

EXHIBIT D

CORNERSTONE RESEARCH

Economic and Financial Consulting and Expert Testimony

Securities Class Action Settlements

2020 Review and Analysis

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The views expressed in this report are solely those of the authors, who are responsible for the content, and do not necessarily represent the views of Cornerstone Research.

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Analyses in this report are based on 1,925 securities class actions filed after passage of the Private Securities Litigation Reform Act of 1995 (Reform Act) and settled from 1996 through year-end 2020. See page 16 for a detailed description of the research sample. For purposes of this report and related research, a settlement refers to a negotiated agreement between the parties to a securities class action that is publicly announced to potential class members by means of a settlement notice.

Highlights

The median total settlement amount dipped from a historic high in 2019, but remained 19% above the 2011–2019 median. And, continuing a trend observed in 2019, the size of issuer defendant firms (measured by median total assets) for 2020 settled cases increased 34% over the prior year.

- There were 77 settlements totaling \$4.2 billion in 2020. [\(page 3\)](#)
- The median settlement in 2020 of \$10.1 million fell 13% from 2019 (adjusted for inflation) but was still 19% higher than the prior nine-year median. [\(page 4\)](#)
- While the average settlement doubled from \$27.8 million in 2019 to \$54.5 million in 2020 (due to a few very large settlements), it was only 15% higher than the prior nine-year average. [\(page 4\)](#)
- There were six mega settlements (settlements equal to or greater than \$100 million) in 2020, ranging from \$149 million to \$1.2 billion. [\(page 3\)](#)
- For cases with Rule 10b-5 claims, the median settlement as a percentage of “simplified tiered damages” was 5.3% in 2020, slightly higher than prior years. [\(page 6\)](#)
- Median “simplified statutory damages” for cases involving only Section 11 and/or Section 12(a)(2) claims (‘33 Act claim cases) in 2020 was 32% lower than in 2019. [\(page 7\)](#)
- The proportion of settled cases alleging Generally Accepted Accounting Principles (GAAP) violations in 2020 was 42%, among the lowest of all post–Reform Act years. [\(page 9\)](#)
- Of settled cases in 2020, 55% involved an accompanying derivative action, the second-highest rate over the last 10 years.¹ [\(page 10\)](#)
- The average time from filing to settlement approval for 2020 settlements was 3.3 years. [\(page 13\)](#)

Figure 1: Post–Reform Act Settlement Statistics

(Dollars in millions)

	1996–2019	2019	2020
Number of Settlements	1,848	74	77
Total Amount	\$107,296.4	\$2,055.1	\$4,199.8
Minimum	\$0.2	\$0.5	\$0.3
Median	\$9.0	\$11.6	\$10.1
Average	\$58.1	\$27.8	\$54.5
Maximum	\$9,285.7	\$394.4	\$1,210.0

Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used.

Author Commentary

2020 Findings

Despite the unprecedented economic disruption caused by the COVID-19 pandemic in 2020, settlements in securities class actions generally continued at a pace typical of recent years. The exception was a substantial drop in the number of settlements that were announced during the month of April, but this was followed by a sharp rebound in May (see Appendix 1).²

Additionally, as described below, in several respects settlement amounts and characteristics returned to patterns more consistent with historical trends than the results observed for 2019.

In particular, the median settlement amount in 2019 was at a historically high level, driven primarily by a reduction in the number of small settlements. The reduced level of small settlements reversed in 2020, with over 30% of cases settling for amounts less than \$5 million.

In addition, public pension plan involvement as lead plaintiffs rebounded from the all-time low in 2019 to 40% of all settled cases in 2020—in line with earlier years in the last decade. Among the larger cases in 2020 (cases with “simplified tiered damages” greater than \$250 million), nearly 60% had a public pension plan as lead plaintiff.

Our research also examines the number of docket entries as a proxy for the time and effort by plaintiff counsel and/or case complexity. For 2019 settled cases, average docket entries were the highest in the last 10 years. However, in 2020, this also reversed to levels consistent with prior years.

On the other hand, continuing a trend noted in our 2019 report, the size of issuer defendant firms (measured by median total assets) for 2020 settled cases increased by 34% over 2019 and more than 125% over the prior nine years. As observed in last year’s report, the population of public firms has been declining, and those companies that remain are larger.³

In several respects, after an unusual year in 2019, settlements in 2020 represented a return to levels prevalent in prior years. However, one prominent trend continuing from 2019 is an increase in the size of issuer defendant firms.

*Dr. Laarni T. Bulan
Principal, Cornerstone Research*

Any disruption in settlement rates as a result of the COVID-19 pandemic appears to have been temporary, with the overall number of settlements for 2020 in line with recent years. It will likely be at least a couple of years before we learn whether COVID-19-related allegations have had an impact on other settlement trends.

*Dr. Laura E. Simmons
Senior Advisor, Cornerstone Research*

Looking Ahead

On average, cases take just over three years to reach settlement. Thus, trends in case filings during the last few years are relevant to anticipating developments in settlements in upcoming years.

As discussed in *Securities Class Action Filings—2020 Year in Review*, overall, both the number and size of case filings alleging Rule 10b-5 and/or Section 11 claims were elevated in 2018–2020 compared to earlier years. Thus, we anticipate relatively high levels of settlements in upcoming years in terms of the count and dollar amounts, absent an increase in dismissal rates or developments that might affect settlement size.

In recent years, several trends in nontraditional case allegations have been observed in case filings, including allegations related to cybersecurity, cryptocurrency, and special purpose acquisition companies (SPACs). A small number of these cases have reached settlement to date but a large portion remains active. Accordingly, we expect that cases involving these issues will reach the settlement stage in future years. In addition, the emergence of cases with COVID-19-related allegations in 2020 may also affect settlement trends.

Further, as discussed in this report, the proportion of settled cases involving accompanying Securities and Exchange Commission (SEC) actions declined in 2020. However, this decline may not continue given recent findings of an increase in filings of SEC actions alleging issuer reporting and disclosure issues. (See *SEC Enforcement Activity: Public Companies and Subsidiaries—Fiscal Year 2020 Update*, Cornerstone Research.)

—Laarni T. Bulan and Laura E. Simmons

Total Settlement Dollars

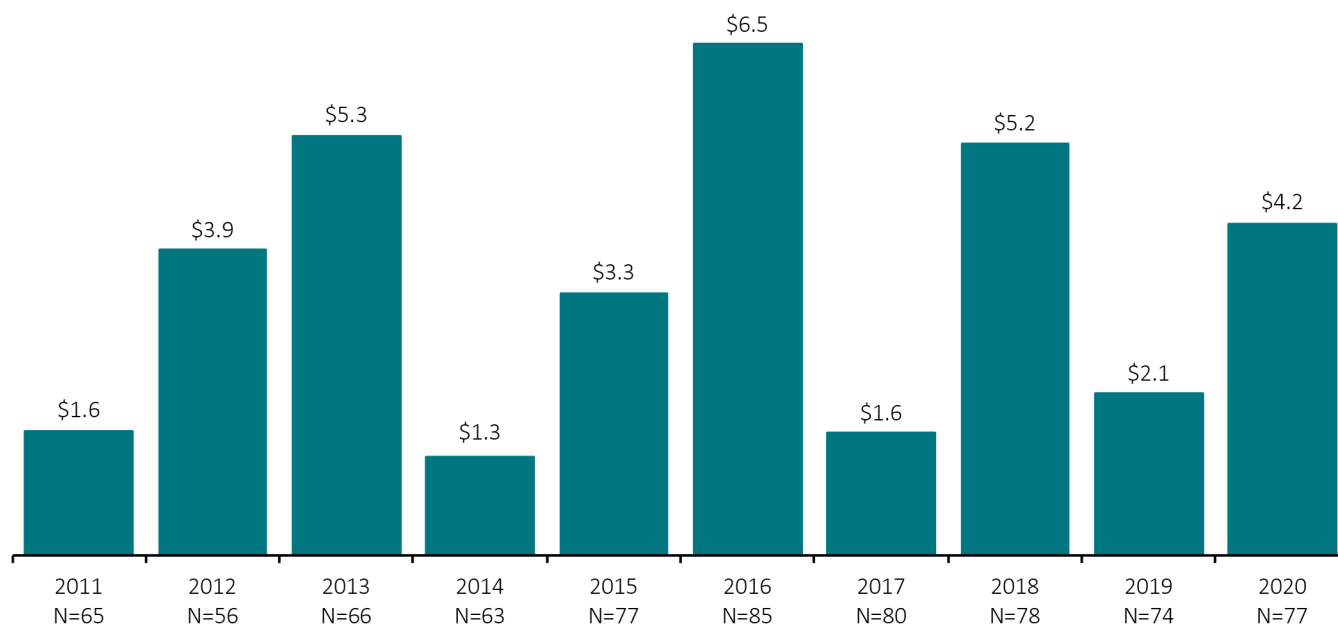
- The total value of settlements approved by courts in 2020 doubled from 2019 due to the presence of a few very large settlements. However, excluding settlements over \$1 billion, total settlement dollars declined 4% in 2020 over 2019 (adjusted for inflation).
- There were six mega settlements (equal to or greater than \$100 million) in 2020, with settlements ranging from \$149 million to \$1.2 billion. (See Appendix 6 for additional information on mega settlements.)

75% of total settlement dollars in 2020 came from mega settlements.

- The number of settlements approved in 2020 (77 cases) represented a modest increase from the prior nine-year average (72 cases).

Figure 2: Total Settlement Dollars
2011–2020

(Dollars in billions)



Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used. N refers to the number of cases.

Settlement Size

As discussed above, the median settlement amount declined from 2019. Generally, the median is more stable from year to year than the average, since the average can be affected by the presence of even a small number of large settlements.

- The median settlement amount in 2020 of \$10.1 million represented a 13% decline over the historically high level observed in 2019 (adjusted for inflation), but was still elevated compared to prior years.
- The number of small settlements (less than \$5 million) also increased in 2020 to 24 cases (from 16 cases in 2019). (See Appendix 2 for additional information on distribution of settlements.)

- While the average settlement doubled from \$27.8 million in 2019 to \$54.5 million in 2020 (due to a few very large settlements), it was only 15% higher than the prior nine-year average. (See Appendix 3 for an analysis of settlements by percentiles.)
- If settlements exceeding \$1 billion are excluded, average settlement dollars in 2020 were actually 15% lower than the prior nine-year average.

