

# **EXHIBIT C**



# CORNERSTONE RESEARCH

Economic and Financial Consulting and Expert Testimony

## Securities Class Action Settlements

2021 Review and Analysis

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Analyses in this report are based on 2,013 securities class actions filed after passage of the Private Securities Litigation Reform Act of 1995 (Reform Act) and settled from 1996 through year-end 2021. 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.

# 2021 Highlights

While the number of settlements increased in 2021 to a 10-year high, several key metrics declined below recent levels. The median total settlement amount decreased to \$8.3 million. And, reversing a trend observed in recent years, median “simplified tiered damages” were 42% below the 2020 median value.

- There were 87 settlements, totaling \$1.8 billion, in 2021. [\(page 3\)](#)
- The median settlement of \$8.3 million fell 22% from 2020 (adjusted for inflation). [\(page 4\)](#)
- Almost 60% of cases (51) settled for less than \$10 million, and of these, 14 cases settled for less than \$2 million. [\(page 4\)](#)
- There were three mega settlements (equal to or greater than \$100 million), ranging from \$130 million to \$187.5 million. [\(page 3\)](#)
- Median “simplified tiered damages” (among cases with Rule 10b-5 claims) was the lowest since 2017 and the second lowest in the last decade. [\(page 5\)](#)
- In 2021, the number of settlements in cases with only Section 11 and/or Section 12(a)(2) claims (‘33 Act claims) was nearly double the annual average from 2017 to 2020. [\(page 7\)](#)
- The proportion of settled cases alleging Generally Accepted Accounting Principles (GAAP) violations in Rule 10b-5 cases was 32%, a record low among all post-Reform Act years. [\(page 9\)](#)
- The rate of settled cases involving a corresponding action by the U.S. Securities and Exchange Commission (SEC) was the lowest in the past decade. [\(page 11\)](#)
- The median time from filing to settlement hearing date was 2.6 years, compared to 3.0 years for 2012 to 2020. [\(page 13\)](#)

**Figure 1: Settlement Statistics**

(Dollars in millions)

	2016–2020	2019	2020	2021
Number of Settlements	395	75	77	87
Total Amount	\$20,486.9	\$2,227.5	\$4,395.2	\$1,787.7
Minimum	\$0.3	\$0.5	\$0.3	\$0.6
Median	\$9.9	\$11.7	\$10.6	\$8.3
Average	\$51.9	\$29.7	\$57.1	\$20.5
Maximum	\$3,237.5	\$413.0	\$1,266.9	\$187.5

Note: Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented.

# Author Commentary

## Findings

There was no slowdown in settlement activity in 2021, even with the backdrop of the COVID-19 pandemic, as the number of securities class action settlements increased to a 10-year high. Since the typical duration from case filing to settlement is approximately three years, the uptick in 2021 settlements is consistent with the unprecedented number of case filings in 2017–2019,<sup>1</sup> which is when the majority of these settled cases were filed.

The record number of cases settled in 2021, however, did not translate into higher total settlement dollars. Both total settlement dollars and median settlement amount declined to their lowest levels since 2017, reflecting an increase in the proportion of smaller settlements (i.e., less than \$10 million) compared to prior years.

The decline in settlement sizes can largely be attributed to lower estimates of our proxy for economic losses borne by shareholders, or “simplified tiered damages.” Moreover, median issuer defendant total assets were more than 45% smaller for cases settled in 2021 compared to those settled in 2020.

Weaker cases may have contributed to the reduced settlement values as well. For example, the proportion of settled cases alleging a GAAP violation or involving a related SEC action were at record-low levels. Both of these factors are typically associated with higher settlement amounts and are sometimes considered proxies for stronger cases.<sup>2</sup> In addition, the frequency of other factors that our research finds are associated with higher settlement amounts, such as the involvement of an institutional investor as lead plaintiff or the presence of a parallel derivative action, were among the lowest observed in the last decade.

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*The mix of cases that settled in 2021 had smaller estimates of potential shareholder losses and lacked many of the plus factors that often contribute to higher settlement outcomes.*

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

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Similarly, our research finds that the number of docket entries—a proxy for the time and effort expended by plaintiff counsel and/or case complexity—is positively associated with settlement amounts. The average number of docket entries for cases settled in 2021 was the lowest in the last five years.

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*Undeterred by the challenges of the pandemic, securities class action settlements occurred in larger numbers and were resolved more quickly than observed in prior years. The increase in the number of settlements also reflects the unusually high rate of case filings when many of these settled cases were first initiated.*

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

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## Looking Ahead

We expect heightened settlement activity to continue in upcoming years given the elevated number of case filings in 2018–2020 compared to earlier years,<sup>3</sup> assuming no increases in dismissal rates. The higher number of smaller settlements observed in 2021 could also continue due to the decline in the median disclosure dollar loss (another proxy for shareholder losses) among case filings during the same time frame (2018–2020).

Several recent trends in case allegations have been observed in case filings since 2017, such as allegations related to cybersecurity, cryptocurrency, cannabis, COVID-19, and special purpose acquisition companies (SPACs).<sup>4</sup> We continue to see a small number of these cases settling, but a large portion remains active. In addition, the spike in SPAC filings in 2021, as shown in Cornerstone Research’s *Securities Class Action Filings—2021 Year in Review*, is likely to affect settlement trends in future years.

—Laarni T. Bulan and Laura E. Simmons

# Total Settlement Dollars

As has been observed in prior years, the presence or absence of just a few very large settlements can have an outsized effect on total reported settlement dollars.

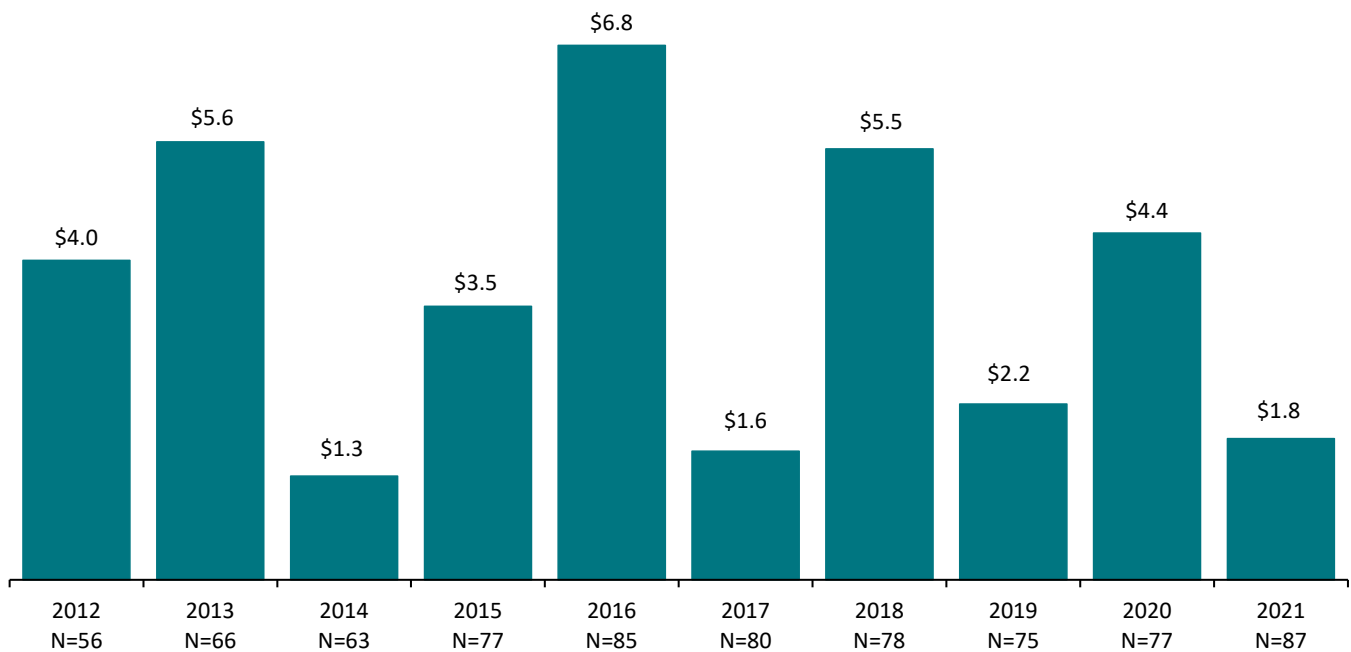
- In 2021, the absence of these very large settlements contributed to a nearly 60% decline in total settlement dollars from the prior year (adjusted for inflation).
- There were three mega settlements (equal to or greater than \$100 million) in 2021, ranging from \$130 million to \$187.5 million. The maximum settlement value of \$187.5 million in 2021 is the lowest maximum value in the last decade.

*The number of settlements in 2021 reached a 10-year high.*

- Only 25% of total settlement dollars in 2021 came from mega settlements, the lowest percentage in the last decade. (See Appendix 4 for additional information on mega settlements.)
- The number of settlements in 2021 (87 cases) represented a 19% increase from the prior nine-year average (73 cases).

**Figure 2: Total Settlement Dollars  
2012–2021**

(Dollars in billions)



Note: Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented. “N” refers to the number of cases.

