of twelve months based on the initial present value of the fixed lease payments over the lease term. The lease right-of-use asset also reflects the present value of any initial direct costs, prepaid lease payments and lease incentives. The Company's leases do not provide a readily determinable implicit discount rate. Therefore, management estimates the Company's incremental borrowing rate used to discount the lease payments based on the information available at lease commencement. The Company includes the term covered by an option to extend a lease when the option is reasonably certain to be exercised. The Company has elected not to separate non-lease components from lease components for all leases. Significant assumptions and judgments in calculating the lease right-of-use assets and lease liabilities include the determination of the applicable borrowing rate for each lease. Operating lease expense is recognized on a straight-line basis over the lease term and included as a component of occupancy expense in the consolidated statements of income.

Deferred IPO and Follow-On Offering Costs

Deferred IPO and follow-on offering costs consist of legal, accounting, and other costs directly related to the Company's efforts to raise capital. These costs are recognized as a reduction in additional paid-in capital within the condensed consolidated statements of financial condition when the offering is effective. As of both March 31, 2022 and December 31, 2021, $15.9 million of deferred costs related to the IPO and $5.2 million of deferred costs related to follow-on offerings were included as a component of the additional paid-in capital balance in the condensed consolidated statements of financial condition. No offering costs were incurred during each of the three months ended March 31, 2022 and 2021.

Revenue Recognition

The Company's classification of revenues in the condensed consolidated statements of income represents revenues from contracts with customers disaggregated by type of revenue. See Note 4 – Revenue for additional details regarding revenue types and the Company's policies regarding revenue recognition.

Translation of Foreign Currency and Foreign Currency Forward Contracts

Revenues, expenses, assets and liabilities denominated in non-functional currencies are recorded in the appropriate functional currency for the legal entity at the rate of exchange prevailing at the transaction date. Monetary assets and liabilities that are denominated in non-functional currencies are then remeasured at the end of each reporting period at the exchange rate prevailing at the end of the reporting period. Foreign currency remeasurement gains or losses on monetary assets and liabilities in nonfunctional currencies are recognized in the condensed consolidated statements of income within general and administrative expenses. The realized and unrealized losses totaled $0.3 million and $1.9 million during the three months ended March 31, 2022 and 2021, respectively. Since the condensed consolidated financial statements are presented in U.S. dollars, the Company also translates all non-U.S. dollar functional currency revenues, expenses, assets and liabilities into U.S. dollars. All non-U.S. dollar functional currency revenue and expense amounts are translated into U.S. dollars monthly at the average exchange rate for the month. All non-U.S. dollar functional currency assets and liabilities are translated at the rate prevailing at the end of the reporting period. Gains or losses on translation in the financial statements, when the functional currency is other than the U.S. dollar, are included as a component of other comprehensive income.

The Company enters into foreign currency forward contracts to mitigate its U.S. dollar and British pound sterling versus Euro exposure, generally with a duration of less than twelve months. The Company's foreign currency forward contracts are not designated as hedges for accounting purposes and changes in the fair value of these contracts during the period are recognized in the condensed consolidated statements of income within general and administrative expenses. The Company does not use derivative instruments for trading or speculative purposes. Realized and unrealized gains on foreign currency forward contracts totaled $0.7 million and $5.7 million during the three months ended March 31, 2022 and 2021, respectively. See Note 10 – Fair Value of Financial Instruments for additional details on the Company's derivative instruments.

Income Tax

The Corporation is subject to U.S. federal, state and local income taxes with respect to its taxable income, including its allocable share of any taxable income of TWM LLC, and is taxed at prevailing corporate tax rates. TWM LLC is a multiple member limited liability company taxed as a partnership and accordingly any taxable income generated by TWM LLC is passed through to and included in the taxable income of its members, including the Corporation. Income taxes also include unincorporated business taxes on income earned or losses incurred for conducting business in certain state and local jurisdictions, income taxes on income earned or losses incurred in foreign jurisdictions on certain operations and federal and state income taxes on income earned or losses incurred, both current and deferred, on subsidiaries that are taxed as corporations for U.S. tax purposes.

The Company records deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities. The Company measures deferred taxes using the enacted tax rates and laws that will be in effect when such temporary differences are expected to reverse. The Company evaluates the need for valuation allowances based on the weight of positive and negative evidence. The Company records valuation allowances wherever management believes it is more likely than not that the Company will not be able to realize its deferred tax assets in the foreseeable future.

The Company records uncertain tax positions on the basis of a two-step process whereby (i) the Company determines whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (ii) for those tax positions that meet the more-likely-than-not recognition threshold, the Company recognizes the amount of tax benefit that is more than 50 percent likely to be realized upon ultimate settlement with the related tax authority.

The Company recognizes interest and penalties related to income taxes within the provision for income taxes in the condensed consolidated statements of income. Accrued interest and penalties are included within accounts payable, accrued expenses and other liabilities in the condensed consolidated statements of financial condition.

The Company has elected to treat taxes due on future U.S. inclusions in taxable income under the global intangible low-taxed income (“GILTI”) provision of the Tax Cuts and Jobs Act as a current period expense when incurred.

Stock-Based Compensation

The stock-based payments received by the employees of the Company are accounted for as equity awards. The Company measures and recognizes the cost of employee services received in exchange for awards of equity instruments based on their estimated fair values measured as of the grant date. These costs are recognized as an expense over the requisite service period, with an offsetting increase to additional paid-in capital. The grant-date fair value of stock-based awards that do not require future service (i.e., vested awards) are expensed immediately. Forfeitures of stock-based compensation awards are recognized as they occur.

For grants made during the post-IPO period, the fair value of the equity instruments is determined based on the price of the Class A common stock on the grant date.

Prior to the IPO, the Company awarded options to management and other employees (collectively, the “Special Option Award”) under the Amended and Restated Tradeweb Markets Inc. Option Plan (the “Option Plan”). The significant assumptions used to estimate the fair value as of grant date of the options awarded prior to the IPO did not reflect changes that would have occurred to these assumptions as a result of the IPO. The non-cash stock-based compensation expense associated with the Special Option Award began being expensed in the second quarter of 2019.

The Company uses the Black-Scholes pricing model to value some of its option awards. Determining the appropriate fair value model and calculating the fair value of the option awards requires the input of highly subjective assumptions, including the expected life of the option awards and the stock price volatility.

Earnings Per Share

Basic and diluted earnings per share are computed in accordance with the two-class method as unvested restricted stock units and unsettled vested performance-based restricted stock units issued to certain retired executives are entitled to non-forfeitable dividend equivalent rights and are considered participating securities prior to being issued and outstanding shares of common stock. The two-class method is an earnings allocation formula that treats a participating security as having rights to earnings that otherwise would have been available to common shareholders. Basic earnings per share, is computed by dividing the net income attributable to the Company’s outstanding shares of Class A and Class B common stock by the weighted-average number of the Company’s shares outstanding during the period. For purposes of computing diluted earnings per share, the weighted-average number of the Company’s shares reflects the dilutive effect that could occur if all potentially dilutive securities were converted into or exchanged or exercised for the Company’s Class A or Class B common stock.

The dilutive effect of stock options and other stock-based payment awards is calculated using the treasury stock method, which assumes the proceeds from the exercise of these instruments are used to purchase common shares at the average market price for the period. The dilutive effect of LLC Interests is evaluated under the if-converted method, where the securities are assumed to be converted at the beginning of the period, and the resulting common shares are included in the denominator of the diluted earnings per share calculation for the entire period presented. Performance-based awards are considered contingently issuable shares and their dilutive effect is included in the denominator of the diluted earnings per share calculation for the entire period, if those shares would be issuable as of the end of the reporting period, assuming the end of the reporting period was also the end of the contingency period.

Shares of Class C and Class D common stock do not have economic rights in Tradeweb Markets Inc. and, therefore, are not included in the calculation of basic earnings per share.

Fair Value Measurement

The fair value of a financial instrument is the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (the exit price). Instruments that the Company owns (long positions) are marked to bid prices, and instruments that the Company has sold, but not yet purchased (short positions) are marked to offer prices. Fair value measurements do not include transaction costs.

The fair value hierarchy under ASC 820, *Fair Value Measurement* ("ASC 820"), prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements). The three levels of the fair value hierarchy under ASC 820 are described below.

Basis of Fair Value Measurement

A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

- 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 considered to be active or financial instruments for which all significant inputs are observable, either directly or indirectly;
- Level 3: Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

3. Restricted Cash

Cash has been segregated in a special reserve bank account for the benefit of brokers and dealers under SEC Rule 15c3-3. The Company computes the proprietary accounts of broker-dealers ("PAB") reserve, which requires the Company to maintain minimum segregated cash in the amount of excess total credits per the reserve computation. As of both March 31, 2022 and December 31, 2021, cash in the amount of $1.0 million has been segregated in the PAB reserve account, exceeding the requirements pursuant to SEC Rule 15c3-3.

4. Revenue

Revenue Recognition

The Company enters into contracts with its clients to provide a stand-ready connection to its electronic marketplaces, which facilitates the execution of trades by its clients. The access to the Company's electronic marketplaces includes market data, continuous pricing data refreshes and the processing of trades thereon. The stand-ready connection to the electronic marketplaces is considered a single performance obligation satisfied over time as the client simultaneously receives and consumes the benefit from the Company's performance as access is provided (that is, the performance obligation constitutes a series of services that are substantially the same in nature and are provided over time using the same measure of progress). For its services, the Company earns subscription fees for granting access to its electronic marketplaces. Subscription fees, which are generally fixed fees, are recognized as revenue on a monthly basis, in the period that access is provided. The frequency of subscription fee billings varies from monthly to annually, depending on contract terms. Fees received by the Company which are not yet earned are included in deferred revenue on the condensed consolidated statements of financial condition until the revenue recognition criteria have been met. The Company also earns transaction fees and/or commissions from transactions executed on the Company's electronic marketplaces. The Company earns commission revenue from its electronic and voice brokerage services on a riskless principal basis. Riskless principal revenues are derived on matched principal transactions where revenues are earned on the spread between the buy and sell price of the transacted product. Transaction fees and commissions are generated both on a variable and fixed price basis and vary by geographic region, product type and trade size. Fixed monthly transaction fees or commissions, or monthly transaction fees or commission minimums, are earned on a monthly basis in the period the stand-ready trading services are provided and are generally billed monthly. For variable transaction fees or commissions, the Company charges its clients amounts calculated based on the mix of products traded and the volume of transactions executed. Variable transaction fee or commission revenue is recognized and recorded on a trade-date basis when the individual trade occurs and is generally billed when the trade settles or is billed monthly. Variable discounts or rebates on transaction fees or commissions are earned and applied monthly or quarterly, resolved within the same reporting period and are recorded as a reduction to revenue in the period the relevant trades occur.

The Company earns fees from Refinitiv relating to the sale of market data to Refinitiv, which redistributes that data. Included in these fees, which are billed quarterly, are real-time market data fees which are recognized monthly on a straight-line basis, as Refinitiv receives and consumes the benefit evenly over the contract period, as the data is provided. Also included in these fees are fees for historical data sets which are recognized when the historical data set is provided to Refinitiv. Significant judgments used in accounting for this contract include the following determinations:

- The provision of real-time market data feeds and annual historical data sets are distinct performance obligations.
- The performance obligations under this contract are recognized over time from the initial delivery of the data feeds or each historical data set until the end of the contract term.
- Determining the transaction price for the performance obligations by using a market assessment analysis. Inputs in this analysis include a consultant study which determined the overall value of the Company's market data and pricing information for historical data sets provided by other companies.

Some revenues earned by the Company have fixed fee components, such as monthly minimums or fixed monthly fees, and variable components, such as transaction-based fees. The breakdown of revenues between fixed and variable revenues for the three months ended March 31, 2022 and 2021 is as follows:

	Three Months Ended March 31, 2022 (in thousands)		Three Months Ended March 31, 2021 (in thousands)	
	Variable	Fixed	Variable	Fixed
Revenues				
Transaction fees and commissions	$ 213,736	$ 38,069	$ 179,667	$ 38,149
Subscription fees	475	40,980	462	37,406
Refinitiv market data fees	—	15,558	—	15,117
Other	251	2,417	213	2,385
Total revenue	$ 214,462	$ 97,024	$ 180,342	$ 93,057

Deferred Revenue

The Company records deferred revenue when cash payments are received or due in advance of services to be performed. The revenue recognized and the remaining deferred revenue balances are shown below:

	Amount (in thousands)
Deferred revenue balance - December 31, 2021	$ 24,930
New billings	31,722
Revenue recognized	(28,954)
Effect of foreign currency exchange rate changes	(31)
Deferred revenue balance - March 31, 2022	$ 27,667

During the three months ended March 31, 2022, the Company recognized $14.1 million in total revenue that was deferred as of December 31, 2021. During the three months ended March 31, 2021, the Company recognized $13.7 million in total revenue that was deferred as of December 31, 2020.

5. Income Taxes

The Corporation is subject to U.S. federal, state and local income taxes with respect to its taxable income, including its allocable share of any taxable income of TWM LLC, and is taxed at prevailing corporate tax rates. The Company's actual effective tax rate will be impacted by the Corporation's ownership share of TWM LLC, which is expected to continue to increase over time as the Continuing LLC Owners redeem or exchange their LLC Interests for shares of Class A common stock or Class B common stock, as applicable, or the Corporation purchases LLC Interests from the Continuing LLC Owners.

The Company's consolidated effective tax rate will also vary from period to period depending on changes in the mix of earnings, tax legislation and tax rates in various jurisdictions.

The Company's provision for income taxes includes U.S. federal, state, local and foreign taxes. The Company's effective tax rate for the three months ended March 31, 2022 and 2021 was approximately 12.3% and 16.6%, respectively.

The effective tax rate for the three months ended March 31, 2022 differed from the U.S. federal statutory rate of 21.0% primarily due to the tax impact of the exercise of equity compensation, return-to-provision adjustments and the effect of non-controlling interests, partially offset by state, local and foreign taxes. The effective tax rate for the three months ended March 31, 2021 differed from the U.S. federal statutory rate of 21.0% primarily due to the effect of non-controlling interests and the tax impact of the exercise of equity compensation, partially offset by state, local and foreign taxes.

The Company expects to obtain an increase in its share of the tax basis of the assets of TWM LLC when LLC Interests are redeemed or exchanged by the Continuing LLC Owners and in connection with certain other qualifying transactions. This increase in tax basis may have the effect of reducing the amounts that the Corporation would otherwise pay in the future to various tax authorities. Pursuant to the Tax Receivable Agreement, the Corporation is required to make cash payments to the Continuing LLC Owners equal to 50% of the amount of U.S. federal, state and local income or franchise tax savings, if any, that the Corporation actually realizes (or in some circumstances are deemed to realize) as a result of certain future tax benefits to which the Corporation may become entitled. The Corporation expects to benefit from the remaining 50% of tax benefits, if any, that the Corporation may actually realize. See Note 6 – Tax Receivable Agreement for further details. The tax benefit has been recognized in deferred tax assets on the condensed consolidated statement of financial condition.

In connection with the completion of the Reorganization Transactions, the Corporation received 96,933,192 LLC Interests and Refinitiv received 96,933,192 shares of Class B common stock ("Refinitiv Contribution"). As a result of the Refinitiv Contribution, the Company assumed the tax liabilities of the contributed entity. The contributed entity is under audit by the State of New Jersey for the tax years 2012 through 2015 and is appealing a tax assessment from an audit by the State of New Jersey for the tax years 2008 through 2011. As of both March 31, 2022 and December 31, 2021, the tax liability related to the Refinitiv Contribution was $2.7 million and is included within accounts payable, accrued expenses and other liabilities on the condensed consolidated statement of financial condition. The Company is indemnified by Refinitiv for these tax liabilities that were assumed by the Company as a result of the Refinitiv Contribution. As of both March 31, 2022 and December 31, 2021, $2.7 million is included in other assets on the condensed consolidated statements of financial condition related to this related party indemnification.

6. Tax Receivable Agreement

In connection with the Reorganization Transactions, the Corporation entered into a tax receivable agreement (the “Tax Receivable Agreement”) with TWM LLC and the Continuing LLC Owners, which provides for the payment by the Corporation to a Continuing LLC Owner of 50% of the amount of U.S. federal, state and local income or franchise tax savings, if any, that the Corporation actually realizes (or in some circumstances is deemed to realize) as a result of (i) increases in the tax basis of TWM LLC’s assets resulting from (a) the purchase of LLC Interests from such Continuing LLC Owner, including with the net proceeds from the IPO and any subsequent offerings or (b) redemptions or exchanges by such Continuing LLC Owner of LLC Interests for shares of Class A common stock or Class B common stock or for cash, as applicable, and (ii) certain other tax benefits related to the Corporation making payments under the Tax Receivable Agreement. Payments under the Tax Receivable Agreement are made within 150 days after the filing of the tax return based on the actual tax savings realized by the Corporation. The first payment of the Tax Receivable Agreement was made in January 2021. Substantially all payments due under the Tax Receivable Agreement are payable over the fifteen years following the purchase of LLC Interests from Continuing LLC Owners or redemption or exchanges by Continuing LLC Owners of LLC Interests.