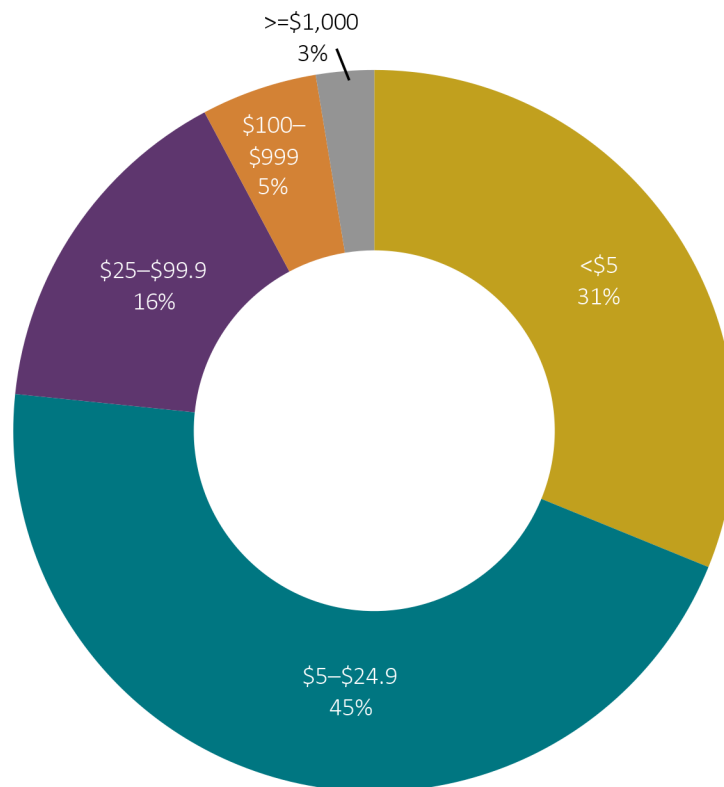
.....

The proportion of cases that settled for between \$5 million and \$25 million returned to pre-2019 levels.

.....

Figure 3: Distribution of Settlements
2020

(Dollars in millions)



Damages Estimates

Rule 10b-5 Claims: “Simplified Tiered Damages”

“Simplified tiered damages” uses simplifying assumptions to estimate per-share damages and trading behavior. It provides a measure of potential shareholder losses that allows for consistency across a large volume of cases, thus enabling the identification and analysis of potential trends.⁴

Cornerstone Research’s prediction model finds this measure to be the most important factor in predicting settlement amounts.⁵ However, this measure is not intended to represent actual economic losses borne by shareholders. Determining any such losses for a given case requires more in-depth economic analysis.

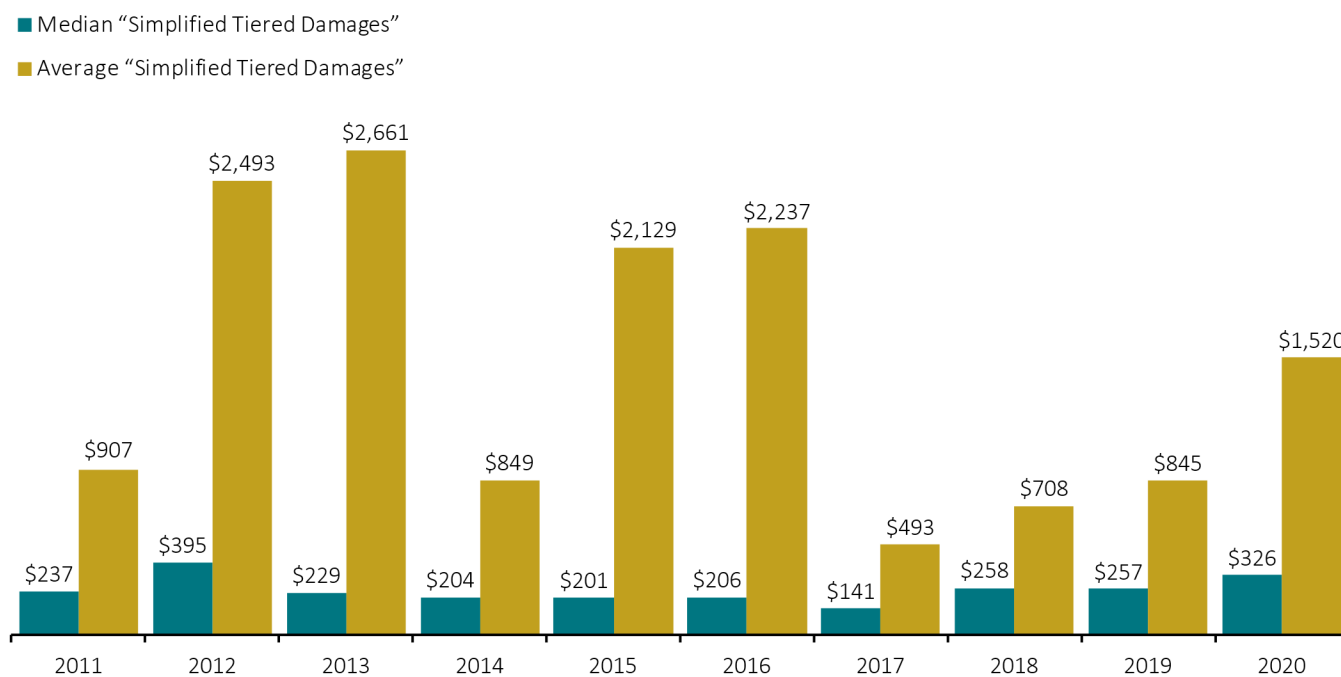
- Average “simplified tiered damages” increased for the third year in a row. (See Appendix 7 for additional information on the median and average settlements as a percentage of “simplified tiered damages.”)

Median “simplified tiered damages” was the second highest in the last decade.

- Median values provide the midpoint in a series of observations and are less affected than averages by outlier data. The increase in median “simplified tiered damages” in 2020 indicates a higher number of larger cases relative to 2019 (e.g., cases with “simplified tiered damages” exceeding \$250 million).
- Larger “simplified tiered damages” are typically associated with larger issuer defendants (measured by total assets or market capitalization of the issuer). Median total assets of issuer defendants in 2020 increased 34% from 2019 and more than 125% from the median for the prior nine years (2011–2019).

Figure 4: Median and Average “Simplified Tiered Damages” in Rule 10b-5 Cases 2011–2020

(Dollars in millions)



Note: “Simplified tiered damages” are adjusted for inflation based on class period end dates. Damages are estimated for cases alleging a claim under Rule 10b-5 (whether alone or in addition to other claims).

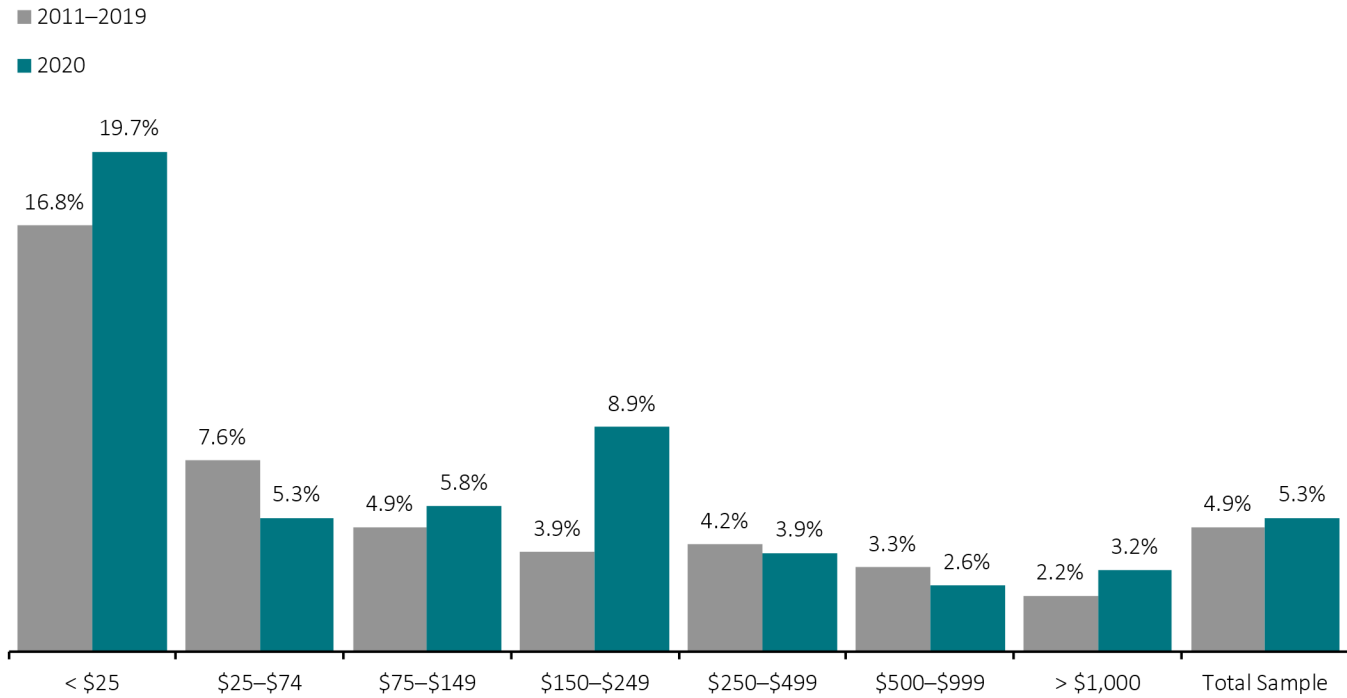
- Larger cases, as measured by “simplified tiered damages,” typically settle for a smaller percentage of damages.
- Smaller cases (less than \$25 million in “simplified tiered damages”) typically settle more quickly. In 2020, these cases settled within 3.4 years on average, compared to 4 years for cases with “simplified tiered damages” greater than \$500 million.
- Smaller cases are less likely to be associated with factors such as institutional lead plaintiffs, related actions by the SEC, or criminal charges. (See [Analysis of Settlement Characteristics](#) for a detailed discussion of these factors.)

The median settlement as a percentage of “simplified tiered damages” increased 10% over 2019.

- The unusually high median settlement as a percentage of “simplified tiered damages” (8.9%) observed among 2020 settlements with “simplified tiered damages” between \$150 million and \$250 million may, at least in part, reflect an increased level of public pension plans acting as lead plaintiffs for this group of cases.

Figure 5: Median Settlements as a Percentage of “Simplified Tiered Damages” by Damages Ranges in Rule 10b-5 Cases 2011–2020

(Dollars in millions)



Note: Damages are estimated for cases alleging a claim under Rule 10b-5 (whether alone or in addition to other claims).

'33 Act Claims: "Simplified Statutory Damages"

For '33 Act claim cases—those involving only Section 11 and/or Section 12(a)(2) claims—shareholder losses are estimated using a model in which the statutory loss is the difference between the statutory purchase price and the statutory sales price, referred to here as "simplified statutory damages."⁶ Only the offered shares are assumed to be eligible for damages.