# Settlement Size

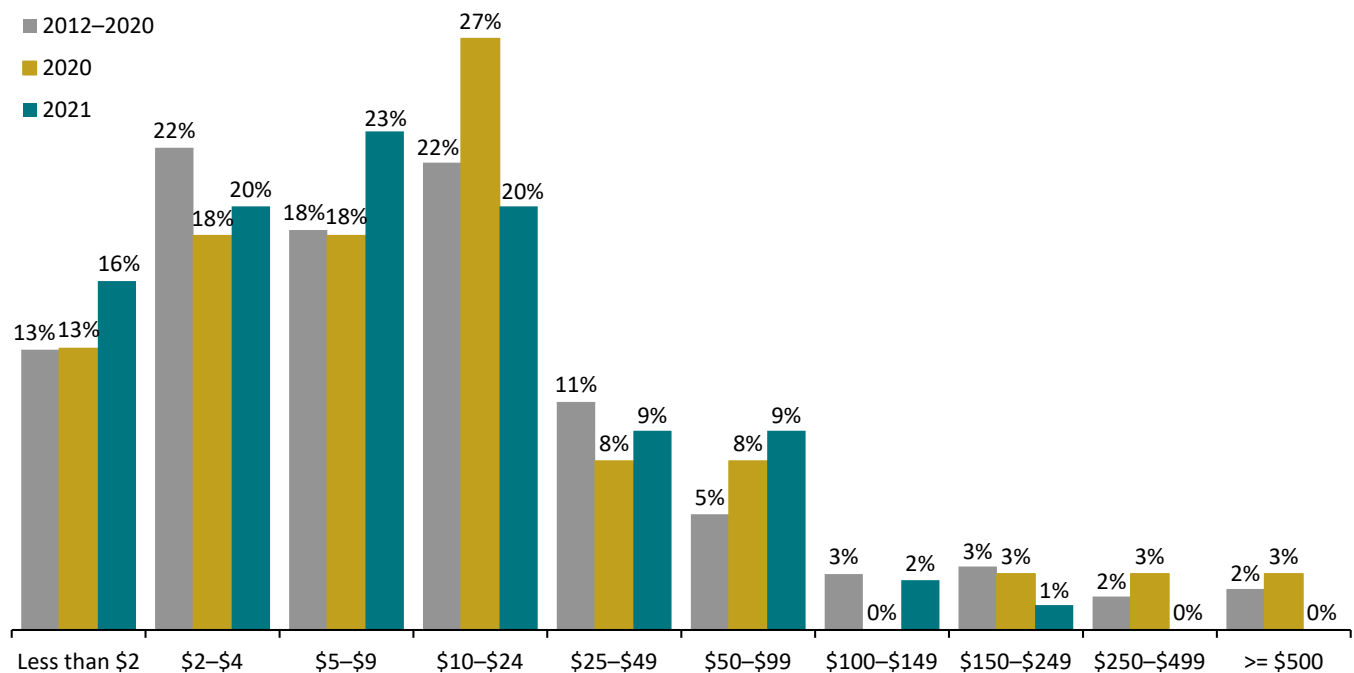
- The median settlement amount in 2021 was \$8.3 million, a 22% decline from 2020 (adjusted for inflation), and a 10% decline from the 2012–2020 median.
- There were 14 cases that settled for less than \$2 million in 2021 (historically referred to by commentators as nuisance suits).<sup>5</sup> This compares to an annual average of 10 such settlements during the 2012–2020 period.
- Both the average settlement and median settlement amounts in 2021 were the lowest since 2017. (See Appendix 1 for an analysis of settlements by percentiles.)

*Nearly 60% of settlements in 2021 were for less than \$10 million.*

- As noted in prior research, three law firms (The Rosen Law Firm, Pomerantz LLP, and Glancy Prongay & Murray LLP) have accounted for more than half of securities class action filings in recent years, and those filings have been dismissed at a higher rate overall than those with other lead plaintiff counsel.<sup>6</sup> For cases that progressed to a settlement in 2021 with one or more of these three firms acting as lead counsel, the median settlement amount was 76% lower than the median for cases involving other lead plaintiff counsel. These three firms were involved as lead counsel in 31 settled cases in 2021, compared to 19 in 2020.

Figure 3: Distribution of Settlements 2012–2021

(Dollars in millions)





# Type of Claim

## Rule 10b-5 Claims and “Simplified Tiered Damages”

“Simplified tiered damages” uses simplifying assumptions to estimate per-share damages and trading behavior for cases involving Rule 10b-5 claims. 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.<sup>7</sup>

Cornerstone Research’s prediction model finds this measure to be the most important factor in predicting settlement amounts.<sup>8</sup> 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.

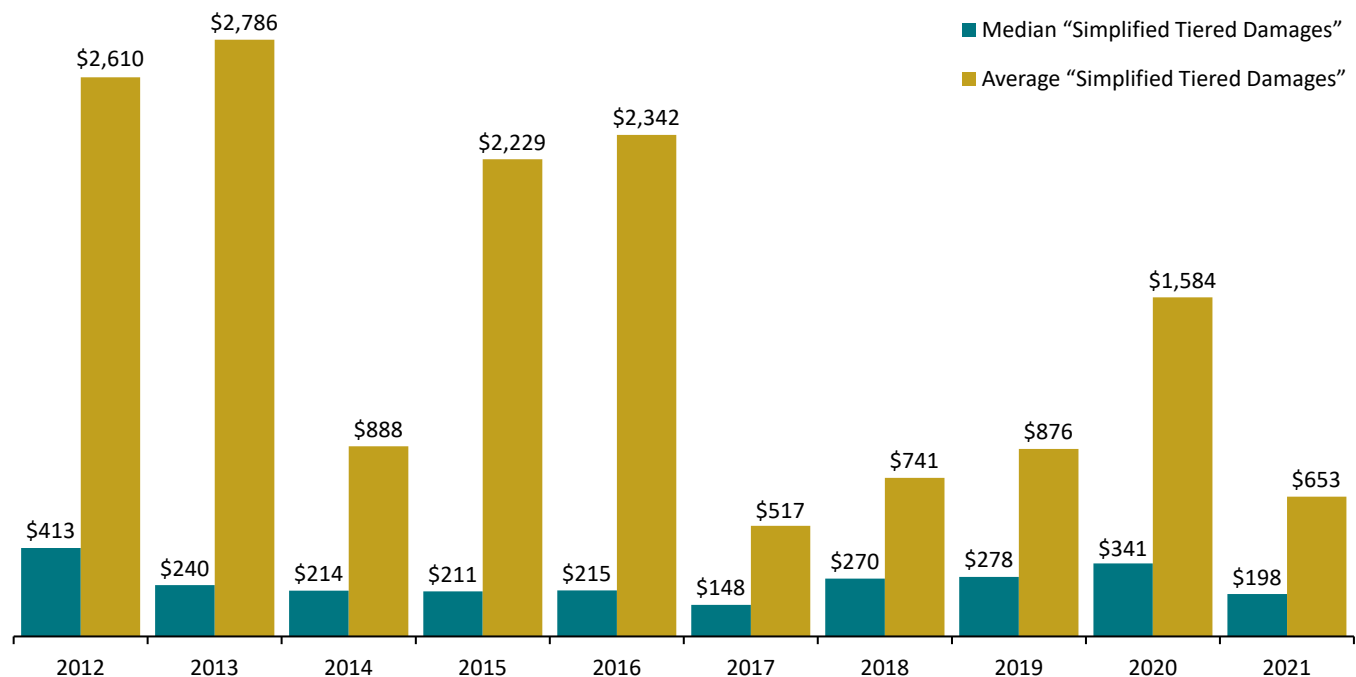
- Similar to settlement amounts, the average “simplified tiered damages” in 2021 declined to the lowest level since 2017. (See Appendix 5 for additional information on median and average settlements as a percentage of “simplified tiered damages.”)

*Median “simplified tiered damages” was the lowest since 2017 and the second lowest in the last decade.*

- Median values provide the midpoint in a series of observations and are less affected than averages by outlier data. The decrease in median “simplified tiered damages” in 2021 indicates a decline in the number of larger cases relative to 2020 (e.g., cases with “simplified tiered damages” exceeding \$250 million).
- Smaller “simplified tiered damages” are typically associated with smaller issuer defendants (measured by total assets or market capitalization of the issuer). However, the median market capitalization of issuer defendants<sup>9</sup> in settled cases increased 30% over 2020, in part reflecting the upward market trend through the end of 2021.

Figure 4: Median and Average “Simplified Tiered Damages” in Rule 10b-5 Cases 2012–2021

(Dollars in millions)