The Corporation accounts for the income tax effects resulting from taxable redemptions or exchanges of LLC Interests by the Continuing LLC Owners for shares of Class A common stock or Class B common stock or cash, as the case may be, and purchases by the Corporation of LLC Interests from the Continuing LLC Owners by recognizing an increase in deferred tax assets, based on enacted tax rates at the date of each redemption, exchange, or purchase, as the case may be. Further, the Corporation evaluates the likelihood that it will realize the benefit represented by the deferred tax asset, and, to the extent that the Corporation estimates that it is more likely than not that it will not realize the benefit, it reduces the carrying amount of the deferred tax asset with a valuation allowance.

The impact of any changes in the total projected obligations recorded under the Tax Receivable Agreement as a result of actual changes in the mix of the Company’s earnings, tax legislation and tax rates in various jurisdictions, or other factors that may impact the Corporation’s actual tax savings realized, are reflected in income before taxes on the condensed consolidated statement of income in the period in which the change occurs. As of March 31, 2022 and December 31, 2021, the tax receivable agreement liability on the condensed consolidated statements of financial condition totaled $409.1 million and $412.4 million, respectively. During each of the three months ended March 31, 2022 and 2021, no tax receivable agreement liability adjustment was reflected in the condensed consolidated statements of income.

7. Non-Controlling Interests

In connection with the Reorganization Transactions, Tradeweb Markets Inc. became the sole manager of TWM LLC and, as a result of this control, and because Tradeweb Markets Inc. has a substantial financial interest in TWM LLC, consolidates the financial results of TWM LLC into its condensed consolidated financial statements. The non-controlling interests balance reported on the condensed consolidated statements of financial condition represents the economic interests of TWM LLC held by the holders of LLC Interests other than Tradeweb Markets Inc. Income or loss is attributed to the non-controlling interests based on the relative ownership percentages of LLC Interests held during the period by Tradeweb Markets Inc. and the other holders of LLC Interests.

The following table summarizes the ownership interest in Tradeweb Markets LLC:

	March 31, 2022		March 31, 2021	
	LLC Interests	Ownership %	LLC Interests	Ownership %
Number of LLC Interests held by Tradeweb Markets Inc.	204,281,271	87.2 %	201,576,471	86.8 %
Number of LLC Interests held by non-controlling interests	29,975,358	12.8 %	30,531,933	13.2 %
Total LLC Interests outstanding	234,256,629	100.0 %	232,108,404	100.0 %

LLC Interests held by the Continuing LLC Owners are redeemable in accordance with the TWM LLC Agreement at the election of the members for shares of Class A common stock or Class B common stock, on a one-for-one basis or, at the Company’s option, a cash payment in accordance with the terms of the TWM LLC Agreement.

The following table summarizes the impact on Tradeweb Market Inc.'s equity due to changes in the Corporation's ownership interest in TWM LLC:

Net Income Attributable to Tradeweb Markets Inc. and Transfers (to) from the Non-Controlling Interests	**Three Months Ended March 31, 2022**	**2021**
	(in thousands)	
Net income attributable to Tradeweb Markets Inc.	$ 82,965	$ 67,859
Transfers (to) from non-controlling interests:		
Increase/(decrease) in Tradeweb Markets Inc.'s additional paid-in capital as a result of ownership changes in TWM LLC	30,005	80,665
Net transfers (to) from non-controlling interests	30,005	80,665
Change from net income attributable to Tradeweb Markets Inc. and transfers (to) from non-controlling interests	$ 112,970	$ 148,524

8. Stockholders' Equity and Stock-Based Compensation Plans

The rights and privileges of the Company's stockholders' equity and LLC Interests are described in the audited consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2021 and there have been no changes to those rights and privileges during the three months ended March 31, 2022.

Stock-Based Compensation Plans

Under the Tradeweb Markets Inc. 2019 Omnibus Equity Incentive Plan, the Company is authorized to issue up to 8,841,864 new shares of Class A common stock to employees, officers and non-employee directors. Under this plan, the Company may grant awards in respect of shares of Class A common stock, including performance-based restricted stock units ("PRSUs"), stock options, restricted stock units ("RSUs") and dividend equivalent rights. The awards may have performance-based and/or time-based vesting conditions. RSUs and PRSUs each represent promises to issue actual shares of Class A common stock at the end of a vesting period. Stock options have a maximum contractual term of 10 years.

On February 16, 2022, the Company announced that Mr. Olesky will retire as Chief Executive Officer ("CEO") of the Company, effective December 31, 2022. On February 11, 2022, the board of directors elected the Company's President, Mr. Billy Hult, to succeed Mr. Olesky as CEO of the Company, effective January 1, 2023. Mr. Olesky will stay on with the Company in the position of Chairman of the board of directors, and accordingly will continue to serve in his capacity as a director of the Company.

As of the beginning of Mr. Olesky's six month notice period under the Company's 2019 Omnibus Equity Incentive Plan, there was approximately $6.7 million in total unamortized stock-based compensation associated with equity awards previously granted to Mr. Olesky plus $5.0 million in unamortized stock-based compensation awards granted to Mr. Olesky during 2022 that will both be accelerated and amortized into expense over a revised estimated service period ending on August 11, 2022, the date that ends such six month notice period. Of these amounts, $3.1 million represents regular amortization that would have been recognized through August 11, 2022 if Mr. Olesky had not announced his retirement and $8.6 million represents accelerated stock-based compensation (the "CEO Retirement Accelerated Stock-Based Compensation Expense"). Total amortization amounts disclosed are based on a 100% multiplier achieved for the 2022 PRSUs and are subject to adjustment, up or down, in an amount up to $2.1 million, based on the final performance multiplier achieved for the year ending December 31, 2022. During the three months ended March 31, 2022, the Company incurred a total of $1.7 million in CEO Retirement Accelerated Stock-Based Compensation Expense.

During the three months ended March 31, 2022, the Company granted 395,429 RSUs and 249,292 PRSUs at a weighted-average grant-date fair value of $83.79 and $83.74, respectively. These RSU awards granted to employees will vest one-third each year over a three-year period, and RSU awards granted to non-employee directors will vest after one year. These PRSUs vest at the end of a three-year cliff vesting period and the number of shares a participant will receive upon vesting is determined by a performance modifier, which is adjusted as a result of the financial performance of the Company in the grant year. The performance modifier can vary between 0% (minimum) and 200% (maximum) of the target (100%) award amount.

A summary of the Company's total stock-based compensation expense, including expense associated with the CEO Retirement Accelerated Stock-Based Compensation Expense, is presented below:

	Three Months Ended March 31,	
	2022	2021
	(in thousands)	
Total stock-based compensation expense	$ 13,712	$ 10,760

Share Repurchase Program

On February 4, 2021, the Company announced that the board of directors authorized a new share repurchase program (the "Share Repurchase Program"), primarily to offset annual dilution from stock-based compensation plans. The Share Repurchase Program authorizes the purchase of up to $150.0 million of the Company's Class A common stock at the Company's discretion through the end of fiscal year 2023. The Share Repurchase Program will be effected primarily through regular open-market purchases (which may include repurchase plans designed to comply with Rule 10b5-1). The amounts and timing of the repurchases will be subject to general market conditions and the prevailing price and trading volumes of the Company's Class A common stock. The Share Repurchase Program does not require the Company to acquire a specific number of shares and may be suspended, amended or discontinued at any time. For shares repurchased pursuant to the Share Repurchase Program, the excess of the repurchase price paid over the par value of the Class A common stock will be recorded as a reduction to retained earnings.

The Company began purchasing shares pursuant to the Share Repurchase Program during the second quarter of 2021. During the three months ended March 31, 2022, the Company acquired a total of 559,428 shares of Class A common stock, at an average price of $84.59, for purchases totaling $47.3 million. Each share of Class A common stock repurchased pursuant to the Share Repurchase Program was funded with the proceeds, on a dollar-for-dollar basis, from the repurchase by Tradeweb Markets LLC of an LLC Interest from the Company in order to maintain the one-to-one ratio between outstanding shares of the Company's common stock and LLC Interests owned by the Company. Subsequent to their repurchase, the shares of Class A common stock and the LLC Interests were all cancelled and retired. As of March 31, 2022, a total of $27.0 million remained available for repurchase pursuant to the Share Repurchase Program.

Other Share Repurchases

During the three months ended March 31, 2022 and 2021, the Company withheld 985,959 and 696,847 shares, respectively, of common stock from employee stock option, PRSU and RSU awards, at an average price per share of $97.13 and $65.24, respectively, and an aggregate value of $95.8 million and $45.5 million, respectively, based on the price of the Class A common stock on the date the relevant withholding occurred.

These shares are withheld in order for the Company to cover the payroll tax withholding obligations upon the exercise of stock options and settlement of RSUs and PRSUs and such shares were not withheld in connection with the Share Repurchase Program discussed above.

9. Related Party Transactions

The Company enters into transactions with its affiliates from time to time which are considered to be related party transactions.

As of March 31, 2022 and December 31, 2021, the following balances with such affiliates were included in the condensed consolidated statements of financial condition in the following line items:

	March 31, 2022	December 31, 2021
	(in thousands)	
Accounts receivable	$ —	$ 277
Receivable from affiliates	2,441	3,313
Other assets	3,381	3,530
Accounts payable, accrued expenses and other liabilities	7,475	7,767
Deferred revenue	4,767	4,767
Payable to affiliates	4,574	4,860

The following balances with such affiliates were included in the condensed consolidated statements of income in the following line items:

	Three Months Ended March 31,	
	2022	2021
	(in thousands)	
Revenue:		
Subscription fees	$ 200	$ 569
Refinitiv market data fees [1]	15,558	15,117
Other fees	117	161
Expenses:[2]		
Employee compensation and benefits	613	—
Technology and communications	1,116	740
General and administrative	143	2
Professional fees	12	—

(1) The Company maintains a market data license agreement with Refinitiv. Under the agreement, the Company delivers to Refinitiv certain market data feeds which Refinitiv redistributes to its customers. The Company earns license fees and royalties for these feeds.
(2) The Company maintains agreements with Refinitiv to provide the Company with certain real estate, payroll, benefits administration and other administrative services.

The Company engaged Blackstone Advisory Partners L.P., an affiliate of Blackstone, to provide certain financial consulting services in connection with the IPO, the October 2019 follow-on offering and the April 2020 follow-on offering for fees of $1.0 million, $0.5 million, and $0.5 million, respectively, which fees, with respect to the October 2019 follow-on offering and the April 2020 follow-on offering, were reimbursed by the underwriters. As of both March 31, 2022 and December 31, 2021, $2.0 million related to these offering costs, is included as a component of the additional paid-in capital balance on the condensed consolidated statements of financial condition.

10. Fair Value of Financial Instruments

Financial Instruments Measured at Fair Value

The Company's financial instruments measured at fair value on the condensed consolidated statements of financial condition as of March 31, 2022 and December 31, 2021 have been categorized based upon the fair value hierarchy as follows:

	Quoted Prices in active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in thousands)			
As of March 31, 2022				
Assets				
Cash equivalents – Money market funds	$ 534,341	$ —	$ —	$ 534,341
Receivable from affiliates – Foreign currency forward contracts	—	2,322	—	2,322
Total assets measured at fair value	$ 534,341	$ 2,322	$ —	$ 536,663
Liabilities				
Payable to affiliates – Foreign currency forward contracts	$ —	$ —	$ —	$ —
Total liabilities measured at fair value	$ —	$ —	$ —	$ —
As of December 31, 2021				
Assets				
Cash equivalents – Money market funds	$ 654,553	$ —	$ —	$ 654,553
Receivable from affiliates – Foreign currency forward contracts	—	3,019	—	3,019
Total assets measured at fair value	$ 654,553	$ 3,019	$ —	$ 657,572
Liabilities				
Payable to affiliates – Foreign currency forward contracts	$ —	$ —	$ —	$ —
Total liabilities measured at fair value	$ —	$ —	$ —	$ —

The Company's money market funds are classified within level 1 of the fair value hierarchy because they are valued using quoted market prices in active markets.

The valuation for the Company's foreign currency forward contracts is primarily based on the difference between the exchange rate associated with the forward contract and the exchange rate at the current period end. Foreign currency forward contracts are categorized as Level 2 in the fair value hierarchy. The Company enters into foreign currency forward contracts to mitigate its U.S. dollar and British pound sterling versus Euro exposure, generally with a duration of less than twelve months. As of March 31, 2022 and December 31, 2021, the counterparty on each of the foreign currency forward contracts was an affiliate of Refinitiv and therefore the corresponding receivables and liabilities on such contracts were included in receivable from affiliates and payable to affiliates on the accompanying condensed consolidated statements of financial condition.

The following table summarizes the aggregate U.S. dollar equivalent notional amount of the Company's foreign currency forward contracts not designated as hedges for accounting purposes:

	March 31, 2022	December 31, 2021
	(in thousands)	
Foreign currency forward contracts – Gross notional amount	$ 171,218	$ 146,202

The Company's foreign currency forward contracts are not designated as hedges for accounting purposes and changes in the fair value of these contracts during the period are recognized in the condensed consolidated statements of income within general and administrative expenses.

The total realized and unrealized gains (losses) on foreign currency forward contracts recorded within general and administrative expenses in the condensed consolidated statements of income are as follows:

	Three Months Ended March 31,	
	2022	2021
	(in thousands)	
Foreign currency forward contracts not designated in accounting hedge relationship	$ 682	$ 5,698

Financial Instruments Not Measured at Fair Value

The Company's financial instruments not measured at fair value on the condensed consolidated statements of financial condition as of March 31, 2022 and December 31, 2021 have been categorized based upon the fair value hierarchy as follows:

	Carrying Value	Quoted Prices in active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value
As of March 31, 2022			(in thousands)		
Assets					
Cash and restricted cash	$ 294,720	$ 294,720	$ —	$ —	$ 294,720
Receivable from brokers and dealers and clearing organizations	91,085	—	91,085	—	91,085
Deposits with clearing organizations	35,466	35,466	—	—	35,466
Accounts receivable	164,968	—	164,968	—	164,968
Other assets – Memberships in clearing organizations	2,406	—	—	2,406	2,406
Total	$ 588,645	$ 330,186	$ 256,053	$ 2,406	$ 588,645
Liabilities					
Securities sold under agreements to repurchase(1)	$ 20,511	$ —	$ 20,511	$ —	$ 20,511
Payable to brokers and dealers and clearing organizations	70,512	—	70,512	—	70,512
Total	$ 91,023	$ —	$ 91,023	$ —	$ 91,023
As of December 31, 2021					
Assets					
Cash and restricted cash	$ 318,495	$ 318,495	$ —	$ —	$ 318,495
Receivable from brokers and dealers and clearing organizations	—	—	—	—	—
Deposits with clearing organizations	20,523	20,523	—	—	20,523
Accounts receivable	129,937	—	129,937	—	129,937
Other assets – Memberships in clearing organizations	2,392	—	—	2,392	2,392
Total	$ 471,347	$ 339,018	$ 129,937	$ 2,392	$ 471,347
Liabilities					
Securities sold under agreements to repurchase	$ —	$ —	$ —	$ —	$ —
Payable to brokers and dealers and clearing organizations	—	—	—	—	—
Total	$ —	$ —	$ —	$ —	$ —

(1) As of March 31, 2022, treasury securities with a fair value of $20.5 million collateralized the securities sold under agreements to repurchase liability. The underlying repurchase agreements were executed in accordance with a master netting arrangement and the liability amount presented represents the gross liability and is not offset on the condensed consolidated statement of financial condition. The securities sold under agreements to repurchase liability was subsequently settled on April 1, 2022.

The carrying value of financial instruments not measured at fair value classified within level 1 or level 2 of the fair value hierarchy approximates fair value because of the relatively short term nature of the underlying assets or liabilities. The memberships in clearing organizations, which are included in other assets on the condensed consolidated statements of financial condition, are classified within level 3 of the fair value hierarchy because the valuation requires assumptions that are both significant and unobservable.

Financial Instruments Without Readily Determinable Fair Values

Included in other assets on the condensed consolidated statements of financial condition are equity investments without readily determinable fair values of $21.1 million as of both March 31, 2022 and December 31, 2021, respectively. There were no impairments or adjustments to the carrying value of equity investments without readily determinable fair values during each of the three months ended March 31, 2022 and 2021 and no adjustments to the original cost basis have been made to the carrying value over the life of the instruments.

