A Decade Later: The Changing Landscape of Non-GAAP Reporting

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Abstract

We provide evidence on recent trends in non-GAAP reporting. First, the rapid increase in non-GAAP earnings disclosures identified in prior research has leveled off in recent years. Moreover, managers are more likely to provide these non-GAAP metrics in concert with analysts, and instances where only managers report non-GAAP metrics have declined. Managers exclude both non-recurring and recurring items more frequently in the recent decade and the magnitude of their recurring item exclusions has dramatically increased. Finally, we find that exclusion persistence has increased in the recent decade and is significant for both managers' and analysts' reporting, raising questions about whether analysts' ability to serve as gatekeepers of high-quality non-GAAP reporting has deteriorated. Collectively, our results indicate that non-GAAP reporting quality has improved in some ways, while it has declined in others. Nevertheless, it is important to recognize that non-GAAP earnings remain considerably more persistent than non-GAAP exclusions, suggesting that non-GAAP earnings continue to provide meaningful information about core performance.

Keywords: Voluntary disclosure; Non-GAAP earnings

JEL Classifications: M40; M41; M48

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I. INTRODUCTION

Despite nearly 25 years of research on non-GAAP performance metrics, this specialized stream of the voluntary disclosure literature still has many unanswered questions. In particular, while non-GAAP reporting was once viewed with skepticism (e.g., SEC 2001a, Bhattacharya et al. 2003), the disclosure of these metrics is now very common (Center for Audit Quality, 2020), and investors routinely use them along with GAAP-based measures (Garavaglia et al. 2026). Moreover, the regulatory environment continues to evolve with significant SEC oversight over non-GAAP reporting—including the implementation of several Compliance and Disclosure Interpretations (C&DIs) and a comment letter initiative specifically focused on curbing aggressive non-GAAP reporting (e.g., Jo and Yang 2020, Gomez et al. 2023). The SEC has continued to refine its guidance through updated C&DIs as recently as 2022, further emphasizing that certain recurring expense exclusions and tailored accounting adjustments can be misleading. Even the FASB is considering whether it should define certain non-GAAP metrics (FASB 2024). Given the number of changes in the non-GAAP reporting environment, an understanding of firms' current non-GAAP reporting practices and how these practices have evolved relative to evidence from earlier non-GAAP research is critical. As a result, we employ the newly updated Bentley et al. (2018) (hereafter Bentley et al.) dataset, supplemented with our own hand-collected non-GAAP exclusions, to explore recent trends in non-GAAP EPS reporting.[1]

We begin by investigating how the frequency and sources of non-GAAP reporting have evolved since the Bentley et al. sample period (2003-2012). We find that while non-GAAP reporting (from either managers or analysts) increased steadily from 2004 through 2015, this

[1] Our focus is on managers' and analysts' reporting of non-GAAP EPS, which is one performance measure in the broader non-GAAP reporting environment (Garavaglia et al. 2026). We focus on non-GAAP EPS because it is the most commonly studied non-GAAP performance metric in academic research and is an important measure for both firms and capital markets. For simplicity, we use the terms non-GAAP EPS, non-GAAP earnings, and non-GAAP reporting interchangeably.

growth trend has tailed off, resulting in a more stable non-GAAP reporting frequency in recent years. Specifically, since the Bentley et al. sample period, the percentage of firms with non-GAAP earnings available in a quarter has remained fairly stable (between 52 percent and 60 percent). Managers' non-GAAP reporting declined following the SEC's 2016 effort to curb aggressive non-GAAP reporting and has yet to fully rebound. In contrast, the SEC's 2016 efforts appear to have had a smaller and more temporary influence on analysts' provision of non-GAAP metrics.

The two main sources of non-GAAP performance metrics are managers and analysts. Conditional on non-GAAP metrics being available for a firm (from either managers or analysts), we find that both managers and analysts provide non-GAAP information in the vast majority of cases. This agreement has increased from 67 percent in the Bentley et al. sample period to 74 percent over the most recent decade. We also find that instances where managers disagree with analysts' non-GAAP metrics are rare, particular in the most recent decade. In some instances, only one party provides non-GAAP earnings. Specifically, the analyst-only scenario (where analysts, but not managers, provide a non-GAAP metric) accounts for approximately 21 percent of non-GAAP earnings availability over the recent decade, similar to the proportion during the Bentley et al. period. In contrast, the frequency of manager-only reporting (where managers, but not analysts, report a non-GAAP metric) has declined from 13.6 percent to 5.4 percent in the last decade. Manager-only non-GAAP reporting peaked in 2006 and then declined to a fairly stable rate. Since Bentley et al. identify non-GAAP reporting as the lowest quality reporting scenario, the evidence indicates that reporting quality on this dimension has improved.

Next, we explore whether the characteristics of non-GAAP metrics have changed in recent years. Specifically, we examine both the relative frequency and magnitudes of different exclusions made by managers over time. We find steady increases in non-GAAP exclusions in recent years, with 71.8 percent of managers' non-GAAP earnings excluding non-recurring items (also referred

to in the non-GAAP reporting literature as one-time or special items) and 88.6 percent excluding recurring items (sometimes referred to by researchers as "other" items). Regarding exclusion magnitude, the absolute magnitude of non-recurring items has increased modestly, while the magnitude of recurring items has increased more dramatically in recent years. These results indicate that the likelihood that managers will exclude both non-recurring and recurring items has increased over the most recent decade and that firms have increased the amounts that they exclude since the Bentley et al. sample period, particularly for recurring items. Since the extent literature views recurring item exclusions as representing lower quality non-GAAP adjustments, the evidence indicates that reporting quality on this dimension has declined.

To better understand the specific exclusions that have become more common during the recent reporting period, we hand-collect the specific items that firms exclude when calculating non-GAAP earnings for a subsample of firms. To make the hand collection tractable, we limit it to the fourth quarter of the odd years in our sample period (e.g., 4Q 2003, 4Q 2005, 4Q 2007, etc.). For each of these periods, we identify the non-GAAP exclusions for a random sample of 50 non-GAAP reporting firms, resulting in a hand-collected sample of 550 firm-quarters observations. The five most common non-GAAP exclusions in more recent years are: (1) the amortization of intangible assets (38.5 percent), (2) restructuring charges (34.6 percent), (3) stock-based compensation (34.3 percent), (4) acquisition-related items (29.7 percent), and (5) infrequent tax items (26.9 percent). We also find that more than a third of firm-quarters have idiosyncratic non-GAAP exclusions that are not common enough to warrant their own exclusions category. Thus, it is not unusual for firms to exclude items that other firms do not commonly exclude. Regarding changes in exclusion frequency over time, we find that the exclusion of acquisition-related items, amortization of intangibles, infrequent tax items, and idiosyncratic items have all experienced the largest increases.

Regarding exclusion magnitude, the largest non-GAAP adjustments over the recent decade (in absolute terms) relate to (1) impairments of goodwill or other assets, (2) stock-based compensation, (3) the amortization of intangibles, and (4) restructuring charges. Importantly, these exclusions represent expenses, and excluding these items allows firms to report a higher non-GAAP earnings metric relative to GAAP earnings. In contrast, during the Bentley et al. sample, the largest exclusions related to goodwill impairments, infrequent tax items, fair value adjustments, debt extinguishments, and litigation settlements. Comparing the earlier versus later periods indicates that the largest non-GAAP adjustments have changed from items that are more infrequent or volatile in nature to those that are more recurring.

Moving beyond descriptive evidence, we next analyze the persistence of the items that managers exclude in calculating non-GAAP earnings and how exclusion persistence has changed over time. Many studies use the persistence of non-GAAP exclusions (i.e., how non-GAAP exclusions in the current quarter associate with future operating performance) as an inverse measure of non-GAAP exclusion quality.[2] We find that the persistence of non-GAAP exclusions during the most recent decade has more than doubled relative to the Bentley et al sample period. When we estimate the regressions annually, exclusion persistence is particularly high in 2015 and 2016, when the SEC explicitly stated that it would use comment letters to curb aggressive reporting. After the comment letter initiative, we find a noticeable decline in exclusion persistence. This decline appears to be short-lived, however, as exclusion persistence has since returned to near 2016 levels.

These persistence results are consistent with non-GAAP exclusion quality declining in the more recent period relative to the Bentley et al. period. Importantly, however, the results still

[2] The rationale for this perspective is that managers and analysts argue that non-GAAP earnings are better than GAAP earnings at capturing firms' core operations. To the extent that firms exclude items that are more associated with future operating performance, the properties of exclusions become more inconsistent with the purported reason for non-GAAP earnings.

indicate that non-GAAP earnings point investors to the most persistent GAAP earnings components, while they exclude items that are far less persistent. For example, non-GAAP earnings are 4.4 to 9.4 times more persistent than non-GAAP exclusions during the recent decade. Thus, although exclusion persistence has increased in recent years, it does not imply that non-GAAP reporting is no longer informative. Instead, the results indicate that financial statement users should not fully ignore exclusions and now need to place more weight on them when forecasting earnings and calculating firm value.

Finally, we investigate whether the relative persistence of managers' and analysts' non-GAAP exclusions continues to be different in the recent decade. Bentley et al. conclude that analysts play a monitoring role with respect to non-GAAP reporting and do not corroborate managers' more aggressive non-GAAP exclusions. They also argue that the quality of analysts' non-GAAP adjustments is high, while the quality of manager-only non-GAAP reporting is lower. Evidence from the more recent sample period suggests that manager-only exclusions still contain the lowest quality (i.e., more persistent) non-GAAP exclusions. Analysts' non-GAAP exclusions, however, now display some level of persistence, regardless of whether the reporting relates to when analysts corroborate managers' metrics or report non-GAAP earnings on their own. This result differs from Bentely et al.'s evidence that analysts' exclusions during their sample period are largely insignificant. Thus, analysts also appear more willing to exclude items that display some level of persistence, raising questions about whether their ability to monitor managers' more aggressive non-GAAP reporting has weakened to some degree.

In summary, we contribute to the literature by providing a contemporary update on the current state of non-GAAP reporting. First, contrary to the rapid increase in non-GAAP reporting documented in earlier non-GAAP studies, the provision of non-GAAP earnings has leveled off over the last decade. Moreover, we find that managers report a non-GAAP metric in concert with

analysts more often over the last decade, while manager-only reporting has declined. This latter result is consistent with an improvement in non-GAAP reporting quality on this dimension (i.e., less frequent manager-only reporting). When examining the characteristics of non-GAAP exclusions, the frequency of both non-recurring and recurring item exclusions has increased modestly, while the *magnitude* of recurring item exclusions has increased more dramatically. These results are consistent with a reduction of non-GAAP reporting quality on this dimension (i.e., more frequent and larger recurring item exclusions). Turing to the persistence of non-GAAP exclusions, we find that exclusions persistence has increased over the last decade and that exclusions now display some degree of persistent across each of the different reporting scenarios (both report, analyst-only, manager-only). These results are consistent with both managers' and analysts' non-GAAP exclusions declining in quality (i.e., more persistent exclusions). While manager-only reporting continues to have the lowest quality exclusions, the results also raise questions about whether there's been a decline in analysts' ability to serve as gatekeepers of high-quality non-GAAP reporting. Nevertheless, it is important to note that non-GAAP earnings remain much more persistent than non-GAAP exclusions, suggesting that non-GAAP measures continue to provide important information to financial statement users about firms' core operations.