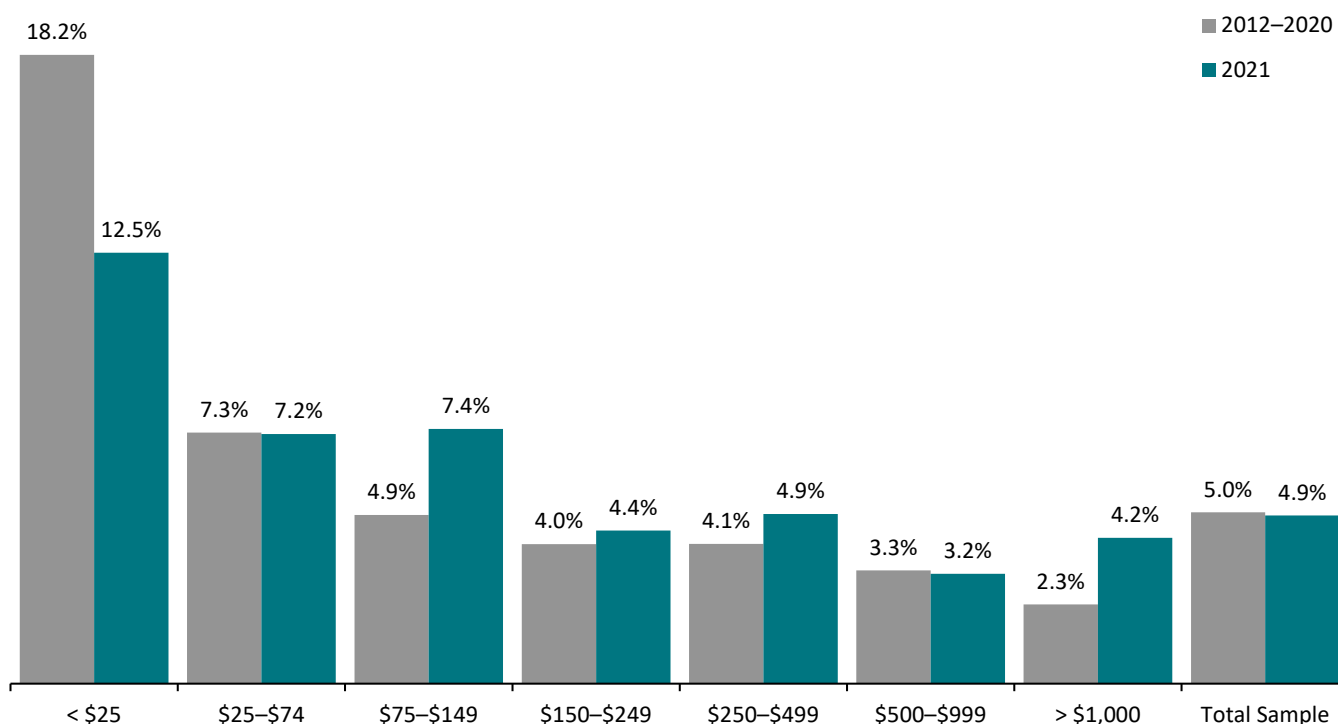


Note: “Simplified tiered damages” are adjusted for inflation based on class period end dates for common stock only; 2021 dollar equivalent figures are presented. Damages are estimated for cases alleging a claim under Rule 10b-5 (whether alone or in addition to other claims).

- Cases with larger “simplified tiered damages” are more likely to be associated with factors such as institutional lead plaintiffs, related SEC actions, or criminal charges. (See *Analysis of Settlement Characteristics on pages 9–12 for additional discussion of these factors.*)
- Among cases with Rule 10b-5 claims, the median class period length declined 20% in 2021 from the median class period length observed in 2020, explaining, in part, the relatively low median “simplified tiered damages.”
- Fourteen settlements in 2021 had “simplified tiered damages” less than \$25 million, the largest proportion of such cases in more than 15 years.
- Cases with less than \$25 million in “simplified tiered damages” typically settle more quickly. In 2021, these cases settled within 2.5 years on average, compared to about four years for cases with “simplified tiered damages” greater than \$500 million.
- Half of the cases settled in 2021 with “simplified tiered damages” of less than \$25 million involved issuers that had been delisted from a major exchange and/or declared bankruptcy prior to settlement.
- Very large cases (more than \$1 billion in “simplified tiered damages”) typically settle for a smaller percentage of such damages. However, compared to cases with “simplified tiered damages” between \$150 million and \$1 billion, this pattern did not hold in 2021.

Figure 5: Median Settlements as a Percentage of “Simplified Tiered Damages” by Damages Ranges in Rule 10b-5 Cases 2012–2021

(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 and "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." Only the offered shares are assumed to be eligible for damages.<sup>10</sup>

"Simplified statutory damages" are typically smaller than "simplified tiered damages," in part reflecting differences in the methodologies used to estimate alleged damages per share, as well as differences in the shares eligible to be damaged. As such, settlements as a percentage of "simplified statutory damages" may be higher than the percentages observed among Rule 10b-5 settlements.

- However, for the first time since 2014, the median settlement as a percentage of "simplified statutory damages" was lower than the median settlement as a percentage of "simplified tiered damages." In 2021, the median settlement as a percentage of "simplified statutory damages" was 4.4%, 10% lower than the median "simplified tiered damages" of 4.9%. (See Appendix 6 for additional information on median and average settlements as a percentage of "simplified statutory damages.")

*The median settlement value for '33 Act claim cases in 2021 was \$8.4 million, largely unchanged from 2020 (\$8.6 million).*

- In 2021, the number of settlements in cases with only '33 Act claims was nearly double the annual average from 2017 to 2020.
- Cases involving '33 Act claims typically resolve more quickly than cases involving Rule 10b-5 (Exchange Act) claims. In 2021, however, the median interval from filing date to settlement hearing date for both case types narrowed to within 10%.

**Figure 6: Settlements by Nature of Claims 2012–2021**

(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	\$8.9	\$142.2	7.6%

	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)	116	\$16.0	\$406.9	6.1%
Rule 10b-5 Only	543	\$7.9	\$215.2	4.8%

Note: Settlement dollars and damages are adjusted for inflation; 2021 dollar equivalent figures are presented.

- More than 80% of cases with only '33 Act claims involved an initial public offering (IPO).
- In 2021, 88% of the settled '33 Act claim cases involved an underwriter (or underwriters) as a named codefendant.
- 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 2012 to 2021.<sup>11</sup>
- Median “simplified statutory damages” in 2021 was the highest since 2014, and double the median in 2020.

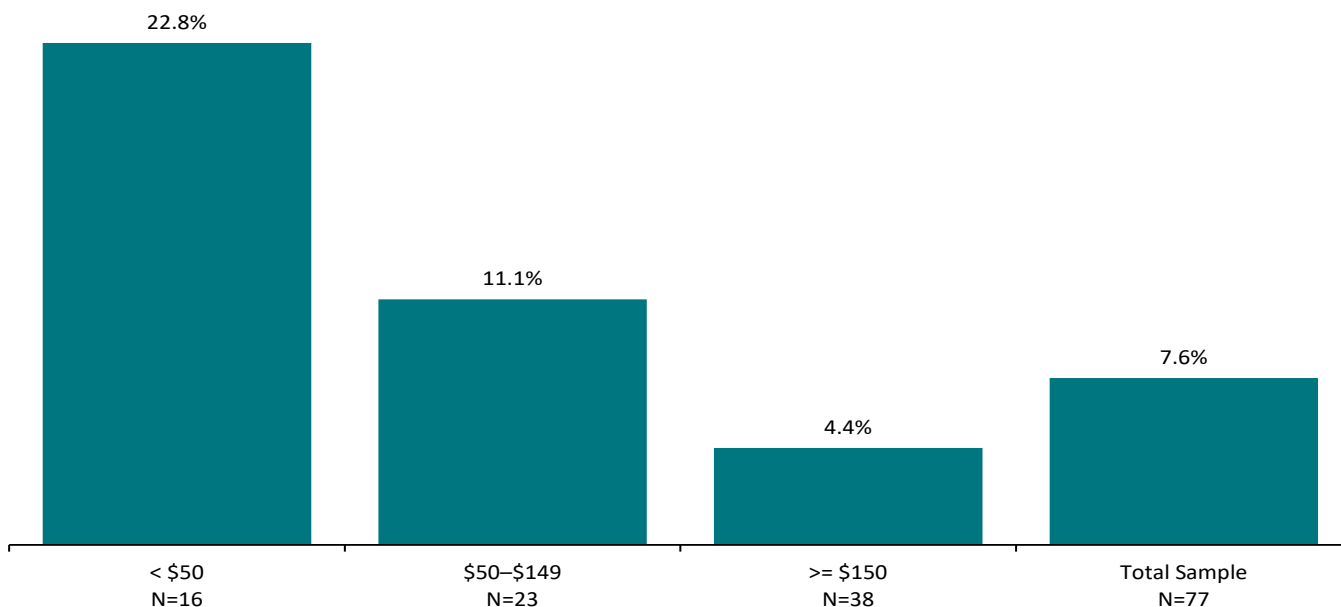
As noted in previous reports, the March 2018 U.S. Supreme Court decision in *Cyan Inc. v. Beaver County Employees Retirement Fund (Cyan)* held that '33 Act claim securities class actions could be brought in state court. While '33 Act claim cases had often been brought in state courts before

*Cyan*, filing rates in state courts increased substantially following this ruling. This trend reversed, however, following the March 2020 Delaware Supreme Court decision in *Salzberg v. Sciabacucchi* upholding the validity of federal forum-selection provisions in corporate charters.<sup>12</sup>

- In 2021, among '33 Act claim only cases filed post-*Cyan* but prior to the *Sciabacucchi* ruling, 13 have settled, six of which were filed in state court.<sup>13</sup>
- In the years since the *Cyan* decision, an increase in the number of overlapping or parallel suits has been observed—for example, a '33 Act claim case filed in state court that is related to a Rule 10b-5 claim case filed in federal court.<sup>14</sup> The number of these overlapping suits that settled in 2021 was nearly triple the average from 2017 to 2020.