11. Credit Risk

In the normal course of business the Company, as agent, executes transactions with, and on behalf of, other brokers and dealers. If the agency transactions do not settle because of failure to perform by either counterparty, the Company will recognize a receivable from (and a matching payable to) brokers and dealers and clearing organizations for the proceeds from the unsettled transaction, until the failed transaction settles. The Company may be obligated to discharge the obligation of the non-performing party and, as a result, may incur a loss if the market value of the security is different from the contract amount of the transaction. However, from time to time, the Company enters into repurchase and/or reverse repurchase agreements to facilitate the clearance of securities relating to fails to deliver or receive. We seek to manage credit exposure related to these agreements to repurchase (or reverse repurchase), including the risk related to a decline in market value of collateral (pledged or received), by entering into agreements to repurchase with overnight or short-term maturity dates and only entering into repurchase transactions with netting members of the Fixed Income Clearing Corporation ("FICC"). The FICC operates a continuous net settlement system, whereby as trades are submitted and compared, the FICC becomes the counterparty.

A substantial number of the Company's transactions are collateralized and executed with, and on behalf of, a limited number of broker-dealers. The Company's exposure to credit risk associated with the nonperformance of these clients in fulfilling their contractual obligations pursuant to securities transactions can be directly impacted by volatile trading markets which may impair the clients' ability to satisfy their obligations to the Company.

The Company does not expect nonperformance by counterparties in the above situations. However, the Company's policy is to monitor its market exposure and counterparty risk. In addition, the Company has a policy of reviewing, as considered necessary, the credit standing of each counterparty with which it conducts business.

Allowance for Credit Losses

The Company may be exposed to credit risk regarding its receivables, which are primarily receivables from financial institutions, including investment managers and broker-dealers. The Company maintains an allowance for credit losses based upon an estimate of the amount of potential credit losses in existing accounts receivable, as determined from a review of aging schedules, past due balances, historical collection experience and other specific account data. Careful analysis of the financial condition of the Company's counterparties is also performed. The Company has evaluated its loss assumptions as a result of the COVID-19 pandemic and determined the current estimate of expected credit losses remains reasonable due to continued strong collections and no deterioration in the accounts receivable aging.

Account balances are pooled based on the following risk characteristics:
1. Geographic location
2. Transaction fee type (billing type)
3. Legal entity

Write-Offs

Once determined uncollectible, aged balances are written off against the allowance for credit losses. This determination is based on careful analysis of individual receivables and aging schedules, which are disaggregated based on the risk characteristics described above. Based on current policy, this generally occurs when the receivable is 360 days past due.

As of March 31, 2022 and December 31, 2021, the Company maintained an allowance for credit losses with regard to these receivables of $0.1 million and $0.3 million, respectively. There was no credit loss expense recognized for each of the three months ended March 31, 2022 and 2021 and recoveries resulted in a reversal of credit loss expense totaling $0.1 million and $0.1 million for the three months ended March 31, 2022 and 2021, respectively.

12. Commitments and Contingencies

In the normal course of business, the Company enters into user agreements with its dealers which provide the dealers with indemnification from third parties in the event that the electronic marketplaces of the Company infringe upon the intellectual property or other proprietary right of a third party. The Company's exposure under these user agreements is unknown as this would involve estimating future claims against the Company which have not yet occurred. However, based on its experience, the Company expects the risk of a material loss to be remote.

The Company has been named as a defendant, along with other financial institutions, in two consolidated antitrust class actions relating to trading practices in United States Treasury securities auctions. The cases were dismissed in March 2021, with the Court granting the Plaintiffs leave to further amend the complaint by no later than May 14, 2021. The plaintiffs filed an amended complaint on or about May 14, 2021, and the Company moved to dismiss the amended complaint on June 14, 2021. By order dated March 31, 2022, the Court granted the Company's motion to dismiss in full and dismissed all of the claims in the amended complaint. The Court also denied the plaintiffs' request for leave to file a further amended complaint. On April 28, 2022, the Plaintiffs filed a Notice of Appeal of the decision. The Company intends to vigorously defend the District Court's decision on appeal and assert its meritorious defenses to the allegations.

Additionally, the Company was dismissed from a class action relating to an interest rate swaps matter in 2017, but that matter continues against the remaining defendant financial institutions.

The Company records its best estimate of a loss, including estimated defense costs, when the loss is considered probable and the amount of such loss can be reasonably estimated. Based on its experience, the Company believes that the amount of damages claimed in a legal proceeding is not a meaningful indicator of the potential liability. At this time, the Company cannot reasonably predict the timing or outcomes of, or estimate the amount of loss, or range of loss, if any, related to its pending legal proceedings, including the matters described above, and therefore does not have any contingency reserves established for any of these matters.

Revolving Credit Facility

On April 8, 2019, the Company entered into a five year, $500.0 million senior secured revolving credit facility ("Credit Facility") with a syndicate of banks. The Credit Facility was subsequently amended on November 7, 2019. The Credit Facility provides additional borrowing capacity to be used to fund ongoing working capital needs, letters of credit and for general corporate purposes, including potential future acquisitions and expansions.

Under the terms of the credit agreement that governs the Credit Facility, borrowings under the Credit Facility bear interest at a rate equal to, at the Company's option, either (a) a base rate equal to the greatest of (i) the administrative agent's prime rate, (ii) the federal funds effective rate plus ½ of 1.0% and (iii) one month LIBOR plus 1.0%, in each case plus 0.75%, or (b) LIBOR plus 1.75%, subject to a 0.00% floor. The credit agreement also includes a commitment fee of 0.25% for available but unborrowed amounts and other administrative fees that are payable quarterly. The Credit Facility is available until April 2024, provided the Company is in compliance with all covenants. Financial covenant requirements include maintaining minimum ratios related to interest coverage and leverage.

As of March 31, 2022 and December 31, 2021, there were $0.5 million in letters of credit issued under the Revolving Credit Facility and no borrowings outstanding.

Leases

The Company has operating leases for corporate offices and data centers with initial lease terms ranging from one to ten years. The following table presents the future minimum lease payments and the maturity of lease liabilities as of March 31, 2022:

	Amount (in thousands)
Remainder of 2022	$ 7,959
2023	11,187
2024	6,790
2025	2,754
2026	2,544
Thereafter	2,544
Total future lease payments	33,778
Less imputed interest	(1,852)
Lease liability	$ 31,926

13. Earnings Per Share

The following table summarizes the calculations of basic and diluted earnings per outstanding share of Class A and Class B common stock for Tradeweb Markets Inc.:

	Three Months Ended March 31,	
	2022	2021
	(in thousands, except share and per share amounts)	
Numerator:		
Net income attributable to Tradeweb Markets Inc.	$ 82,965	$ 67,859
Less: Distributed and undistributed earnings allocated to unvested RSUs and unsettled vested PRSUs (1)	(22)	—
Net income attributable to outstanding shares of Class A and Class B common stock - Basic and Diluted	$ 82,943	$ 67,859
Denominator:		
Weighted average shares of Class A and Class B common stock outstanding - Basic	204,061,347	199,064,607
Dilutive effect of PRSUs	770,765	1,832,308
Dilutive effect of options	2,322,027	3,851,594
Dilutive effect of RSUs	342,963	280,208
Weighted average shares of Class A and Class B common stock outstanding - Diluted	207,497,102	205,028,717
Earnings per share - Basic	$ 0.41	$ 0.34
Earnings per share - Diluted	$ 0.40	$ 0.33

(1) During the three months ended March 31, 2022 and 2021, there was a total of 53,756 and none, respectively, weighted average unvested RSUs and unsettled vested PRSUs that were considered a participating security for purposes of calculating earnings per share in accordance with the two-class method.

LLC Interests held by the Continuing LLC Owners are redeemable in accordance with the TWM LLC Agreement, at the election of such holders, for shares of Class A or Class B common stock of Tradeweb Markets Inc. The potential dilutive effect of LLC Interests are evaluated under the if-converted method. The potential dilutive effect of PRSUs, shares underlying options and RSUs are evaluated under the treasury stock method.

The following table summarizes the PRSUs, shares underlying options, RSUs and weighted-average LLC Interests that were anti-dilutive for the periods indicated. As a result, these shares, which were outstanding, were excluded from the computation of diluted earnings per share for the periods indicated:

	Three Months Ended March 31,	
	2022	2021
Anti-dilutive Shares:		
PRSUs	—	77,692
Options	—	—
RSUs	61,260	60,315
LLC Interests	30,296,879	31,214,407

Shares of Class C and Class D common stock do not have economic rights in Tradeweb Markets Inc. and, therefore, are not included in the calculation of basic earnings per share and are not participating securities for purposes of the computation of diluted earnings per share.

14. Regulatory Capital Requirements

TWL, DW, TWD and EA are subject to the Uniform Net Capital Rule 15c3-1 under the Exchange Act. TEL and TESL are subject to certain financial resource requirements with the FCA in the UK, TWJ is subject to certain financial resource requirements with the FCA in Japan and TWEU is subject to certain finance resource requirements with the AFM in the Netherlands.

At March 31, 2022 and December 31, 2021, the regulatory capital requirements and regulatory capital for TWL, DW, TWD, TEL, TWJ, TWEU, TESL and EA are as follows:

As of March 31, 2022	TWL	DW	TWD	TEL	TWJ	TWEU	TESL	EA
	(in thousands)							
Regulatory Capital	$ 33,651	$ 56,394	$ 35,236	$ 91,492	$ 8,063	$ 7,500	$ 1,750	$ 207,496
Regulatory Capital Requirement	4,820	2,030	765	34,603	1,323	1,537	1,238	145
Excess Regulatory Capital	$ 28,831	$ 54,364	$ 34,471	$ 56,889	$ 6,740	$ 5,963	$ 512	$ 207,351

As of December 31, 2021	TWL	DW	TWD	TEL	TWJ	TWEU	TESL	EA
	(in thousands)							
Regulatory Capital	$ 33,566	$ 61,379	$ 22,784	$ 84,636	$ 7,932	$ 7,626	$ 1,760	$ 212,572
Regulatory Capital Requirement	3,424	2,931	652	36,136	1,184	3,272	1,272	78
Excess Regulatory Capital	$ 30,142	$ 58,448	$ 22,132	$ 48,500	$ 6,748	$ 4,354	$ 488	$ 212,494

As SEFs, TW SEF and DW SEF are required to maintain adequate financial resources and liquid financial assets in accordance with CFTC regulations. The required and maintained financial resources and liquid financial assets at March 31, 2022 and December 31, 2021 are as follows:

	As of March 31, 2022		As of December 31, 2021	
	TW SEF	DW SEF	TW SEF	DW SEF
	(in thousands)			
Financial Resources	$ 39,278	$ 15,818	$ 30,063	$ 15,999
Required Financial Resources	11,000	6,845	11,000	6,770
Excess Financial Resources	$ 28,278	$ 8,973	$ 19,063	$ 9,229
Liquid Financial Assets	$ 17,156	$ 9,638	$ 15,283	$ 10,014
Required Liquid Financial Assets	2,750	1,711	2,750	1,693
Excess Liquid Financial Assets	$ 14,406	$ 7,927	$ 12,533	$ 8,321

15. Business Segment and Geographic Information

The Company operates electronic marketplaces for the trading of products across the rates, credit, equities and money markets asset classes and provides related pre-trade and post-trade services. The Company's operations constitute a single business segment because of the integrated nature of these marketplaces and services.

Information regarding revenue by client sector is as follows:

	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
	(in thousands)	
Revenues		
Institutional	$ 197,210	$ 175,324
Wholesale	72,938	59,390
Retail	19,972	18,713
Market Data	21,366	19,972
Total revenue	311,486	273,399
Operating expenses	199,884	175,072
Operating income	$ 111,602	$ 98,327

The Company operates in the U.S. and internationally, primarily in the Europe and Asia regions. Revenues are attributed to geographic area based on the jurisdiction where the underlying transactions take place. The results by geographic region are not meaningful in understanding the Company's business. Long-lived assets are attributed to the geographic area based on the location of the particular subsidiary.

The following table provides revenue by geographic area:

	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
	(in thousands)	
Revenues		
U.S.	$ 190,293	$ 167,736
International	121,193	105,663
Total revenue	$ 311,486	$ 273,399

The following table provides information on the attribution of long-lived assets by geographic area:

	March 31, 2022	December 31, 2021
	(in thousands)	
Long-lived assets		
U.S.	$ 4,134,498	$ 4,152,186
International	15,179	15,848
Total	$ 4,149,677	$ 4,168,034

16. Subsequent Events

On April 27, 2022, the board of directors of Tradeweb Markets Inc. declared a cash dividend of $0.08 per share of Class A common stock and Class B common stock for the second quarter of 2022. This dividend will be payable on June 15, 2022 to stockholders of record as of June 1, 2022.

On April 26, 2022, Tradeweb Markets Inc., as the sole manager, approved a distribution by TWM LLC to its equityholders, including Tradeweb Markets Inc., in an aggregate amount of $20.1 million, as adjusted by required state and local tax withholdings that will be determined prior to the record date of June 1, 2022, payable on June 13, 2022.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from the results described in or implied by the forward-looking statements. Factors that could cause or contribute to those differences include, but are not limited to, those identified below and those discussed in the section titled "Cautionary Note Regarding Forward-Looking Statements" included elsewhere in this Quarterly Report on Form 10-Q and the section titled "Item 1A. Risk Factors" in Part I of the 2021 Form 10-K .

Overview

We are a leader in building and operating electronic marketplaces for our global network of clients across the financial ecosystem. Our network is comprised of clients across the institutional, wholesale and retail client sectors, including many of the largest global asset managers, hedge funds, insurance companies, central banks, banks and dealers, proprietary trading firms and retail brokerage and financial advisory firms, as well as regional dealers. Our marketplaces facilitate trading across a range of asset classes, including rates, credit, equities and money markets. We are a global company serving clients in over 65 countries with offices in North America, Europe and Asia. We believe our proprietary technology and culture of collaborative innovation allow us to adapt our offerings to enter new markets, create new platforms and solutions and adjust to regulations quickly and efficiently. We support our clients by providing solutions across the trade lifecycle, including pre-trade, execution, post-trade and data.

Our institutional client sector serves institutional investors in over 45 markets across over 25 currencies, and in over 65 countries around the globe. We connect institutional investors with pools of liquidity using our flexible order and trading systems. Our clients trust the integrity of our markets and recognize the value they get by trading electronically: enhanced transparency, competitive pricing, efficient trade execution and regulatory compliance.

In our wholesale client sector, we provide a broad range of electronic, voice and hybrid platforms to more than 300 dealers and financial institutions with more than 100 actively trading on our electronic or hybrid markets with our Dealerweb platform. This platform was launched in 2008 following the acquisition of inter-dealer broker Hilliard Farber & Co., Inc. In 2011, we acquired the brokerage assets of Rafferty Capital Markets and in June 2021, we acquired Nasdaq's U.S. fixed income electronic trading platform (formerly known as eSpeed) (the "NFI Acquisition"). Today, Dealerweb actively competes across a range of rates, credit, money markets, derivatives and equity markets.

In our retail client sector, we provide advanced trading solutions for financial advisory firms and traders with our Tradeweb Direct platform. We entered the retail sector in 2006 and launched our Tradeweb Direct platform following the 2013 acquisition of BondDesk Group LLC, which was built to bring innovation and efficiency to the wealth management community. Tradeweb Direct has provided financial advisory firms access to live offerings, accurate pricing in the marketplace and fast execution.

Our markets are large and growing. Electronic trading continues to increase across the markets in which we operate as a result of market demand for greater transparency, higher execution quality, operational efficiency and lower costs, as well as regulatory changes. We believe our deep client relationships, asset class breadth, geographic reach, regulatory knowledge and scalable technology position us to continue to be at the forefront of the evolution of electronic trading. Our platforms provide transparent, efficient, cost-effective and compliant trading solutions across multiple products, regions and regulatory regimes. As market participants seek to trade across multiple asset classes, reduce their costs of trading and increase the effectiveness of their trading, including through the use of data and analytics, we believe the demand for our platforms and electronic trading solutions will continue to grow.

Trends and Other Factors Impacting Our Performance

CEO Transition

On February 16, 2022, we announced that Mr. Lee Olesky will retire as Chief Executive Officer ("CEO") of the Company, effective December 31, 2022. On February 11, 2022, the board of directors elected our President, Mr. Billy Hult, to succeed Mr. Olesky as CEO of the Company, effective January 1, 2023. Mr. Olesky will stay on with the Company in the position of Chairman of the board of directors, and accordingly will continue to serve in his capacity as a director of the Company.