Overall, our new evidence provides a contemporary update on the current state of non-GAAP reporting. Our results indicate that non-GAAP reporting quality has improved in some ways, while it has declined in others. We believe this snapshot provides important insights that will be useful to (1) practitioners as they decide how to use non-GAAP metrics, (2) regulators and standard setters as they decide non-GAAP reporting requirements, and (3) academics as they continue to work in this bourgeoning literature.

II. BACKGROUND AND RESEARCH QUESTIONS

The Origins and Development of Non-GAAP Reporting

The reporting of "adjusted" (non-GAAP) performance metrics gained popularity in the late 1990s and increased rapidly into the early 2000s (Bhattacharya et al. 2004). These measures are constructed by excluding GAAP earnings components that managers and analysts consider to be transitory, non-cash, or not reflective of firms' core operations. However, major accounting scandals in 2001 led to widespread concern about the integrity of financial reporting. In that period of uncertainty, the SEC warned investors that non-GAAP disclosures could be misleading (SEC 2001a,b). Along with other sweeping changes implemented with the Sarbanes-Oxley Act of 2002, the U.S. Congress directed the SEC to issue regulations intended to rein in non-GAAP reporting. As a result, the SEC implemented Regulation G in 2003, along with changes to Regulation S-K, to improve the transparency and quality of non-GAAP reporting. These regulatory changes led to a temporary decline in non-GAAP reporting (Heflin and Hsu 2008; Brown et al. 2012), but the trend quickly rebounded and these metrics have become commonplace in subsequent years (Brown et al. 2012; Bentley et al. 2018).

In 2010, the SEC staff issued Compliance and Disclosure Interpretations (C&DIs) to provide transparency regarding how it would enforce regulations related to non-GAAP disclosure prescribed by Regulation G and Regulation S-K. These initial C&DIs provided guidance on how firms could disclose non-GAAP metrics in compliance with regulation and were viewed by many as a relaxation of initial regulatory sentiment (Black and Christensen 2018). The SEC significantly expanded the C&DIs in 2016 to limit practices that had frequently been the subject of comment letters. These expanded C&DIs were viewed as a tightening of the SEC's stance on non-GAAP reporting and offered an opportunity for the firms to self-correct any non-compliance. The SEC then used a series of comment letters focused on correcting the remaining compliance issues

(Rapoport and Michaels 2016). While the SEC made updates to its C&DIs again in 2017 and 2018, the next significant change occurred in 2022, when it emphasized the equal prominence of GAAP metrics, discouraged misleading measures, and limited the use of non-GAAP exclusions to "tailor" accounting principles. Appendix B summarizes the major SEC regulatory developments.

Prior Research on Non-GAAP Reporting

The evolving regulatory backdrop for non-GAAP reporting has influenced a large academic literature that examines non-GAAP reporting as a form of voluntary disclosure (e.g., Black et al. 2018). A central theme in this literature is the tension between informativeness and opportunism (Bradshaw and Sloan 2002). On the one hand, non-GAAP measures can provide a clearer depiction of firms' core performance by excluding transitory or non-cash earnings components. On the other hand, these measures provide discretion that managers can potentially use to overstate performance, which could mislead investors.

The early non-GAAP literature (2002–2006) explores some overarching themes that permeate the non-GAAP reporting literature. These studies often focus on the informativeness of non-GAAP performance metrics and the types of exclusions that firms make in calculating non-GAAP metrics (e.g., Bhattacharya et al. 2003; Lougee and Marquardt 2004; Brown and Sivakumar 2003). At the same time, regulators and researchers have expressed skepticism about these measures, leading to a stream of research examining whether managers use non-GAAP reporting to overstate performance and mislead investors (e.g., Doyle et al. 2003; Black and Christensen 2009). Much of the subsequent research builds on this tension, examining the extent to which non-GAAP reporting reflects informative disclosure versus aggressive reporting.

Beyond this question, researchers have also examined who uses non-GAAP information and how these measures are produced. In particular, prior studies suggest that both investors and analysts rely on non-GAAP metrics (e.g., Allee et al. 2007; Bhattacharya et al. 2007; Christensen

et al. 2014), and that analysts play an important role in shaping non-GAAP reporting practices (e.g., Gu and Chen 2004; Heflin et al. 2015; Bentley et al. 2018; Christensen et al. 2020). In parallel, a growing literature examines how regulatory oversight and other monitoring mechanisms influence non-GAAP reporting. Prior research suggests that Regulation G and subsequent SEC guidance have improved disclosure quality, while analysts, boards, creditors, and other stakeholders also serve as important monitors of reporting behavior (e.g., Heflin and Hsu 2008; Kolev et al. 2008; Frankel et al. 2011; Christensen et al. 2017; Gomez et al. 2023).

In addition to understanding incentives and monitoring, a central theme in the literature focuses on the composition of non-GAAP exclusions and their implications for reporting quality. A prominent stream of research uses the persistence of exclusions (i.e., the association between the excluded items and future operating performance) as a proxy for quality (e.g., Doyle et al. 2003; Kolev et al. 2008; Landsman et al. 2007). Within this framework, exclusions with higher persistence are perceived to be lower in quality because it is unclear why managers would exclude items that map into future performance (e.g., Bhattacharya et al. 2003; Black and Christensen 2009; Barth et al. 2012). More recent studies continue to rely on exclusion persistence as a key measure of reporting quality (e.g., McVay et al. 2024; Chen et al. 2025) and develop broader frameworks to assess the quality of non-GAAP reporting (e.g., Dechow et al. 2025, 2026; Davidson et al. 2026; Li et al. 2026).

Taken together, prior research highlights several key themes, including the tension between informativeness and opportunism, the role of analysts and other monitoring mechanisms, and the importance of exclusion characteristics—particularly the persistence of excluded components—in assessing reporting quality. However, much of this evidence is based on earlier sample periods, and the non-GAAP reporting environment has continued to evolve due to regulatory interventions and changes in reporting practices. Bentley et al. provided the first comprehensive dataset of

managers' non-GAAP EPS metrics during the 2003–2012 period and compared the characteristics of managers' metrics to those of analysts.[3] It is unclear, however, whether the 2003-2012 patterns found by Bentley et al. persist in the more current reporting environment. As a result, it is an open question whether in Bentley et al.'s inferences regarding the frequency, composition, and quality of non-GAAP reporting still hold in more recent years. Obtaining this insight, however, is important because financial statement users need to understand the current state of non-GAAP reporting when making investing decisions and academics rely on prior inferences to motivate their current analyses. Thus, to provide a comprehensive update on these questions, we use the newly expanded Bentley et al. dataset (through 2023), supplemented with our own hand collection of non-GAAP exclusions, to examine how non-GAAP reporting has evolved over the most recent decade of available data.[4]

Research Questions

Using the updated Bentley et al. dataset, we explore four important questions that are relevant to both practitioners and researchers. First, Bentley et al. find a sharp increase in non-GAAP reporting during their sample period (2003-2012), and it is unclear whether that increase has continued into the current reporting environment, which has been influenced by several regulatory interventions (see Appendix B). As a result, we explore the extent to which firms report non-GAAP earnings during the more recent period. Moreover, Bentley et al. find that both managers and analysts provide non-GAAP metrics to investors, but that the frequency with which they provide these metrics differs, with analysts being more likely to independently provide non-

[3] The Bentley et al. data quickly became the go-to dataset for managers' non-GAAP metrics and it was subsequently updated for firms with earnings announcements ending in 2020. The authors, however, did not extend the Bentley et al. analysis using this new data.

[4] https://sites.google.com/view/kurthgee/data. The newly updated Bentley et al. dataset will become available in the summer of 2026.

GAAP metrics relative to managers. Thus, our first research question explores whether these trends have changed in more recent years:

RQ1: *Have the frequency and sources of non-GAAP reporting evolved in recent years?*

Second, managers exclude different income statement components when calculating non-GAAP earnings. These exclusions can involve both non-recurring (special) items and recurring (other) items, and the mix of these items varies across firms (Black et al. 2021). Nevertheless, prior research has focused on exploring managers' and analysts' motives for excluding both kinds of items. Prior research typically views the exclusion of non-recurring items as representing higher quality adjustments and the exclusion of recurring items as representing lower quality adjustments. Therefore, we examine how the characteristics (both reporting frequency and magnitude) of these different types of exclusions have changed since the Bentley et al. sample period.

RQ2: *Have the characteristics of non-GAAP exclusions changed in recent years?*

Third, a prominent stream of research uses the persistence of exclusions as a way to assess the quality of exclusions (e.g., Doyle et al. 2003, Kolev et al. 2008, Bentley et al. 2018). Managers and analysts commonly assert that they provide non-GAAP earnings to better capture firms' core operations by excluding non-recurring or non-cash items. As a result, the items they exclude in calculating non-GAAP earnings should not associate with future operating performance. As the association between current exclusions and future operations increases, the exclusions become more inconsistent with the purported reason for non-GAAP earnings. Thus, prior research asserts high quality non-GAAP exclusions should not be persistent with respect to future operating performance. We explore whether exclusions persistence has changed in recent years.

RQ3: *Has exclusions persistence changed over time?*

Fourth, several studies find that analysts, as compared to managers, provide higher quality non-GAAP metrics to investors (e.g., Bentley et al. 2018, Christensen et al. 2021). We utilize the

Bentley et al. framework for differentiating between three mutually exclusive scenarios for non-GAAP reporting: (1) manager-only non-GAAP earnings, (2) analyst-only non-GAAP earnings, and (3) both manager and analyst report non-GAAP earnings. Using these reporting scenarios, we explore whether the Bentely et al. inferences still hold in the more current sample period.

RQ4: *Do the Bentely et al. inferences about exclusion persistence across different reporting groups hold in recent years?*

III. SAMPLE AND DESCRIPTIVE EVIDENCE

Sample Selection

To answer our research questions, we merge the newly updated Bentley et al. dataset of managers' non-GAAP reporting with Compustat, CRSP, and I/B/E/S. We then compare non-GAAP reporting during the original Bentley et al. sample period (2003-2012) to the reporting in the more recent period (2013-2023). The initial Bentley et al. sample contains 115,370 firm-quarter observations and the more recent sample contains 114,270 firm-quarter observations. Panel A of Table 1 provides our sample selection process.

RQ1: Have the frequency and sources of non-GAAP reporting evolved in recent years?

Prior studies find that the use of non-GAAP EPS has grown considerably over time (e.g., Brown et al. 2012; Bentley et al. 2018). We begin with Figure 1 to explore changes in the frequency of non-GAAP reporting over our sample period. Following Bentley et al., we plot managers' non-GAAP reporting, analysts' non-GAAP reporting, and the provision of non-GAAP metrics by either managers or analysts. While Bentley et al. conclude that non-GAAP performance metrics were steadily on the rise (except for a brief dip after the implementation of Reg. G in 2003), expanding the trends into the most recent decade provides a different interpretation.