Figure 7: Median Settlements as a Percentage of “Simplified Statutory Damages” by Damages Ranges in '33 Act Claim Cases 2012–2021

(Dollars in millions)



Jurisdictions of Settlements of '33 Act Claim Cases

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
State Court	1	1	0	2	4	5	4	4	7	6
Federal Court	3	7	2	3	6	3	4	5	1	10

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

# Analysis of Settlement Characteristics

## GAAP Violations

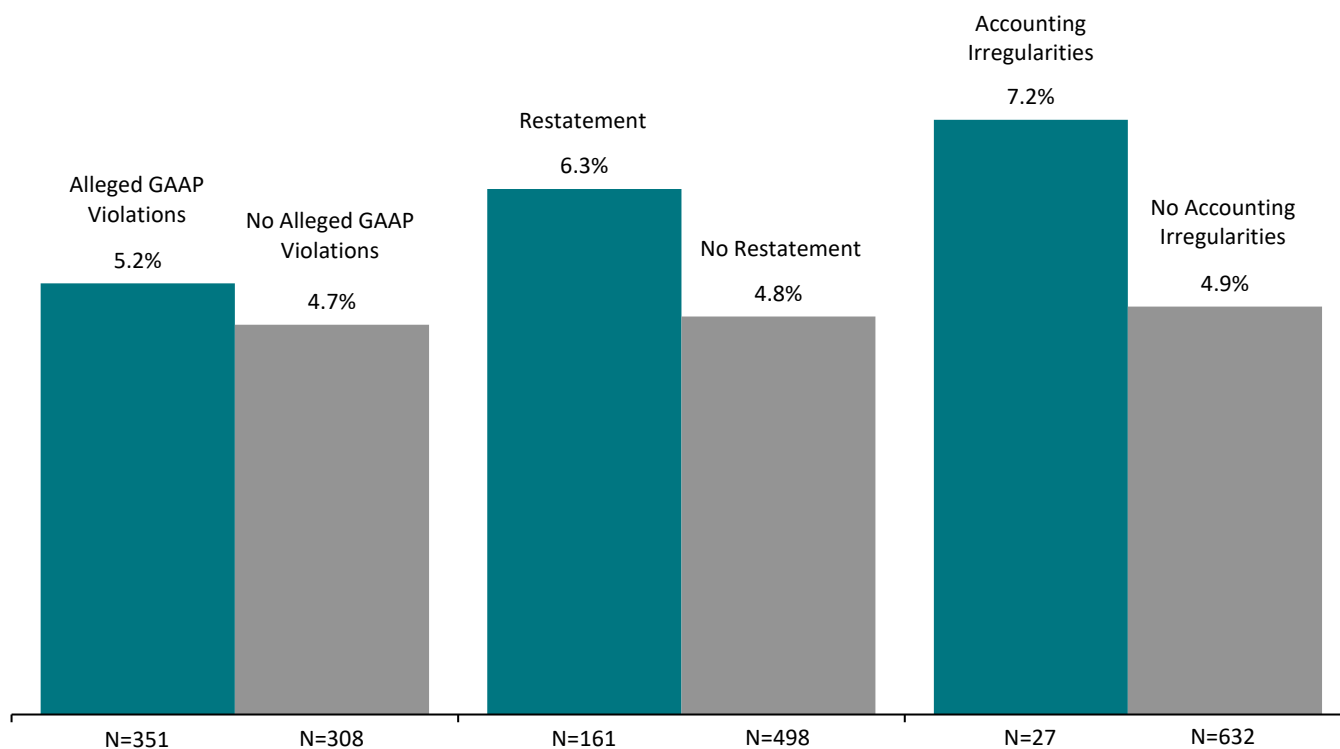
This analysis examines allegations of GAAP violations in settlements of securities class actions involving Rule 10b-5 claims, including two sub-categories of GAAP violations—financial statement restatements and accounting irregularities.<sup>15</sup> For further details regarding settlements of accounting cases, see Cornerstone Research’s annual report on *Accounting Class Action Filings and Settlements*.<sup>16</sup>

- In 2021, median “simplified tiered damages” for cases involving GAAP allegations were 38% higher than the 2012–2020 median for such cases.
- As this research has observed, settlements as a percentage of “simplified tiered damages” for cases involving GAAP allegations are typically higher than for non-GAAP cases. This is true even as the rate of accounting allegations has declined in recent years. For example, only 14% of settlements in 2021 involved a restatement of financial statements.

- The frequency of an outside auditor codefendant has declined substantially in recent years. In 2021, an outside auditor was a codefendant in just 3% of settlements.
- The frequency of reported accounting irregularities among settlements from 2017 to 2021 was also low, at just 3.5% of cases. Of those cases, more than 50% also involved criminal charges/indictments related to the allegations in the class action.

*The proportion of settled cases in 2021 with Rule 10b-5 claims alleging GAAP violations was 32%, an all-time low among all post-Reform Act years.*

Figure 8: Median Settlements as a Percentage of “Simplified Tiered Damages” and Allegations of GAAP Violations 2012–2021



Note: “N” refers to the number of cases.

## Derivative Actions

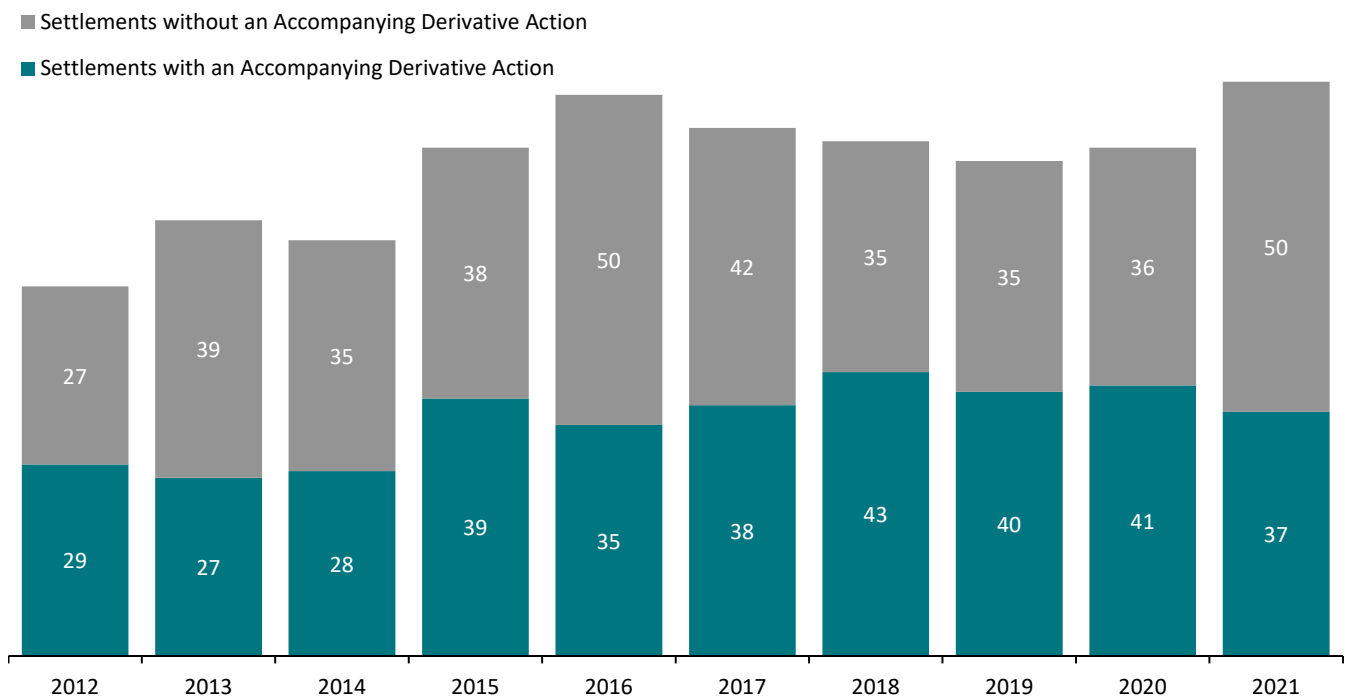
Historically, settled cases involving an accompanying derivative action have been associated with both larger cases (measured by “simplified tiered damages”) and larger settlement amounts. For example, from 2012 to 2020, the median settlement for cases with an accompanying derivative action was nearly 45% higher than for cases without a derivative action.

- However, in 2021, the median settlement for cases with an accompanying derivative action was \$8.5 million compared to \$7.5 million for cases without a derivative action, a difference of 13%.
- In 2021, median “simplified tiered damages” for settled cases with an accompanying derivative action was more than double the median for cases without an accompanying derivative action.

*In 2021, 43% of settled cases involved an accompanying derivative action, the lowest rate in the last five years.*

- For cases settled during 2017–2021, nearly one-third of parallel derivative suits were filed in Delaware. California and New York were the next most common venues for such actions, representing 22% and 13% of such settlements, respectively.