As of the beginning of Mr. Olesky's six month notice period under our 2019 Omnibus Equity Incentive Plan, there was approximately $6.7 million in total unamortized stock-based compensation associated with equity awards previously granted to Mr. Olesky plus $5.0 million in unamortized stock-based compensation awards granted to Mr. Olesky during 2022 that will both be accelerated and amortized into expense over a revised estimated service period ending on August 11, 2022, the date that ends such six month notice period. Of these amounts, $3.1 million represents regular amortization that would have been recognized through August 11, 2022 if Mr. Olesky had not announced his retirement and $8.6 million represents accelerated stock-based compensation (the "CEO Retirement Accelerated Stock-Based Compensation Expense") that will be excluded from our non-GAAP measures of Adjusted EBITDA and Adjusted Net Income when it is recorded as expense. Total amortization amounts disclosed are based on a 100% multiplier achieved for the 2022 performance-based restricted stock units and are subject to adjustment, up or down, in an amount up to $2.1 million, based on the final performance multiplier achieved for the year ending December 31, 2022. See "—Non-GAAP Financial Measures" below for further details. During the three months ended March 31, 2022, we incurred a total of $1.7 million in CEO Retirement Accelerated Stock-Based Compensation Expense.

COVID-19

Since the onset of the COVID-19 pandemic, we have been focused on keeping our employees safe, helping our clients stay connected and ensuring our markets operate efficiently through this period of unprecedented market volatility. We have implemented a series of measures to protect the health and safety of our employees. Our successful transition to remote work, beginning over two years ago, reflected our commitment to keeping employees safe, helping clients succeed and playing a positive role in markets. Those same priorities guide our approach to our robust and safe return to the office. Beginning in June 2021, many roles within Tradeweb had transitioned to a hybrid approach in our return to the office plans. Our creative and flexible return to the office plans aim to keep driving our business forward and allow safe collaboration and positive team dynamics. We will continue to monitor the impact of COVID-19, including any related variants, and will adjust our plans accordingly.

In light of the market volatility and economic disruption that has arisen in the wake of the pandemic, we have worked closely with our clients to provide flexible, stable, resilient and secure access to our platforms across our multi-asset offerings so they can reliably manage their core cash and derivatives needs in the diverse geographic, product and customer sector markets we serve. Our employees and clients together have adapted to working remotely.

We are determined to minimize any future disruptive impact of COVID-19 on our business. Although we have implemented risk management and contingency plans and taken preventive measures and other precautions, our efforts to mitigate the effects of any disruptions may prove to be inadequate. Due to the uncertainty of the duration and severity of COVID-19, the speed with which this pandemic has developed and persists, the spread of various COVID-19 variants, the uncertainty as to what governmental measures may yet be taken in response to the pandemic and the unpredictable effect on our business, our employees and our clients, we are not able to reasonably estimate the extent of any potential impact of COVID-19 on our financial condition or results of operations at this time, but the impact could potentially be material. Even after the COVID-19 outbreak has subsided, we may continue to experience impacts to our business as a result of the virus' global economic impact and any recession that may occur in the future. Further, as the COVID-19 situation is unprecedented and continuously evolving, COVID-19 may also affect our operating and financial results in a manner that is not presently known to us or in a manner that we currently do not consider to present significant risks to our operations.

As the COVID-19 pandemic continues to evolve, it may also have the effect of heightening many of the risks described in "Item 1A. Risk Factors" in Part I of our 2021 Form 10-K, including, but not limited to, those relating to changes in economic, political, social and market conditions and the impact of these changes on trading volumes; consolidation and concentration in the financial services industry; our dependence on dealer clients; systems failures, interruptions, delays in services, cybersecurity incidents, unforeseen or catastrophic events and any resulting interruptions; our international operations; and our dependence on our senior management team and other qualified personnel.

Economic Environment

Our business is impacted by the overall market activity and, in particular, trading volumes and market volatility. Lower volatility may result in lower trading volume for our clients and may negatively impact our operating performance and financial condition. Factors that may impact market activity during the remainder of 2022 include, among other things, evolving global monetary policies of central banks, economic, political and social conditions, and legislative, regulatory or government policy changes, including related to COVID-19.

While our business is impacted by the overall activity of the market and market volatility, our revenues consist of a mix of fixed and variable fees that partially mitigates this impact. More importantly, we are actively engaged in the further electronification of trading activities, which will help mitigate this impact as we believe secular growth trends can partially offset market volatility risk.

Regulatory Environment

Our business is subject to extensive regulations in the United States and internationally, which may expose us to significant regulatory risk and cause additional legal costs to ensure compliance. The existing legal framework that governs the financial markets is periodically reviewed and amended, resulting in enforcement of new laws and regulations that apply to our business. The current regulatory environment in the United States may be subject to future legislative changes driven by President Biden’s administration and its priorities. The impact of any reform efforts on us and our operations remains uncertain. For example, as a result of the UK’s withdrawal from the EU (“Brexit”), which occurred on January 31, 2020, and the end of the UK-EU transition period, which occurred on December 31, 2020, we are currently subject to two separate and distinct legal regimes in Europe. We have incurred additional costs to establish a new regulated subsidiary in the Netherlands, and over time there may be a divergence of regulatory requirements as between the UK and EU. Compliance with regulations may require us to dedicate additional financial and operational resources, which may adversely affect our profitability. In addition, compliance with regulations may require our clients to dedicate significant financial and operational resources, which may negatively affect their ability to pay our fees and use our platforms and, as a result, our profitability. However, under certain circumstances regulation may increase demand for our platforms and solutions, and we believe we are well positioned to benefit from any potential increased electronification due to regulatory changes as market participants seek platforms that meet regulatory requirements and solutions that help them comply with their regulatory obligations.

Competitive Environment

We and our competitors compete to introduce innovations in market structure and new electronic trading capabilities. While we endeavor to be a leader in innovation, new trading capabilities of our competitors are also adopted by market participants. On the one hand, this increases liquidity and electronification for all participants, but it also puts pressure on us to further invest in our technology and to innovate to ensure the continued growth of our network of clients and continued improvement of liquidity, electronic processing and pricing on our platforms. Our ability to compete is influenced by key factors such as (i) developments in trading platforms and solutions, (ii) the liquidity we provide on transactions, (iii) the transaction costs we incur in providing our solutions, (iv) the efficiency in execution of transactions on our platforms, (v) our ability to hire and retain talent and (vi) our ability to maintain the security of our platforms and solutions. Our competitive position is also influenced by the familiarity and integration of our clients with our electronic, voice and hybrid systems. When either a client wants to trade in a new product or we want to introduce a new product, trading protocol or other solution, we believe we benefit from our clients’ familiarity with our offerings as well as our integration into their order management systems and back offices.

Technology and Cybersecurity Environment

Our business and its success are largely impacted by the introduction of increasingly complex and sophisticated technology systems and infrastructures and new business models. Offering specialized trading venues and solutions through the development of new and enhanced platforms is essential to maintaining our level of competitiveness in the market and attracting new clients seeking platforms that provide advanced automation and better liquidity. We believe we will continue to increase demand for our platforms and solutions and the volume of transactions on our platforms, and thereby enhance our client relationships, by responding to new trading and information requirements by utilizing technological advances and emerging industry standards and practices in an effective and efficient way. We plan to continue to focus on and invest in technology infrastructure initiatives and continually improve and expand our platforms and solutions to further enhance our market position. We experience cyber-threats and attempted security breaches. If these were successful, these cybersecurity incidents could impact revenue and operating income and increase costs. We therefore continue to make investments, which may result in increased costs, to strengthen our cybersecurity measures.

Foreign Currency Exchange Rate Environment

We earn revenues, pay expenses, hold assets and incur liabilities in currencies other than the U.S. dollar. Accordingly, fluctuations in foreign currency exchange rates can affect our results of operations from period to period. In particular, fluctuations in exchange rates for non-U.S. dollar currencies may reduce the U.S. dollar value of revenues, earnings and cash flows we receive from non-U.S. markets, increase our operating expenses (as measured in U.S. dollars) in those markets, negatively impact our competitiveness in those markets or otherwise adversely impact our results of operations or financial condition. Future fluctuations of foreign currency exchange rates and their impact on our results of operations and financial condition are inherently uncertain. As we continue to grow the size of our global operations, these fluctuations may be material. See Part I, Item 3. “Quantitative and Qualitative Disclosures About Market Risk — Foreign Currency and Derivative Risk” elsewhere in this Quarterly Report on Form 10-Q.

Taxation

In connection with the Reorganization Transactions, we became the sole manager of TWM LLC. As a result, beginning with the second quarter of 2019, we became subject to U.S. federal, state and local income taxes with respect to our allocable share of any taxable income of TWM LLC and are taxed at prevailing corporate tax rates. Our actual effective tax rate is impacted by our ownership share of TWM LLC, which will increase over time primarily as the Continuing LLC Owners redeem or exchange their LLC Interests for shares of Class A common stock or Class B common stock, as applicable, or as we purchase LLC Interests from the Continuing LLC Owners. Furthermore, in connection with the IPO, we entered into the Tax Receivable Agreement pursuant to which we began to make payments in January 2021, and we expect future payments to be significant. We intend to cause TWM LLC to make distributions in an amount sufficient to allow us to pay our tax obligations, operating expenses, including payments under the Tax Receivable Agreement, and our quarterly cash dividends, as and when declared by our board of directors.

Components of our Results of Operations

Revenues

Our revenue is derived primarily from transaction fees, commissions, subscription fees and market data fees.

Transaction Fees and Commissions

We earn transaction fees from transactions executed on our trading platforms through various fee plans. Transaction fees are generated on both a variable and fixed price basis and vary by geographic region, product type and trade size. For most of our products, clients pay both fixed minimum monthly transaction fees and variable transaction fees on a per transaction basis in excess of the monthly minimum. For certain of our products, clients also pay a subscription fee in addition to the minimum monthly transaction fee. For other products, instead of a minimum monthly transaction fee, clients pay a subscription fee and a fixed transaction fee or variable transaction fees on a per transaction basis. For variable transaction fees, we charge clients fees based on the mix of products traded and the volume of transactions executed.

Transaction volume is determined by using either a measure of the notional volume of the products traded or a count of the number of trades. We typically charge higher fees for products that are less actively traded. In addition, because transaction fees are sometimes subject to fee plans with tiered pricing based on product mix, volume, monthly minimums and monthly maximum fee caps, average transaction fees per million generated for a client may vary each month depending on the mix of products and volume traded. Furthermore, because transaction fees vary by geographic region, product type and trade size, our revenues may not correlate with volume growth.

We earn commission revenue from our electronic and voice brokerage services on a riskless principal basis. Riskless principal revenues are derived on matched principal transactions where revenues are earned on the spread between the buy and sell price of the transacted product. For TBA-MBS, U.S. treasury and repurchase agreement transactions executed by our wholesale clients, we also generate revenue from fixed commissions that are generally invoiced monthly.

Subscription Fees

We earn subscription fees primarily for granting clients access to our markets for trading and market data. For a limited number of products, we only charge subscription fees and no transaction fees or commissions. Subscription fees are generally generated on a fixed price basis.

For purposes of our discussion of our results of operations, we include Refinitiv (formerly Thomson Reuters) market data fees in subscription fees. We earn fixed license fees from our market data license agreement with Refinitiv. We also earn royalties from Refinitiv for referrals of new Eikon (a Refinitiv data platform) customers based on customer conversion rates. Royalties may fluctuate from period to period depending on the numbers of customer conversions achieved by Refinitiv during the applicable royalty fee earning period, which is typically five years from the date of the initial referral.

Operating Expenses

Employee Compensation and Benefits

Employee compensation and benefits expense consists of wages, employee benefits, bonuses, commissions, stock-based compensation cost and related taxes. Factors that influence employee compensation and benefits expense include revenue and earnings growth, hiring new employees and trading activity which generates broker commissions. We expect employee compensation and benefits expense to increase as we hire additional employees to support revenue and earnings growth. As a result, employee compensation and benefits can vary from period to period.

Depreciation and Amortization

Depreciation and amortization expense consists of costs relating to the depreciation and amortization of acquired and internally developed software, other intangible assets, leasehold improvements, furniture and equipment.

General and Administrative

General and administrative expense consists of travel and entertainment, marketing, value-added taxes, state use taxes, foreign currency transaction gains and losses, gains and losses on foreign currency forward contracts entered into for foreign exchange risk management purposes, charitable contributions, other administrative expenses and credit loss expense. We expect general and administrative expense to increase as we expand the number of our employees and product offerings and grow our operations.

Technology and Communications

Technology and communications expense consists of costs relating to software and hardware maintenance, our internal network connections, data center costs, clearance and other trading platform related transaction costs and data feeds provided by third-party service providers, including Refinitiv. Factors that influence technology and communications expense include trading volumes and our investments in innovation, data strategy and cybersecurity.

Professional Fees

Professional fees consist primarily of accounting, tax and legal fees and fees paid to technology and software consultants to maintain our trading platforms and infrastructure, as well as costs related to business acquisition transactions.

Occupancy

Occupancy expense consists of operating lease rent and related costs for office space and data centers leased in North America, Europe and Asia.

Tax Receivable Agreement Liability Adjustment

The tax receivable agreement liability adjustment reflects changes in the tax receivable agreement liability recorded in our condensed consolidated statement of financial condition as a result of changes in the mix of earnings, tax legislation and tax rates in various jurisdictions which impacted our tax savings. There was no tax receivable agreement liability adjustment during each of the three months ended March 31, 2022 and 2021.

Net Interest Income (Expense)

Interest income consists of interest earned from our cash deposited with large commercial banks and money market funds. Interest expense consists of commitment fees payable on, and, if applicable, interest payable on any borrowings outstanding under, the Revolving Credit Facility.

Income Taxes

We are subject to U.S. federal, state and local income taxes with respect to our taxable income, including our allocable share of any taxable income of TWM LLC, and are taxed at prevailing corporate tax rates. TWM LLC is a multiple member limited liability company taxed as a partnership and accordingly any taxable income generated by TWM LLC is passed through to and included in the taxable income of its members, including to us. Income taxes also include unincorporated business taxes on income earned or losses incurred for conducting business in certain state and local jurisdictions, income taxes on income earned or losses incurred in foreign jurisdictions on certain operations and federal and state income taxes on income earned or losses incurred, both current and deferred, on subsidiaries that are taxed as corporations for U.S. tax purposes.

Net Income Attributable to Non-Controlling Interests

We are the sole manager of TWM LLC. As a result of this control, and because we have a substantial financial interest in TWM LLC, we consolidate the financial results of TWM LLC and report a non-controlling interest in our condensed consolidated financial statements, representing the economic interests of TWM LLC held by the Continuing LLC Owners. Income or loss is attributed to the non-controlling interests based on the relative ownership percentages of LLC Interests held during the period by us and the Continuing LLC Owners.

In connection with the Reorganization Transactions, the TWM LLC Agreement was amended and restated to, among other things, (i) provide for LLC Interests and (ii) exchange all of the then existing membership interests in TWM LLC for LLC Interests. LLC Interests held by the Continuing LLC Owners are redeemable in accordance with the TWM LLC Agreement, at the election of such holders, for newly issued shares of Class A common stock or Class B common stock, as the case may be, on a one-for-one basis. In the event of such election by a Continuing LLC Owner, we may, at our option, effect a direct exchange of Class A common stock or Class B common stock for such LLC Interests of such Continuing LLC Owner in lieu of such redemption. In connection with any redemption or exchange, we will receive a corresponding number of LLC Interests, increasing our total ownership interest in TWM LLC. Following the completion of the Reorganization Transactions and the IPO, we owned 64.3% of TWM LLC and the Continuing LLC Owners owned the remaining 35.7% of TWM LLC. As of March 31, 2022, we owned 87.2% of TWM LLC and the Continuing LLC Owners owned the remaining 12.8% of TWM LLC.

Results of Operations

For the Three Months Ended March 31, 2022 and Three Months Ended March 31, 2021

The following table sets forth a summary of our statements of income for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,			
	2022	2021	$ Change	% Change
	(dollars in thousands)			
Total revenue	$ 311,486	$ 273,399	$ 38,087	13.9 %
Total expenses	199,884	175,072	24,812	14.2 %
Operating income	111,602	98,327	13,275	13.5 %
Net interest income (expense)	(447)	(493)	46	(9.3)%
Income before taxes	111,155	97,834	13,321	13.6 %
Provision for income taxes	(13,710)	(16,269)	2,559	(15.7)%
Net income	97,445	81,565	15,880	19.5 %
Less: Net income attributable to non-controlling interests	14,480	13,706	774	5.6 %
Net income attributable to Tradeweb Markets Inc.	$ 82,965	$ 67,859	$ 15,106	22.3 %

Revenues

Our revenues for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31,					
	2022		2021			
	$	% of Total Revenue	$	% of Total Revenue	$ Change	% Change
	(dollars in thousands)					
Revenues						
Transaction fees and commissions	$ 251,805	80.8 %	$ 217,816	79.7 %	$ 33,989	15.6 %
Subscription fees [1]	57,013	18.3	52,985	19.4	4,028	7.6 %
Other	2,668	0.9	2,598	1.0	70	2.7 %
Total revenue	$ 311,486	100.0 %	$ 273,399	100.0 %	$ 38,087	13.9 %

Components of total revenue growth:	
Constant currency growth [2]	15.9 %
Foreign currency impact	(2.0)%
Total revenue growth	13.9 %

(1) Subscription fees for the three months ended March 31, 2022 and 2021 include $15.6 million and $15.1 million, respectively, of Refinitiv market data fees.
(2) Constant currency growth, which is a non-GAAP financial measure, is defined as total revenue growth excluding the effects of foreign currency fluctuations. Total revenue excluding the effects of foreign currency fluctuations is calculated by translating the current period and prior period's total revenue using the annual average exchange rates for 2021. We use constant currency growth as a supplemental metric to evaluate our underlying total revenue performance between periods by removing the impact of foreign currency fluctuations. We believe that providing constant currency growth provides a useful comparison of our total revenue performance and trends between periods.