Consistent with Bentley et al (2018), we find that both manager and analyst non-GAAP reporting increased from between 20 and 30 percent in 2003 to 50 and 60 percent in 2015. In 2016,

the SEC staff significantly updated the C&DIs and stated it would use comment letters to curb misleading non-GAAP reporting. Interestingly, the frequency of non-GAAP metrics from managers and analysts dropped in 2016. Analysts' reporting, however, subsequently rebounded, with their non-GAAP reporting peaking at 57 percent in 2018. Nonetheless, during the final years of our sample, analysts' use of non-GAAP earnings has declined to around 50 percent. Managers' reporting has yet to rebound to its 2015 frequency and has leveled off at around 43 percent.[5] Thus, our first conclusion is that while the use of non-GAAP EPS was on the rise for the first 15 years of our sample period, reporting frequency has been fairly stable over the last decade.

One of Bentley et al.'s significant contributions is to explore the overlap between managers' and analysts' non-GAAP metrics. Their Figure 1 provides a Venn Diagram clearly indicating that when managers choose to disclose non-GAAP earnings, most of the time analysts also provide non-GAAP earnings. However, they also provide evidence regarding the extent to which managers or analysts provide non-GAAP metrics when the other chooses to focus on GAAP earnings. Panel A of our Figure 2 reproduces a Venn Diagram similar to Bentley et al.'s Venn Diagram. It indicates that approximately 63 percent of firms during the 2003-2012 period did not have non-GAAP performance information available (from either managers or analysts). Among the 37 percent of observations with a non-GAAP EPS metric, approximately two-thirds of the time (24.9 ÷ 37.4 = 66.6 percent), both managers and analysts provide non-GAAP metrics. In approximately 20 percent of non-GAAP reporting, only analysts provide non-GAAP information.[6] Bentley et al. conclude that the highest quality non-GAAP metrics occur when analysts are involved in the non-GAAP reporting (either by providing non-GAAP earnings alone or in

[5] In untabulated analyses, we partition Figure 1 based on firm size (using median total assets) because firm size may influence non-GAAP reporting choices. We find that larger firms report non-GAAP EPS more frequently than smaller firms, especially since the SEC's intervention in 2016. For example, in 2023, 58 percent of larger firms and 20 percent of smaller firms report non-GAAP EPS. Reporting trends for larger firms have been fairly stable since 2016, while trends for smaller firms continue to decline.

[6] The analyst-only reporting scenario is depicted in the figures and tables as I/B/E/S Only because I/B/E/S is the data aggregator that provides analysts' metrics.

conjunction with managers). In contrast, when managers disclose non-GAAP metrics alone (13.6%), Bentley et al. find that the quality of non-GAAP earnings is lower.

Panel B of Figure 2 provides a more current view (the period since Bentley et al.) of the overlap between managers' and analysts' non-GAAP reporting. Consistent with the higher overall reporting frequency observed in Figure 1, we find that the proportion of firms without non-GAAP metrics is smaller in this more recent window (down from 62.6 percent to 44.7 percent). Moreover, we observe a definite shift among firms for which non-GAAP performance measures are available (the other 55 percent in the Venn Diagram). Specifically, when non-GAAP earnings are available, managers and analysts both provide non-GAAP information 74 percent of the time (40.9 ÷ 55.2 = 74.1 percent). Moreover, analysts provide non-GAAP numbers on their own about 20 percent of the time, suggesting that this proportion has not changed in recent years compared to the Bentley et al. sample period. The proportion for the manager-only scenario, however, has decreased, down to 5.5 percent compared to 13.6 percent in the Bentley et al. sample.

Bentley et al. conclude that non-GAAP reporting in the manager-only scenario contains lower quality non-GAAP metrics. To further explore the decline in the manager-only scenario, we plot the percentage of managers' non-GAAP reporting that relates to the manager-only scenario across our sample period. Panel C indicates that manager-only reporting dramatically increased from 2003 to its peak in 2006 of nearly 25 percent, when it then consistently declined until 2015 to less than 7 percent. Between 2015 to 2020, manager-only reporting remained fairly stable, but has started to increase slightly since 2020. This evidence is generally consistent with an improvement in non-GAAP reporting quality along this dimension. Another scenario where prior research argues that exclusions are of lower quality is when both managers and analysts report a non-GAAP metric, but managers' metrics exceed analysts' (Bentley et al., Davidson et al. 2026). These scenarios likely represent instances where managers exclude more expenses than analysts.

Overall, we find that differences between managers' and analysts' non-GAAP earnings are rare. This occurs slightly more frequently in the Bentley et al. period, and declines in the more recent decade to around 1.6 percent.

The takeaways from Figures 1 and 2 are that while non-GAAP reporting is generally more prevalent in recent years relative to the Bentley et al. period, reporting frequencies for these measures appear to have plateaued and are no longer increasing like during the Bentley et al. time period. Moreover, for the vast majority of non-GAAP observations (74 percent), managers and analysts both provide them. The situations where only managers report a non-GAAP metric, which analysts do not corroborate, has declined (down to only 5.4 percent of non-GAAP reporters). Taken together, these trends are consistent with increased regulatory scrutiny constraining some forms of aggressive disclosure, particularly those related to managers' unilateral disclosure of non-GAAP measures.

RQ2: Have the characteristics of non-GAAP exclusions changed in recent years?

So far, our analyses suggest that the frequency of non-GAAP reporting increased steadily for many years but has leveled off somewhat in recent years and that managers and analysts seem to be more aligned with their non-GAAP metrics. However, prior research suggests that the calculation of non-GAAP performance metrics may have shifted over time (e.g., Black et al. 2018, Black et al. 2021). Following several accounting rule changes (SFAS 123R and 141), managers became more inclined to exclude specific recurring expenses, arguing that these items routinely affect earnings but are non-cash in nature. Moreover, the C&DIs in 2010 suggest that some recurring item exclusions are allowable as long as the disclosing company (1) provides a reconciliation between non-GAAP earnings and the most directly comparable GAAP earnings number and (2) does not describe the recurring item as being non-recurring in nature.

Panel A of Figure 3 plots the percentage of managers' non-GAAP metrics that exclude non-recurring items or recurring items.[7] We find that the percentage of both non-recurring items and recurring items has consistently increased over the entire sample period. Interestingly, the percentage of firms excluding recurring items always exceeds the percentage excluding non-recurring items. By the end of our sample period, we find that 89 percent of managers' non-GAAP reporting excludes recurring items, while 72 percent exclude non-recurring items. This evidence compares to 68 percent and 56 percent, respectfully, in 2003. Additionally, the trend for recurring items exhibits a fairly smooth upward trend while the trend for non-recurring items exhibits more volatility, consistent with non-recurring items occurring more often in periods of turmoil (e.g., financial crisis of 2007-2009, TCJA in 2017, oil price volatility in 2018, and COVID in 2020).

Figure 3, Panel B, plots the median absolute values of non-recurring and recurring items over time. While the absolute magnitude of non-recurring items has increased modestly (and spiked in 2018 and again in 2020), the more drastic increase is in the magnitude of recurring items. Specifically, recurring item exclusions increase from 0.06 per share in 2013 to 0.13 per share in 2023. Combining the non-recurring and recurring items values, the solid line indicates a sharp increase in the magnitude of total exclusions over the recent sample period; from 0.11 cents in 2013 to 0.22 cents in 2023. Collectively, Panel B indicates that companies make even larger adjustments when calculating non-GAAP earnings over the last decade, which pushes their non-GAAP earnings even further from GAAP earnings. Collectively, since the literature views recurring item exclusions as representing lower quality non-GAAP adjustments, their more frequent use and larger magnitude is consistent with this dimension of reporting quality declining over the recent decade.

[7] The literature defines non-recurring items as being equal to the special items value in Compustat and recurring items as the difference between total exclusions and non-recurring exclusions.

Next, to provide more granular evidence on the reason for the changes in frequency and magnitude, we hand-collect the specific items that firms exclude in calculating non-GAAP earnings for a subsample of observations across our sample period. Specifically, for every other year in our sample (starting in 2003), we randomly select 50 observations where firms report non-GAAP earnings in the fourth quarter and hand collect the type and magnitude of their non-GAAP exclusions. This process results in us collecting non-GAAP exclusions for 550 firm-quarter observations.

Panel A of Figure 4 presents the most common exclusions from our hand-collection, with the less common adjustments being combined into the "Other" category. We partition the collection based on the Bentley et al. period (2003-2012) versus the later part (2013-2023), with the bars representing the percentage of hand-collected observations excluding that particular item. The later period indicates that the five most common non-GAAP exclusions are: Amortization of intangible assets (38.5 percent), restructuring (34.6 percent), stock compensation (34.3 percent), acquisition-related items (29.7 percent), and infrequent tax items (26.9 percent). The "Other" category is 38.5 percent, indicating that it is not uncommon for firms to exclude idiosyncratic items from their non-GAAP calculations. When comparing exclusion frequencies across the early and later periods, we find that most of the non-GAAP exclusions have become more common. The largest increases occurred for acquisitions, infrequent tax, other, and amortization of intangibles. A few types of exclusions declined, including: impairments, non-cash interest, investment/hedge gain or loss, and settlement/litigation.

Figure 4, Panel B, modifies the analysis in Panel A to focus on the median exclusion value for each category. We exclude two categories, goodwill impairments and grouped, from the panel because their magnitudes are large and the increased scaling of the y-axis hurts the interpretability

for the other exclusion categories.[8] Over the past decade, we find that the largest non-GAAP adjustments have been goodwill and asset impairments (-0.72 and -0.07), stock-based compensation (-0.08), amortization of intangibles (-0.08), and restructuring costs (-0.05).[9] Notably, these are all expense items and excluding them enables firms to report higher non-GAAP earnings relative to GAAP. In contrast, the most significant exclusions during the Bentely et al. period were goodwill impairments (-0.62), infrequent tax items (0.07), fair value adjustments (-0.06), debt extinguishments (-0.06), and litigation settlements (-0.05). Collectively, the evidence in Panel B suggests a shift over time from excluding larger infrequent or unusual items to excluding larger expenses for recurring items.

IV. EMPIRICAL ANALYSIS OF EXCLUSION PERSISTENCE OVER TIME

Descriptive Statistics

Next, we examine how the quality of non-GAAP exclusions has changed since the Bentley et al. sample period. First, we provide descriptive statistics for the sample in Panel B of Table 1. While we provide overall mean and median values for each variable for the full sample (2003-2023), we also report these values for each variable for the original Bentley et al. sample period (2003-2012) and the more recent period (2013-2023). We also test for significant differences across the two time periods.

We first explore differences in three earnings measures. GAAP EPS is 27.0 cents per share, on average, in the overall sample. However, the average GAAP EPS in the earlier period is only 22.4 cents versus 31.7 cents per share in the latter period, suggesting that firms have become more profitable, on average. Since analysts and managers typically exclude expense items when

[8] The median values for Goodwill Impairment are: Early = $0.62; Late = $0.72, while the values for Grouped are: Early = $0.21; Late = $0.05.

[9] Exclusions related to leases were also larger in magnitude, however, only 8 firm-quarters had these exclusions in our hand collection for the recent decade.

calculating non-GAAP earnings, it is not surprising that both the analyst and manager non-GAAP EPS figures exceed GAAP EPS. Consistent with the increasing exclusion values in Figure 3, the mean analyst-provided non-GAAP EPS is 27.3 cents per share in the original Bentley et al. sample and 46.3 cents per share over the recent decade. Similarly, the mean manager-reported non-GAAP EPS is 38.1 cents per share in the Bentley et al. period and 71.5 cents per share in the more recent period. Among the other differences between the periods, firms have gotten larger and have better future performance.