Figure 9: Frequency of Derivative Actions 2012–2021

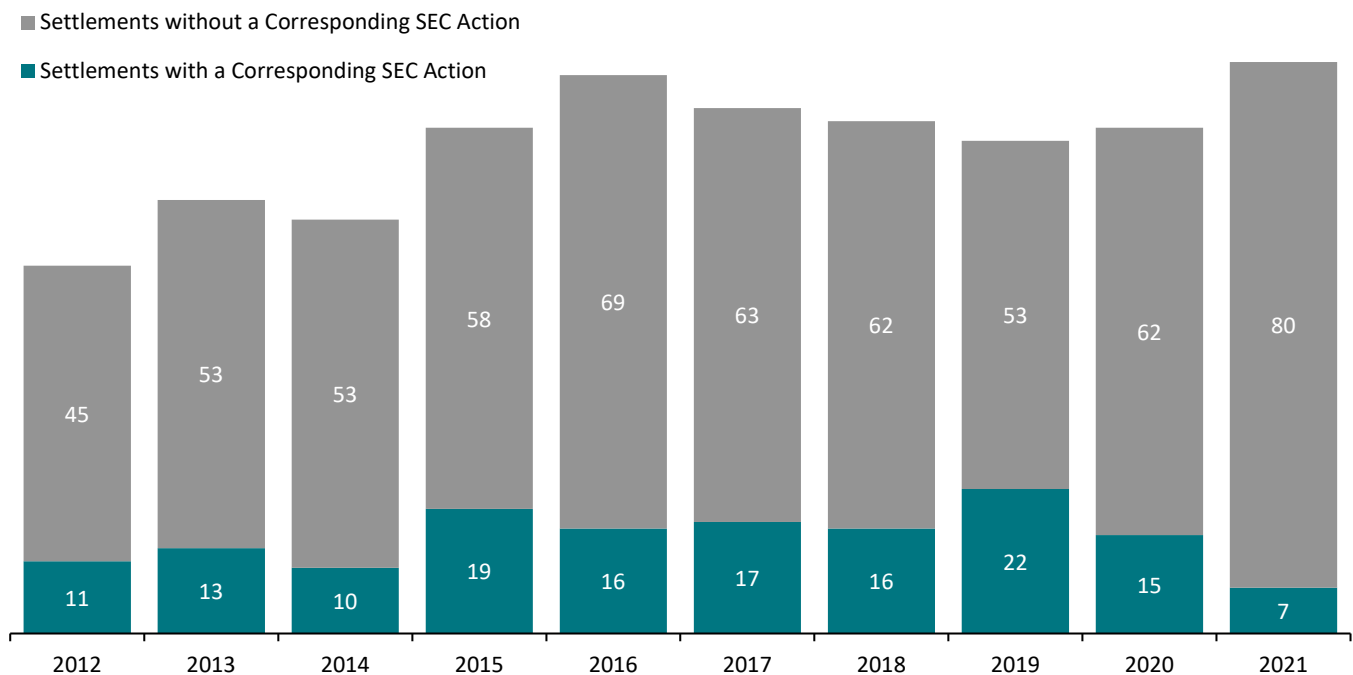


## Corresponding SEC Actions

- Cases with an SEC action related to the allegations are typically associated with substantially higher settlement amounts.<sup>17</sup>
- In 2021, median settlement amounts for cases that involved a corresponding SEC action were double the median for cases without such an action.
- Settled cases in 2021 with a corresponding SEC action took more than 30% longer to reach settlement compared to cases without such an action. (See page 13 for additional discussion.)
- The dramatic decline in corresponding SEC actions (Figure 10) may reflect, in part, the decline in SEC enforcement activity during the filing date years associated with 2021 settlements. For additional details, see Cornerstone Research’s *SEC Enforcement Activity: Public Company and Subsidiaries—FY 2021 Update*.
- Cases involving corresponding SEC actions may also include related criminal charges in connection with the allegations covered by the underlying class action. From 2017 to 2021, 40% of settled cases with an SEC action had related criminal charges.<sup>18</sup>

*In 2021, the number of settled cases involving a corresponding SEC action was the lowest in the past decade*

Figure 10: Frequency of SEC Actions  
 2012–2021



## Institutional Investors

As is well known, increasing institutional participation in litigation as lead plaintiffs was a focus of the Reform Act.<sup>19</sup> Institutional investors are often involved in larger cases, that is, cases with higher “simplified tiered damages” and higher total assets.

- In 2021, for cases involving an institutional investor as lead plaintiff, median “simplified tiered damages” and median total assets were six times and 11 times higher, respectively, than the median values for cases without an institutional investor in a lead role.
- The involvement of an institutional investor as a lead plaintiff is correlated with specific law firms serving as lead plaintiff counsel. For example, over the last five years, an institutional investor served as lead plaintiff in 86% of the settled cases in which Robbins Geller Rudman & Dowd LLP and/or Bernstein Litowitz Berger & Grossman LLP served as lead plaintiff counsel. In comparison, an institutional investor served as lead plaintiff in only 15% of cases in which The Rosen Law Firm, Pomerantz, or Glancy served as lead counsel.

Since passage of the Reform Act, public pension plans have been the most frequent type of institutional lead plaintiff, and the presence of a public pension acting as a lead

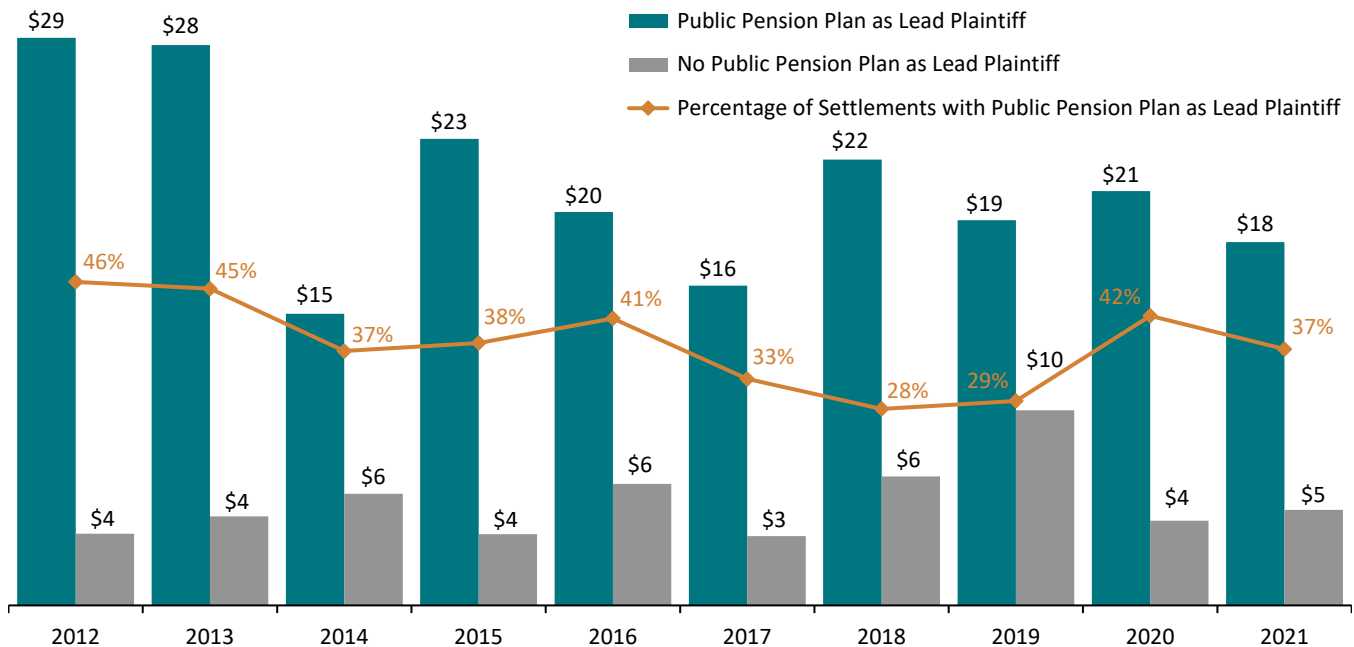
plaintiff is associated with higher settlement amounts. (See page 15 for further discussion of factors that influence settlement outcomes.)

- For example, for cases settled in 2021, public pension plans served as lead plaintiffs in almost 76% of cases involving institutions, while union funds appeared as lead plaintiffs in less than 10% of these cases.
- Public pensions are also more likely to be lead plaintiffs in cases involving more established publicly traded issuers. In 2021 settled cases, the median age from IPO to the filing date for cases with a public pension lead plaintiff was more than 8.5 years compared to a median of 4.3 years for cases without a public pension lead.

*Among cases settled in 2021, institutional investor lead plaintiff appointments were among the lowest in more than 15 years.*

Figure 11: Median Settlement Amounts and Public Pension Plans 2012–2021

(Dollars in millions)



Note: Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented.



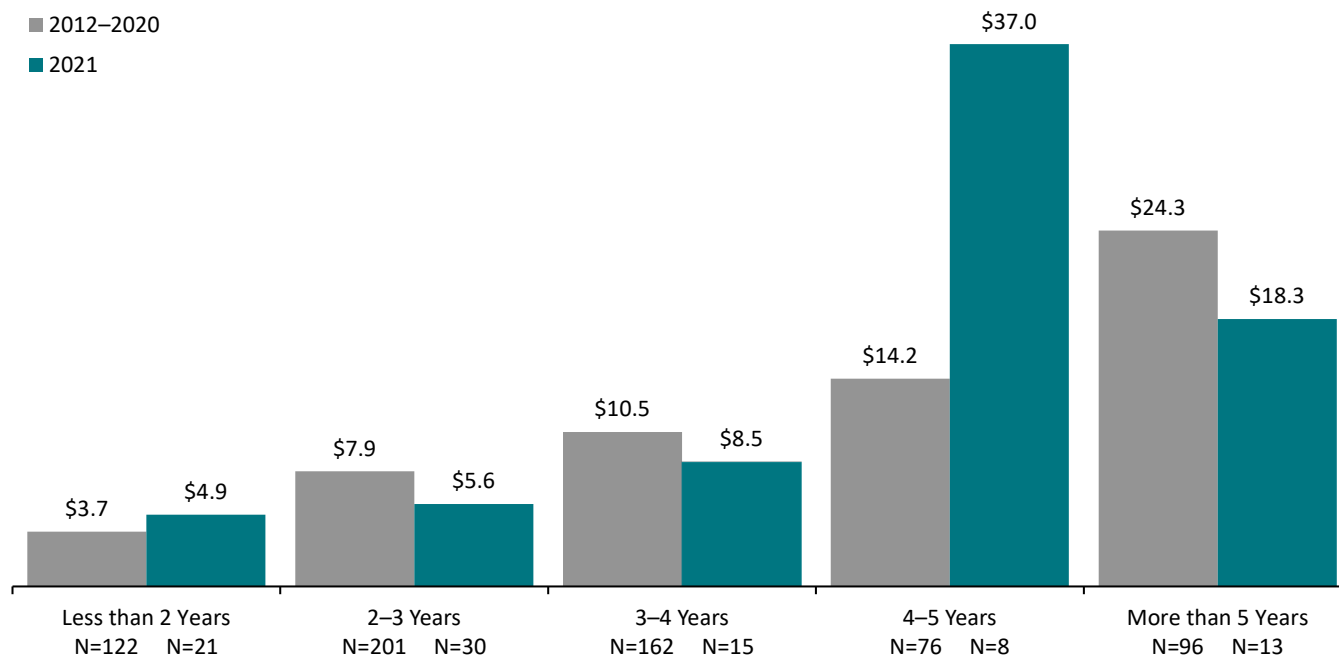
# Time to Settlement and Case Complexity