"Simplified statutory damages" are typically smaller than "simplified tiered damages," reflecting differences in the methodologies used to estimate alleged damages per share, as well as differences in the shares eligible to be damaged (i.e., only offered shares are included).

Median "simplified statutory damages" for '33 Act claim cases in 2020 was 32% lower than in 2019.

- Cases with only '33 Act claims tend to settle for smaller median amounts than cases that include Rule 10b-5 claims.
- For 2020 settlements, the median length of time from filing to settlement hearing date for '33 Act claim cases was more than 26% shorter than the duration for '33 Act claim cases settled during 2016–2019.

Figure 6: Settlements by Nature of Claims
2011–2020

(Dollars in millions)

	Number of Settlements	Median Settlement	Median "Simplified Statutory Damages"	Median Settlement as a Percentage of "Simplified Statutory Damages"
Section 11 and/or Section 12(a)(2) Only	77	\$8.0	\$120.3	7.4%

	Number of Settlements	Median Settlement	Median "Simplified Tiered Damages"	Median Settlement as a Percentage of "Simplified Tiered Damages"
Both Rule 10b-5 and Section 11 and/or Section 12(a)(2)	109	\$15.3	\$394.9	5.4%
Rule 10b-5 Only	525	\$8.1	\$209.5	4.6%

Note: Settlement dollars and damages are adjusted for inflation; 2020 dollar equivalent figures are used.

- Median settlements as a percentage of “simplified statutory damages” in 2020 was 31% lower than the value in 2019.

88% of cases with only '33 Act claims involved an underwriter as a codefendant.

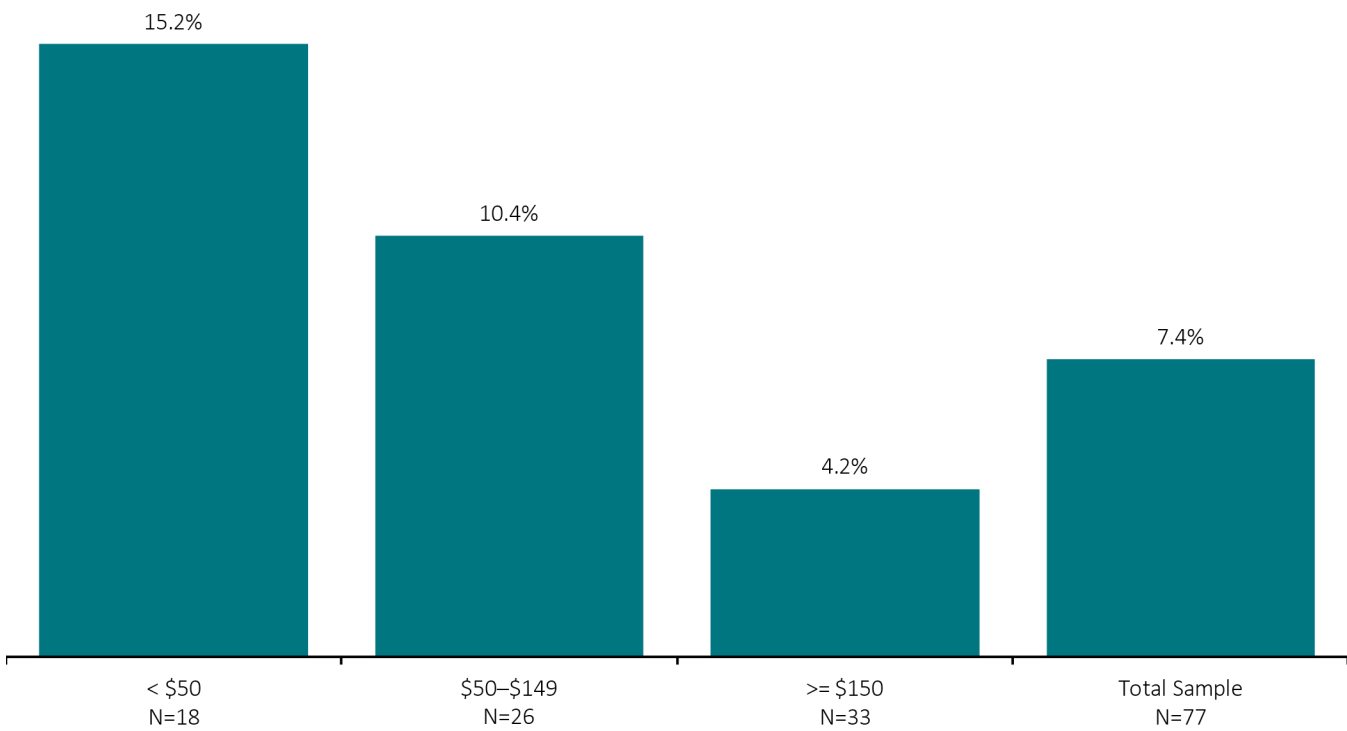
- Nearly 85% of the '33 Act claim cases settled from 2011 through 2020 involved an initial public offering (IPO).
- Among those cases with identifiable contributions, D&O liability insurance provided, on average, more than 90% of the total settlement fund for '33 Act claim cases from 2011 to 2020.⁷

The March 2018 U.S. Supreme Court decision in *Cyan Inc. v. Beaver County Employees Retirement Fund* held that '33 Act claim securities class actions can be brought in state court. While '33 Act claim cases had often been brought in state courts before *Cyan*, filing rates in state courts increased substantially following this ruling.⁸

- By year-end 2020, only six post-*Cyan* filed '33 Act claim cases had settled. Among these post-*Cyan* filed cases, four were filed in state court.
- Following the *Cyan* decision, the number of settlements with allegations in both state and federal court increased. Typically in these parallel suits, state court cases will involve '33 Act claims and the federal case will involve Rule 10b-5 claims. However, in some instances, the federal case will involve '33 Act claims as well.

Figure 7: Median Settlements as a Percentage of “Simplified Statutory Damages” by Damages Ranges in '33 Act Claim Cases 2011–2020

(Dollars in millions)



Jurisdictions of Settlements of '33 Act Claim Cases

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
State Court	0	1	1	0	2	4	5	4	5	5
Federal Court	15	3	7	2	3	6	3	4	5	2

Note: N refers to the number of cases. Table does not include parallel suits.

Analysis of Settlement Characteristics

GAAP Violations

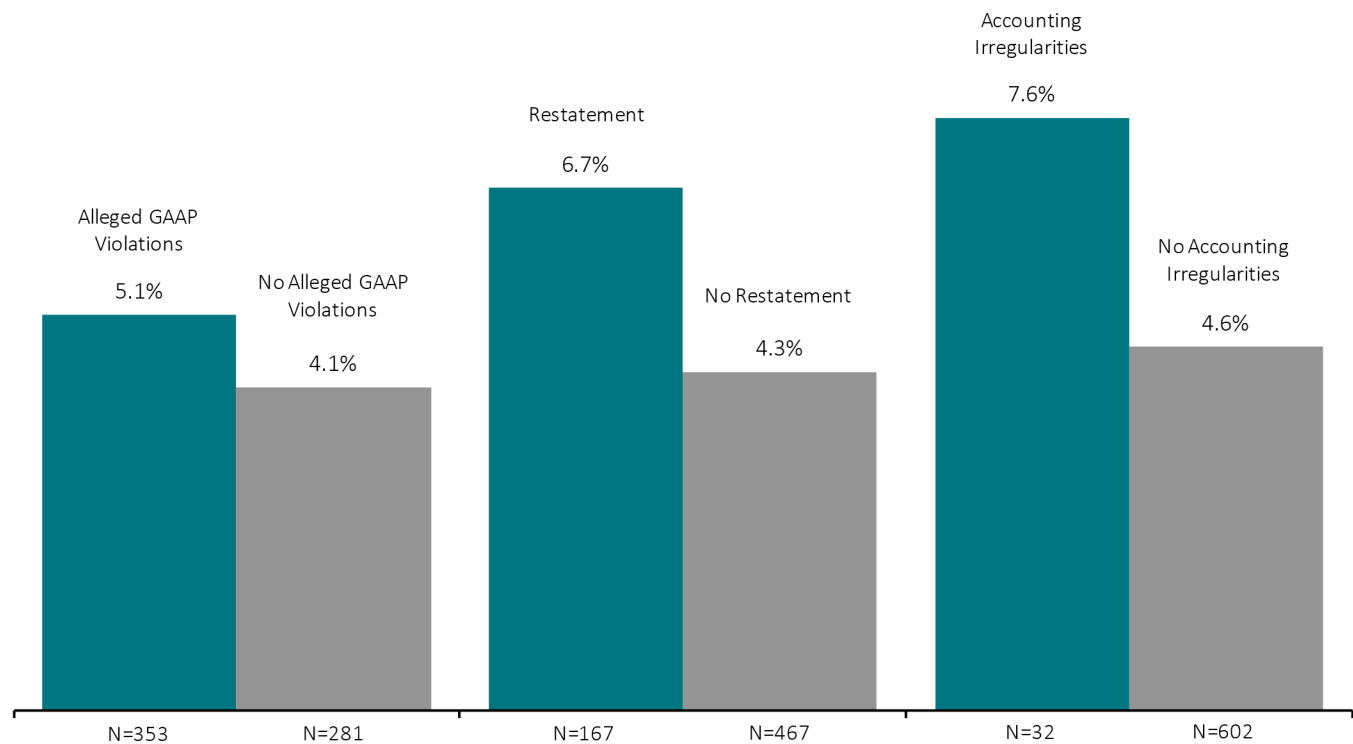
This analysis examines allegations of Generally Accepted Accounting Principles (GAAP) violations in settlements of securities class actions involving Rule 10b-5 claims.⁹ For further details regarding settlements of accounting cases, see Cornerstone Research’s annual report on *Accounting Class Action Filings and Settlements*.¹⁰

- For settlements over the last 10 years, median settlements as a percentage of “simplified tiered damages” for cases involving financial statement restatements have been higher than for non-restatement cases. However, only 14.5% of cases settled in 2020 had allegations regarding restatements, a 48% decline from the prior nine-year median.
- From 2011 to 2020, median “simplified tiered damages” for cases involving GAAP allegations were 13% lower than for cases absent such allegations.

- From 2016 to 2020, among cases settled with GAAP allegations, on average, 13% involved a named auditor codefendant compared with an average of 19% from 2011 to 2015.
- The frequency of reported accounting irregularities shrunk to just over 2.9% among 2020 settlements following a high of 9.4% in 2019.
- In 2020, the median class period length was more than two years for cases with GAAP allegations. For cases without GAAP allegations, the median class period length was just over one year.

The proportion of settled cases alleging GAAP violations in 2020 was 42%, among the lowest of all post-Reform Act years.

Figure 8: Median Settlements as a Percentage of “Simplified Tiered Damages” and GAAP Allegations 2011–2020



Note: N refers to the number of cases.