The primary driver of the $38.1 million increase in revenue is related to a $34.0 million increase in transaction fees and commissions to $251.8 million for the three months ended March 31, 2022 from $217.8 million for the three months ended March 31, 2021, primarily due to increased volumes and fees from rates derivatives products, U.S. corporate bonds and U.S. government bonds.

Our total revenue by asset class for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31,			
	2022	2021	$ Change	% Change
	(dollars in thousands)			
Revenues				
Rates	$ 160,339	$ 142,929	$ 17,410	12.2 %
Credit	86,318	74,368	11,950	16.1 %
Equities	26,535	18,861	7,674	40.7 %
Money Markets	11,524	10,818	706	6.5 %
Market Data	21,366	19,972	1,394	7.0 %
Other	5,404	6,451	(1,047)	(16.2)%
Total revenue	$ 311,486	$ 273,399	$ 38,087	13.9 %

Our variable and fixed revenues by asset class for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31, 2022		2021		$ Change		% Change	
	Variable	Fixed	Variable	Fixed	Variable	Fixed	Variable	Fixed
	(dollars in thousands)							
Revenues								
Rates	$ 103,389	$ 56,950	$ 89,651	$ 53,278	$ 13,738	$ 3,672	15.3 %	6.9 %
Credit	79,648	6,670	67,998	6,370	11,650	300	17.1 %	4.7 %
Equities	24,151	2,384	15,980	2,881	8,171	(497)	51.1 %	(17.3)%
Money Markets	7,274	4,250	6,713	4,105	561	145	8.4 %	3.5 %
Market Data	—	21,366	—	19,972	—	1,394	—	7.0 %
Other	—	5,404	—	6,451	—	(1,047)	—	(16.2)%
Total revenue	$ 214,462	$ 97,024	$ 180,342	$ 93,057	$ 34,120	$ 3,967	18.9 %	4.3 %

A significant percentage of our transaction fees and commissions are tied directly to overall trading volumes in the rates, credit, equities and money markets asset classes. The average daily volumes and total volumes on our trading platforms by asset class for the three months ended March 31, 2022 and 2021, and the resulting percentage changes, are summarized as follows:

	Three Months Ended March 31, 2022		2021		ADV
	ADV	Volume	ADV	Volume	% Change
	(dollars in millions)				
Rates	**$ 748,535**	**$ 46,591,564**	**$ 666,227**	**$ 40,940,635**	**12.4 %**
Cash Rates	387,494	24,059,807	378,750	23,169,513	2.3 %
Rates Derivatives	361,041	22,531,757	287,477	17,771,122	25.6 %
Swaps / Swaptions Tenor (greater than 1 year)	210,550	13,143,966	182,088	11,262,405	15.6 %
Other Rates Derivatives [(1)]	150,490	9,387,791	105,389	6,508,716	42.8 %
Credit	**33,214**	**2,068,259**	**27,072**	**1,666,133**	**22.7 %**
Cash Credit [(2)]	10,793	666,330	10,383	632,811	3.9 %
Credit Derivatives and U.S. Cash “EP”	22,420	1,401,929	16,690	1,033,323	34.3 %
Equities	**21,449**	**1,334,366**	**16,176**	**995,672**	**32.6 %**
Cash Equities	12,766	795,177	9,022	556,282	41.5 %
Equity Derivatives	8,683	539,189	7,154	439,390	21.4 %
Money Markets (Cash)	**371,753**	**23,118,472**	**349,517**	**21,474,112**	**6.4 %**
Total	**$ 1,174,950**	**$ 73,112,661**	**$ 1,058,992**	**$ 65,076,553**	**10.9 %**
Total excluding Other Rates Derivatives [(3)]	**$ 1,024,460**	**$ 63,724,870**	**$ 953,603**	**$ 58,567,837**	**7.4 %**

(1) Includes Swaps/Swaptions of tenor less than 1 year and Rates Futures.
(2) The “Cash Credit” category represents the “Credit” asset class excluding (1) Credit Derivatives and (2) U.S. High Grade and High Yield electronically processed (“EP”) activity.
(3) Included to contextualize the impact of short-tenored Swaps/Swaptions and Rates Futures on totals for all periods presented.

The average variable fees per million dollars of volume traded on our trading platforms by asset class for the three months ended March 31, 2022 and 2021 are summarized below. There are four potential drivers of quarterly fluctuations in our average variable fees per million: (1) volume discounts, (2) the mix and duration of cash and derivatives products traded, (3) the mix of protocols underpinning cash and derivatives products and (4) clients moving between fixed and variable pricing structures. Average variable fees per million should be reviewed in conjunction with our trading volumes and total revenue by asset class. Since variable fees are sometimes subject to fee plans with tiered pricing based on product mix and volume, average variable fees per million for a specific asset class may not correlate with volumes or revenue growth.

	Three Months Ended March 31,			
	2022	2021	$ Change	% Change
Rates	**$ 2.22**	**$ 2.19**	**$ 0.03**	**1.3 %**
Cash Rates	$ 2.05	$ 1.91	$ 0.14	7.6 %
Rates Derivatives	$ 2.40	$ 2.56	$ (0.16)	(6.4) %
Swaps / Swaptions Tenor (greater than 1 year)	$ 3.96	$ 3.90	$ 0.06	1.7 %
Other Rates Derivatives [1]	$ 0.21	$ 0.26	$ (0.05)	(17.4) %
Credit	**$ 38.51**	**$ 40.81**	**$ (2.30)**	**(5.6) %**
Cash Credit [2]	$ 147.49	$ 135.45	$ 12.04	8.9 %
Credit Derivatives and U.S. Cash “EP”	$ 6.91	$ 6.33	$ 0.58	9.1 %
Equities	**$ 18.10**	**$ 16.05**	**$ 2.05**	**12.8 %**
Cash Equities	$ 26.18	$ 23.63	$ 2.55	10.8 %
Equity Derivatives	$ 6.18	$ 6.46	$ (0.28)	(4.3) %
Money Markets (Cash)	**$ 0.31**	**$ 0.31**	**$ —**	**0.7 %**
Total Fees per Million	**$ 2.93**	**$ 2.77**	**$ 0.16**	**5.8 %**
Total Fees per Million excluding Other Rates Derivatives [3]	**$ 3.33**	**$ 3.05**	**$ 0.28**	**9.2 %**

(1) Includes Swaps/Swaptions of tenor less than 1 year and Rates Futures.
(2) The “Cash Credit” category represents the “credit” asset class excluding (1) Credit Derivatives and (2) U.S. High Grade and High Yield electronically processed (“EP”) activity.
(3) Included to contextualize the impact of short-tenored Swaps/Swaptions and Rates Futures on blended fees per million across all periods presented.

The key drivers of the change in total revenue, volumes and variable fees per million by asset class are summarized as follows:

Rates. Revenues from our rates asset class increased by $17.4 million or 12.2% to $160.3 million for the three months ended March 31, 2022 compared to $142.9 million for the three months ended March 31, 2021 primarily due to variable transaction fees and commissions earned on higher trading volumes for rates derivatives products and U.S. and European government bonds.

Average variable fees per million for rates increased due to growth of U.S. government bonds which have a higher variable fee capture compared to overall rates.

Credit. Revenues from our credit asset class increased by $12.0 million or 16.1% to $86.3 million for the three months ended March 31, 2022 compared to $74.4 million for the three months ended March 31, 2021 primarily due to variable transaction fees and commissions on higher trading volumes for U.S. corporate bonds and credit derivatives products.

Average variable fees per million for credit decreased due to relative product mix, with stronger volume growth in lower fee per million credit derivatives and electronically processed trades.

Equities. Revenues from our equities asset class increased by $7.7 million or 40.7% to $26.5 million for the three months ended March 31, 2022 compared to $18.9 million for the three months ended March 31, 2021 primarily due to variable transaction fees and commissions on higher trading volumes for U.S. and European ETFs.

Average variable fees per million for equities increased due to higher growth in U.S. ETFs and convertibles, which have a higher variable fee capture compared to overall equities.

Money Markets. Revenues from our money markets asset class increased by $0.7 million or 6.5% to $11.5 million for the three months ended March 31, 2022 compared to $10.8 million for the three months ended March 31, 2021 primarily due to variable transaction fees and commissions on higher trading volumes for repurchase agreements.

Average variable fees per million for money markets was relatively flat for the three months ended March 31, 2021.

Market Data. Revenues from our market data asset class increased by $1.4 million or 7.0% to $21.4 million for the three months ended March 31, 2022 compared to $20.0 million for the three months ended March 31, 2021. The increase was derived primarily from increased third party market data fees, Refinitiv market data fees and revenue from our APA reporting service.

Other. Revenues from our other asset class decreased by $1.0 million or 16.2%, to $5.4 million for the three months ended March 31, 2022 compared to $6.5 million for the three months ended March 31, 2021. The decrease was driven primarily by lower fees from software development and implementation projects performed on behalf of certain retail clients.

We generate revenue from a diverse portfolio of client sectors. Our total revenue by client sector for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31,			
	2022	2021	$ Change	% Change
	(dollars in thousands)			
Revenues				
Institutional	$ 197,210	$ 175,324	$ 21,886	12.5 %
Wholesale	72,938	59,390	13,548	22.8 %
Retail	19,972	18,713	1,259	6.7 %
Market Data	21,366	19,972	1,394	7.0 %
Total revenue	$ 311,486	$ 273,399	$ 38,087	13.9 %

Institutional. Revenues from our institutional client sector increased by $21.9 million or 12.5% to $197.2 million for the three months ended March 31, 2022 from $175.3 million for the three months ended March 31, 2021. The increase was derived primarily from increased volumes for rates derivatives products, U.S. and European ETFs and credit derivatives products.

Wholesale. Revenues from our wholesale client sector increased by $13.5 million or 22.8% to $72.9 million for the three months ended March 31, 2022 from $59.4 million for the three months ended March 31, 2021. The increase was derived primarily from increased volumes for U.S. government bonds and U.S. corporate bonds.

Retail. Revenues from our retail client sector increased by $1.3 million or 6.7% to $20.0 million for the three months ended March 31, 2022 from $18.7 million for the three months ended March 31, 2021. The increase was derived primarily from increased volumes for municipals and U.S. corporate bonds.

Market Data. Revenues from our market data client sector increased by $1.4 million or 7.0% to $21.4 million for the three months ended March 31, 2022 from $20.0 million for the three months ended March 31, 2021. The increase was derived primarily from increased third party market data fees, Refinitiv market data fees and revenue from our APA reporting service.

Our revenues and client base are also diversified by geography. Our total revenue by geography (based on client location) for the three months ended March 31, 2022 and 2021, and the resulting dollar and percentage changes, were as follows:

	Three Months Ended March 31,			
	2022	2021	$ Change	% Change
	(dollars in thousands)			
Revenues				
U.S.	$ 190,293	$ 167,736	$ 22,557	13.4 %
International	121,193	105,663	15,530	14.7 %
Total revenue	$ 311,486	$ 273,399	$ 38,087	13.9 %

U.S. Revenues from U.S. clients increased by $22.6 million or 13.4% to $190.3 million for the three months ended March 31, 2022 from $167.7 million for the three months ended March 31, 2021 primarily due to higher revenues for U.S. government bonds, U.S. corporate bonds, U.S. ETFs and rates derivatives products.

International. Revenues from International clients increased by $15.5 million or 14.7% to $121.2 million for the three months ended March 31, 2022 from $105.7 million for the three months ended March 31, 2021 primarily due to higher revenues for rates derivatives products, European ETFs and credit derivatives products. Fluctuations in foreign currency rates for the three months ended March 31, 2022 decreased our International total revenue by $4.6 million.

Operating Expenses

Our expenses for the three months ended March 31, 2022 and 2021 were as follows:

	Three Months Ended March 31,			
	2022	**2021**	**$ Change**	**% Change**
	(dollars in thousands)			
Employee compensation and benefits	$ 117,991	$ 103,622	$ 14,369	13.9 %
Depreciation and amortization	44,450	40,966	3,484	8.5 %
Technology and communications	15,776	13,544	2,232	16.5 %
General and administrative	10,313	3,459	6,854	198.1 %
Professional fees	7,857	9,728	(1,871)	(19.2)%
Occupancy	3,497	3,753	(256)	(6.8)%
Total expenses	$ 199,884	$ 175,072	$ 24,812	14.2 %

Employee Compensation and Benefits. Expenses related to employee compensation and benefits increased by $14.4 million or 13.9% to $118.0 million for the three months ended March 31, 2022 from $103.6 million for the three months ended March 31, 2021. The increase was primarily due to increases in incentive compensation expense tied to our operating performance and an increase in salaries and benefits as a result of increased employee headcount. During the three months ended March 31, 2022, we also incurred a total of $1.7 million in stock-based compensation expense relating to the CEO Retirement Accelerated Stock-Based Compensation Expense. See "— Trends and Other Factors Impacting Our Performance — CEO Transition."

Depreciation and Amortization. Expenses related to depreciation and amortization increased by $3.5 million or 8.5% to $44.5 million for the three months ended March 31, 2022 from $41.0 million for the three months ended March 31, 2021. The increase in depreciation and amortization expense was the result of assets acquired in connection with the NFI Acquisition. Also contributing to the increase were longer estimated useful lives of computer software and the adjusted fair value of the assets that were established in connection with pushdown accounting on October 1, 2018 (see Note 2 – Significant Accounting Policies to the condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for details). Assets which may have been fully depreciated or amortized prior to the application of pushdown accounting are still being depreciated or amortized in these periods.

Technology and Communications. Expenses related to technology and communications increased by $2.2 million or 16.5% to $15.8 million for the three months ended March 31, 2022 from $13.5 million for the three months ended March 31, 2021. The increase was primarily due to increased clearing, data and client service fees driven primarily by higher trading volumes period over period.

General and Administrative. Expenses related to general and administrative costs increased by $6.9 million or 198.1% to $10.3 million for the three months ended March 31, 2022 from $3.5 million for the three months ended March 31, 2021. The increase was primarily the result of a $3.4 million decrease in foreign exchange gains during the three months ended March 31, 2022. Realized and unrealized foreign currency gains totaled $0.4 million during the three months ended March 31, 2022 as compared to $3.8 million in gains during three months ended March 31, 2021. The change was primarily driven by changes in fair value of our foreign currency forward contracts used in connection with our foreign currency risk management program. Other contributing factors included higher travel and entertainment expenses, as the COVID-19 pandemic contributed to a reduction in expenses during 2021, as well as higher marketing expenses during the three months ended March 31, 2022.

Professional Fees. Expenses related to professional fees decreased by $1.9 million or 19.2% to $7.9 million for the three months ended March 31, 2022 from $9.7 million for the three months ended March 31, 2021. The decrease was primarily due to acquisition transaction costs related to the NFI Acquisition during the three months ended March 31, 2021.

Occupancy. Expenses related to occupancy costs decreased by $0.3 million or 6.8% to $3.5 million for the three months ended March 31, 2022 from $3.8 million for the three months ended March 31, 2021. The decrease was primarily due to lower office rent expenses.

Net Interest Income (Expense)

Net interest expense remained relatively flat at $0.4 million for the three months ended March 31, 2022 as compared to $0.5 million for the three months ended March 31, 2021.

Income Taxes

Income tax expense decreased by $2.6 million to $13.7 million for the three months ended March 31, 2022 from $16.3 million for the three months ended March 31, 2021. The provision for income taxes includes U.S. federal, state, local and foreign taxes. The effective tax rate for the three months ended March 31, 2022 was approximately 12.3%, compared with 16.6% for the three months ended March 31, 2021. The effective tax rate for the three months ended March 31, 2022 differed from the U.S. federal statutory rate of 21.0% primarily due to the tax impact of the exercise of equity compensation, return-to-provision adjustments and the effect of non-controlling interests, partially offset by state, local and foreign taxes. The effective tax rate for the three months ended March 31, 2021 differed from the U.S. federal statutory rate of 21.0% primarily due to the effect of non-controlling interests and the tax impact of the exercise of equity compensation, partially offset by state, local and foreign taxes.