- The median time from filing to settlement hearing date was 2.6 years for 2021 settlements, compared to 3.0 years for 2012–2020 settlements. This decline in the time to reach settlement was largely driven by the Ninth Circuit, where the median time to settlement declined by almost 40% in 2021.
- Larger cases (as measured by “simplified tiered damages”) often take longer to resolve. Consistent with this, in 2021 all three mega settlements took at least three years to reach a settlement hearing date.
- In 2021, for cases that took at least three years to settle, median “simplified tiered damages” were more than five times higher for settlements with an institutional lead plaintiff than for those without an institutional lead plaintiff.
- Reflecting both the smaller dollar amounts and the shorter interval from filing date to settlement hearing date among 2021 settlements, the number of docket entries for these cases declined, on average, 26% from the prior year.<sup>20</sup>

*Over 55% of cases in 2021 reached a settlement hearing date within three years of filing, compared to under 45% in 2020.*

Figure 12: Median Settlement by Duration from Filing Date to Settlement Hearing Date 2012–2021

(Dollars in millions)



Note: Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented. “N” refers to the number of cases.

# Case Stage at the Time of Settlement

In collaboration with Stanford Securities Litigation Analytics (SSLA),<sup>21</sup> this report analyzes settlements in relation to the stage in the litigation process at the time of settlement.

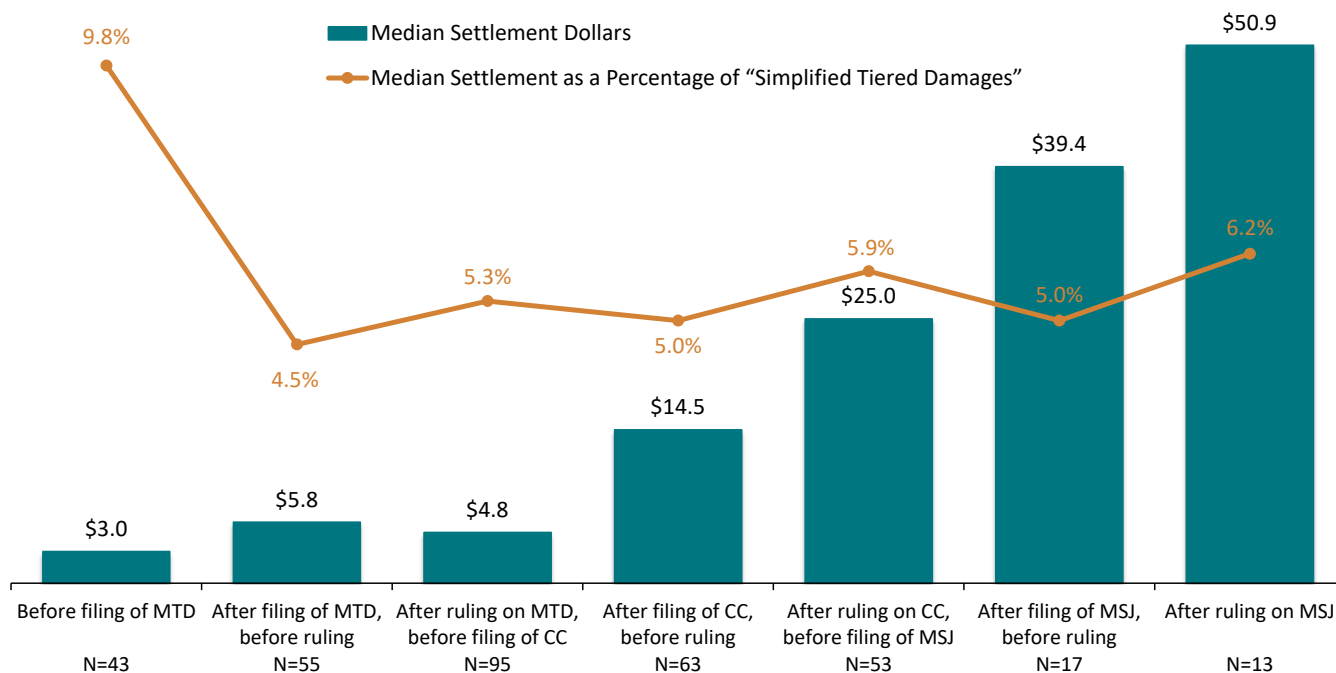
- Despite the overall smaller size of cases settled in 2021 and the shorter time to reach settlement, the stage at which cases settled remained largely unchanged. For example, in 2021, more than 60% of cases were resolved before a motion for class certification was filed, compared to 57% for 2017–2020 settlements.
- Similarly, approximately 20% of settlements in 2021 reached settlement sometime after a ruling on a motion for class certification, compared to 24% for 2017–2020 settlements.

- In 2021, cases that settled after a motion for class certification was filed were substantially larger than cases that settled at earlier stages. In particular, median “simplified tiered damages” for cases settling after a motion for class certification had been filed was more than eight times the median for cases that resolved prior to such a motion.
- Cases settling at later stages in 2021 were also larger in terms of issuer size. Specifically, the median issuer-reported total assets for 2021 cases that settled after the filing of a motion for summary judgment was more than five times the median for cases that settled prior to such a motion being filed.

*Once a motion for class certification was filed, the median interval to the settlement hearing date for 2021 settlements was around 1.5 years.*

Figure 13: Median Settlement Dollars and Resolution Stage at Time of Settlement 2017–2021

(Dollars in millions)



Note: Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented. “N” refers to the number of cases. 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 securities 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 can also be 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 cases that settled from January 2006 through December 2021, the factors that were important determinants of settlement amounts included the following:

- “Simplified tiered damages”
- Maximum Dollar Loss (MDL)—market capitalization change from its class period peak to post-disclosure value
- Most recently reported total assets of the issuer defendant firm
- Number of entries on the lead case docket
- Whether there were accounting allegations
- 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 there was an accompanying derivative action
- Whether an outside auditor 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 securities, in addition to common stock, were included in the alleged class

Regression analyses show that settlements were higher when “simplified tiered damages,” MDL, issuer defendant asset size, or the number of docket entries was larger, 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, an accompanying derivative action, a public pension involved as lead plaintiff, an outside auditor named as a codefendant, or securities in addition to common stock included in the alleged class.

Settlements were lower if the issuer was distressed.

More than 74% of the variation in settlement amounts can be explained by the factors discussed above.

## Research Sample

- The database compiled for this report 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. The sample contains cases alleging fraudulent inflation in the price of a corporation's common stock.
- Cases with alleged classes of only bondholders, preferred stockholders, etc., cases alleging fraudulent depression in price, and mergers and acquisitions cases are excluded. 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 2,013 securities class actions filed after passage of the Reform Act (1995) and settled from 1996 through 2021. These settlements are identified based on a review of case activity collected by Securities Class Action Services LLC (SCAS).<sup>22</sup>
- The designated settlement year, for purposes of this report, corresponds to the year in which the hearing to approve the settlement was held.<sup>23</sup> Cases involving multiple settlements are reflected in the year of the most recent partial settlement, provided certain conditions are met.<sup>24</sup>

## 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

- <sup>1</sup> *Securities Class Action Filings—2021 Year in Review*, Cornerstone Research (2022).
- <sup>2</sup> See, for example, Stephen J. Choi, “Do the Merits Matter Less after the Private Securities Litigation Reform Act?,” *Journal of Law, Economics, and Organization* 23, no. 3 (2007).
- <sup>3</sup> *Securities Class Action Filings—2021 Year in Review*, Cornerstone Research (2022).
- <sup>4</sup> *Securities Class Action Filings—2021 Year in Review*, Cornerstone Research (2022).
- <sup>5</sup> See, for example, Stephen J. Choi, Karen K. Nelson, and Adam C. Pritchard, “The Screening Effect of the Private Securities Litigation Reform Act,” Law & Economics Working Paper, University of Michigan Law School (2007).
- <sup>6</sup> *Securities Class Action Filings—2021 Year in Review*, Cornerstone Research (2022).
- <sup>7</sup> 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.
- <sup>8</sup> Laarni T. Bulan, Ellen M. Ryan, and Laura E. Simmons, *Estimating Damages in Settlement Outcome Modeling*, Cornerstone Research (2017).
- <sup>9</sup> Median market capitalization as of the most recent quarter-end prior to the settlement hearing date.
- <sup>10</sup> 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.
- <sup>11</sup> 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 claims cases. Data are supplemented with additional observations from the SSLA.
- <sup>12</sup> *Securities Class Action Filings—2021 Year in Review*, Cornerstone Research (2022).
- <sup>13</sup> This calculation excludes settlements with both ‘33 Act claims filed in state court and Rule 10b-5 claims filed in federal court.
- <sup>14</sup> In some instances, the federal action also includes ‘33 Act claims.
- <sup>15</sup> 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.
- <sup>16</sup> *Accounting Class Action Filings and Settlements—2021 Review and Analysis*, Cornerstone Research (2022), forthcoming in spring 2022.
- <sup>17</sup> 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](http://www.sec.gov) involving the issuer defendant or other named defendants with allegations similar to those in the underlying class action complaint.
- <sup>18</sup> 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.”
- <sup>19</sup> See, for example, Michael A. Perino, “Have Institutional Fiduciaries Improved Securities Class Actions? A Review of the Empirical Literature on the PSLRA’s Lead Plaintiff Provision,” St. John’s Legal Studies Research Paper No. 12-0021 (2012).
- <sup>20</sup> 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).
- <sup>21</sup> 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/>.
- <sup>22</sup> Available on a subscription basis. For further details see <https://www.issgovernance.com/securities-class-action-services/>.
- <sup>23</sup> Movements of partial settlements between years can cause differences in amounts reported for prior years from those presented in earlier reports.
- <sup>24</sup> 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: Settlement Percentiles