RQ3: Has exclusions persistence changed over time?

Early research has investigated the persistence of non-GAAP exclusions as a way of measuring the quality of those exclusions (e.g., Doyle et al. 2003; Kolev et al. 2008). Persistence captures the relation between non-GAAP exclusions and future operating performance and researchers use this relation to test managers' explanations that justify their non-GAAP exclusions. First, managers state that they exclude earnings components that are transitory in nature (i.e., they are non-recurring) and that excluding these items creates a non-GAAP metric that better captures firms' core operations. Second, managers argue that they exclude non-cash items that will persist on the income statement but are non-cash in nature (like stock-based compensation and the amortization of intangibles). By excluding these items, non-GAAP earnings provide a more cash-based performance measure. As a result, to test managers' explanations for exclusions, it is now common for researchers to examine the relation between exclusions and two measures of future performance: future operating earnings and future operating cash flows (Black et al. 2018).

Table 2 compares the association between current non-GAAP exclusions and future firm performance using the following regression:

$$Future\ operating\ performance_{q+1,q+4} = \beta_0 + \beta_1 Non-GAAP\ earnings_q + \beta_2 Exclusions_q + \beta_3 Controls_q + \varepsilon_q$$

We measure future operating performance as either operating earnings (columns 1 and 3) or operating cash flows (columns 2 and 4) summed over the subsequent four quarters. We expect non-GAAP earnings to be positively associated with both future operating earnings and future operating cash flows since it should capture firms' core performance. We focus on non-GAAP exclusions as our main variable of interest because prior research uses the coefficient on *Exclusions* as a proxy for the quality of non-GAAP adjustments.[10] If exclusions truly relate to non-recurring or non-cash items, they should not be associated with future performance and the coefficient on *Exclusions* should be insignificant. As the value of the coefficient becomes more positive (i.e., excluded items map more into future performance), the reliability of managers' explanations for excluding these items declines.

Table 2 indicates that the coefficient on exclusions, β_2, is significantly positive in all four regressions, suggesting that exclusions are, on average, not completely transitory or non-cash in nature. RQ3 questions whether exclusions have become more or less persistent with respect to future operating earnings and future operating cash flows since the Bentley et al. period. Statistical tests comparing the β_2 coefficients (column 1 versus column 3, and column 2 versus column 4) indicate that the coefficients in the later period (2013-2023) are significantly higher than those during the earlier Bentley et al. period (2004-2012). As a result, we conclude that non-GAAP exclusions have become more persistent, consistent with exclusions quality declining on this dimension in the most recent decade.

Figure 5 explores trends in exclusions persistence at the annual level. In particular, we repeat the regressions in Table 2 annually and plot the β_2 coefficient on *Exclusions* for each year. We also include dashed lines representing the average β_2 coefficients for the earlier and later

[10] We define all variables in Appendix A and winsorize all continuous variables at the 1st and 99th percentiles to reduce the influence of extreme observations.

periods, which corroborate the Table 2 evidence of an increase in exclusions persistence.[11] However, we also see variation in the coefficients over time. For example, exclusions persistence with respect to both operating earnings and operating cash flows generally decline from 2003 through 2011. It then increased again to highs in 2015-2016, when the SEC explicitly stated that it would use comment letters to curb aggressive reporting. After the comment letter initiative, we see a noticeable decline in exclusion persistence. This decline appears to be short-lived, however, as exclusion persistence has since returned to near 2016 levels.

If non-GAAP exclusions have declined in quality over the recent decade, a natural question is whether non-GAAP earnings are still informative. To put the increase in exclusion persistence into perspective, we benchmark the persistence of exclusions to the persistence of items that managers include in non-GAAP earnings. We find that non-GAAP earnings persistence is 2.838 in column 3 and 2.556 in column 4. In contrast, exclusion persistence is 0.638 and 0.272, respectively. As a result, the items that managers include in non-GAAP earnings are still 4.4 to 9.4 times as persistent as the items they exclude. Thus, although the quality of exclusions has declined in recent years, this evidence does not mean that non-GAAP reporting has lost its usefulness. Rather, it suggests that financial statement users should not ignore exclusions and now need to place more weight on them when forecasting earnings and assessing firm value.

RQ4: Do the Bentely et al. inferences about exclusion persistence across reporting groups hold in recent years?

Ideally, analysts are independent of firms' reporting incentives and serve as unbiased information intermediaries. In contrast, managers can have biases in how they calculate and disclose performance information. As noted previously, Bentley et al. find that managers' non-

[11] T-tests indicate that the means in the later period are higher than those of the earlier period.

GAAP reporting is generally of higher quality when it coincides with analysts' non-GAAP metrics, while it is of lower quality when managers report independently.

To formally test whether analysts continue to play a role in improving the quality of managers' non-GAAP disclosures, we extend our analysis by examining exclusion persistence across analysts' and managers' non-GAAP reporting choices in the most recent decade. We follow Bentley et al. and add indicator variables to the persistence analysis to differentiate between the three non-GAAP reporting scenarios depicted in the Figure 2 Venn Diagrams. Specifically, we include indicator variables for *I/B/E/S Only* and *Manager Only* and interact them with non-GAAP earnings and exclusions. Using this approach results in the coefficient on *Exclusions* (i.e., the main effect) capturing exclusions persistence for the *Both* reporting group. In contrast, the interactions capture the incremental level of exclusion persistence for the *I/B/E/S Only* and *Manager Only* groups. By separately capturing the effects of these smaller subsamples in the Venn Diagrams, we explore how exclusion persistence varies between the manager-only, analyst-only, and both reporting groups.

Table 3 reports the results for these expanded regressions. Columns 1 and 2 replicate results from the original Bentley et al. sample, while columns 3 and 4 provide evidence for the most recent decade. The coefficients in columns 3 and 4 indicate that exclusions have some level of persistence across the reporting groups. First, the coefficients on *Exclusions* are significant in both columns (0.545 and 0.087), indicating that the adjustments in the *Both* group are not fully transitory. The coefficient on *Exclusions* × *I/B/E/S Only* is also significant in both columns, suggesting that exclusions in the analyst-only scenario are even more persistent than in the *Both* scenario. Combining these results suggests that analysts appear to be more willing to exclude persistent exclusions than in the earlier reporting period. We also find that the coefficient on *Exclusions* ×

Manager Only is significant and large, implying that exclusions in the manager-only setting are also significantly more persistent than in the both reporting scenario.

Statistical tests comparing the coefficients on the *Manager Only* and *I/B/E/S Only* interaction variables indicate that exclusions are significantly more persistent in terms of operating earnings for the manager-only setting, while persistent does not statistically differ between the two groups for future operating cash flows. Collectively, manager-only exclusions still represent the most persistent (i.e., lowest quality) non-GAAP exclusions when jointly considering different measures of future performance, while the quality of analyst-only adjustments does not differ from manager-only adjustments in the cash flow analysis.

V. CONCLUSION

We provide novel evidence on recent trends in non-GAAP reporting. First, contrary to prior evidence, the rapid increase in the frequency of non-GAAP reporting in the early days of non-GAAP research appears to have slowed in recent years and leveled off. While the relative frequency of both non-recurring and recurring item exclusions has increased modestly, we observe a fairly dramatic increase in the magnitude of recurring item exclusions. Hand-collection indicates that the most common non-GAAP exclusions now relate to amortization of intangible assets, restructuring, stock compensation, acquisition-related items, and infrequent tax items. We also find that it is not unusual for firms to exclude items that are not commonly excluded by other firms. Regarding exclusion magnitude, the largest non-GAAP adjustments now relate to impairments, stock compensation, amortization of intangibles, and restructuring. Comparing the earlier and later periods reveals that the largest non-GAAP adjustments have shifted from infrequent and unusual items to ones that occur more regularly.

Finally, we find an increase in the persistence of non-GAAP exclusions in the recent decade, consistent with a decline in non-GAAP exclusion quality during this time. Moreover,

exclusions are persistent across the different reporting scenarios over the last decade, implying that the decline in exclusion quality pertains to both managers and analysts. Finally, while our evidence indicates that analysts do not corroborate some of managers' most aggressive non-GAAP exclusions, their ability to serve as a gatekeeper for high quality non-GAAP reporting appears to have declined to some degree. Nevertheless, non-GAAP reporting continues to capture the most persistent items in GAAP earnings and remains an informative signal about firms' core operations.

Overall, our new evidence provides a contemporary update to our understanding of the current state of non-GAAP reporting. Regarding non-GAAP reporting quality, we find that quality has improved on some dimensions (less manager-only non-GAAP reporting), while it has declined on others (greater use of recurring item exclusions and more persistent non-GAAP adjustments). We believe this snapshot offers valuable insights for (1) practitioners determining how to use non-GAAP metrics, (2) regulators and standard setters as they shape reporting requirements, and (3) academics advancing this growing body of research.

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Appendix A: Variable Definitions

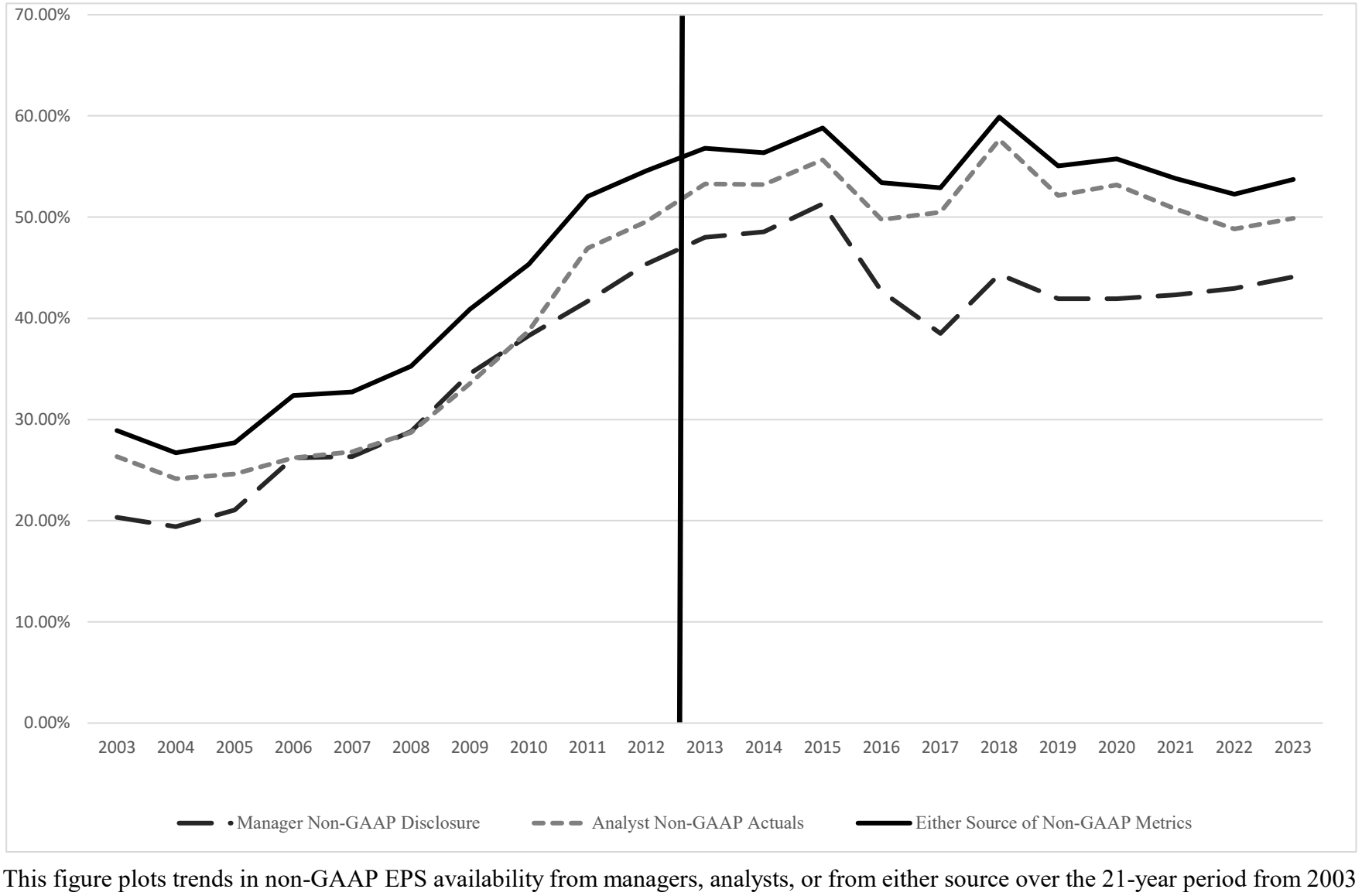
This appendix presents the definitions of the variables used in empirical analyses.

