

INVESTOR USES, EXPECTATIONS, AND CONCERNS ON NON-GAAP FINANCIAL MEASURES



CFA Institute

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ISBN: 978-1-942713-30-2
September 2016

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Executive Summary

This paper, the first of a two-part publication, articulates investors' uses, expectations, and concerns on non-GAAP financial measures (NGFMs), also called alternative performance measures (APMs)¹. As discussed in Section 1.4, NGFMs/APMs are defined as financial measures derived from adjusted GAAP/IFRS measures and do not include other key performance indicators (KPIs) and operational measures (e.g., customer retention rate). The focus on NGFMs is timely given the recent intense media spotlight on these measures. The follow-up and second part of this publication will provide investor perspectives on how to enhance the overall performance reporting framework and ensure effective communication of NGFMs.

¹The distinction between GAAP and non-GAAP line items is relatively clear in the United States due to the fairly detailed income statement presentation requirements. However, the boundaries are less clear under IFRS because there are fewer specified income statement line items and there is a requirement to provide additional line items and subtotals if they are necessary for an understanding of an entity's performance.

NGFMs are a core part of how companies communicate performance, and they are meant to supplement measures required by accounting standards (e.g., US GAAP/IFRS). Companies communicate these measures with the objective of conveying performance through the “eyes of management,” among other reasons.

Heightened Scrutiny

Investor feedback, backed by evidence from academic research, shows that investors use NGFMs as a valuation input. The same investor feedback also identifies various shortcomings associated with reporting these measures, including presenting too rosy a picture of performance relative to GAAP/IFRS measures, questionable exclusions such as stock option expenses, lack of or inconsistent definitions, incomparable reporting, undue management emphasis, and greater prominence in presentation of NGFMs relative to GAAP/IFRS numbers.

These shortcomings have also caught the attention of various leading securities regulatory organizations. The US SEC (Securities and Exchange Commission) has cautioned, issued guidelines, issued comment letters to companies, and promised to ramp up scrutiny on reporting of NGFMs.² The International Organization of Securities Commission (IOSCO) and the European Securities Markets Authority (ESMA) have similarly issued guidelines. The regulators' focus is consistent with and a part of their investor protection mandate.

A particular worry is the risk of some investors mispricing companies' securities by applying multiples-based valuation methods (e.g., value determined as a multiple, such as the price-to-earnings ratio [P/E]). Mispricing can occur if an investor fails to discriminate between a GAAP/IFRS-based earnings per share EPS and an adjusted EPS measure in the P/E denominator. Investor caution with NGFMs is also necessary for interpreting return on equity ROE or return on invested capital that is based on adjusted earnings in the numerator but a GAAP/IFRS-based denominator (i.e., equity), because such return calculations would give a misleading and overstated picture of headline profitability.

In the last few years, leading media outlets have provided quite extensive coverage of NGFM reporting trends.³ Media commentary has highlighted the disconcerting trends associated with these measures, with examples from individual companies showing how NGFMs can paint a picture of performance that is too exuberant and at odds with both the economic reality and GAAP/IFRS representation of performance. Unsurprisingly, these measures have been subject to colorful descriptions connoting a misleading nature, such as “*everything but bad stuff*”; “*phoney-baloney financial reports*”; and “*fantasy maths*.”

This seemingly amplified scrutiny around NGFMs is, in fact, a resurrection of long-standing concerns around these measures.⁴ For example, in the late 1990s, the era of the

²Deloitte (2015) highlights that in 2015, NGFMs accounted for 14% (the fourth-highest percentage) of SEC comment letters written to companies on questionable reporting practices. Only Management, Discussion & Analysis sections; revenue; and fair value measurements had higher frequencies of SEC comment letters issued to companies.

³For example, coverage has been provided by the *Economist* (www.economist.com/news/leaders/21697849-how-read-between-lines-companies-accounts-sweet-little-lies), *Wall Street Journal* (www.wsj.com/articles/sec-scrutinizing-use-of-non-gaap-measures-by-public-companies-1458139473 and www.wsj.com/articles/one-more-reason-for-investors-to-worry-about-earnings-before-bad-stuff-1470261290), and *New York Times* (www.nytimes.com/2016/04/24/business/fantasy-math-is-helping-companies-spin-losses-into-profits.html?_r=0).