(Dollars in millions)

	Average	10th	25th	Median	75th	90th
2012	\$72.3	\$1.4	\$3.2	\$11.1	\$41.9	\$135.7
2013	\$84.1	\$2.2	\$3.5	\$7.6	\$25.8	\$96.0
2014	\$20.9	\$1.9	\$3.3	\$6.9	\$15.1	\$57.2
2015	\$45.0	\$1.5	\$2.5	\$7.4	\$18.6	\$107.5
2016	\$79.7	\$2.1	\$4.7	\$9.7	\$37.3	\$164.8
2017	\$20.4	\$1.7	\$2.9	\$5.8	\$16.9	\$39.2
2018	\$70.0	\$1.6	\$3.9	\$12.1	\$26.7	\$53.0
2019	\$29.7	\$1.6	\$6.0	\$11.7	\$21.2	\$53.0
2020	\$57.1	\$1.5	\$3.5	\$10.6	\$20.9	\$55.7
2021	\$20.5	\$1.7	\$3.1	\$8.3	\$17.9	\$58.6

Note: Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented.

## Appendix 2: Settlements by Select Industry Sectors 2012–2021

(Dollars in millions)

Industry	Number of Settlements	Median Settlement	Median “Simplified Tiered Damages”	Median Settlement as a Percentage of “Simplified Tiered Damages”
Financial	99	\$16.2	\$409.5	5.1%
Technology	101	\$8.6	\$228.9	4.7%
Pharmaceuticals	107	\$7.0	\$215.2	4.7%
Retail	37	\$10.5	\$254.7	4.3%
Telecommunications	23	\$9.3	\$278.8	5.4%
Healthcare	19	\$12.3	\$152.8	6.7%

Note: Settlement dollars and “simplified tiered damages” are adjusted for inflation; 2021 dollar equivalent figures are presented. “Simplified tiered damages” are calculated only for cases involving Rule 10b-5 claims.

**Appendix 3: Settlements by Federal Circuit Court  
2012–2021**

(Dollars in millions)

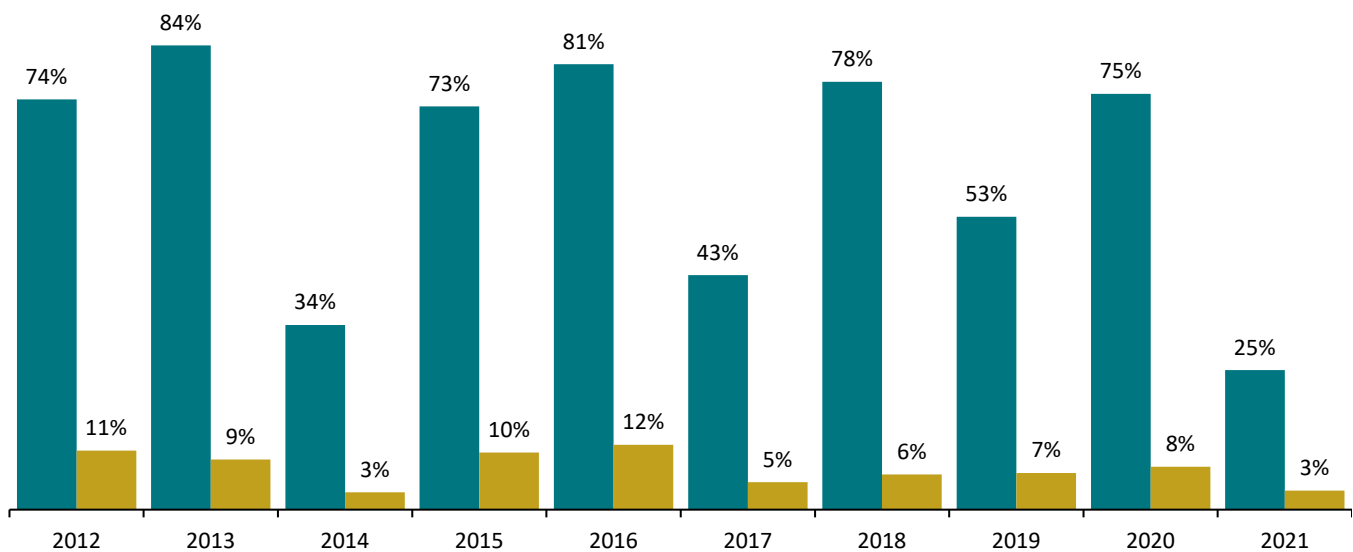
Circuit	Number of Settlements	Median Settlement	Median Settlement as a Percentage of “Simplified Tiered Damages”
First	20	\$10.8	3.2%
Second	192	\$9.3	5.1%
Third	65	\$7.0	5.6%
Fourth	24	\$20.1	4.1%
Fifth	36	\$9.9	5.0%
Sixth	30	\$13.3	7.4%
Seventh	35	\$14.2	3.9%
Eighth	13	\$14.7	6.8%
Ninth	183	\$6.9	4.9%
Tenth	17	\$8.5	5.3%
Eleventh	38	\$11.0	4.9%
DC	4	\$24.8	2.2%

Note: Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented. Settlements as a percentage of “simplified tiered damages” are calculated only for cases alleging Rule 10b-5 claims.

**Appendix 4: Mega Settlements  
2012–2021**

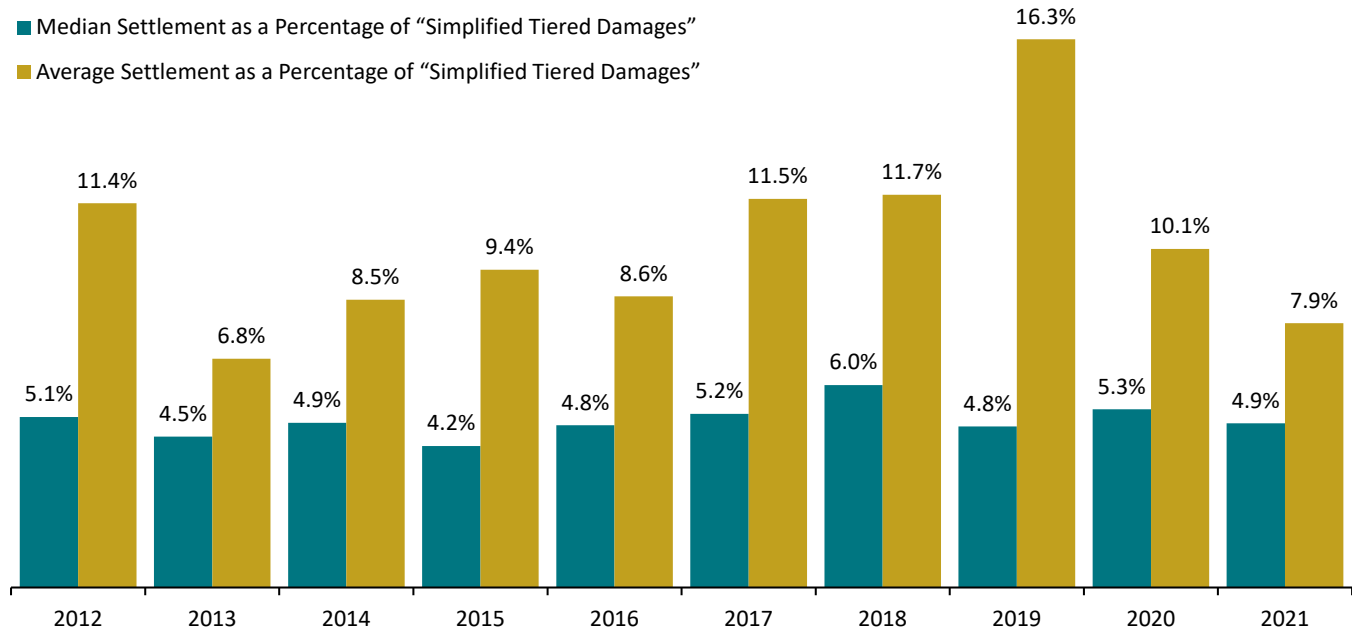
■ Total Mega Settlement Dollars as a Percentage of All Settlement Dollars