Variable	Definition
Manager-reported non-GAAP EPS	The non-GAAP EPS measure reported by managers.
Analyst-provided non-GAAP EPS	The non-GAAP EPS measure reported by I/B/E/S.
Manager Only	Managers report non-GAAP EPS in a quarter but analysts do not.
I/B/E/S Only	Analysts report non-GAAP EPS in a quarter but managers do not.
Both Manager and I/B/E/S	Both managers and analysts report non-GAAP EPS in the same quarter.
GAAP EPS	Bottom-line diluted GAAP EPS (epsfiq from Compustat).
Manager non-GAAP indicator	Indicator variable coded 1 if the earnings announcement contains a non-GAAP EPS disclosure; 0 otherwise.
Analyst non-GAAP indicator	Indicator variable coded 1 if street EPS actual (EPS measure in I/B/E/S) differs from bottom-line GAAP EPS (epsfiq from Compustat); 0 otherwise.
Size	Natural log of total assets (atq from Compustat).
BM	Book-to-market ratio, calculated as shareholder's equity (seq from Compustat) / market value of equity (prc × shrout from CRSP, or mkvaltq or prccq × cshoq from Compustat if CRSP data is missing).
Loss	Indicator variable equal to 1 if epsfiq is negative; 0 otherwise.
Sales Growth	Sales (saleq from Compustat) in quarter q less sales in quarter q–4, scaled by total assets (atq in Compustat).
Earnings Volatility	Standard deviation of ROA (ibq from Compustat / atq from Compustat) over at least five of the preceding eight quarters.
Future Operating Earnings	Operating earnings (oepsxq × cshfdq from Compustat) summed over quarters q+1 to q+4, divided by total assets (atq from Compustat) in quarter q.
Future Operating Cash Flows	Operating cash flows (calculated using oancfy from Compustat) summed over quarters q+1 to q+4, divided by total assets (atq from Compustat) in quarter q.
Non-recurring item exclusions	Bottom-line diluted GAAP EPS (epsfiq) minus operating earnings per share (oepsxq).
Recurring item exclusions	Exclusions per share (epsfiq - Manager-reported non-GAAP EPS) minus special items type exclusions (epsfiq-oepsxq).
Future Operating Performance	The dependent variable in the Table 2 persistence regressions. Measured as either future operating earnings or future operating cash flows summed over quarters q+1 through q+4, scaled by total assets (atq from Compustat) in quarter q.

Appendix B: Summary of SEC Regulatory Developments Affecting Non-GAAP Reporting

Regulation / Event	Date	Description
SEC Regulation G	2003	Requires reconciliation of non-GAAP measures to GAAP and prohibits misleading disclosures.
Regulation S-K, Item 10(e)	2003	Adds requirements for non-GAAP measures in SEC filings, including equal or higher GAAP prominence.
SEC C&DIs (Initial Framework)	2010	Clarifies consistency and balanced treatment of adjustments.
SEC C&DIs (Major Expansion)	2016	Tightens guidance on prominence and tailored adjustments.
SEC Comment Letter Scrutiny	Beginning 2016	Increased use of comment letters to curb non-compliant non-GAAP disclosures.
Incremental C&DI Updates	2017–2018	Additional clarifications on the scope and application of non-GAAP guidance.
SEC C&DIs (Enhanced Guidance)	2022	More prescriptive guidance emphasizing misleading measures.

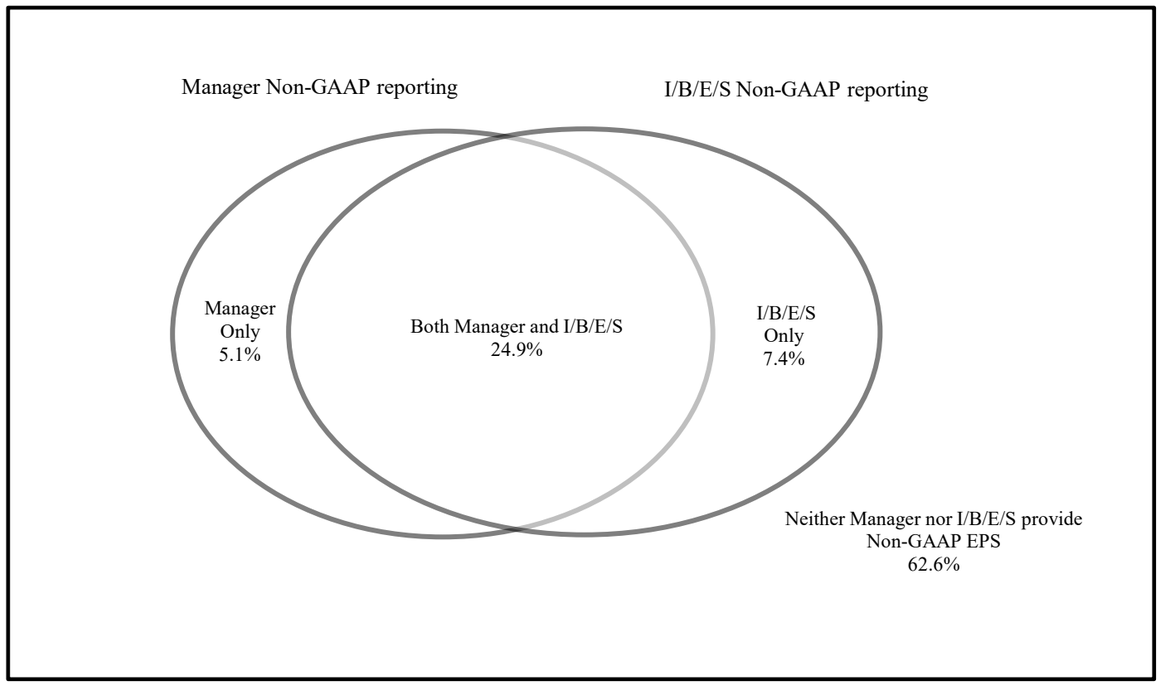
Figure 1 - Manager and I/B/E/S non-GAAP reporting over time



This figure plots trends in non-GAAP EPS availability from managers, analysts, or from either source over the 21-year period from 2003 to 2023. The vertical line of demarcation indicates the boundary between the Bentley et al. 2018 sample period (2003-2012) and our more recent sample (2013-2023).

Figure 2 - The Overlap between Manager and Analyst Non-GAAP Reporting

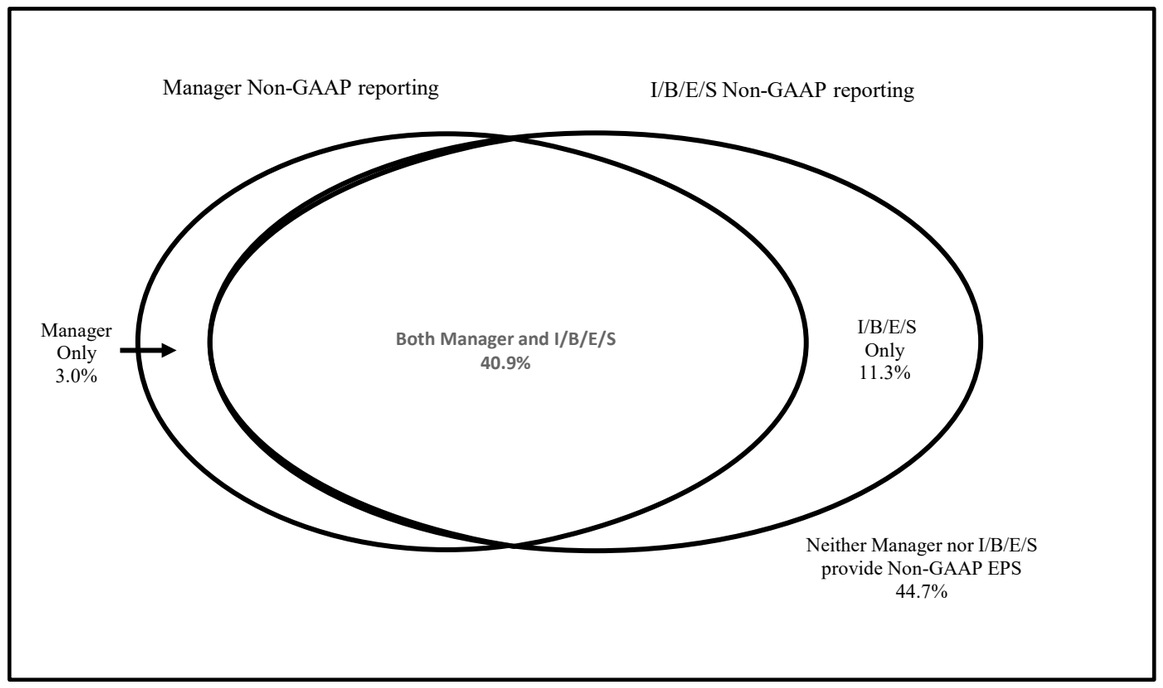
Panel A: Bentley et al. (2018) sample period (2003 - 2012)



	% of All Observations	% of Non-GAAP Reporting
Both Manager and I/B/E/S	24.9%	66.6%
I/B/E/S Only	7.4%	19.8%
Manager Only	5.1%	13.6%
Total Non-GAAP Reporting	**37.4%**	**100.0%**
Neither (GAAP Only)	62.6%	—
Total	**100.0%**	

Note: We compute percentages of non-GAAP reporting as each sub-category divided by total non-GAAP reporting (37.4%). For example, the Both Manager and I/B/E/S category represents 24.9% of all observations, and total Non-GAAP reporting is 37.4%. Therefore, the Both Manager and I/B/E/S category accounts for 24.9% ÷ 37.4% = 66.6% of all non-GAAP reporting observations.