Liquidity and Capital Resources

Overview

Liquidity describes the ability of a company to generate sufficient cash flows to meet the cash requirements of its business operations, including working capital needs to meet operating expenses, debt service, acquisitions, other commitments and contractual obligations. We consider liquidity in terms of cash on hand, cash flows from operations and availability under the Revolving Credit Facility and their sufficiency to fund our operating and investing activities.

Historically, we have generated significant cash flows from operations and have funded our business operations through cash on hand and cash flows from operations.

Our primary cash needs are for day to day operations, working capital requirements, clearing margin requirements, capital expenditures primarily for software and equipment, our expected dividend payments and our share repurchase program. In addition, we are obligated to make payments under the Tax Receivable Agreement.

We expect to fund our short and long-term liquidity requirements through cash and cash equivalents and cash flows from operations. While historically we have generated significant and adequate cash flows from operations, in the case of an unexpected event in the future or otherwise, we may fund our liquidity requirements through borrowings under the Revolving Credit Facility.

We believe that our projected cash position, cash flows from operations and, if necessary, borrowings under the Revolving Credit Facility, will be sufficient to fund our liquidity requirements for at least the next 12 months. However, our future liquidity requirements could be higher than we currently expect as a result of various factors. For example, any future investments, acquisitions, joint ventures or other similar transactions, which we consider from time to time, may reduce our cash balance or require additional capital. In addition, our ability to continue to meet our future liquidity requirements will depend on, among other things, our ability to achieve anticipated levels of revenues and cash flows from operations and our ability to manage costs and working capital successfully, all of which are subject to general economic, financial, competitive and other factors beyond our control. In the event we require any additional capital, it will take the form of equity or debt financing, or both, and there can be no assurance that we will be able to raise any such financing on terms acceptable to us or at all.

As of March 31, 2022 and December 31, 2021, we had cash and cash equivalents of approximately $828.1 million and $972.0 million, respectively. All cash and cash equivalents were held in accounts with banks or money market funds such that the funds are immediately available or in fixed term deposits with a maximum maturity of three months.

Factors Influencing Our Liquidity and Capital Resources

Dividend Policy

Subject to legally available funds, we intend to continue to pay quarterly cash dividends on our Class A common stock and Class B common stock equal to $0.08 per share. As discussed below, our ability to pay these quarterly cash dividends on our Class A common stock and Class B common stock will depend on distributions to us from TWM LLC.

The declaration, amount and payment of any dividends will be at the sole discretion of our board of directors and will depend on our and our subsidiaries' results of operations, capital requirements, financial condition, business prospects, contractual restrictions, restrictions imposed by applicable laws and other factors that our board of directors deem relevant. Because we are a holding company and all of our business is conducted through our subsidiaries, we expect to pay dividends, if any, only from funds we receive from our subsidiaries. Accordingly, our ability to pay dividends to our stockholders is dependent on the earnings and distributions of funds from our subsidiaries. As the sole manager of TWM LLC, we intend to cause, and will rely on, TWM LLC to make distributions in respect of LLC Interests to fund our dividends. If TWM LLC is unable to cause these subsidiaries to make distributions, it may have inadequate funds to distribute to us and we may be unable to fund our dividends. In addition, when TWM LLC makes distributions to us, the other holders of LLC Interests will be entitled to receive proportionate distributions based on their economic interests in TWM LLC at the time of such distributions.

Our board of directors will periodically review the cash generated from our business and the capital expenditures required to finance our growth plans and determine whether to modify the amount of regular dividends and/or declare any periodic special dividends. Any future determination to change the amount of dividends and/or declare special dividends will be at the discretion of our board of directors and will be dependent upon then-existing conditions and other factors that our board of directors considers relevant.

Cash Dividends

On April 27, 2022, the board of directors of Tradeweb Markets Inc. declared a cash dividend of $0.08 per share of Class A common stock and Class B common stock for the second quarter of 2022. This dividend will be payable on June 15, 2022 to stockholders of record as of June 1, 2022.

In March 2022, Tradeweb Markets Inc. paid quarterly cash dividends to holders of Class A common stock and Class B common stock in an aggregate amount totaling $16.4 million during the three months ended March 31, 2022.

Cash Distributions

On April 26, 2022, Tradeweb Markets Inc., as the sole manager, approved a distribution by TWM LLC to its equityholders, including Tradeweb Markets Inc., in an aggregate amount of $20.1 million, as adjusted by required state and local tax withholdings that will be determined prior to the record date of June 1, 2022, payable on June 13, 2022.

In March 2022, TWM LLC made a quarterly cash distribution to its equityholders in an aggregate amount of $16.7 million, including distributions to Tradeweb Markets Inc. of $14.5 million and distributions to non-controlling interests of $2.2 million. The proceeds of the cash distributions were used by Tradeweb Markets Inc. to fund dividend payments, taxes and expenses.

Share Repurchase Program

On February 4, 2021, we announced that our board of directors authorized a new share repurchase program (the "Share Repurchase Program"), primarily to offset annual dilution from stock-based compensation plans. The Share Repurchase Program authorizes the purchase of up to $150.0 million of our Class A common stock at the Company's discretion through the end of fiscal year 2023. The Share Repurchase Program will be effected primarily through regular open-market purchases (which may include repurchase plans designed to comply with Rule 10b5-1). The amounts and timing of the repurchases will be subject to general market conditions and the prevailing price and trading volumes of our Class A common stock. The Share Repurchase Program does not require the Company to acquire a specific number of shares and may be suspended, amended or discontinued at any time. The Company began purchasing shares pursuant to the Share Repurchase Program during the second quarter of 2021. During the three months ended March 31, 2022, the Company acquired a total of 559,428 shares of Class A common stock, at an average price of $84.59, for purchases totaling $47.3 million.

Other Share Repurchases

In addition to the Share Repurchase Program discussed above, we may also withhold shares to cover the payroll tax withholding obligations upon the exercise of stock options and vesting of performance-based restricted stock units and restricted stock units.

During the three months ended March 31, 2022 and 2021, the Company withheld 985,959 and 696,847 shares, respectively, of common stock from employee stock option, PRSU and RSU awards, at an average price per share of $97.13 and $65.24, respectively, and an aggregate value of $95.8 million and $45.5 million, respectively, based on the price of the Class A common stock on the date the relevant withholding occurred.

Tax Receivable Agreement

We are obligated to make payments under the Tax Receivable Agreement. See Note 6 – Tax Receivable Agreement to our condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for additional details regarding the requirements for these payments. Although the actual timing and amount of any payments that may be made under the Tax Receivable Agreement will vary, we expect the payments required will be significant. Any payments made by us under the Tax Receivable Agreement will generally reduce the amount of overall cash flows that might have otherwise been available to us or to TWM LLC. These payments will offset some of the tax benefits that we expect to realize as a result of the ownership structure of TWM LLC. To the extent that we are unable to make payments under the Tax Receivable Agreement for any reason, the unpaid amounts generally will be deferred and will accrue interest until paid by us. The first payment of the Tax Receivable Agreement was made in January 2021. As of March 31, 2022, total amounts due to the Continuing LLC Owners under the Tax Receivable Agreement were $409.1 million, substantially all due to be paid over 15 years following the purchase of LLC Interests from Continuing LLC Owners or redemption or exchanges by Continuing LLC Owners of LLC Interests. As of March 31, 2022, we expect to make tax receivable agreement liability payments of approximately $6.3 million within the next twelve months and approximately $402.8 million thereafter.

In addition to the above, our tax receivable agreement liability and future payments thereunder are expected to increase as we realize (or are deemed to realize) an increase in tax basis of TWM LLC’s assets resulting from any future purchases, redemptions or exchanges of LLC Interests from Continuing LLC Owners. We currently expect to fund these future tax receivable agreement liability payments from some of the realized cash tax savings as a result of this increase in tax basis.

Indebtedness

As of March 31, 2022 and December 31, 2021, we had no outstanding indebtedness.

On April 8, 2019, TWM LLC entered into the Revolving Credit Facility with a syndicate of banks. The Revolving Credit Facility was subsequently amended on November 7, 2019. The Revolving Credit Facility provides $500.0 million of borrowing capacity to be used to fund our ongoing working capital needs, letters of credit and for general corporate purposes, including potential future acquisitions and expansions. As of March 31, 2022, there were $0.5 million in letters of credit issued under the Revolving Credit Facility and no borrowings outstanding. The Revolving Credit Facility will mature on April 8, 2024.

The credit agreement that governs the Revolving Credit Facility contains a number of covenants that, among other things and subject to certain exceptions, restrict the ability of TWM LLC and the ability of its restricted subsidiaries to incur additional indebtedness, pay dividends or distributions, make investments and enter into certain other transactions. As of March 31, 2022, we were in compliance with all the covenants set forth in the Revolving Credit Facility.

See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources – Factors Influencing Our Liquidity and Capital Resources – Indebtedness” in Part II of our 2021 Form 10-K for additional details regarding the terms, restrictions and covenants applicable to our Revolving Credit Facility.

Operating Lease Obligations

We have operating leases for corporate offices and data centers with initial lease terms ranging from one to 10 years. Our operating lease obligations are primarily related to rental payments under lease agreements for office space in the United States and the United Kingdom through December 2027. In March 2022, the lease for our New York headquarters was extended for an amended term through December 2023, as we continue to evaluate our office space needs for the future. As of March 31, 2022, our operating lease liabilities totaled $31.9 million, with payments pursuant to these obligations due within the next twelve months and thereafter totaling approximately $10.9 million and $22.9 million, respectively.

Other Cash and Liquidity Requirements

Certain of our U.S. subsidiaries are registered as broker-dealers, SEFs or introducing brokers and are subject to the applicable rules and regulations of the SEC and CFTC. These rules contain minimum net capital or other financial resource requirements, as defined in the applicable regulations. These rules may also require a significant part of the registrants' assets be kept in relatively liquid form. Certain of our foreign subsidiaries are regulated by the Financial Conduct Authority in the UK, the Nederlandsche Bank in the Netherlands, the Japanese Financial Services Agency, the Japanese Securities Dealers Association and other foreign regulators, and must maintain financial resources, as defined in the applicable regulations, in excess of the applicable financial resources requirement. As of March 31, 2022 and December 31, 2021, each of our regulated subsidiaries had maintained sufficient net capital or financial resources to at least satisfy their minimum requirements, which in aggregate were $64.3 million and $66.7 million, respectively. We maintain capital balances in these subsidiaries in excess of our minimum requirements in order to satisfy working capital needs and to ensure that we have enough cash on hand to satisfy margin requirements and credit risk, including the excess capital expectations of our clients. The FICC and some of our clearing brokers require us to post collateral on unsettled positions, included within deposits with clearing organizations in our consolidated statements of financial condition. Collateral amounts are marked to market on a daily basis, requiring us to pay or receive margin amounts as part of the daily funds settlement. Margin call requirements can vary significantly across periods based on daily market changes and may represent a significant and unpredictable use of our liquidity.

At times, transactions executed on our wholesale platform fail to settle due to the inability of a transaction party to deliver or receive the transacted security. Until the failed transaction settles, we will recognize a receivable from (and a matching payable to) brokers and dealers and clearing organizations for the proceeds from the unsettled transaction. The impact on our liquidity and capital resources is minimal as receivables and payables for failed transactions are usually recognized simultaneously and predominantly offset. However, from time to time, we enter into repurchase and/or reverse repurchase agreements to facilitate the clearance of securities relating to fails to deliver or receive. We seek to manage credit exposure related to these agreements to repurchase (or reverse repurchase), including the risk related to a decline in market value of collateral (pledged or received), by entering into agreements to repurchase with overnight or short-term maturity dates and only entering into repurchase transactions with netting members of the FICC. The FICC operates a continuous net settlement system, whereby as trades are submitted and compared, the FICC becomes the counterparty.

Our business also requires continued investment in our technology for product innovation, proprietary technology architecture, operational reliability and cybersecurity. We expect total capital expenditures and software development costs for fiscal 2022 to be between $62.0 million and $68.0 million, compared to expenditures of $51.3 million in fiscal 2021, with the increase primarily driven by technology investments. We expect approximately 20% of our 2022 capital expenditures to be non-recurring.

Working Capital

Working capital is defined as current assets minus current liabilities. Current assets consist of cash and cash equivalents, restricted cash, receivable from brokers and dealers and clearing organizations, deposits with clearing organizations, accounts receivable and receivable from affiliates. Current liabilities consist of payable to brokers and dealers and clearing organizations, accrued compensation, deferred revenue, accounts payable, accrued expenses and other liabilities, employee equity compensation payable, lease liability, payable to affiliates and tax receivable agreement liability. Changes in working capital, which impact our cash flows provided by operating activities, can vary depending on factors such as delays in the collection of receivables, changes in our operating performance, changes in trading patterns, changes in client billing terms and other changes in the demand for our platforms and solutions.

Our working capital as of March 31, 2022 and December 31, 2021 was as follows:

	March 31, 2022	December 31, 2021
	(in thousands)	
Cash and cash equivalents	$ 828,061	$ 972,048
Restricted cash	1,000	1,000
Receivable from brokers and dealers and clearing organizations	91,085	—
Deposits with clearing organizations	35,466	20,523
Accounts receivable	164,968	129,937
Receivable from affiliates	2,441	3,313
Total current assets	1,123,021	1,126,821
Securities sold under agreements to repurchase	20,511	—
Payable to brokers and dealers and clearing organizations	70,512	—
Accrued compensation	74,941	154,824
Deferred revenue	27,667	24,930
Payable to affiliates	4,574	4,860
Current portion of:		
Accounts payable, accrued expenses and other liabilities	46,874	38,214
Lease liabilities	10,113	7,534
Tax receivable agreement liability	6,302	9,078
Total current liabilities	261,494	239,440
Total working capital	$ 861,527	$ 887,381

Current Assets

Current assets decreased to $1,123.0 million as of March 31, 2022 from $1,126.8 million as of December 31, 2021 primarily due to a decrease in cash and cash equivalents (see "—*Cash Flows*" below) partially offset by an increase in receivables from brokers and dealers and clearing organizations resulting from a higher number of fails to deliver as a result of increased unsettled wholesale platform transactions, an increase in deposits with clearing organizations and an increase in accounts receivable as a result of increased revenues.

Current Liabilities

Current liabilities increased to $261.5 million as of March 31, 2022 from $239.4 million as of December 31, 2021 primarily due to increases in securities sold under agreements to repurchase and payable to brokers and dealers and clearing organizations resulting from a higher number of fails to deliver as a result of increased unsettled wholesale platform transactions, partially offset by a decrease in accrued compensation as a result of annual bonus payments which occurred during the three months ended March 31, 2022.

See "—*Other Cash and Liquidity Requirements*" above for a discussion on how capital requirements can impact our working capital.

Cash Flows

Our cash flows for the three months ended March 31, 2022 and 2021 were as follows:

	Three Months Ended March 31,	
	2022	2021
	(in thousands)	
Net cash provided by operating activities	$ 45,243	$ 55,572
Net cash used in investing activities	(18,040)	(12,625)
Net cash used in financing activities	(168,081)	(24,450)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(3,109)	161
Net increase (decrease) in cash, cash equivalents and restricted cash	$ (143,987)	$ 18,658

Operating Activities

Operating activities consist primarily of net income adjusted for noncash items that primarily include depreciation and amortization and stock-based compensation expense. Cash flows from operating activities can fluctuate significantly from period-to-period as working capital needs and the timing of payments for accrued compensation (primarily in the first quarter) and other items impact reported cash flows.

Net cash provided by operating activities for the three months ended March 31, 2022 was $45.2 million, a decrease of $10.3 million over the three months ended March 31, 2021, primarily driven by an increase in deposits with clearing organizations during the three months ended March 31, 2022.

Investing Activities

Investing activities consist primarily of software development costs, investments in technology hardware, purchases of equipment and other tangible assets, business acquisitions and investments.

Net cash used in investing activities was $18.0 million for the three months ended March 31, 2022, which consisted of $9.0 million of capitalized software development costs and $9.1 million of purchases of furniture, equipment, purchased software and leasehold improvements. Net cash used in investing activities was $12.6 million for the three months ended March 31, 2021, which consisted of $8.3 million of capitalized software development costs and $4.4 million of purchases of furniture, equipment, purchased software and leasehold improvements.

Financing Activities

Net cash used in financing activities for the three months ended March 31, 2022 was $168.1 million, and was primarily driven by $93.2 million in payroll tax payments for options, PRSUs and RSUs, net of proceeds from the related stock-based compensation option exercises, $47.3 million in share repurchases pursuant to the Share Repurchase Program and $16.4 million in cash dividends to our Class A and Class B common stockholders. Net cash used in financing activities for the three months ended March 31, 2021 was $24.5 million, and was primarily driven by $16.0 million in cash dividends to our Class A and Class B common stockholders.

Non-GAAP Financial Measures

Free Cash Flow

In addition to cash flow from operating activities presented in accordance with GAAP, we use Free Cash Flow, a non-GAAP measure, to measure liquidity. Free Cash Flow is defined as cash flow from operating activities less non-acquisition related expenditures for capitalized software development costs and furniture, equipment and leasehold improvements.