■ Number of Mega Settlements as a Percentage of All Settlements



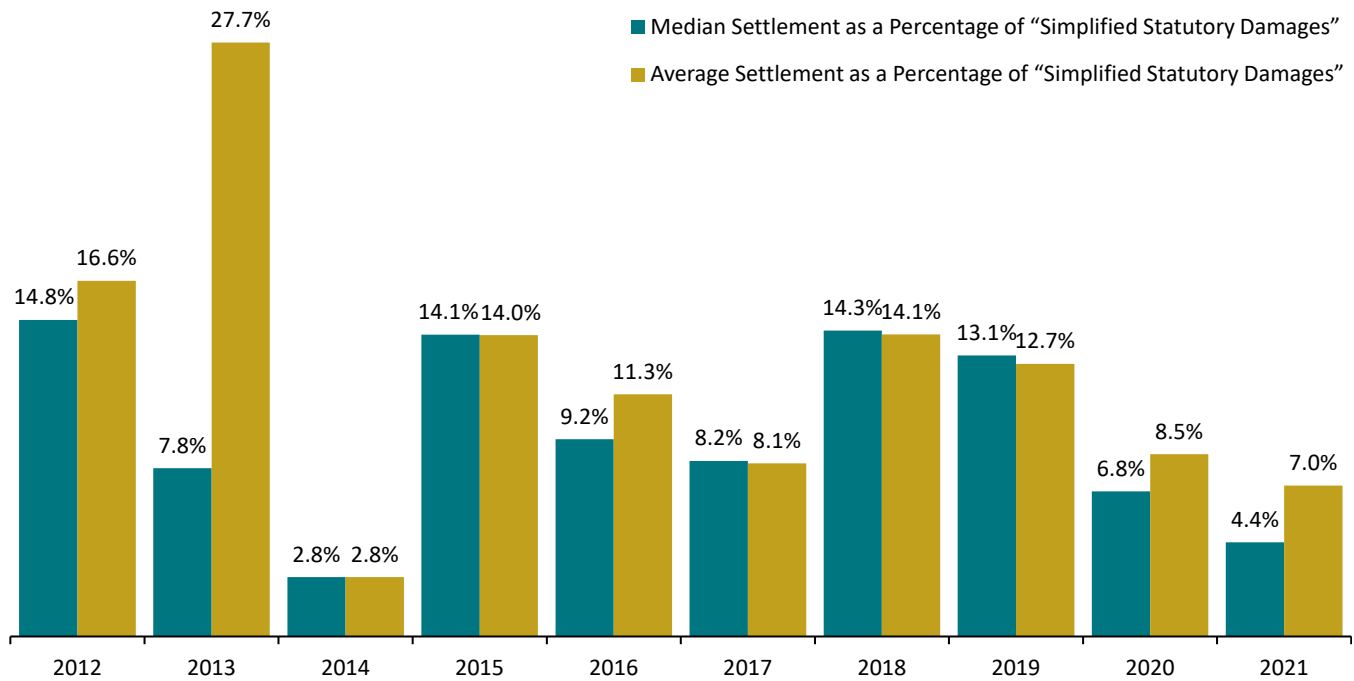
Note: Mega settlements are defined as total settlement funds equal to or greater than \$100 million. Settlement dollars are adjusted for inflation; 2021 dollar equivalent figures are presented.

**Appendix 5: Median and Average Settlements as a Percentage of “Simplified Tiered Damages”  
2012–2021**



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

**Appendix 6: Median and Average Settlements as a Percentage of “Simplified Statutory Damages”  
2012–2021**



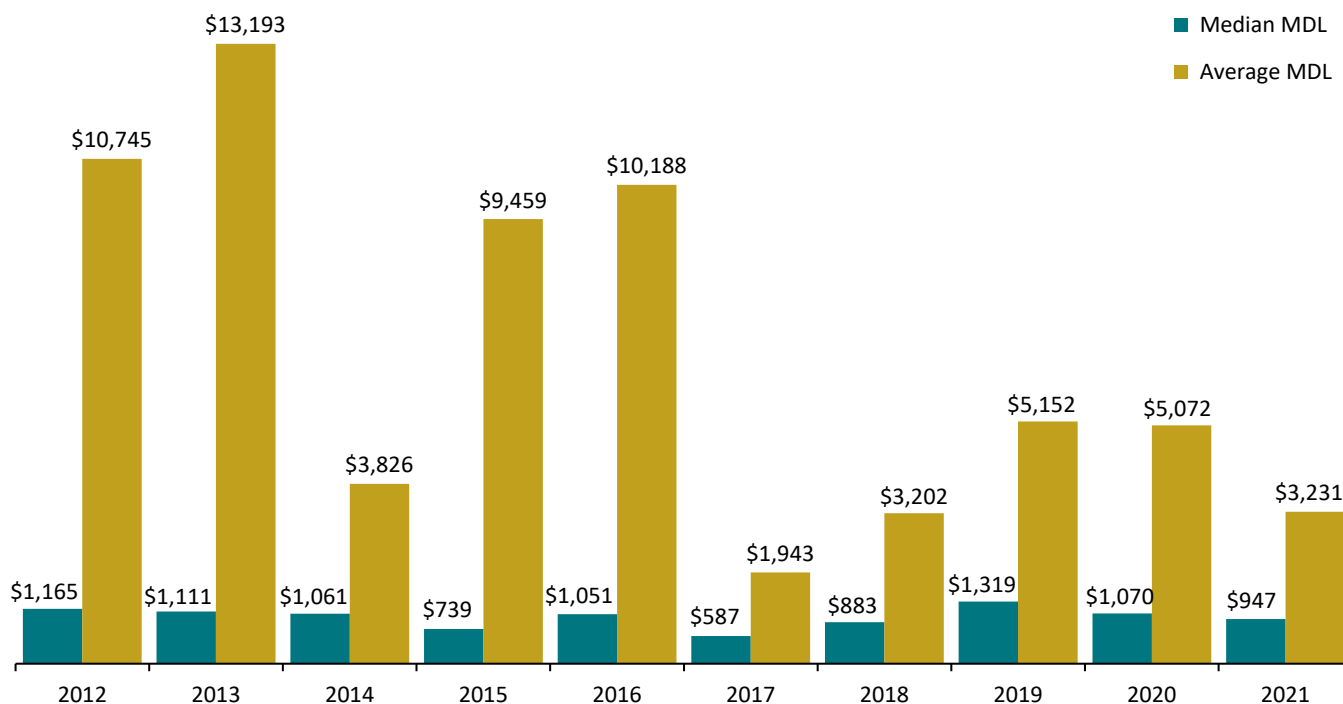
Note: “Simplified statutory damages” are calculated only for cases alleging Section 11 (’33 Act) claims and no Rule 10b-5 claims.



## Appendix 7: Median and Average Maximum Dollar Loss (MDL)

2012–2021

(Dollars in millions)

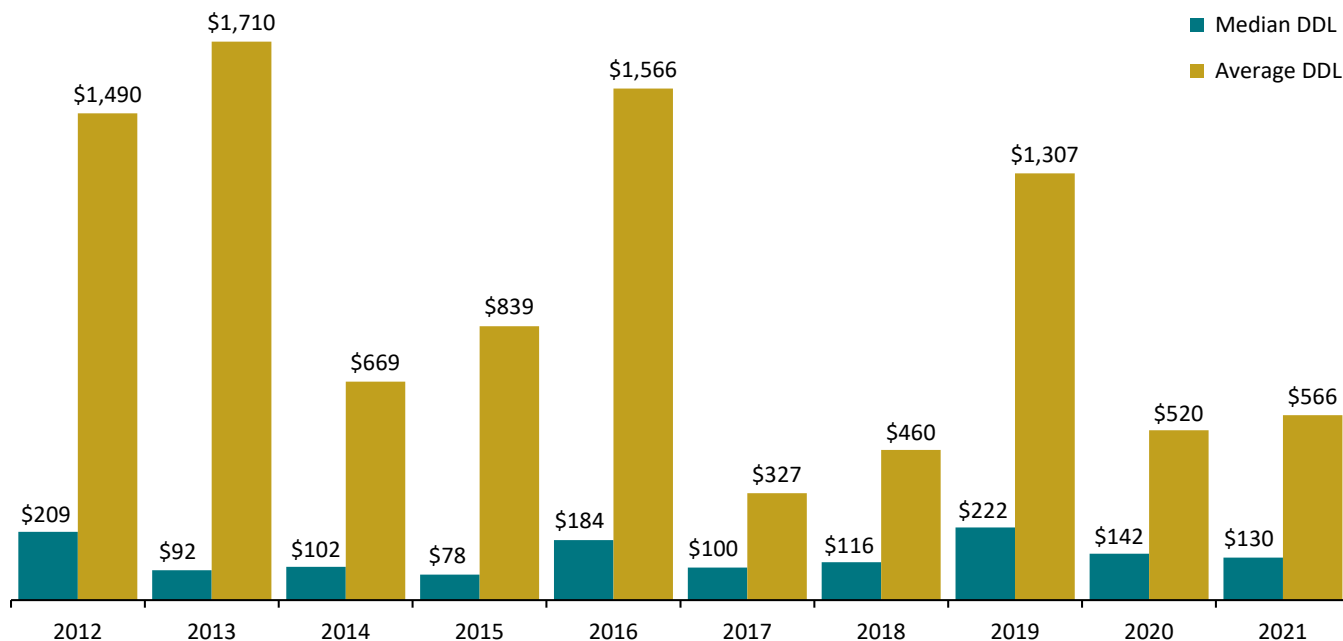


Note: MDL is adjusted for inflation based on class period end dates; 2021 dollar equivalents are presented. MDL is the dollar value change in the defendant firm's market capitalization from the trading day with the highest market capitalization during the class period to the trading day immediately following the end of the class period.

## Appendix 8: Median and Average Disclosure Dollar Loss (DDL)

2012–2021

(Dollars in millions)



Note: DDL is adjusted for inflation based on class period end dates; 2021 dollar equivalents are presented. 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 9: Median Docket Entries by “Simplified Tiered Damages” Range  
2012–2021

(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 and other complex litigation addressing class certification, damages, and loss causation issues, firm valuation, and corporate governance, executive compensation, and risk management issues. She has also consulted on cases related to insider trading, 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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Laura Simmons is a senior advisor with Cornerstone Research. She has more than 25 years of experience in economic and financial consulting. Dr. Simmons has focused on damage and liability issues in securities and ERISA litigation, as well as on accounting issues arising in a variety of complex commercial litigation matters. She has served as a testifying expert in litigation involving accounting analyses, securities case damages, ERISA matters, and research on securities lawsuits.

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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