⁴NGFM concerns have dated as far back as 1973, when the SEC issued Accounting Series Release No. 142, warning of possible investor confusion from the use of financial measures outside GAAP. Furthermore, in the years before Sarbanes-Oxley, a wave of media articles raised eerily similar concerns to those arising today.

Internet dot-com bubble, several egregious incidences of NGFM misreporting prompted the SEC's introduction of Regulation G effective from 2003 and IOSCO issuing a cautionary statement in 2002.

Motivation for CFA Institute Commentary

This publication is a response to the call for our involvement by our investor members and aims to articulate a CFA Institute position on NGFMs.⁵ Reporting companies' management, those charged with governance, securities regulators, accounting standard setters, and auditors could all benefit from a precise understanding of investor views on NGFMs. This publication complements other investor-oriented commentaries, including articles by Ciesielski (2015a, 2015b, 2016) and Calcbench (2016), a 2015 position paper issued by the CFA Society of the UK (2015), a PricewaterhouseCoopers (PwC) survey of institutional investors, Standard & Poor's, and several sell-side firms' commentary (e.g., Morgan Stanley 2016; Citigroup 2016).

Our Approach

We present CFA Institute member perspectives, obtained through a global survey on the uses, concerns, and expectations around the reporting of these measures.⁶ Our survey had 558 respondents (a 3.5% response rate) with the following attributes, as shown in Appendix A: mostly buy-side players (analysts and portfolio managers, 65.7%), predominantly focused on equity (73.8%), mostly long term in investment horizon (57.2%), and fairly spread out in their coverage across sectors.

Our survey responses largely reflect a buy-side perspective (65.7%), and a sizable percentage of sell-side analyst respondents (18.6%) provide a valid user perspective. Although sell-side analysts do not buy and sell securities, they use company-communicated performance information extensively, make recommendations, and can influence buy-side market participants' valuation of companies. Similarly, the "other" category includes respondents involved in capital markets and the use of financial reporting information,

⁵Several investors from different parts of the world (Australia, Canada, the Netherlands, the United Kingdom, and the United States), who are CFA Institute members, have directly expressed to us their concerns about trends in NGFM reporting and thereafter recommended we articulate the incremental measures required to create greater discipline and transparency around reporting of NGFMs.

⁶Our member survey questionnaire had 19 questions, some more detailed than others. Varied response levels to each question ranged from about 400 to 558 responses.

such as credit analysts, investment banking analysts, independent research analysts and accounting analysts.

To further assess and contextualize any associated concerns, we reviewed the reconciliation and disclosures of six technology and pharmaceutical sector companies. Furthermore, throughout our analysis, we have, where necessary, referenced data from other studies on the trends and patterns in the reporting of NGFMs in the United States and the United Kingdom. Our focus on these two countries results from the availability of descriptive statistics on large sample data (e.g., S&P 500, NASDAQ 100, and FTSE 100 firms).

Headline Conclusions

Our survey results establish that company-reported NGFMs are useful for investors who apply them for varied reasons, including as a valuation input and as an indicator of accounting quality. We also find indications of sophisticated application of NGFMs by many investors, who make further adjustments including reversing questionable management adjustments so as to get the best view of economic reality. Nevertheless, because NGFMs provide one of the starting points for company analysis, there are multi-fold concerns around these measures.

There is an especially strong concern about exclusion of stock option expenses during NGFM calculation. It is also clear that many investors judge the appropriateness of different line item adjustments or exclusions on a case-by-case basis. They are generally uncomfortable with exclusions of recurring business expenses and comfortable with exclusions of truly one-off items (e.g., discontinued operations and one-off asset sales).