We present Free Cash Flow because we believe it is a useful indicator of liquidity that provides information to management and investors about the amount of cash generated from our core operations after non-acquisition related expenditures for capitalized software development costs and furniture, equipment and leasehold improvements.

Free Cash Flow has limitations as an analytical tool, and you should not consider Free Cash Flow in isolation or as an alternative to cash flow from operating activities or any other liquidity measure determined in accordance with GAAP. You are encouraged to evaluate each adjustment. In addition, in evaluating Free Cash Flow, you should be aware that in the future, we may incur expenditures similar to the adjustments in the presentation of Free Cash Flow. In addition, Free Cash Flow may not be comparable to similarly titled measures used by other companies in our industry or across different industries.

The table set forth below presents a reconciliation of our cash flow from operating activities to Free Cash Flow for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,	
	2022	2021
	(in thousands)	
Cash flow from operating activities	$ 45,243	$ 55,572
Less: Capitalization of software development costs	(8,979)	(8,266)
Less: Purchases of furniture, equipment and leasehold improvements	(9,061)	(4,359)
Free Cash Flow	$ 27,203	$ 42,947

Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT, Adjusted EBIT margin, Adjusted Net Income and Adjusted Diluted EPS

In addition to net income and net income attributable to Tradeweb Markets Inc., each presented in accordance with GAAP, we present Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT and Adjusted EBIT margin as non-GAAP measures of our operating performance and Adjusted Net Income and Adjusted Net Income per diluted share (“Adjusted Diluted EPS”) as non-GAAP measures of our profitability.

Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT and Adjusted EBIT margin

Adjusted EBITDA is defined as net income before net interest income/expense, provision for income taxes and depreciation and amortization, adjusted for the impact of certain other items, including transaction and other costs related to the NFI Acquisition, certain stock-based compensation expense and related payroll taxes, tax receivable agreement liability adjustments, unrealized gains and losses from outstanding foreign currency forward contracts and gains and losses from the revaluation of foreign denominated cash.

Adjusted EBIT is defined as net income before net interest income/expense and provision for income taxes, adjusted for the impact of certain other items, including transaction and other costs related to the NFI Acquisition, certain stock-based compensation expense and related payroll taxes, tax receivable agreement liability adjustments, depreciation and amortization related to acquisitions and the Refinitiv Transaction, unrealized gains and losses from outstanding foreign currency forward contracts and gains and losses from the revaluation of foreign denominated cash.

Adjusted EBITDA margin and Adjusted EBIT margin are defined as Adjusted EBITDA and Adjusted EBIT, respectively, divided by revenue for the applicable period.

We present Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT and Adjusted EBIT margin because we believe they assist investors and analysts in comparing our operating performance across reporting periods on a consistent basis by excluding items that we do not believe are indicative of our core operating performance. For example, we exclude non-cash stock-based compensation expense associated with the Special Option Award as defined in Note 2 – Significant Accounting Policies to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q and post-IPO options awarded in 2019 to management and other employees as well as payroll taxes associated with exercises of such options during the applicable period. We believe it is useful to exclude this stock-based compensation expense and associated payroll taxes because the amount of expense associated with the Special Option Award and the post-IPO option awards in 2019 may not directly correlate to the underlying performance of our business and will vary across periods. We do not expect to exclude any non-cash stock-based compensation expense associated with options that may be awarded to management and other employees during 2022. Beginning on August 30, 2021, we also exclude the non-cash accelerated stock-based compensation expense associated with our former CFO and beginning on February 11, 2022 the incremental non-cash accelerated stock-based compensation expense associated with our retiring CEO, the CEO Retirement Accelerated Stock-Based Compensation Expense discussed above under "— Trends and Other Factors Impacting Our Performance — CEO Transition," and related payroll taxes are also excluded, as we do not consider these expenses indicative of our core ongoing operating performance. The accelerated stock-based compensation expense associated with our former CFO was fully amortized on January 4, 2022 and we expect the CEO Retirement Accelerated Stock-Based Compensation Expense will be fully amortized during 2022. In addition, we exclude the tax receivable agreement liability adjustments discussed below under "— Critical Accounting Policies and Estimates — Tax Receivable Agreement." We believe it is useful to exclude the tax receivable agreement liability adjustment because the recognition of income during a period due to changes in the tax receivable agreement liability recorded in our condensed consolidated statement of financial condition as a result of changes in the mix of earnings, tax legislation and tax rates in various jurisdictions, or other factors that may impact our tax savings, may not directly correlate to the underlying performance of our business and will vary across periods. We also believe it is useful to exclude the transaction and other costs related to the NFI Acquisition as costs related to the acquisition are not indicative of our core operating performance. With respect to Adjusted EBIT and Adjusted EBIT margin, we believe it is useful to exclude the depreciation and amortization of tangible and intangible assets resulting from acquisitions and the application of pushdown accounting to the Refinitiv Transaction in order to facilitate a period-over-period comparison of our financial performance.

Management and our board of directors use Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT and Adjusted EBIT margin to assess our financial performance and believe they are helpful in highlighting trends in our core operating performance, while other measures can differ significantly depending on long-term strategic decisions regarding capital structure, the tax jurisdictions in which we operate and capital investments. Further, our executive incentive compensation is based in part on components of Adjusted EBITDA and Adjusted EBITDA margin.

Adjusted Net Income and Adjusted Diluted EPS

Adjusted Net Income is defined as net income attributable to Tradeweb Markets Inc. assuming the full exchange of all outstanding LLC Interests held by non-controlling interests for shares of Class A common stock or Class B common stock of Tradeweb Markets Inc., adjusted for certain stock-based compensation expense and related payroll taxes, tax receivable agreement liability adjustments, transaction and other costs related to the NFI Acquisition, depreciation and amortization related to acquisitions and the Refinitiv Transaction, unrealized gains and losses from outstanding foreign currency forward contracts and gains and losses from the revaluation of foreign denominated cash. Adjusted Net Income also gives effect to certain tax related adjustments to reflect an assumed effective tax rate. Adjusted Diluted EPS is defined as Adjusted Net Income divided by the diluted weighted average number of shares of Class A common stock and Class B common stock outstanding for the applicable period (including the effect of potentially dilutive securities determined using the treasury stock method), the weighted average number of other participating securities reflected in earnings per share using the two-class method and assuming the full exchange of all outstanding LLC Interests held by non-controlling interests for shares of Class A common stock or Class B common stock.

We use Adjusted Net Income and Adjusted Diluted EPS as supplemental metrics to evaluate our business performance in a way that also considers our ability to generate profit without the impact of certain items. We exclude stock-based compensation expense associated with the Special Option Award and the post-IPO option awards in 2019 and payroll taxes associated with exercises of such options, non-cash accelerated stock-based compensation expense associated with our former CFO and related payroll taxes, CEO Retirement Accelerated Stock-Based Compensation Expense and related payroll taxes, tax receivable agreement liability adjustments, acquisition-related costs and acquisition and Refinitiv Transaction-related depreciation and amortization for the reasons described above. Each of the normal recurring adjustments and other adjustments described in the definition of Adjusted Net Income helps to provide management with a measure of our operating performance over time by removing items that are not related to day-to-day operations or are non-cash expenses. In addition to excluding items that are non-recurring or may not be indicative of our ongoing operating performance, by assuming the full exchange of all outstanding LLC Interests held by non-controlling interests, we believe that Adjusted Net Income and Adjusted Diluted EPS for Tradeweb Markets Inc. facilitate comparisons with other companies that have different organizational and tax structures, as well as comparisons period over period, because it eliminates the effect of any changes in net income attributable to Tradeweb Markets Inc. driven by increases in our ownership of TWM LLC, which are unrelated to our operating performance.

Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT, Adjusted EBIT margin, Adjusted Net Income and Adjusted Diluted EPS have limitations as analytical tools, and you should not consider these non-GAAP financial measures in isolation or as alternatives to net income attributable to Tradeweb Markets Inc., net income, operating income, gross margin, earnings per share or any other financial measure derived in accordance with GAAP. You are encouraged to evaluate each adjustment and, as applicable, the reasons we consider it appropriate for supplemental analysis. In addition, in evaluating Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT, Adjusted EBIT margin, Adjusted Net Income and Adjusted Diluted EPS you should be aware that in the future, we may incur expenses similar to the adjustments in the presentation of these non-GAAP financial measures. Our presentation of Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT, Adjusted EBIT margin, Adjusted Net Income and Adjusted Diluted EPS should not be construed as an inference that our future results will be unaffected by unusual or non-recurring items. In addition, Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT, Adjusted EBIT margin, Adjusted Net Income and Adjusted Diluted EPS may not be comparable to similarly titled measures used by other companies in our industry or across different industries.

The table set forth below presents a reconciliation of net income to Adjusted EBITDA, Adjusted EBITDA margin, Adjusted EBIT and Adjusted EBIT margin for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,	
	2022	**2021**
	(dollars in thousands)	
Net income	$ 97,445	$ 81,565
Acquisition transaction costs (1)	(18)	1,761
Net interest (income) expense	447	493
Depreciation and amortization	44,450	40,966
Stock-based compensation expense (2)	3,869	6,383
Provision for income taxes	13,710	16,269
Foreign exchange (gains) / losses (3)	732	(5,353)
Tax receivable agreement liability adjustment (4)	—	—
Adjusted EBITDA	$ 160,635	$ 142,084
Less: Depreciation and amortization	(44,450)	(40,966)
Add: D&A related to acquisitions and the Refinitiv Transaction (5)	31,769	29,603
Adjusted EBIT	$ 147,954	$ 130,721
Adjusted EBITDA margin	51.6 %	52.0 %
Adjusted EBIT margin	47.5 %	47.8 %

(1) Represents transaction and other costs related to the NFI Acquisition, which closed in June 2021. Acquisition-related costs primarily include legal, consulting and advisory fees and severance costs incurred that relate to the acquisition transaction.
(2) Represents non-cash stock-based compensation expense associated with the Special Option Award and post-IPO options awarded in 2019 and payroll taxes associated with exercises of such options during the applicable period totaling $2.1 million and $6.4 million during the three months ended March 31, 2022 and 2021, respectively, and non-cash accelerated stock-based compensation expense associated with our former CFO and our retiring CEO and related payroll taxes totaling $1.7 million during the three months ended March 31, 2022.
(3) Represents unrealized gain or loss recognized on foreign currency forward contracts and foreign exchange gain or loss from the revaluation of cash denominated in a different currency than the entity’s functional currency.

(4) Represents income recognized during the applicable period due to changes in the tax receivable agreement liability recorded in the statement of financial condition as a result of changes in the mix of earnings, tax legislation and tax rates in various jurisdictions which impacted our tax savings.
(5) Represents intangible asset and acquired software amortization resulting from the NFI Acquisition and intangible asset amortization and increased tangible asset and capitalized software depreciation and amortization resulting from the application of pushdown accounting to the Refinitiv Transaction (where all assets were marked to fair value as of the closing date of the Refinitiv Transaction).

	Three Months Ended March 31,			
	2022	2021	Basis Point Change	Constant Currency Basis Point Change (1)
Adjusted EBITDA margin	51.6 %	52.0 %	-40 bps	-64 bps
Adjusted EBIT margin	47.5 %	47.8 %	-31 bps	-50 bps

(1) The changes in Adjusted EBITDA margin and Adjusted EBIT margin on a constant currency basis, which are non-GAAP financial measures, are defined as the changes in Adjusted EBITDA margin and Adjusted EBIT margin excluding the effects of foreign currency fluctuations. Adjusted EBITDA margin and Adjusted EBIT margin excluding the effects of foreign currency fluctuations are calculated by translating the current period and prior period's results using the annual average exchange rates for 2021. We use the changes in Adjusted EBITDA margin and Adjusted EBIT margin on a constant currency basis as supplemental metrics to evaluate our underlying margin performance between periods by removing the impact of foreign currency fluctuations. We believe that providing changes in Adjusted EBITDA margin and Adjusted EBIT margin on a constant currency basis provide useful comparisons of our Adjusted EBITDA margin and Adjusted EBIT margin and trends between periods.

The table set forth below presents a reconciliation of net income attributable to Tradeweb Markets Inc. and net income, as applicable, to Adjusted Net Income and Adjusted Diluted EPS for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,	
	2022	2021
	(in thousands except per share amounts)	
Earnings per diluted share	$ 0.40	$ 0.33
Net income attributable to Tradeweb Markets Inc.	$ 82,965	$ 67,859
Net income attributable to non-controlling interests (1)	14,480	13,706
Net income	97,445	81,565
Provision for income taxes	13,710	16,269
Acquisition transaction costs (2)	(18)	1,761
D&A related to acquisitions and the Refinitiv Transaction (3)	31,769	29,603
Stock-based compensation expense (4)	3,869	6,383
Foreign exchange (gains) / losses (5)	732	(5,353)
Tax receivable agreement liability adjustment (6)	—	—
Adjusted Net Income before income taxes	147,507	130,228
Adjusted income taxes (7)	(32,452)	(28,650)
Adjusted Net Income	$ 115,055	$ 101,578
Adjusted Diluted EPS (8)	$ 0.48	$ 0.43

(1) Represents the reallocation of net income attributable to non-controlling interests from the assumed exchange of all outstanding LLC Interests held by non-controlling interests for shares of Class A or Class B common stock.
(2) Represents transaction and other costs related to the NFI Acquisition, which closed in June 2021. Acquisition-related costs primarily include legal, consulting and advisory fees and severance costs incurred that relate to the acquisition transaction.
(3) Represents intangible asset and acquired software amortization resulting from the NFI Acquisition and intangible asset amortization and increased tangible asset and capitalized software depreciation and amortization resulting from the application of pushdown accounting to the Refinitiv Transaction (where all assets were marked to fair value as of the closing date of the Refinitiv Transaction).
(4) Represents non-cash stock-based compensation expense associated with the Special Option Award and post-IPO options awarded in 2019 and payroll taxes associated with exercises of such options during the applicable period totaling $2.1 million and $6.4 million during the three months ended March 31, 2022 and 2021, respectively, and non-cash accelerated stock-based compensation expense associated with our former CFO and our retiring CEO and related payroll taxes totaling $1.7 million during the three months ended March 31, 2022.
(5) Represents unrealized gain or loss recognized on foreign currency forward contracts and foreign exchange gain or loss from the revaluation of cash denominated in a different currency than the entity's functional currency.
(6) Represents income recognized during the applicable period due to changes in the tax receivable agreement liability recorded in the statement of financial condition as a result of changes in the mix of earnings, tax legislation and tax rates in various jurisdictions which impacted our tax savings.
(7) Represents corporate income taxes at an assumed effective tax rate of 22.0% applied to Adjusted Net Income before income taxes for each of the three months ended March 31, 2022 and 2021.
(8) For a summary of the calculation of Adjusted Diluted EPS, see "Reconciliation of Diluted Weighted Average Shares Outstanding to Adjusted Diluted Weighted Average Shares Outstanding" below.

The following table summarizes the calculation of Adjusted Diluted EPS for the three months ended March 31, 2022 and 2021:

Reconciliation of Diluted Weighted Average Shares Outstanding to Adjusted Diluted Weighted Average Shares Outstanding and Adjusted Diluted EPS	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
Diluted weighted average shares of Class A and Class B common stock outstanding	207,497,102	205,028,717
Weighted average of other participating securities (1)	53,756	—
Assumed exchange of LLC Interests for shares of Class A or Class B common stock (2)	30,296,879	31,214,407
Adjusted diluted weighted average shares outstanding	237,847,737	236,243,124
Adjusted Net Income (in thousands)	$ 115,055	$ 101,578
Adjusted Diluted EPS	$ 0.48	$ 0.43

(1) Weighted average unvested restricted stock units and unsettled vested performance-based restricted stock units issued to certain retired executives that are entitled to non-forfeitable dividend equivalent rights and are considered participating securities prior to being issued and outstanding shares of common stock in accordance with the two-class method used for purposes of calculating earnings per share. See Note 2 – Significant Accounting Policies to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for discussion of the two-class method.

(2) Assumes the full exchange of the weighted average of all outstanding LLC Interests held by non-controlling interests for shares of Class A or Class B common stock, resulting in the elimination of the non-controlling interests and recognition of the net income attributable to non-controlling interests.

Critical Accounting Policies and Estimates

Our condensed consolidated financial statements are prepared in accordance with U.S. GAAP which requires us to make estimates and assumptions about future events that affect the reported amounts of assets, liabilities, revenues and expenses, and disclosure of contingent assets and liabilities. Management evaluates its accounting policies, estimates and judgments on an on-going basis.