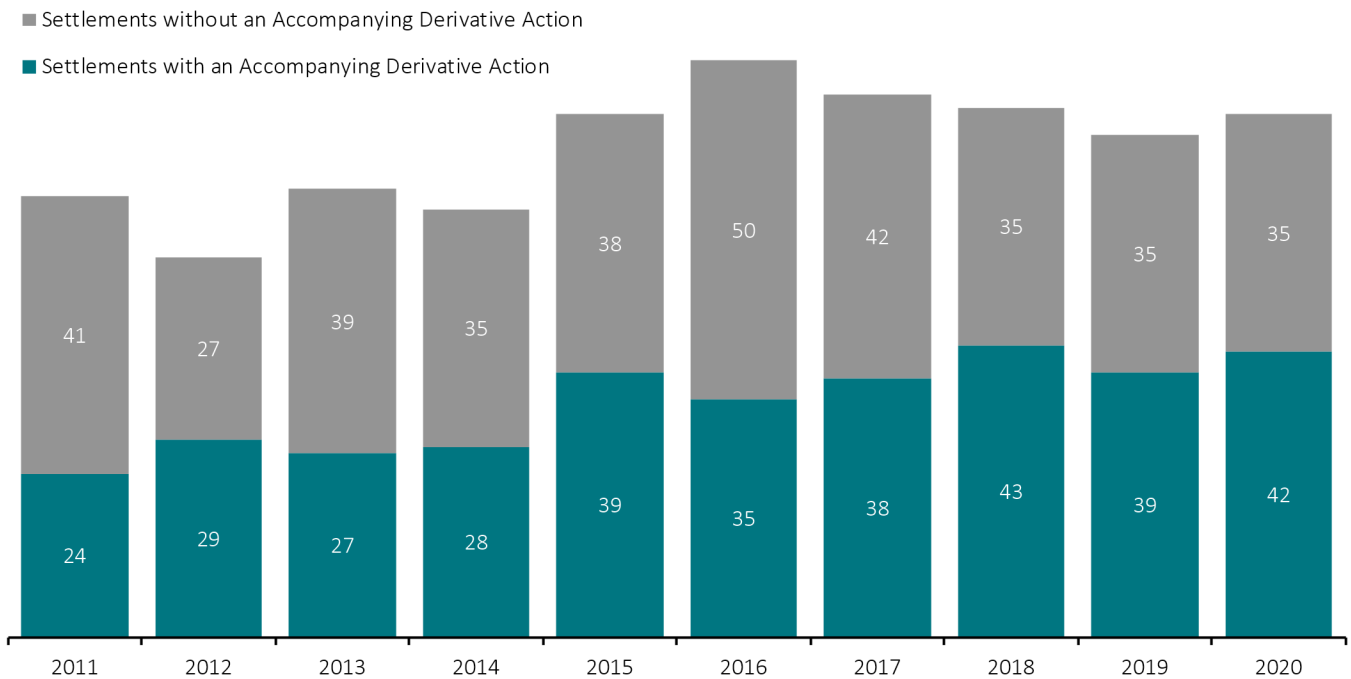
Derivative Actions

- Settled cases involving an accompanying derivative action are typically associated with both larger cases (measured by “simplified tiered damages”) and larger settlement amounts.
- For the 42 case settlements in 2020 with an accompanying derivative action, the median settlement was \$15.3 million compared to \$8.5 million for cases without a derivative action.
- Both median total assets and median “simplified tiered damages” in cases with an accompanying derivative action were more than double the median in 2019.

In 2020, 55% of settled cases involved an accompanying derivative action, the second-highest rate over the last 10 years.

- Parallel derivative suits related to class action settlements have been filed most frequently in California, Delaware, and New York. Among 2020 settlements, parallel derivative actions filed in California declined steeply (down 66% from 2019 settlements). However, 40% of settled cases with parallel derivative actions had actions filed in Delaware, the highest proportion in the past decade.

Figure 9: Frequency of Derivative Actions 2011–2020



Corresponding SEC Actions

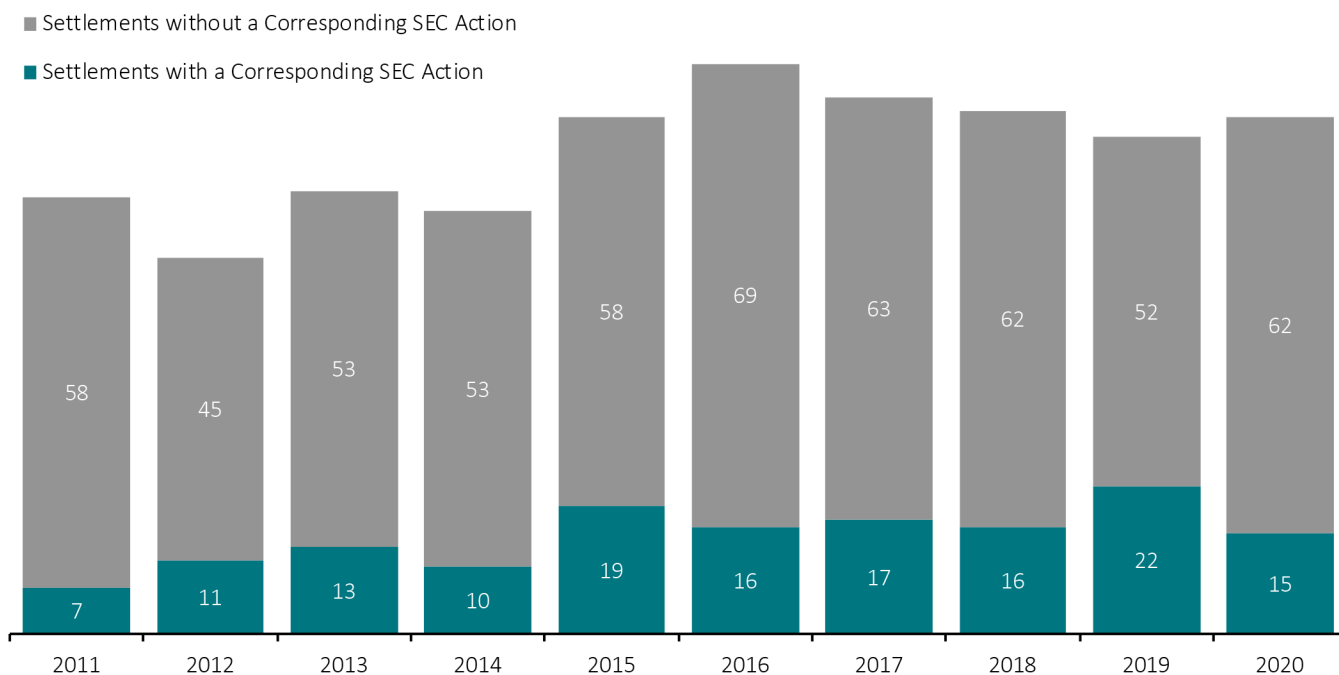
- Cases with an SEC action related to the allegations are typically associated with significantly higher settlement amounts.¹¹
- From 2011 to 2020, median settlement amounts (adjusted for inflation) for cases that involved a corresponding SEC action were 11% higher than for cases without such an action.

For cases settled during 2016–2020, 36% of cases with a corresponding SEC action involved a distressed issuer defendant, that is, an issuer that had either declared bankruptcy or was delisted from a major U.S. exchange prior to settlement.

In 2020, the rate of settled cases involving a corresponding SEC action fell 32% from the prior year.

- Settled cases with corresponding SEC actions have involved GAAP allegations less frequently in recent years. From 2011 to 2015, 85% of these cases involved GAAP allegations, compared to 70% from 2016 to 2020.
- Cases involving corresponding SEC actions may also include related criminal charges in connection with the allegations covered by the underlying class action. From 2016 to 2020, 35% of settled cases with an SEC action had related criminal charges.¹²

Figure 10: Frequency of SEC Actions 2011–2020



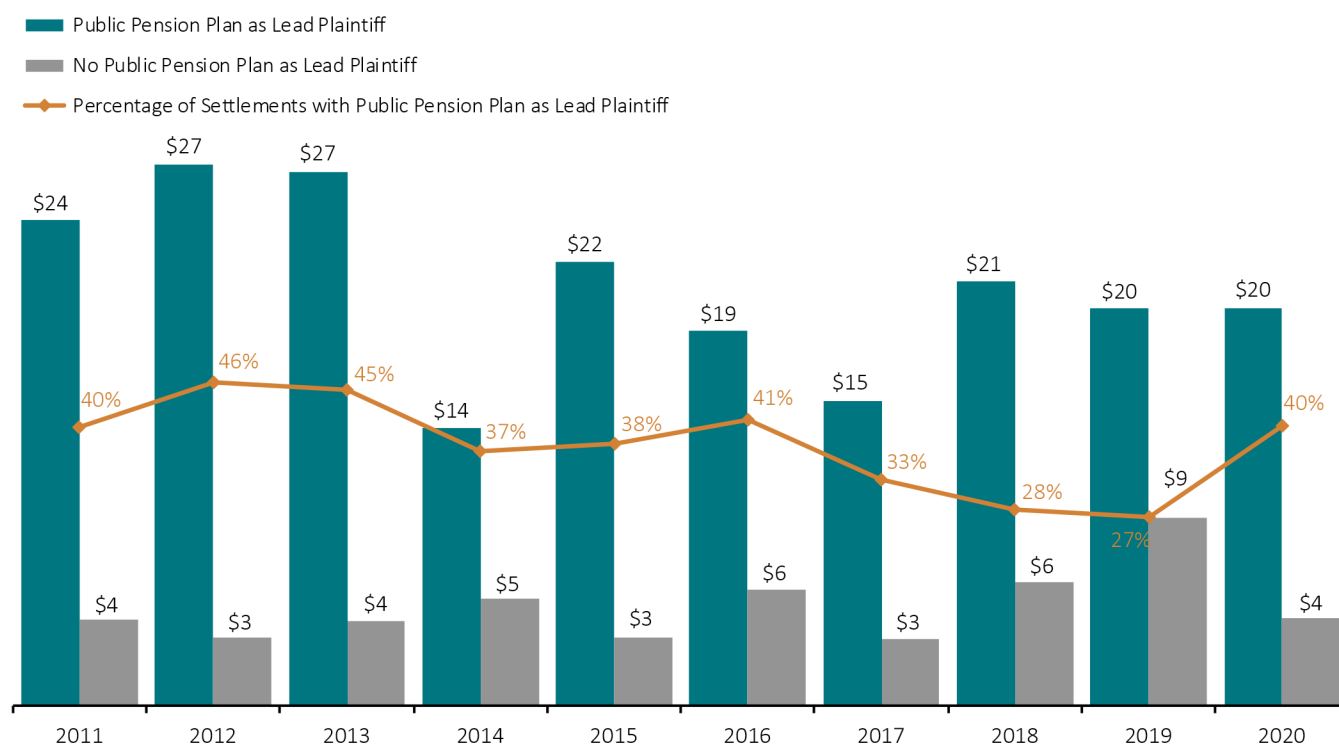
Institutional Investors

- Despite the variation in the frequency of institutional investors acting as lead or co-lead plaintiffs in any given settlement year, institutional investors, including public pension plans, are consistently involved in larger cases, that is, cases with higher “simplified tiered damages” and higher total assets.
- Median “simplified tiered damages” for cases involving an institutional investor as a lead plaintiff in 2020 were nearly seven-and-a-half times higher than for cases without institutional investor involvement in a lead role.
- Median total assets of defendant firms for 2020 case settlements in which an institutional investor was a lead or co-lead plaintiff were more than 15 times the total assets for cases without an institutional investor acting as a lead plaintiff.
- Among 2020 settled cases that had an institutional investor as a lead plaintiff, 60% had a parallel derivative action, 22% had a corresponding SEC action, and 16% involved a criminal charge.
- In 2020, the median market capitalization decline during the alleged class period in cases with a public pension as a lead plaintiff was \$1.7 billion compared to \$419.6 million for cases without a public pension leading the class.
- The vast majority of cases taking more than five years to resolve (measured as the duration from filing date to settlement hearing date) involved a public pension as a lead plaintiff.