Panel B: Our recent sample period (2013-2023)



	% of All Observations	% of Non-GAAP Reporting
Both Manager and I/B/E/S	40.9%	74.1%
I/B/E/S Only	11.3%	20.5%
Manager Only	3.0%	5.4%
Total Non-GAAP Reporting	**55.2%**	**100.0%**
Neither (GAAP Only)	44.7%	—
Total	**99.9%***	

* Total does not sum to 100.0% due to rounding (55.2% + 44.7% = 99.9%).

Note: We compute percentages of non-GAAP reporting as each sub-category divided by total non-GAAP reporting (55.2%). For example, the Both Manager and I/B/E/S category represents 40.9% of all observations, and total non-GAAP reporting is 55.2%. Therefore, Both Manager and I/B/E/S accounts for 40.9% ÷ 55.2% = 74.1% of all non-GAAP reporting observations.

Figure 2 (Continued)

Panel C: The percentage of firms with manager-only reporting or with managers' non-GAAP exceeding analysts'

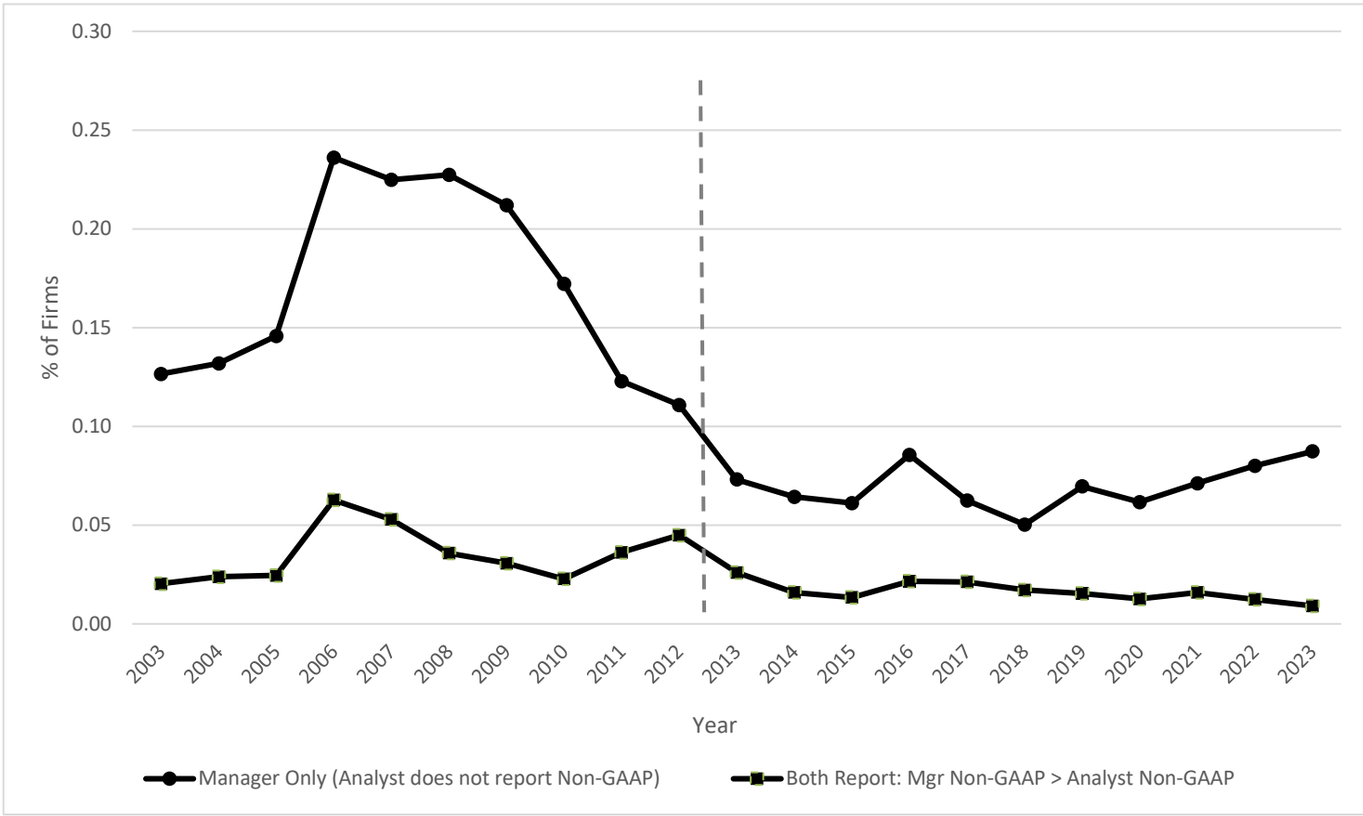
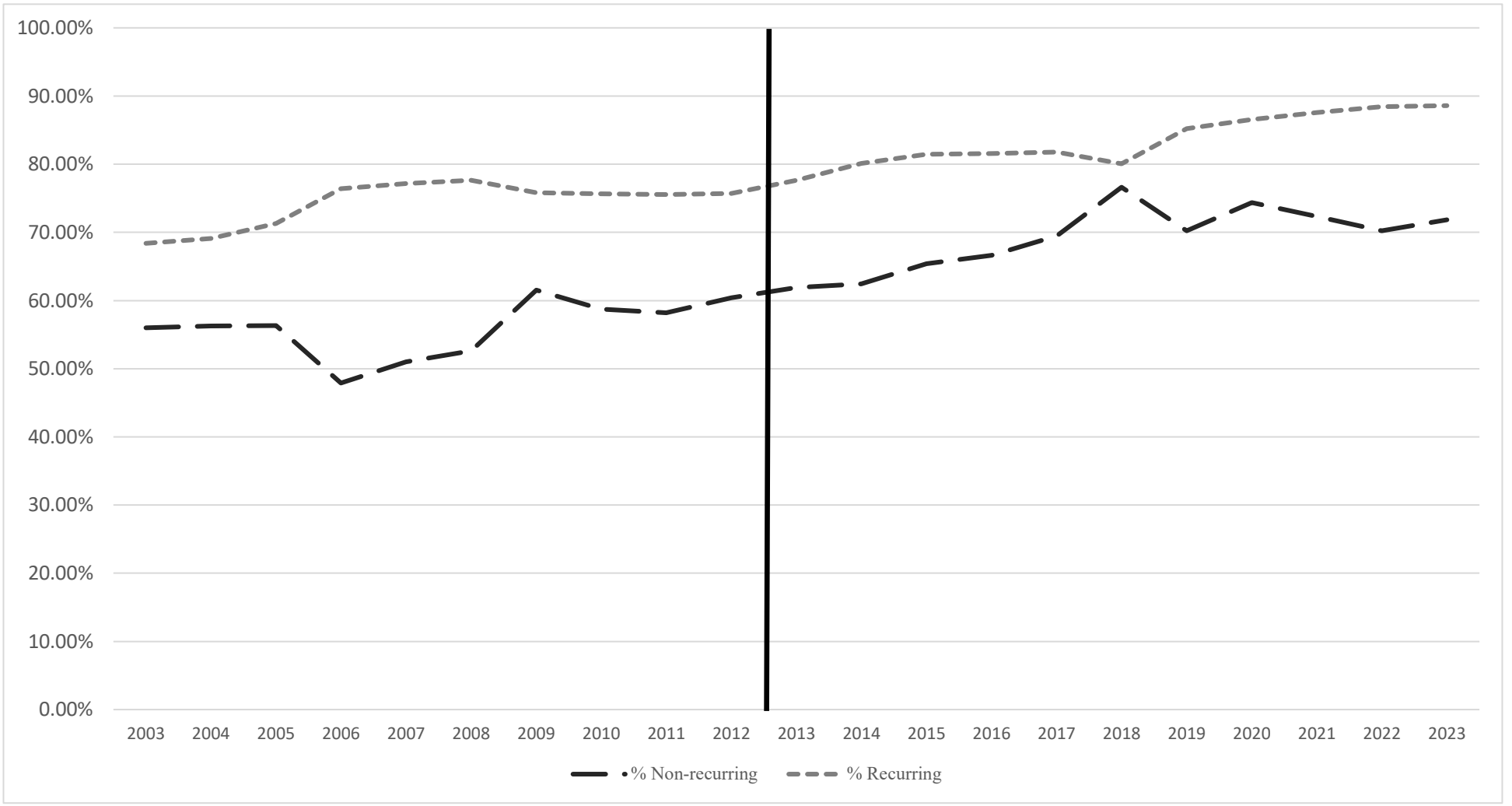


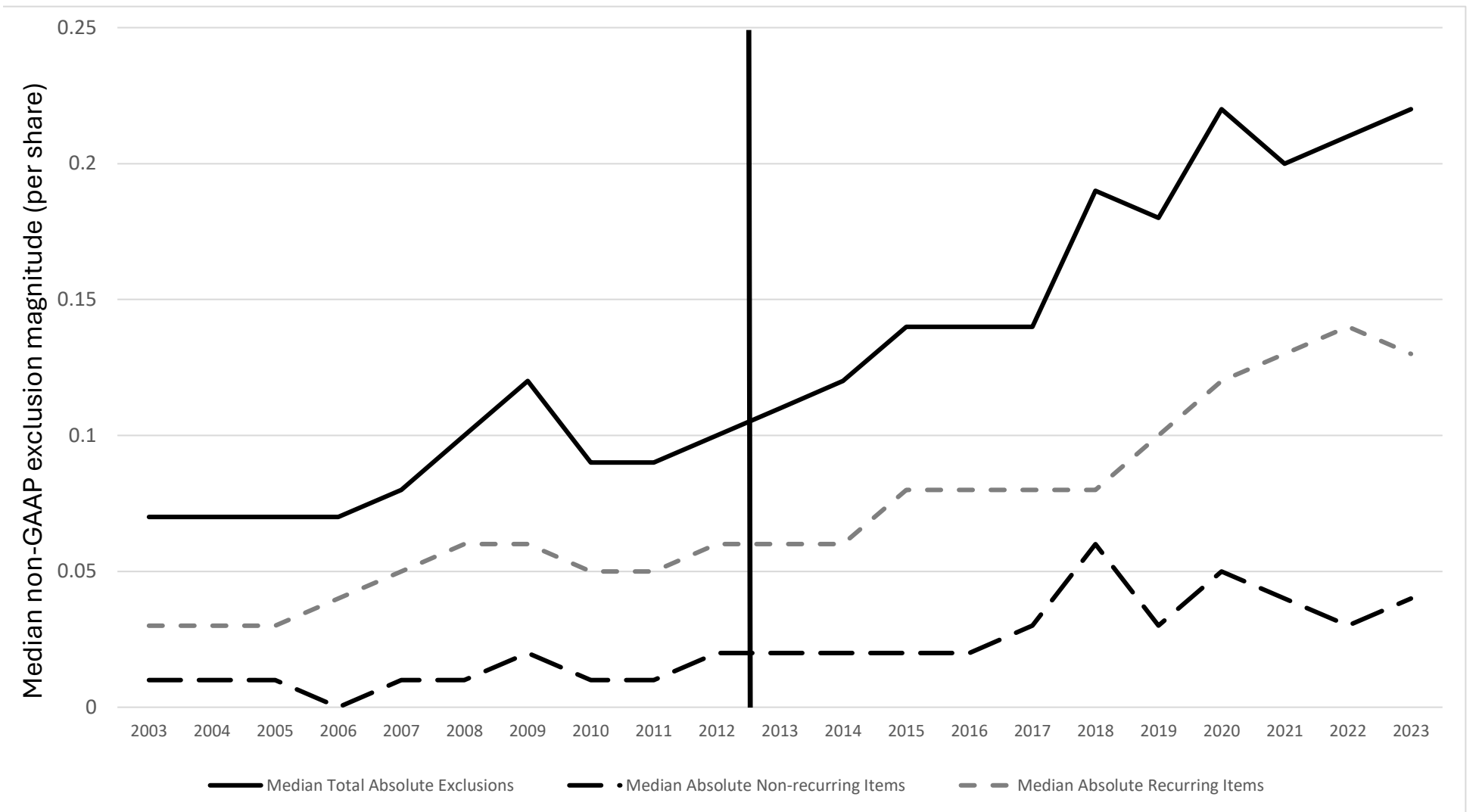
Figure 2 summarizes relative frequencies of manager versus analyst non-GAAP reporting. Panels A and B provide Venn diagrams illustrating the overlap between manager and analyst non-GAAP reporting. Panel C presents trends in two key differences between manager and analyst non-GAAP reporting that prior research suggests could be indicative of non-GAAP reporting quality. The top line (Manager Only group) presents the proportion of quarters where managers report non-GAAP, but it is on a manager-only basis. The bottom line presents the percentage of firm quarters within the Both report group (i.e., where both managers and analysts provide non-GAAP EPS) and the manager non-GAAP EPS number exceeds the analyst non-GAAP EPS number (i.e., managers exclude more expenses than analysts).