Management evaluated the development and selection of its critical accounting policies and estimates and believes that the following policies are most critical to the portrayal of our financial condition and results of operations, and that require our most difficult, subjective or complex judgments in estimating the effect of inherent uncertainties. With respect to critical accounting policies and estimates, even a relatively minor variance between actual and expected experience can potentially have a materially favorable or unfavorable impact on subsequent results of operations. More information on all of our significant accounting policies can be found in Note 2 – Significant Accounting Policies to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts and disclosures in our condensed consolidated financial statements and accompanying notes. These estimates and assumptions are based on judgment and the best available information at the time. Management bases its estimates on historical experience, observance of trends in particular areas, information available from outside sources and various other assumptions that are believed to be reasonable under the circumstances. Information from these sources form the basis for making judgments about the carrying values of assets and liabilities that may not be readily apparent from other sources. Therefore, actual results could differ materially from those estimates. Such estimates include revenue recognition, current and deferred income taxes and the tax receivable agreement liability.

Revenue Recognition

We enter into contracts with our clients to provide a stand-ready connection to our electronic marketplaces, which facilitates the execution of trades by our clients. The access to our electronic marketplaces, including market data and continuous pricing data refreshes and the processing of trades thereon are highly interrelated and are considered a single performance obligation satisfied over time as the client simultaneously receives and consumes the benefit from our performance. This performance obligation constitutes a series of services that are substantially the same in nature and are provided over time using the same measure of progress. For our services, we earn subscription fees for granting access to our electronic marketplaces.

We earn transaction fees and/or commissions from transactions executed on our trading platforms, including commission revenue from electronic and voice brokerage transacted on a riskless principal basis. Riskless principal revenues are derived on matched principal transactions where revenues are earned on the spread between the buy and sell price of the transacted product. Fixed monthly transaction fees or commissions or monthly transaction fee or commission minimums are generally earned on a monthly basis in the period the stand-ready trading services are provided. Variable transaction fee or commission revenue is recognized and recorded on a trade-date basis when the individual trade occurs. Variable discounts or rebates on transaction fees or commissions are generally earned and applied monthly or quarterly, are resolved within the same reporting period and are recorded as a reduction to revenue in the period the relevant trades occur.

We earn fees from Refinitiv relating to the sale of market data to Refinitiv, which redistributes that data. Included in these fees are real-time market data fees which are recognized monthly on a straight-line basis as Refinitiv receives and consumes the benefit evenly, over the contact period, as the data is provided, and fees for historical data sets which are recognized when the historical data set is provided to Refinitiv.

We are required to make significant judgments for the Refinitiv market data fees. Significant judgments used in accounting for this contract include the following determinations:

- The provision of real-time market data feeds and annual historical data sets are distinct performance obligations.

- The performance obligations under this contract are recognized over time from the initial delivery of the data feeds or each historical data set until the end of the contract term.

- Determining the transaction price for the performance obligations by using a market assessment analysis. Inputs in this analysis include a consultant study which determined the overall value of our market data and pricing information for historical data sets provided by other companies.

During each of the three months ended March 31, 2022 and 2021, there were no material changes in the assumptions used to determine the Refinitiv market data fees.

Income Taxes

Tradeweb Markets Inc. is subject to U.S. federal, state and local income taxes with respect to its taxable income, including its allocable share of any taxable income of TWM LLC, and is taxed at prevailing corporate tax rates. TWM LLC is a multiple member limited liability company taxed as a partnership and accordingly any taxable income generated by TWM LLC is passed through to and included in the taxable income of its members, including to us. TWM LLC records taxes for conducting business in certain state, local and foreign jurisdictions and records U.S. federal taxes for subsidiaries that are taxed as corporations for U.S. tax purposes. We currently record deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities and measure the deferred taxes using the enacted tax rates and laws that will be in effect when such temporary differences are expected to reverse. The measurement of deferred taxes often involves the exercise of significant judgment related to the realization of tax basis. Our deferred tax assets and liabilities reflect our assessment that tax positions taken in filed tax returns and the resulting tax basis are more likely than not to be sustained if they are audited by taxing authorities. Assessing tax rates that we expect to apply and determining the years when the temporary differences are expected to affect taxable income requires judgment about the future apportionment of our income among the jurisdictions in which we operate. Any changes in our practices or judgments involved in the measurement of deferred tax assets and liabilities could materially impact our financial condition or results of operations.

In connection with recording deferred tax assets and liabilities, we record valuation allowances when we believe that it is more likely than not that the Company will not be able to realize its deferred tax assets in the future. We evaluate our deferred tax assets quarterly to determine whether adjustments to our valuation allowance are appropriate in light of changes in facts or circumstances, such as changes in tax law, interactions with taxing authorities and developments in case law. In making this evaluation, we rely on our recent history of pre-tax earnings, our forecasts of future earnings and the nature and timing of future deductions and benefits represented by the deferred tax assets, all of which involve the exercise of significant judgment. As of March 31, 2022 and December 31, 2021, we established a valuation allowance of $0.7 million and $0.7 million, respectively. If forecasts of future earnings and the nature and estimated timing of future deductions and benefits change in the future, we may determine that existing valuation allowances must be revised or new valuation allowances created, any of which could materially impact our financial condition or results of operations. See Note 5 – Income Taxes to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

We recognize interest and penalties related to unrecognized tax benefits within the provision for income taxes in our condensed consolidated statements of income. Accrued interest and penalties are included within accounts payable, accrued expenses and other liabilities in our condensed consolidated statements of financial condition. A U.S. shareholder of a controlled foreign corporation ("CFC") is required to include in income, as a deemed dividend, the global intangible low-taxed income ("GILTI") of the CFC. We have elected to treat taxes due on future U.S. inclusions in taxable income of GILTI as a current period expense when incurred.

Tax Receivable Agreement

Tradeweb Markets Inc. entered into a Tax Receivable Agreement with TWM LLC and the Continuing LLC Owners which provides for the payment by Tradeweb Markets Inc. to a Continuing LLC Owner of 50% of the amount of U.S. federal, state and local income or franchise tax savings, if any, that Tradeweb Markets Inc. actually realizes (or in some circumstances is deemed to realize) as a result of (i) increases in the tax basis of TWM LLC's assets resulting from (a) the purchase of LLC Interests from such Continuing LLC Owner, including with the net proceeds from the IPO, the October 2019 and April 2020 follow-on offerings and any future offering or (b) redemptions or exchanges by such Continuing LLC Owner of LLC Interests for shares of Class A common stock or Class B common stock or for cash, as applicable, and (ii) certain other tax benefits related to Tradeweb Markets Inc. making payments under the Tax Receivable Agreement. Substantially all payments due under the Tax Receivable Agreement are payable over the fifteen years following the purchase of LLC Interests from Continuing LLC Owners or redemption or exchanges by Continuing LLC Owners of LLC Interests. The timing of the payments over the fifteen year period is dependent upon our annual taxable income over the same period. In determining the estimated timing of payments, the current year's taxable income is used to extrapolate an estimate of future taxable income. This requires significant judgment relating to projecting future earnings, the geographic mix of those earnings and the timing of deferred taxes becoming current.

The impact of any changes in the total projected obligations recorded under the Tax Receivable Agreement as a result of actual changes in the geographic mix of our earnings, changes in tax legislation and tax rates or other factors that may impact our actual tax savings realized will be reflected in income before taxes in the period in which the change occurs.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISKS

Foreign Currency and Derivative Risk

We have global operations and substantial portions of our revenues, expenses, assets and liabilities are generated and denominated in non-U.S. dollar currencies.

The following table shows the percentage breakdown of our revenue and operating expenses denominated in currencies other than the U.S. dollar for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31,	
	2022	**2021**
% of revenue denominated in foreign currencies (1)	30%	30%
% of operating expenses denominated in foreign currencies (2)	14%	16%

(1) Revenue in foreign currencies is primarily denominated in Euros.
(2) Operating expenses in foreign currencies are primarily denominated in British pounds sterling

Revenues, expenses, assets and liabilities denominated in non-functional currencies are recorded in the appropriate functional currency for the legal entity at the rate of exchange prevailing at the transaction date. Monetary assets and liabilities that are denominated in non-functional currencies are then remeasured at the end of each reporting period at the exchange rate prevailing at the end of the reporting period. Foreign currency remeasurement gains or losses on monetary assets and liabilities in nonfunctional currencies are recognized in the condensed consolidated statements of income within general and administrative expenses. Since our condensed consolidated financial statements are presented in U.S. dollars, we also translate all non-U.S. dollar functional currency revenues, expenses, assets and liabilities into U.S. dollars. All non-U.S. dollar functional currency revenue and expense amounts are translated into U.S. dollars monthly at the average exchange rate for the month. All non-U.S. dollar functional currency assets and liabilities are translated at the rate prevailing at the end of the reporting period. Gains or losses on translation in the financial statements, when the functional currency is other than the U.S. dollar, are included as a component of other comprehensive income. Accordingly, increases or decreases in the value of the U.S. dollar against the other currencies will affect our operating revenues, operating income and the value of balance sheet items.

Aside from U.S. dollars, a significant portion of our revenues are denominated in Euros and a significant portion of our expenses are denominated in British pound sterling. The following table shows the average foreign currency exchange rates to the U.S. dollar for the three months ended March 31, 2022 and 2021:

	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
Euros	$ 1.12	$ 1.21
British pound sterling	$ 1.34	$ 1.38

The following table shows the change in revenue and operating income caused by fluctuations in foreign currency rates used in translation during the three months ended March 31, 2022 and 2021:

Impact of Foreign Currency Rate Fluctuations (amounts in thousands)	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
Increase (decrease) in revenue	$ (4,600)	$ 3,800
Increase (decrease) in operating income	$ (4,200)	$ 2,200

In addition to the above, realized and unrealized losses from foreign currency re-measurement of transactions in nonfunctional currencies recognized in the condensed consolidated statements of income within general and administrative expense totaled $0.3 million and $1.9 million during the three months ended March 31, 2022 and 2021, respectively.

The following table shows the impact a hypothetical 10% increase or decrease in the U.S. dollar against all other currencies and a hypothetical 10% increase in only Euro or only British pound sterling exchange rates would have on the translation of actual revenue and operating income for the three months ended March 31, 2022 and 2021:

Hypothetical 10% Change in Value of U.S. Dollar (amounts in thousands)	Three Months Ended March 31, 2022	Three Months Ended March 31, 2021
All Currencies		
Effect of 10% change on revenue	+/- $ 10,400	+/- $ 9,200
Effect of 10% change on operating income	+/- $ 7,400	+/- $ 6,300
Euros		
Effect of 10% change on revenue	+/- $ 9,600	+/- $ 8,500
Effect of 10% change on operating income	+/- $ 9,300	+/- $ 8,300
British pound sterling		
Effect of 10% change on revenue	+/- $ 400	+/- $ 400
Effect of 10% change on operating income	+/- $ 2,000	+/- $ 2,000

We have derivative risk relating to our foreign currency forward contracts. We enter into foreign currency forward contracts to mitigate our U.S. dollar and British pound sterling versus Euro exposure, generally with a duration of not more than twelve months. We do not use derivative instruments for trading or speculative purposes. As of March 31, 2022 and December 31, 2021, the notional amount of our foreign currency forward contracts was $171.2 million and $146.2 million, respectively. Realized and unrealized gains on foreign currency forward contracts totaled $0.7 million and $5.7 million during the three months ended March 31, 2022 and 2021, respectively.

By using derivative instruments to hedge exposures to foreign currency fluctuations, we are exposed to credit risk. Credit risk is the failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty owes us, which creates credit risk for us. When the fair value of a derivative contract is negative, we owe the counterparty and, therefore, we are not exposed to the counterparty's credit risk in those circumstances. We attempt to minimize counterparty credit risk in derivative instruments by entering into transactions with high-quality counterparties whose credit rating is at least upper-medium investment grade.

Credit Risk

We have credit risk relating to our receivables, which are primarily receivables from financial institutions, including investment managers and brokers and dealers. As of March 31, 2022 and December 31, 2021, the allowance for credit losses with regard to these receivables totaled $0.1 million and $0.3 million, respectively.

In the normal course of our business we, as an agent, execute transactions with, and on behalf of, other brokers and dealers. If these transactions do not settle because of failure to perform by either counterparty, we may be obligated to discharge the obligation of the non-performing party and, as a result, may incur a loss if the market value of the instrument is different than the contractual amount. This credit risk exposure can be directly impacted by volatile trading markets, as our clients may be unable to satisfy their contractual obligations during volatile trading markets.

Our policy is to monitor our market exposure and counterparty risk. Counterparties are evaluated for creditworthiness and risk assessment prior to our initiating contract activities. The counterparties' creditworthiness is then monitored on an ongoing basis, and credit levels are reviewed to ensure that there is not an inappropriate concentration of credit outstanding to any particular counterparty.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management has evaluated, under the supervision of our Chief Executive Officer and Chief Financial Officer, the effectiveness of our disclosure controls and procedures, as defined in Rule 13(a)-15(e) of the Exchange Act, as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q are effective at a reasonable assurance level in ensuring that information required to be disclosed in our Exchange Act reports is (1) recorded, processed, summarized and reported in a timely manner and (2) 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 or detect all errors and all fraud. While our disclosure controls and procedures are designed to provide reasonable assurance of their effectiveness, 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, within the Company have been detected.

Changes in Internal Control over Financial Reporting

There were no changes to our internal control over financial reporting during the quarter ended March 31, 2022 that have materially affected, or that are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

Except as set forth in Note 12 to the condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q, there have been no material changes from the legal proceedings previously disclosed under the heading "Item 3. Legal Proceedings" in Part I of our 2021 Form 10-K.

ITEM 1A. RISK FACTORS

There have been no material changes to our principal risks that we believe are material to our business, results of operations and financial condition, from the risk factors previously disclosed in "Item 1A. Risk Factors" in Part I of our 2021 Form 10-K.

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

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

During the three months ended March 31, 2022, we repurchased the following shares of shares of Class A common stock:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (1)
				(in thousands)
January 1, 2022 - January 31, 2022	102,456	$ 87.84	102,456	$ 65,324
February 1, 2022 - February 28, 2022	88,804	80.23	88,804	$ 58,199
March 1, 2022 - March 31, 2022	368,168	84.74	368,168	$ 27,001
Total	559,428	$ 84.59	559,428	

(1) On February 4, 2021, we announced that the board of directors authorized a new share repurchase program (the "Share Repurchase Program"), primarily to offset annual dilution from stock-based compensation plans. The Share Repurchase Program authorizes the purchase of up to $150.0 million of the Company's Class A common stock at the Company's discretion through the end of fiscal year 2023. The Share Repurchase Program will be effected primarily through regular open-market purchases (which may include repurchase plans designed to comply with Rule 10b5-1). The Share Repurchase Program does not require the Company to acquire a specific number of shares and may be suspended, amended or discontinued at any time. Each share of Class A common stock repurchased pursuant to the Share Repurchase Program was funded with the proceeds, on a dollar-for-dollar basis, from the repurchase by Tradeweb Markets LLC of an LLC Interest from the Company in order to maintain the one-to-one ratio between outstanding shares of the Company's common stock and LLC Interests owned by the Company.

The table above does not reflect shares surrendered to cover the payroll tax withholding obligations upon the exercise of stock options and vesting of performance-based restricted stock units and restricted stock units. During the three months ended March 31, 2022, the Company withheld 985,959 shares, of common stock from employee stock option, performance-based restricted stock and restricted stock awards.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

None.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

Exhibit Number	Description of Exhibit
31.1*	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema Document.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover page formatted as Inline XBRL and contained in Exhibit 101.

* Filed herewith.

† Indicates a management contract or compensatory plan or arrangement.

SIGNATURES

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

TRADEWEB MARKETS INC.

April 29, 2022	/s/ Lee Olesky
	By: Lee Olesky Chief Executive Officer (Principal Executive Officer)
April 29, 2022	/s/ Sara Furber
	By: Sara Furber Chief Financial Officer (Principal Financial Officer)

EXHIBIT 31.1

CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Lee Olesky, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the fiscal quarter ended March 31, 2022 of Tradeweb Markets Inc.;

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.

April 29, 2022

/s/ Lee Olesky
Lee Olesky
Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION OF THE PRINCIPAL FINANCIAL OFFICER PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Sara Furber, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the fiscal quarter ended March 31, 2022 of Tradeweb Markets Inc.;

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.

April 29, 2022

/s/ Sara Furber

Sara Furber
Chief Financial Officer

EXHIBIT 32.1

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

In connection with the Quarterly Report on Form 10-Q of Tradeweb Markets Inc. (the “Company”) for the fiscal quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Lee Olesky, Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his 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.

April 29, 2022

/s/ Lee Olesky

Lee Olesky
Chief Executive Officer

EXHIBIT 32.2

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

In connection with the Quarterly Report on Form 10-Q of Tradeweb Markets Inc. (the “Company”) for the fiscal quarter ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Sara Furber, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to her 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.

April 29, 2022	/s/ Sara Furber
	Sara Furber
	Chief Financial Officer