The frequency of public pension plans as lead plaintiff rebounded to levels observed earlier in the last decade.

Figure 11: Median Settlement Amounts and Public Pension Plans 2011–2020

(Dollars in millions)



Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used.

Time to Settlement and Case Complexity

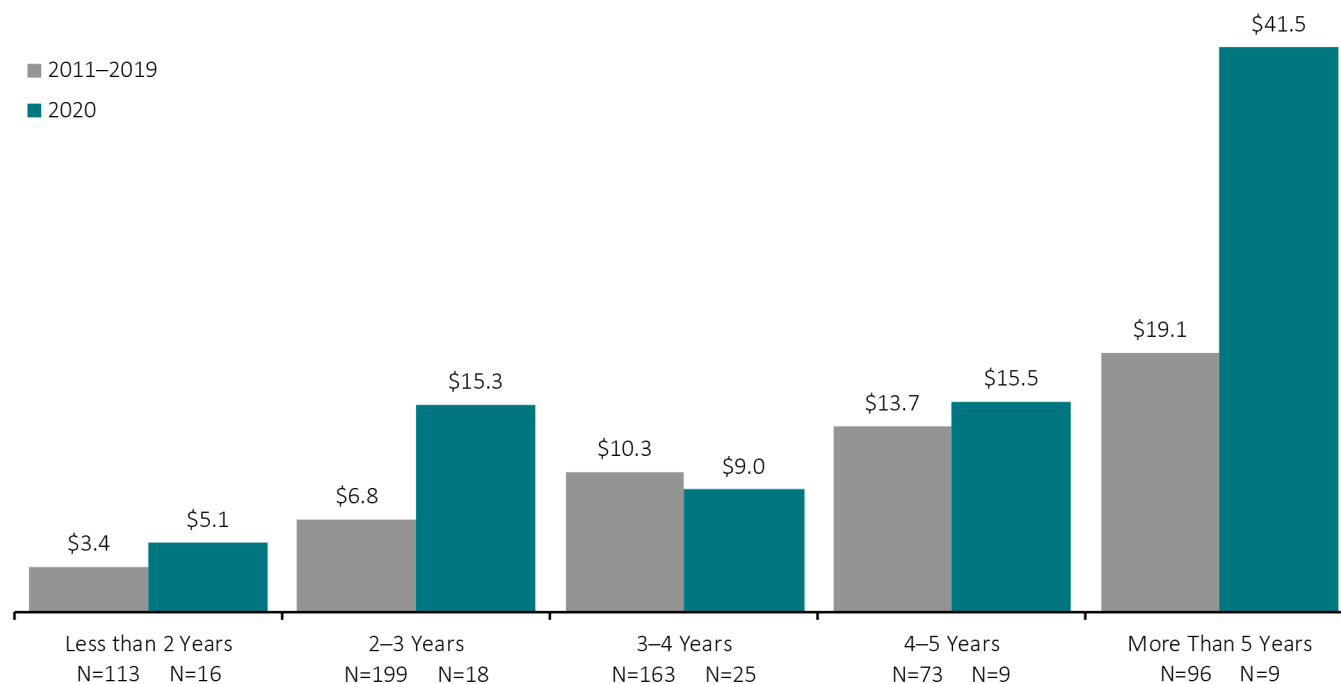
- The average time from filing to settlement in 2020 was 3.3 years, a small decrease relative to the prior nine-year average.
- Of cases in 2020 that took more than five years to settle, the median assets of the defendant firms (\$7.7 billion) as well as median “simplified tiered damages” (\$909 million) were substantially higher than in previous years.
- In 2020, 21% of cases settled within two years of the filing date. Of these 16 cases, nine settled before a ruling on motion to dismiss.

Cases that settled for more than \$100 million in 2020 took an average of 4.6 years from filing to settlement.

- The number of docket entries at the time of the settlement may reflect case complexity. This factor has also been used in prior research as a proxy for attorney effort.¹³ The average number of docket entries declined 19% in 2020 compared to 2019. Among cases that settled for more than \$100 million, however, the average number of docket entries jumped 64%.

Figure 12: Median Settlement by Duration from Filing Date to Settlement Hearing Date 2011–2020

(Dollars in millions)



Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used. N refers to the number of cases.

Case Stage at the Time of Settlement

In collaboration with Stanford Securities Litigation Analytics (SSLA),¹⁴ this report analyzes settlements in relation to the stage in the litigation process at the time of settlement.

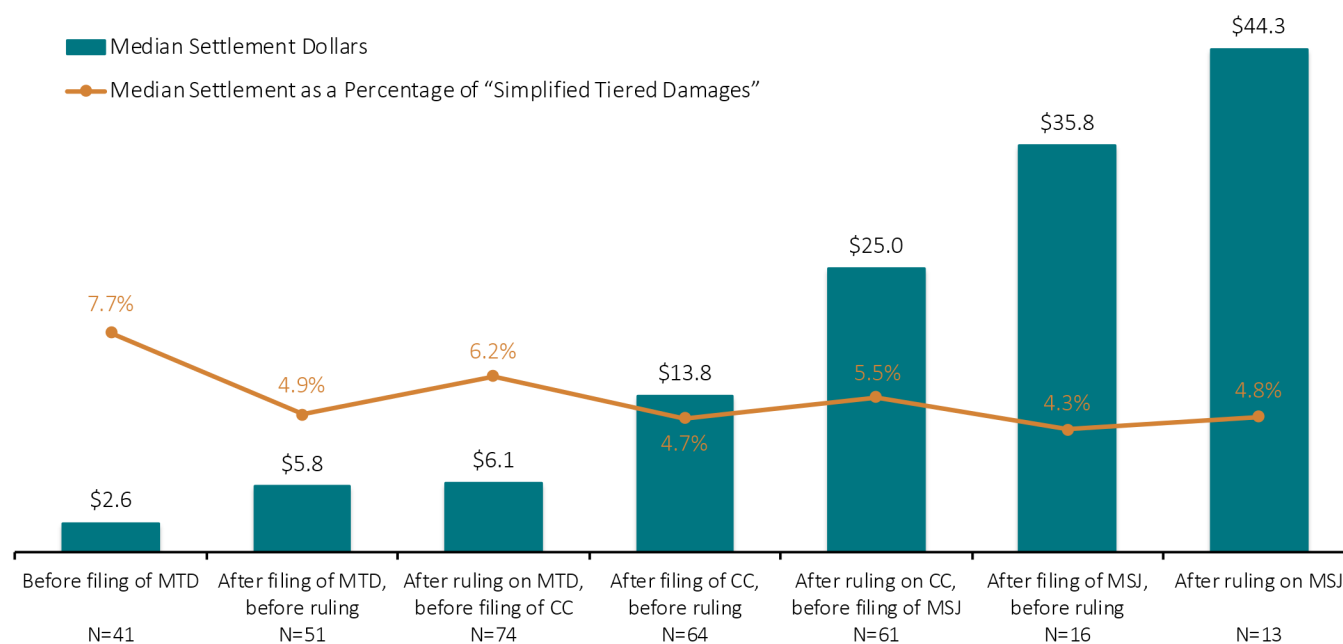
- In 2020, 57% of cases were resolved before progressing to the stage of filing a motion for class certification.
- The proportion of cases settling sometime after a ruling on a motion for class certification was 21% in 2020 compared to 28% in the prior four years.
- In 2020, median “simplified tiered damages” was more than six times larger for cases settled following a filing for a motion for class certification than for cases that resolved prior to such a motion being filed.

- Median “simplified tiered damages” for 2020 cases that settled after the filing of a motion for summary judgment (MSJ) was more than four times the median for cases that settled before a MSJ filing.
- Cases settling further along in the litigation process are more likely to have additional characteristics frequently associated with more complex matters. Of those that settled after a MSJ filing, 71% of 2016–2020 cases had an institutional investor lead plaintiff and nearly 24% were associated with criminal charges.

The average time to reach a ruling on a motion for class certification among 2020 settlements was 2.8 years

Figure 13: Median Settlement Dollars and Resolution Stage at Time of Settlement 2016–2020

(Dollars in millions)



Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used. MTD refers to “motion to dismiss,” CC refers to “class certification,” and MSJ refers to “motion for summary judgment.” This analysis is limited to cases alleging Rule 10b-5 claims.

Cornerstone Research's Settlement Prediction Analysis

This research applies regression analysis to examine the relationships between settlement outcomes and certain security case characteristics. Regression analysis is employed to better understand and predict the total settlement amount, given the characteristics of a particular securities case. Regression analysis can also be applied to estimate the probabilities associated with reaching alternative settlement levels. It is also helpful in exploring hypothetical scenarios, including how the presence or absence of particular factors affects predicted settlement amounts.