Our survey results also confirm that investors have concerns around the communication, consistency, comparability across periods and similar companies, and transparency of NGFMs. There are particular concerns related to the reconciliation of NGFMs to the most directly comparable GAAP/IFRS line items as well as on the inadequacy of disclosures around the adjustments made in calculating NGFMs. Our review of the reconciliation and disclosures of six technology and pharmaceutical sector companies affirms many of the perceived shortcomings in the communication of these measures.

The diversity of both company adjustments in NGFM calculations and investor views on these adjustments' appropriateness confirms both the multi-dimensional aspects of performance and the potential diversity of views on how to best present these different aspects of performance. It is reasonably likely that both investors and companies will continue to

desire communication of NGFMs in the foreseeable future (Young 2013). Hence, it is important that reported NGFMs are truly informative and reliable, especially for those investors who depend heavily on their use or are constrained in their ability to adjust the NGFM presented by the company. Even if investors make further adjustments to NGFMs, the need remains for companies to provide the best analytical starting point so as to minimize investors' incremental data processing costs. Consequently, in the follow-up and second part of this publication, we discuss actions required to ensure effective communication of NGFMs and to improve the overall performance reporting framework, including examining in detail the role of accounting standard setters, regulators, audit committee, and auditors.

Contribution

As observed, there is great interest and abundant commentary on NGFM reporting from multiple stakeholders, including other investor spokespersons, academics, regulators, lawyers, accounting standard setters, audit firms, and the financial press. Our viewpoint has been informed and certainly enriched by the perspectives presented by these different stakeholders, and it is evident from the multiple commentaries that there are many particular cases and possibly rising aggregate incidences of misleading NGFM reporting.

The distinguishing contribution of this two-part publication arises from different aspects of our analytical approach, including eliciting detailed perspectives on a wide range of NGFM issues from a relatively large (550+) and global investor base, incorporating and drawing insights from other studies' empirical data on the state of NGFM reporting, and endeavoring to craft multifaceted solutions that aim to improve the quality and reliability of NGFM reporting and that involve multiple actors. Our two-part commentary adds to the debate by effectively providing a view of NGFMs through the "eyes of investors," including their view on actions required to improve the reporting of these measures.

1. Overview

1.1. Headline NGFM Trends

Several recently published studies have highlighted the upward trending and pervasive reporting of NGFMs by public listed companies in the United States (Black, Christensen, Ciesielski, and Whipple 2016; Ciesielski 2016; and Calcbench 2016). These studies point out that this observed NGFM growth phenomenon occurs across many sectors. In a similar vein, a PwC (2016) review highlights the pervasiveness of NGFMs for public listed UK companies, noting that 95% of UK FTSE 100 companies reported APMs.

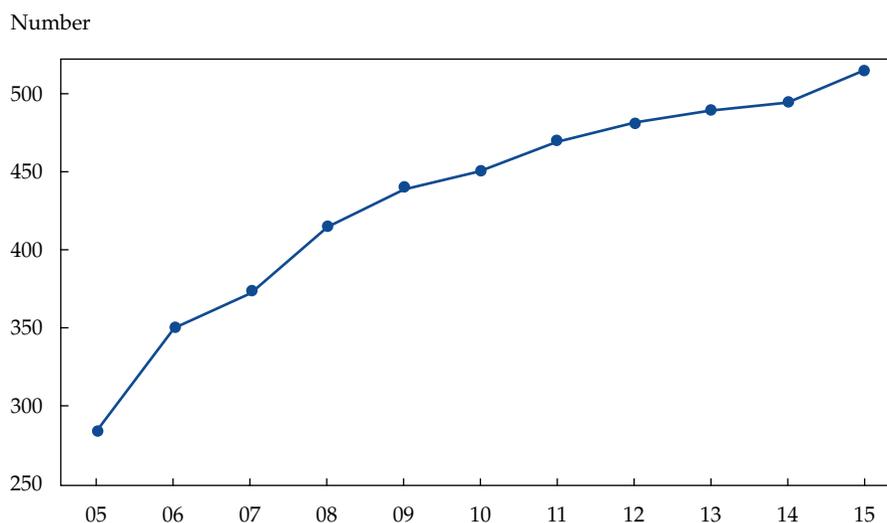
These studies convey the state of play mainly for US and UK companies. Nevertheless, NGFM reporting and all associated issues are pertinent across many jurisdictions, prompting multiple securities regulators' guidelines (e.g., IOSCO, ESMA, and the regulatory agencies in Canada, South Africa, and Australia). Although country-specific differences are likely in both the level of NGFM reporting and the degree to which company disclosure choices are a matter of stakeholders' concern, the issues analyzed in this publication are applicable across the globe.