Figure 3 - Proportion and Magnitude of Non-GAAP Exclusions of Each Type

Panel A: The proportion of manager-reported exclusion types over time



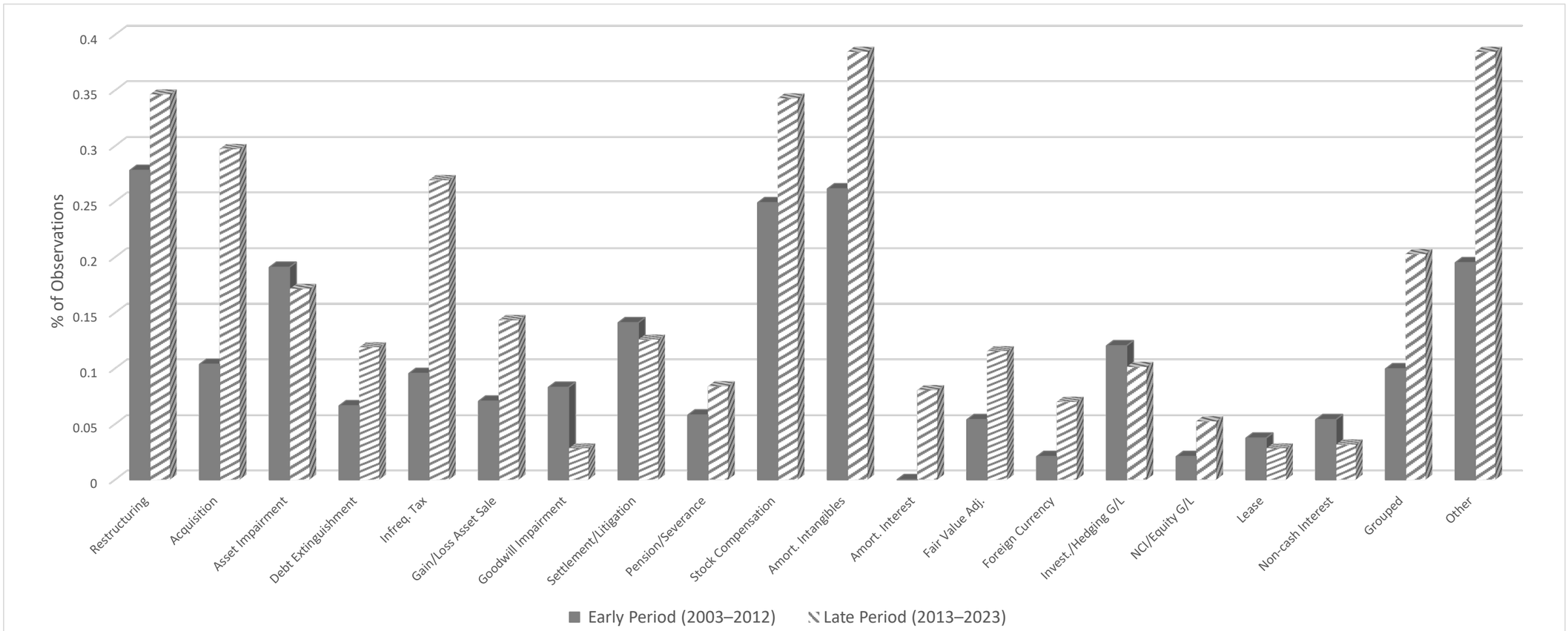
Panel B: The median magnitude of non-GAAP exclusions over time



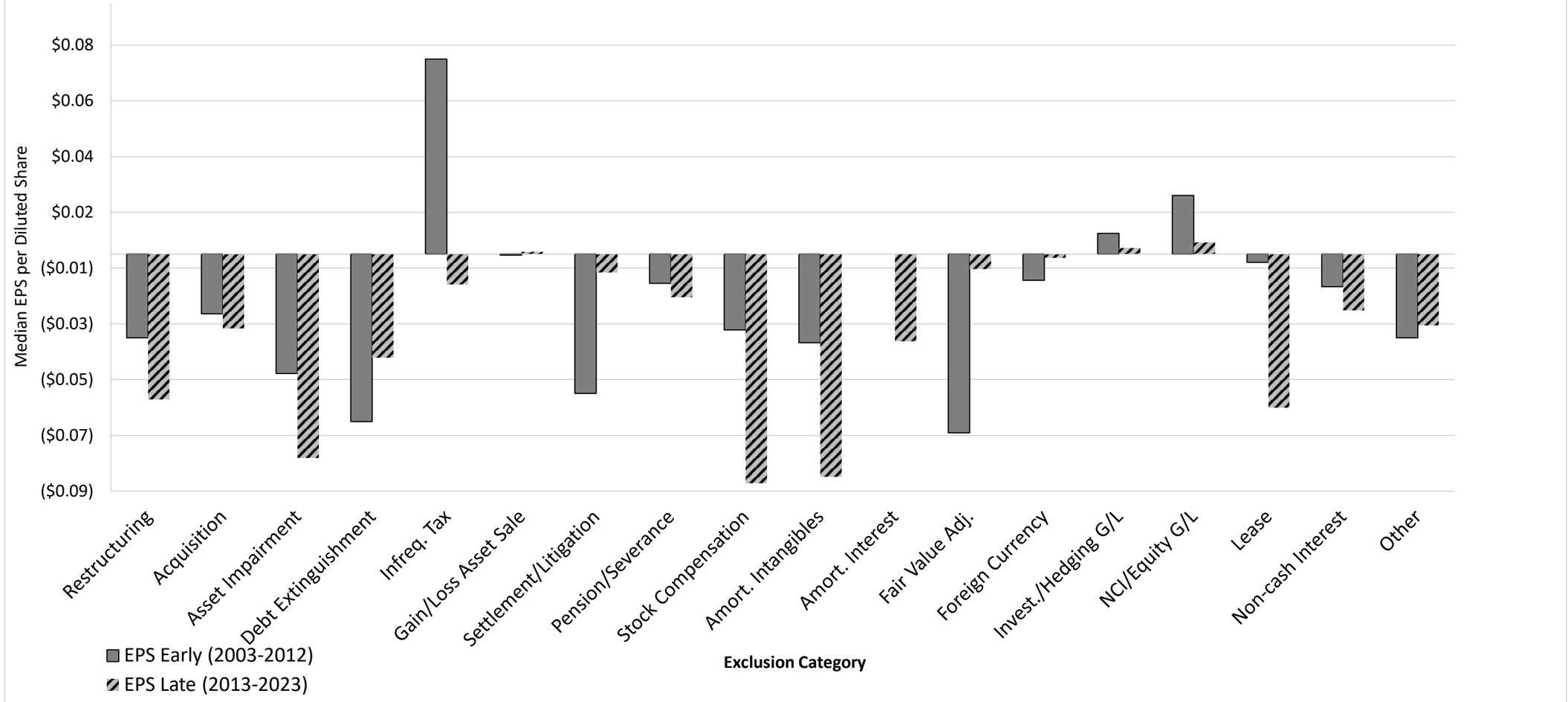
Panel A plots trends in the proportion of manager-reported exclusion types over time. The different lines reflect special item and recurring item exclusions. Panel B plots trends in the median magnitude of non-GAAP exclusions over time. The different lines reflect special items, other items, and total exclusions.

Figure 4 - Non-GAAP Exclusion Frequency and Magnitude

Panel A: Non-GAAP Exclusion Frequency–Early Period (2003–2012) versus Late Period (2013–2023)