Determinants of Settlement Outcomes

Based on the research sample of post-Reform Act cases that settled through December 2020, the factors that were important determinants of settlement amounts included the following:

- “Simplified tiered damages”
- Maximum Dollar Loss (MDL)—market capitalization change from its peak to post-disclosure value
- Most recently reported total assets of the issuer defendant firm
- Number of entries on the lead case docket
- The year in which the settlement occurred
- Whether there were accounting allegations related to the alleged class period
- Whether a ruling on motion for class certification had occurred
- Whether there was a corresponding SEC action against the issuer, other defendants, or related parties
- Whether there were criminal charges against the issuer, other defendants, or related parties with similar allegations to those included in the underlying class action complaint
- Whether a third party, specifically an outside auditor or underwriter, was named as a codefendant

- Whether Section 11 and/or Section 12(a) claims were alleged in addition to Rule 10b-5 claims
- Whether the issuer defendant was distressed
- Whether a public pension was a lead plaintiff
- Whether the plaintiffs alleged that securities other than common stock were damaged

Regression analyses show that settlements were higher when “simplified tiered damages,” MDL, issuer defendant asset size, the number of docket entries was larger, whether a ruling on a motion for class certification had occurred, or when Section 11 and/or Section 12(a) claims were alleged in addition to Rule 10b-5 claims.

Settlements were also higher in cases involving accounting allegations, a corresponding SEC action, criminal charges, a public pension involved as lead plaintiff, a third party such as an outside auditor or underwriter named as a codefendant, or securities other than common stock that were alleged to be damaged.

Settlements were lower if the settlement occurred in 2012 or later, or if the issuer was distressed.

More than 70% of the variation in settlement amounts can be explained by the factors discussed above.

Research Sample

- The database used in this report contains cases alleging fraudulent inflation in the price of a corporation's common stock (i.e., excluding cases with alleged classes of only bondholders, preferred stockholders, etc., and excluding cases alleging fraudulent depression in price and mergers and acquisitions cases).
- The sample is limited to cases alleging Rule 10b-5, Section 11, and/or Section 12(a)(2) claims brought by purchasers of a corporation's common stock. These criteria are imposed to ensure data availability and to provide a relatively homogeneous set of cases in terms of the nature of the allegations.
- The current sample includes 1,925 securities class actions filed after passage of the Reform Act (1995) and settled from 1996 through 2020. These settlements are identified based on a review of case activity collected by Securities Class Action Services LLC (SCAS).¹⁵
- The designated settlement year, for purposes of this report, corresponds to the year in which the hearing to approve the settlement was held.¹⁶ Cases involving multiple settlements are reflected in the year of the most recent partial settlement, provided certain conditions are met.¹⁷

Data Sources

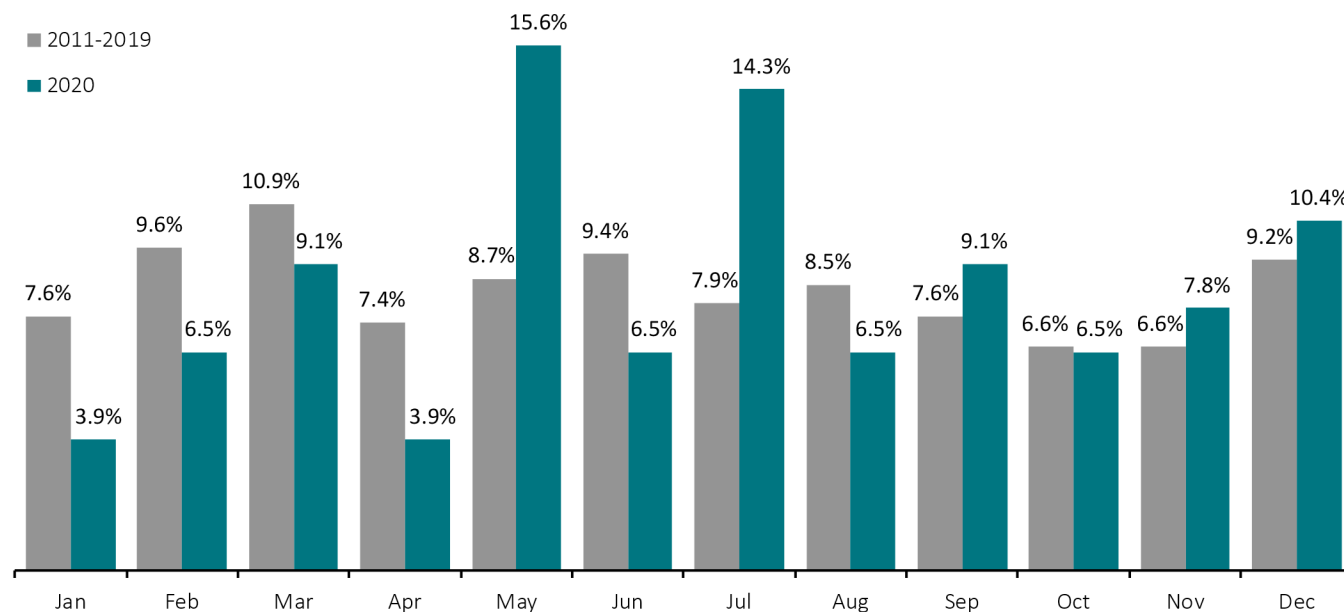
In addition to SCAS, data sources include Dow Jones Factiva, Bloomberg, the Center for Research in Security Prices (CRSP) at University of Chicago Booth School of Business, Standard & Poor's Compustat, Refinitiv Eikon, court filings and dockets, SEC registrant filings, SEC litigation releases and administrative proceedings, LexisNexis, Stanford Securities Litigation Analytics (SSLA), Securities Class Action Clearinghouse (SCAC), and public press.

Endnotes

- ¹ Derivative settlements are the subject of our ongoing research, which will be reported on separately in the future.
- ² The year designation for purposes of this research on securities class action settlements is based on the settlement hearing date (with some modifications as described in endnote 17). However, for purposes of this analysis of monthly settlement rates, the preliminary settlement announcement date (the “tentative settlement date”) was used.
- ³ *Securities Class Action Settlements—2019 Review and Analysis*, Cornerstone Research (2020). See also “Chasing Right Stocks to Buy Is Critical with Fewer Choices but Big Winners,” *Investor’s Business Daily*, November 27, 2020.
- ⁴ The “simplified tiered damages” approach used for purposes of this settlement research does not examine the mix of information associated with the specific dates listed in the plan of allocation, but simply applies the stock price movements on those dates to an estimate of the “true value” of the stock during the alleged class period (or “value line”). This proxy for damages utilizes an estimate of the number of shares damaged based on reported trading volume and the number of shares outstanding. Specifically, reported trading volume is adjusted using volume reduction assumptions based on the exchange on which the issuer defendant’s common stock is listed. No adjustments are made to the underlying float for institutional holdings, insider trades, or short-selling activity during the alleged class period. Because of these and other simplifying assumptions, the damages measures used in settlement outcome modeling may be overstated relative to damages estimates developed in conjunction with case-specific economic analysis.
- ⁵ Laarni T. Bulan, Ellen M. Ryan, and Laura E. Simmons, *Estimating Damages in Settlement Outcome Modeling*, Cornerstone Research (2017).
- ⁶ The statutory purchase price is the lesser of the security offering price or the security purchase price. Prior to the first complaint filing date, the statutory sales price is the price at which the security was sold. After the first complaint filing date, the statutory sales price is the greater of the security sales price or the security price on the first complaint filing date. Similar to “simplified tiered damages,” the estimation of “simplified statutory damages” makes no adjustments to the underlying float for institutional holdings, insider trades, or short-selling activity. Shares subject to a lock-up period are not added to the float for purposes of this calculation.
- ⁷ Based on data for cases where the amount contributed by the D&O liability insurer was verified in settlement materials and/or the issuer defendant’s SEC filings—approximately 83% of all ‘33 Act cases. Data supplemented with additional observations from the SSLA.
- ⁸ This increase reversed in 2020. As noted in *Securities Class Action Filings—2020 Year in Review*, Cornerstone Research (2021), this reversal was likely a result of the March 2020 Delaware Supreme Court decision in *Salzberg v. Sciabacucchi* regarding the validity and enforceability of federal forum-selection provisions in corporate charters.
- ⁹ The three categories of accounting issues analyzed in Figure 8 of this report are: (1) GAAP violations; (2) restatements—cases involving a restatement (or announcement of a restatement) of financial statements; and (3) accounting irregularities—cases in which the defendant has reported the occurrence of accounting irregularities (intentional misstatements or omissions) in its financial statements.
- ¹⁰ *Accounting Class Action Filings and Settlements—2020 Review and Analysis*, Cornerstone Research (2021), forthcoming in spring 2021.
- ¹¹ As noted previously, it could be that the merits in such cases are stronger, or simply that the presence of a corresponding SEC action provides plaintiffs with increased leverage when negotiating a settlement. For purposes of this research, an SEC action is evidenced by the presence of a litigation release or an administrative proceeding posted on www.sec.gov involving the issuer defendant or other named defendants with allegations similar to those in the underlying class action complaint.
- ¹² Identification of a criminal charge and/or criminal indictment based on review of SEC filings and public press. For purposes of this research, criminal charges and/or indictments are collectively referred to as “criminal charges.”
- ¹³ Docket entries reflect the number of entries on the court docket for events in the litigation and have been used in prior research as a proxy for the amount of plaintiff attorney effort involved in resolving securities cases. See Laura Simmons, “The Importance of Merit-Based Factors in the Resolution of 10b-5 Litigation,” University of North Carolina at Chapel Hill Doctoral Dissertation, 1996; Michael A. Perino, “Institutional Activism through Litigation: An Empirical Analysis of Public Pension Fund Participation in Securities Class Actions,” St. John’s Legal Studies Research Paper No. 06-0055, 2006.
- ¹⁴ Stanford Securities Litigation Analytics (SSLA) tracks and collects data on private, shareholder securities litigation and public enforcements brought by the SEC and the U.S. Department of Justice. The SSLA dataset includes all traditional class actions, SEC actions, and DOJ criminal actions filed since 2000. Available on a subscription basis at <https://sla.law.stanford.edu/>.
- ¹⁵ Available on a subscription basis. For further details see <https://www.issgovernance.com/securities-class-action-services/>.
- ¹⁶ Movements of partial settlements between years can cause differences in amounts reported for prior years from those presented in earlier reports.
- ¹⁷ This categorization is based on the timing of the settlement hearing date. If a new partial settlement equals or exceeds 50% of the then-current settlement fund amount, the entirety of the settlement amount is re-categorized to reflect the settlement hearing date of the most recent partial settlement. If a subsequent partial settlement is less than 50% of the then-current total, the partial settlement is added to the total settlement amount and the settlement hearing date is left unchanged.