Apart from widespread reporting by companies, there is evidence that the number of GAAP line items excluded during NGFM calculations has increased steadily—for example, with respect to NASDAQ 100 firms that have had an increase in NGFM-related adjustments for the last 10 years, as shown in **Figure 1.1**.

A general concern with NGFMs is that they typically portray a rosier performance picture than that of the GAAP/IFRS number.⁷ For example, a sample of 380 of the S&P 500 companies reported a 2015 6.6% growth in non-GAAP profit and yet had an 11% decline in GAAP profit (Ciesielski 2016). Morgan Stanley (2016) points out that this seemingly huge “adjusted earnings versus GAAP earnings” difference for S&P 500 companies is actually relatively concentrated in a few firms.⁸ Nevertheless, there is also evidence that an

⁷Many critics consider the observed upward bias in many companies' reporting of NGFMs to be an indicator of those companies' opportunistic motives (i.e., managing performance perceptions). Nonetheless, it is probably an overgeneralization to assume that an upward bias in adjusted performance measures necessarily connotes opportunistic reporting. A more precise gauge of NGFM quality ought to be derived by assessing the nature, appropriateness, and timing of exclusions and adjustments during calculation of NGFMs.

⁸Five companies account for 32% of adjusted versus GAAP earnings spread, 20 companies account for 50%, and 50 companies for 84%.

Figure 1.1. Line Items Added Back by NASDAQ 100, 2005–2015

Source: Based on data from Morgan Stanley (2016).

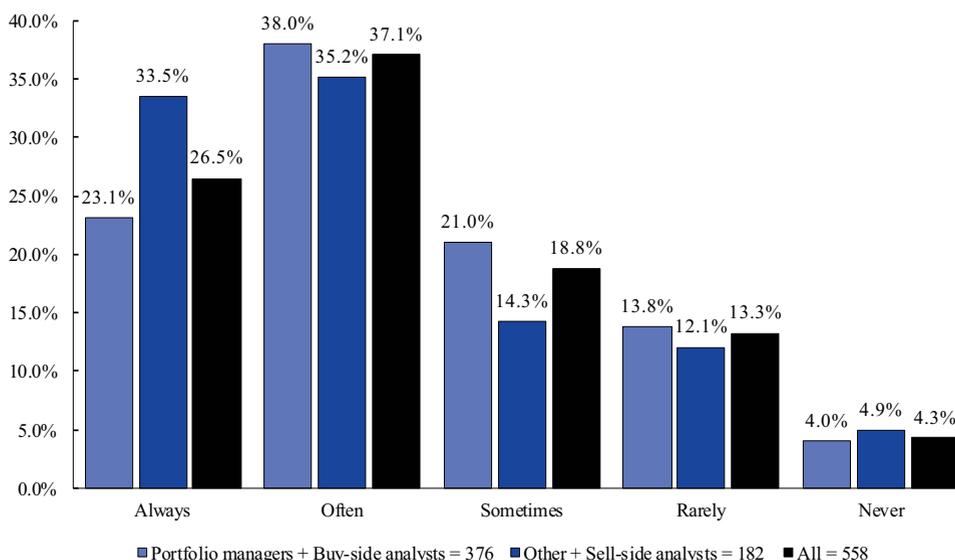
upward bias in the adjusted performance measures tends to be widespread, as reported by a 2014 Standard & Poor's *Credit Week* feature (Holland 2014).⁹ The study showed that in 2012–2013, 79% of FTSE 100 companies reported an adjusted operating profit that was higher than the unadjusted operating profit.