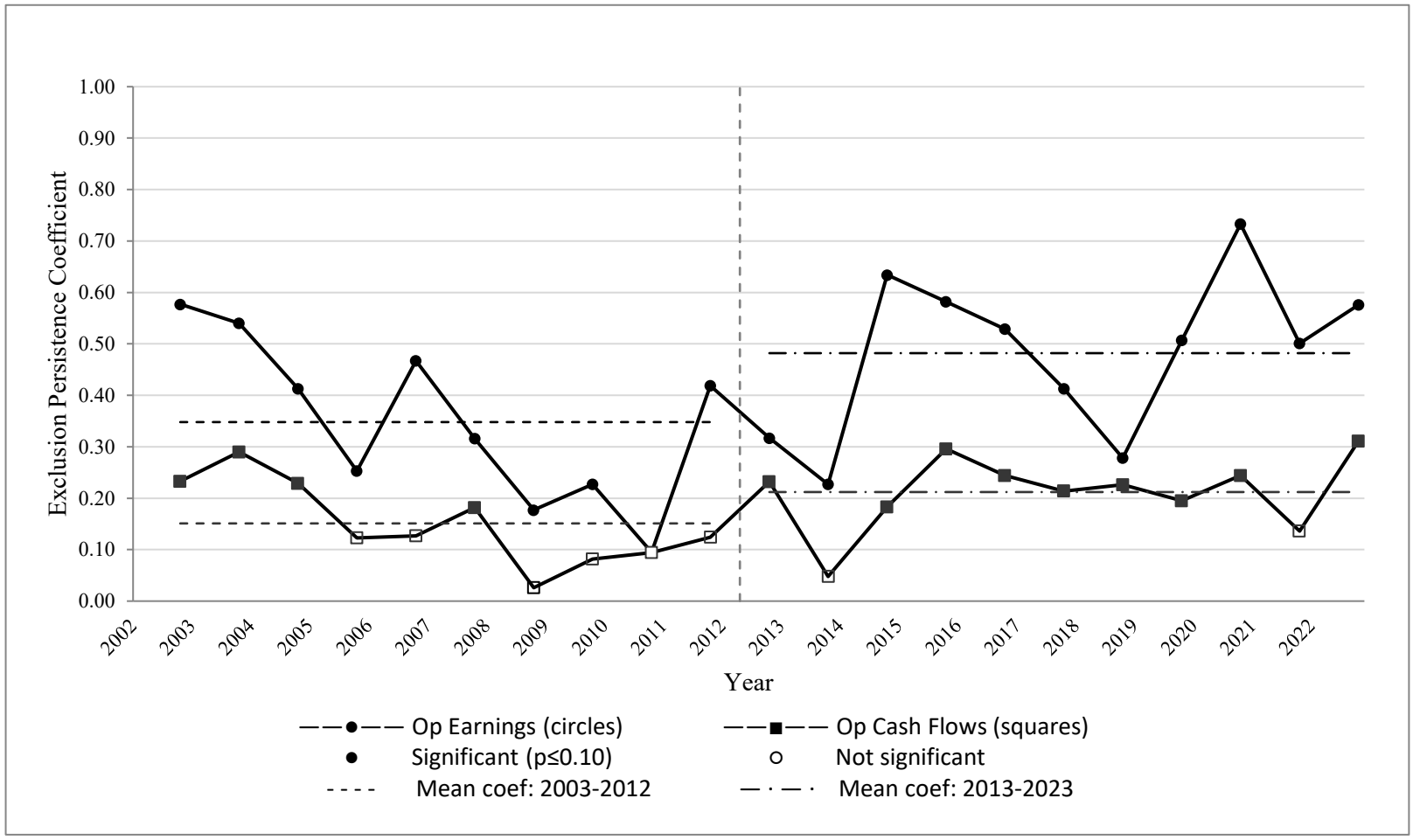


Panel B: Non-GAAP Exclusion Magnitude (Median EPS)–Early Period (2003–2012) versus Late Period (2013–2023)



Panel A presents the frequency of non-GAAP exclusion types for the early period (2003–2012, n = 241) versus the late period (2013–2023, n = 286). For each of the 20 exclusion categories, Panel A illustrates the proportion of observations with a non-zero exclusion for the early and late periods. Panel B presents the median non-GAAP exclusion magnitude per diluted share for each exclusion category, comparing the early period (2003–2012) to the late period (2013–2023). Bars extending below zero indicate income-decreasing exclusions (where managers exclude expenses from GAAP earnings to arrive at a higher non-GAAP figure) while bars extending above zero indicate income-increasing exclusions (where managers exclude items such as one-time gains). Each bar represents the median value of all firm-quarter observations within each period for each category that excludes that item. We exclude Goodwill Impairment (Early median = $0.62, Late median = $0.72) and Grouped (Early median = $0.21, Late median = $0.05) from the chart due to the effect of these extreme values on the scale to avoid obscuring the relative magnitude of the other categories.

Figure 5 - Exclusions Persistence by Year



This figure plots the persistence coefficient from annual regressions similar to those reported in Table 2 with both future operating earnings and future operating cash flows as dependent variables.

Table 1 - Sample and Descriptive Statistics

Panel A: Sample Selection	Firm-Quarters	Unique Firms
Total observations (2003-2023) available from the intersection of Compustat, CRSP, and I/B/E/S with fiscal-quarter end date from January 1, 2003 to December 31, 2023, with non-missing earnings announcement date and CIK, and excluding extraordinary items	230,007	
Less: Final Bentley et al. (2018) sample (2003-2012)	(115,370)	
Number of Bentley et al. (2018) unique firms (2003-2012)		6,335
Remaining observations (2013-2023)	114,637	
Less: Firm-quarters that lack an identifiable earnings announcement date	(6)	
Less: Firm-quarters for which we cannot identify an EPS amount in the 8-K filing	(28)	
Less: Firm-quarters for real estate investment trusts	(333)	
Recent sample (2013-2023)	114,270	
Number of recent sample unique firms (2013-2023)		5,054

Panel B: Descriptive statistics

	Full Sample		2003-2012		2013-2023		Difference in
VARIABLES	mean	median	mean	median	mean	median	Means
GAAP EPS	0.270	0.180	0.224	0.170	0.317	0.190	-0.093***
Analyst-provided non-GAAP EPS	0.364	0.240	0.273	0.200	0.463	0.300	-0.190***
Manager-reported non-GAAP EPS	0.579	0.370	0.381	0.270	0.715	0.480	-0.334***
Manager non-GAAP indicator	0.369	0.000	0.300	0.000	0.440	0.000	-0.140***
Analyst non-GAAP indicator	0.422	0.000	0.322	0.000	0.522	1.000	-0.200***
Size	6.824	6.813	6.515	6.479	7.137	7.196	-0.622***
BM	0.603	0.477	0.637	0.508	0.568	0.438	0.069***
Loss	0.309	0.000	0.268	0.000	0.351	0.000	-0.083***
Sales Growth	0.013	0.006	0.016	0.008	0.010	0.004	0.006***
Earnings Volatility	0.029	0.011	0.027	0.010	0.030	0.012	-0.003***
Future Operating Earnings	1.380	0.896	1.111	0.818	1.650	1.025	-0.539***
Future Operating Cash Flows	2.784	1.723	2.302	1.538	3.262	1.989	-0.960***
Non-recurring item exclusions	-0.054	0.000	-0.044	0.000	-0.064	0.000	0.020***
Recurring item exclusions	-0.132	-0.040	-0.081	-0.020	-0.167	-0.060	0.086***

This table describes our sample selection process and presents descriptive statistics. Panel A reports the sample selections steps for both the Bentley et al. (2018) sample (2003–2012) and the expanded sample (2013–2023). Panel B presents descriptive statistics for key variables for the full sample, for each of the subsample periods, and tests of differences across sample periods.

Table 2 - Non-GAAP Exclusions Persistence

	(1)	(2)	(3)	(4)
	(2003-2012)		*(2013-2023)*	
Variable	*Future Operating Earnings*	*Future Operating Cash Flows*	*Future Operating Earnings*	*Future Operating Cash Flows*
Non-GAAP earnings	2.721***	2.643***	2.838***	2.556***
	(29.546)	(34.001)	(66.213)	(61.012)
Exclusions	0.242***	0.098***	0.638***	0.272***
	(4.537)	(2.793)	(10.294)	(8.020)
Size	0.006***	0.001**	0.006***	0.002**
	(11.453)	(2.409)	(11.824)	(2.534)
BM	-0.014***	-0.018***	-0.014***	-0.018***
	(-7.545)	(-7.822)	(-6.438)	(-8.783)
Loss	-0.012***	0.001	-0.015***	0.002
	(-4.584)	(0.447)	(-7.410)	(1.015)
Sales Growth	0.020	0.041**	-0.032	0.035
	(1.195)	(2.170)	(-1.079)	(1.313)
Earnings Volatility	-0.183***	-0.156***	-0.273***	-0.229***
	(-5.928)	(-4.615)	(-6.408)	(-5.036)
Intercept	-0.022***	0.063***	-0.034***	0.050***
	(-5.391)	(13.135)	(-7.408)	(8.705)
Exclusions × Post (Pooled regression coefficient)			0.297***	0.110**
Exclusions (Pre) = Exclusions (Post) T-Stat			(3.719)	(2.137)
Observations	38,164	38,164	57,677	57,677
Adjusted R-squared	0.547	0.481	0.694	0.597
Industry & Year-quarter FE	Yes	Yes	Yes	Yes
Both Same	25,057	25,057	42,829	42,829
I/B/E/S Only	7,775	7,775	11,635	11,635
Mgr Only	5,332	5,332	3,213	3,213

This table examines the persistence of non-GAAP exclusions in relation to future firm performance, as measured by future operating earnings (columns 1 and 3) and future operating cash flows (columns 2 and 4). Columns 1 and 2 report results for the Bentley et al. (2018) sample period (2003-2012), and columns 3 and 4 report results for the recent period (2013-2023). Non-GAAP Earnings is the manager-reported non-GAAP EPS metric multiplied by the number of diluted shares outstanding and scaled by total assets. We calculate exclusions as GAAP earnings less Non-GAAP Earnings. All regressions include industry and year fixed effects. We winsorize all continuous variables at the 1st and 99th percentiles to reduce the influence of extreme observations. We report robust t-statistics in parentheses and cluster by firm and calendar quarter (e.g., Q1 2021) of the earnings announcement date. Asterisks indicate statistical significance at the 10%, 5%, and 1% levels. We define all variables in Appendix A.

Table 3 - Analysts' Monitoring and the Quality of Non-GAAP Exclusions

	(1)	(2)	(3)	(4)
	(2003-2012)		*(2013-2023)*	
VARIABLES	*Future Operating Earnings*	*Future Operating Cash Flows*	*Future Operating Earnings*	*Future Operating Cash Flows*
Non-GAAP earnings	2.738***	2.825***	3.030***	2.709***
	(26.279)	(32.560)	(41.800)	(34.837)
Non-GAAP earnings × I/B/E/S Only	0.051	-0.252**	-0.307***	-0.266***
	(0.533)	(-2.644)	(-3.841)	(-3.221)
Non-GAAP earnings × Manager Only	-0.098	-0.391***	-0.131	-0.094
	(-0.690)	(-2.817)	(-0.871)	(-0.622)
Exclusions	0.192***	0.028	0.545***	0.087***
	(3.907)	(0.795)	(7.722)	(2.698)
Exclusions × I/B/E/S Only	0.003	0.026	0.141*	0.370***
	(0.040)	(0.470)	(1.868)	(5.404)
Exclusions × Manager Only	0.327**	0.422***	0.551***	0.585***
	(2.372)	(3.913)	(2.817)	(2.983)
Exclusions × I/B/E/S Only = Exclusions × Manager Only ($\beta_5 = \beta_6$)				
F-Stat	4.18**	11.36***	4.78**	1.32
Observations	38,164	38,164	57,677	57,677
Adjusted R-squared	0.549	0.484	0.696	0.600
Controls	Yes	Yes	Yes	Yes
Industry & Year-quarter FE	Yes	Yes	Yes	Yes
Both Same	25,057	25,057	42,829	42,829
I/B/E/S Only	7,775	7,775	11,635	11,635
Mgr Only	5,332	5,332	3,213	3,213

This table examines the quality of non-GAAP exclusions across different non-GAAP reporting groups. We regress future operating earnings and cash flows (t+1 to t+4) on non-GAAP earnings and exclusion components that are either I/B/E/S or manager adjustments. I/B/E/S only adjustments capture analyst-driven exclusions. Manager-only adjustments capture scenarios where managers report non-GAAP earnings and analysts do not. All regressions include industry and year fixed effects. We winsorize all continuous variables at the 1st and 99th percentiles to reduce the influence of extreme observations. Robust T-statistics are in parentheses and are clustered by firm and calendar quarter (e.g., Q1 2021) of the earnings announcement date. Asterisks indicate statistical significance at the 10%, 5%, and 1% levels. All variables are further described in Appendix A.