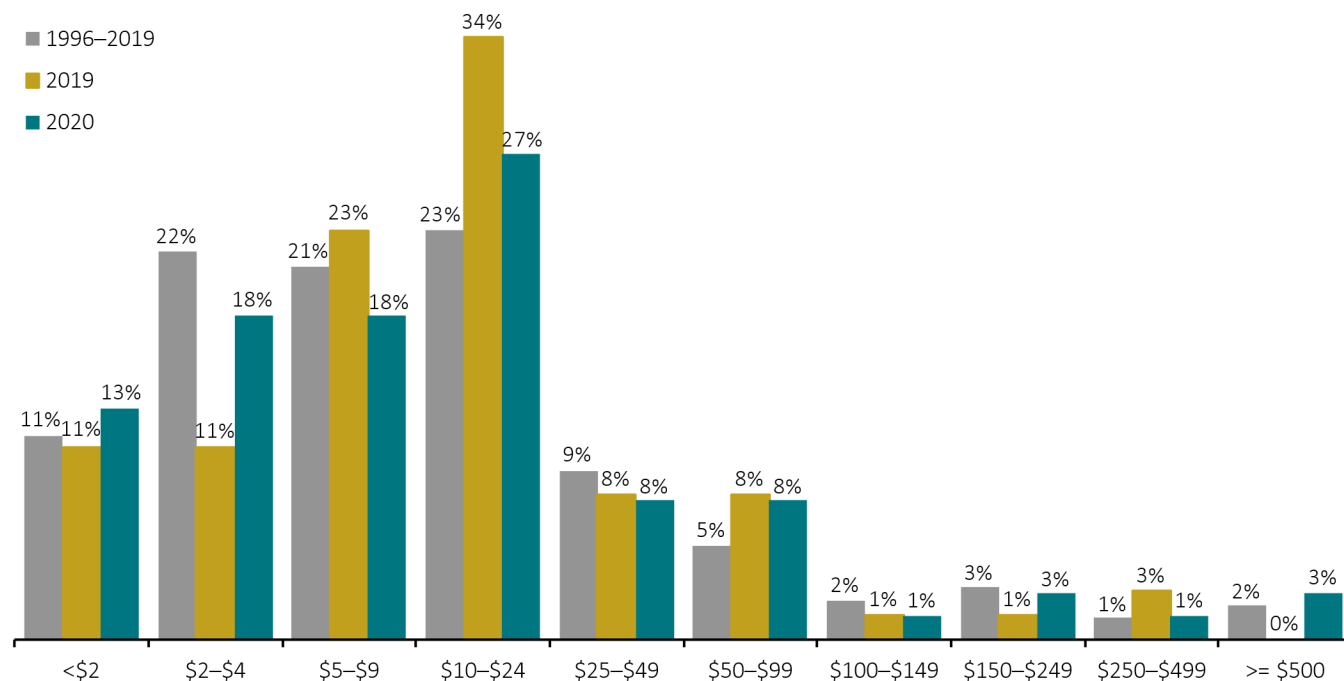
Appendices

Appendix 1: Initial Announcements of Settlements by Month



Appendix 2: Distribution of Post-Reform Act Settlements

(Dollars in millions)



Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used.

Appendix 3: Settlement Percentiles

(Dollars in millions)

	Average	10th	25th	Median	75th	90th
2011	\$24.1	\$2.1	\$3.1	\$6.6	\$20.7	\$74.6
2012	\$69.0	\$1.4	\$3.0	\$10.6	\$40.0	\$129.6
2013	\$80.3	\$2.1	\$3.3	\$7.2	\$24.6	\$91.7
2014	\$19.9	\$1.8	\$3.1	\$6.6	\$14.4	\$54.7
2015	\$43.0	\$1.4	\$2.3	\$7.1	\$17.7	\$102.6
2016	\$76.1	\$2.0	\$4.5	\$9.2	\$35.6	\$157.4
2017	\$19.5	\$1.6	\$2.7	\$5.5	\$16.1	\$37.4
2018	\$66.9	\$1.6	\$3.7	\$11.6	\$25.5	\$53.7
2019	\$27.8	\$1.5	\$5.7	\$11.6	\$20.2	\$50.6
2020	\$54.5	\$1.4	\$3.3	\$10.1	\$20.0	\$53.2

Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used.

Appendix 4: Select Industry Sectors

2011–2020

(Dollars in millions)

Industry	Number of Settlements	Median Settlement	Median “Simplified Tiered Damages”	Median Settlement as a Percentage of “Simplified Tiered Damages”
Financial	102	\$17.2	\$421.9	4.8%
Technology	101	\$8.3	\$210.0	4.9%
Pharmaceuticals	98	\$6.7	\$215.9	3.7%
Retail	37	\$10.0	\$243.3	4.1%
Telecommunications	24	\$8.6	\$274.1	4.3%
Healthcare	14	\$12.5	\$140.2	6.1%

Note: Settlement dollars and “simplified tiered damages” are adjusted for inflation; 2020 dollar equivalent figures are used. “Simplified tiered damages” are calculated only for cases involving Rule 10b-5 claims.

Appendix 5: Settlements by Federal Circuit Court 2011–2020

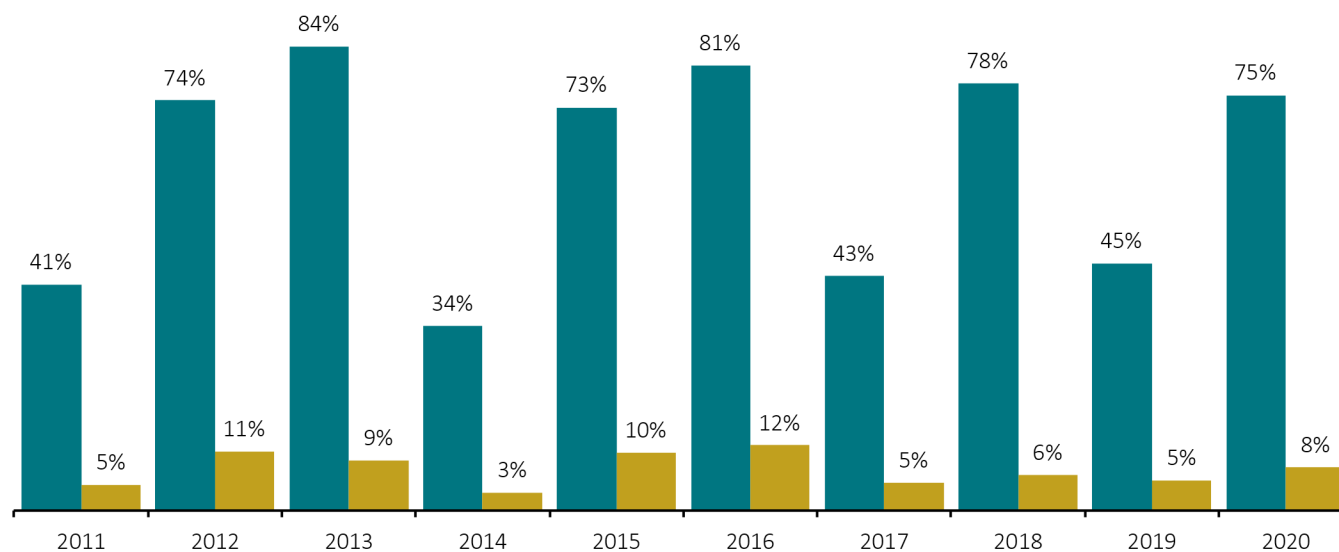
(Dollars in millions)

Circuit	Number of Settlements	Median Settlement	Median Settlement as a Percentage of "Simplified Tiered Damages"
First	22	\$10.3	3.5%
Second	181	\$9.4	4.7%
Third	56	\$7.7	5.2%
Fourth	25	\$16.9	4.0%
Fifth	34	\$9.4	4.3%
Sixth	26	\$12.7	6.9%
Seventh	40	\$12.0	4.0%
Eighth	13	\$10.0	6.1%
Ninth	178	\$7.3	4.8%
Tenth	15	\$6.4	5.6%
Eleventh	37	\$12.8	5.1%
DC	4	\$23.7	2.1%

Note: Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used. Settlements as a percentage of "simplified tiered damages" are calculated only for cases alleging Rule 10b-5 claims.

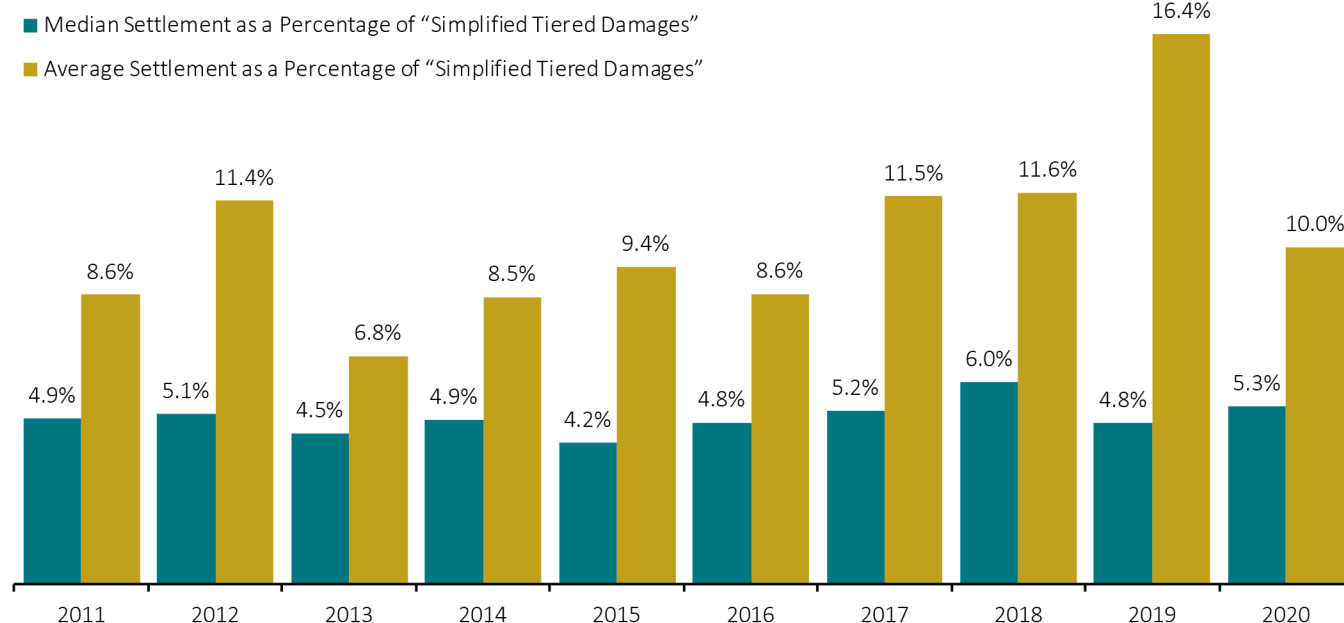
Appendix 6: Mega Settlements 2011–2020

- Total Mega Settlement Dollars as a Percentage of All Settlement Dollars
- Number of Mega Settlements as a Percentage of All Settlements



Note: Mega settlements are defined as total settlement funds equal to or greater than \$100 million. Settlement dollars are adjusted for inflation; 2020 dollar equivalent figures are used.

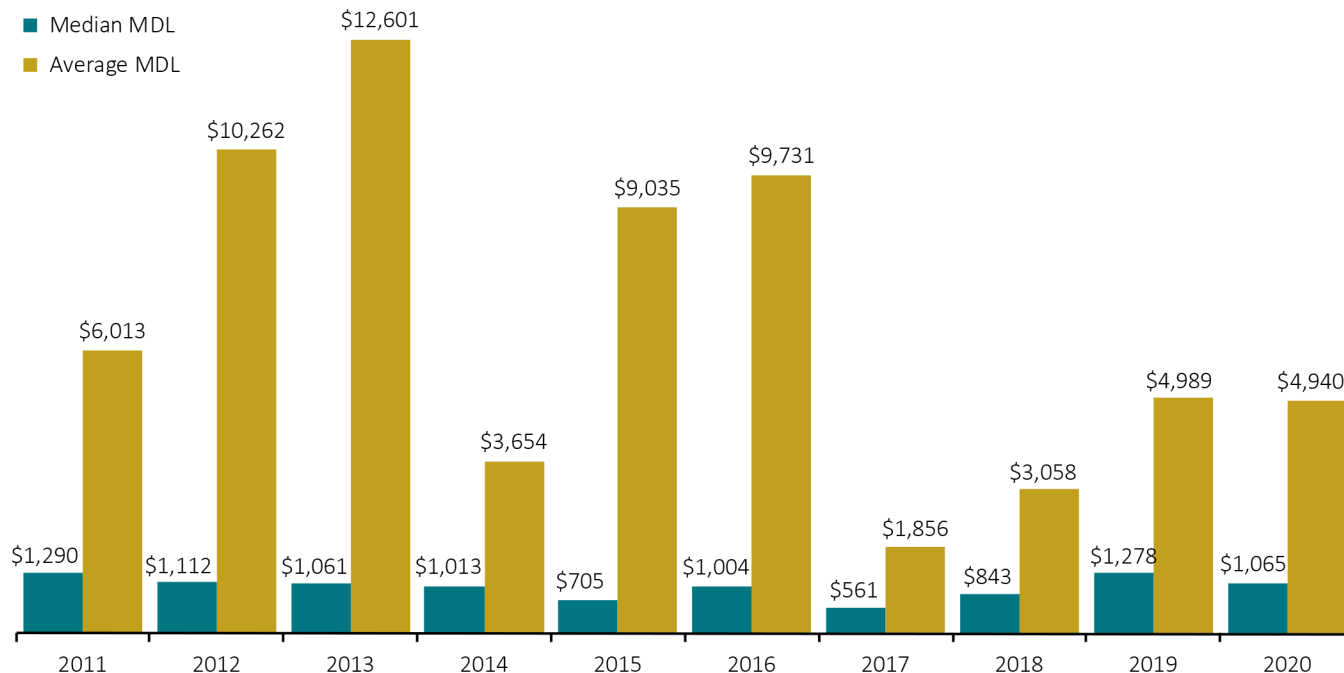
Appendix 7: Median and Average Settlements as a Percentage of “Simplified Tiered Damages” 2011–2020



Note: “Simplified tiered damages” are calculated only for cases alleging Rule 10b-5 claims.

Appendix 8: Median and Average Maximum Dollar Loss (MDL) 2011–2020

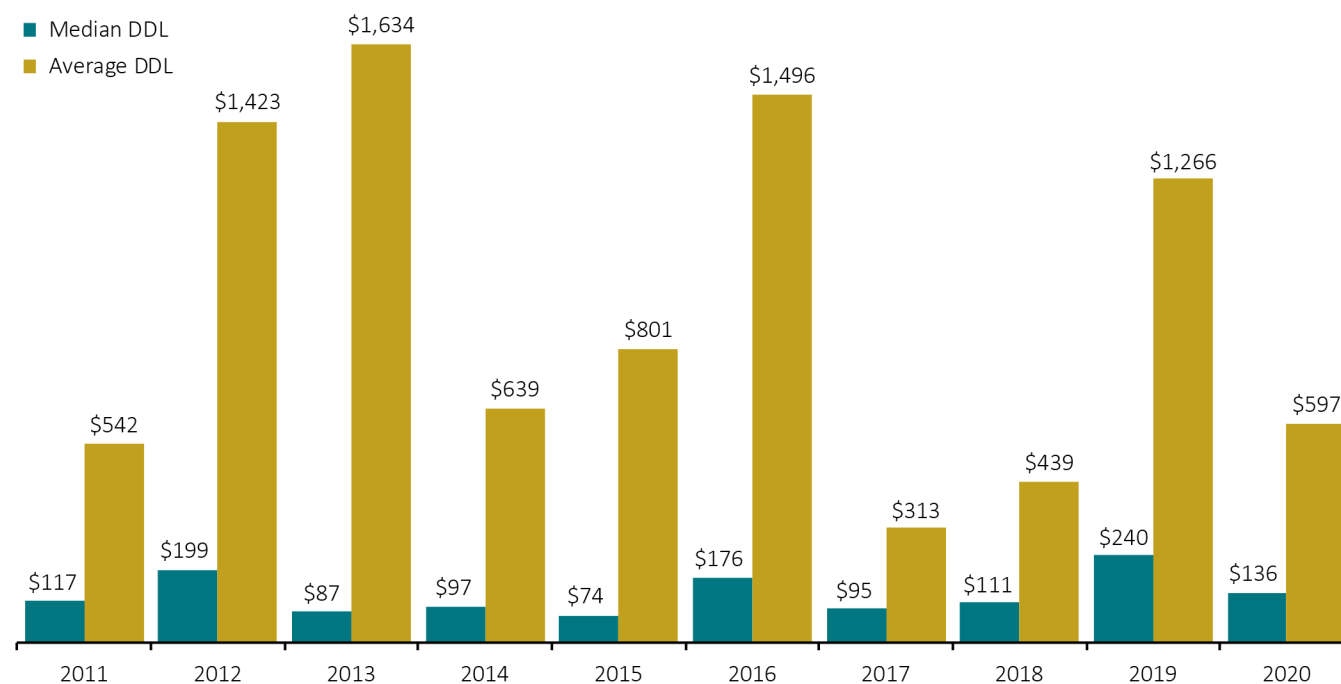
(Dollars in millions)



Note: MDL is adjusted for inflation based on class period end dates. MDL is the dollar value change in the defendant firm’s market capitalization from the trading day with the highest market capitalization during the class period to the trading day immediately following the end of the class period.

Appendix 9: Median and Average Disclosure Dollar Loss (DDL)
2011–2020

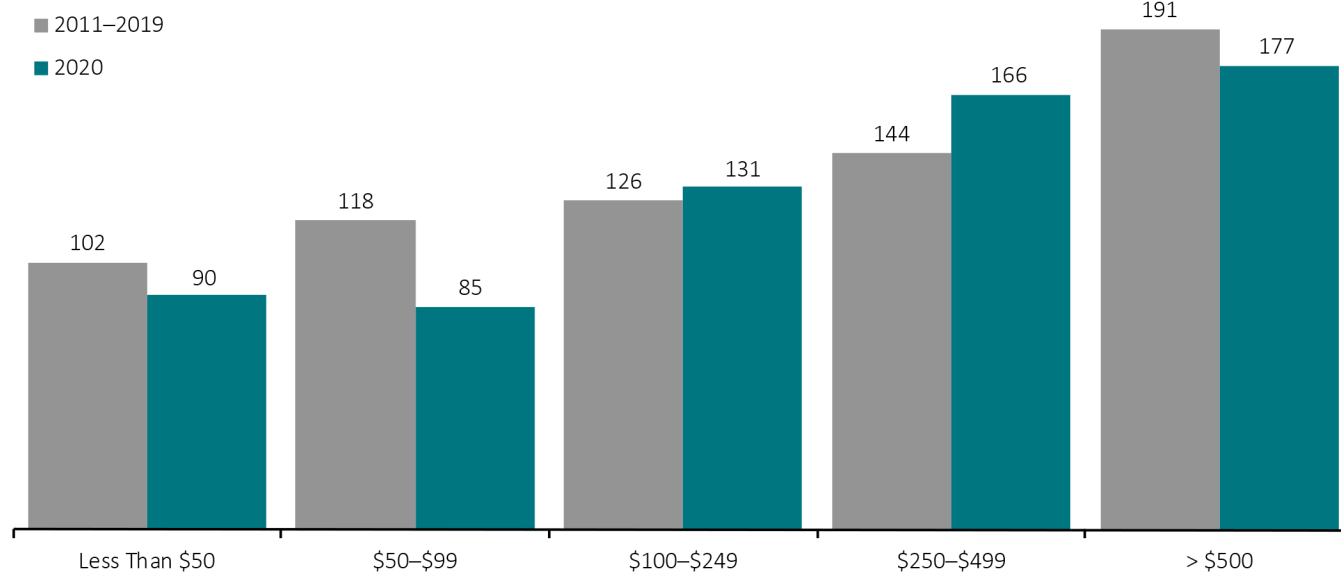
(Dollars in millions)



Note: DDL is adjusted for inflation based on class period end dates. DDL is the dollar value change in the defendant firm’s market capitalization between the trading day immediately preceding the end of the class period and the trading day immediately following the end of the class period. This analysis excludes cases alleging ‘33 Act claims only.

Appendix 10: Median Docket Entries by “Simplified Tiered Damages” Range
2011–2020

(Dollars in millions)



Note: “Simplified tiered damages” are calculated only for cases alleging Rule 10b-5 claims.

About the Authors

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Laarni Bulan is a principal in Cornerstone Research's Boston office, where she specializes in finance. Her work has focused on securities damages, loss causation, and class certification issues, insider trading, merger and firm valuation, risk management, and corporate finance issues. She has also consulted on cases related to market manipulation and trading behavior, financial institutions and the credit crisis, derivatives, foreign exchange, and securities clearing and settlement.

Dr. Bulan has published several academic articles in peer-reviewed journals. Her research covers topics in dividend policy, capital structure, executive compensation, corporate governance, and real options. Prior to joining Cornerstone Research, Dr. Bulan had a joint appointment at Brandeis University as an assistant professor of finance in its International Business School and in the economics department.

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Dr. Simmons's research on pre- and post-Reform Act securities litigation settlements has been published in a number of reports and is frequently cited in the public press and legal journals. She has spoken at various conferences and appeared as a guest on CNBC addressing the topic of securities case settlements. She has also published in academic journals, including research focusing on the intersection of accounting and litigation. Dr. Simmons was previously an accounting faculty member at the Mason School of Business at the College of William & Mary. From 1986 to 1991, she was an accountant with Price Waterhouse.

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