1.2. Usefulness of NGFMs for Investors

NGFMs serve a purpose, and their communication by companies has support from many investors. As the CFA Institute member survey results show in **Figure 1.2**, 63.6% of respondents always or often use NGFMs. Studies by PwC, CFA Society of the UK, and the European Financial Reporting Advisory Group (EFRAG) similarly reflect relatively widespread use of NGFMs by investors.¹⁰

⁹Inconsistent reporting can cloud results at non-financial FTSE 100 companies.

¹⁰(1) PwC (2014): A survey of 85 investors showed that 50% found NGFMs useful for analysis; (2) CFA Society of the UK: A 2014 survey of 262 investors showed that 61% apply NGFMs; (3) Cascino, Clatworthy, Osma, Gassen, Imam, and Jeanjean's (2016) interviews with 81 institutional investors found EBITDA to be the second most relevant performance measure after revenue.

Figure 1.2. Use of Non-GAAP Financial Measures

Many investors have expressed that they find NGFM reporting to be a useful input for predicting future cash flows and valuing reporting companies. Other reasons for investors' use of NGFMs include disagreement with accounting standard requirements, assessing accounting quality, and conformance to industry practices on consensus earning (see Section 2). Member survey results also show that most investors who use NGFMs make further adjustments to arrive at their version of economically relevant measures. This finding indicates that many investors analyze these measures in a critical and sophisticated fashion.

NGFMs' informative nature, predictive characteristics, and usefulness for investors have been backed by a number of academic studies, including Bhattacharya, Black, Christensen, and Larson (2003) and Lougee and Marquardt (2004).¹¹

¹¹These studies show the value relevance and information content of NGFMs (i.e., significant association with stock returns).

1.3. Summary of NGFM Shortcomings

Although many investors find NGFMs useful, there are concerns about particular trends in the reporting of these measures, and there is an associated risk of investors' over-reliance on them as measures of performance, liquidity, or financial position. These concerns have informed the guidelines on these measures provided by securities regulators (SEC, IOSCO, and ESMA). The concerns on which we elaborate fall into two broad categories:

1. Calculation of NGFMs that results in rosier depiction of performance than GAAP/IFRS (see Sections 3 and 4):
 - ▲ Questionable NGFM adjustments.
 - ▲ Not appropriately reflecting strategic choices of businesses (e.g., mergers and acquisitions and restructuring).
 - ▲ Cherry picking by recognizing gains and excluding similar losses.
2. Companies' communication, transparency, and application of NGFMs (see Section 5):
 - ▲ NGFM-related reconciliations and disclosures need enhancement in various respects.
 - ▲ Lack of comparability across reporting periods and companies resulting from inconsistent definitions.
 - ▲ Greater prominence of NGFMs relative to GAAP. This situation can mislead investors who rely heavily on press releases and those who may rely heavily on data aggregators without considering the performance picture portrayed by GAAP/IFRS measures.
 - ▲ Executive compensation linked to NGFM. There is a concern whenever performance-based executive compensation is correspondingly linked to any adjusted measures of performance that misrepresent or mask a company's true economic performance during particular reporting periods.

1.4. Definition and Scope

1.4.1. Definition

SEC Regulation G and IOSCO guidance define a non-GAAP financial measure as a numerical measure of a registrant's historical or future financial performance, financial position, or cash flows that

- excludes amounts, or is subject to adjustments that have the effect of excluding amounts, that are included in the most directly comparable measure calculated and presented in accordance with GAAP or
- includes amounts, or is subject to adjustments that have the effect of including amounts, that are excluded from the most directly comparable measure so calculated and presented.

ESMA provides a definition similar to that by the SEC and IOSCO. It refers to the following:

- Accounting framework (e.g., IFRS) instead of GAAP
- APMs instead of NGFMs

In other words, NGFMs and APMs are derived by adjusting a GAAP/IFRS line item or subtotal. **Table 1.1** shows examples of NGFMs that have been the subject of regulatory scrutiny as well as examples of other KPIs.

In the follow-up and second part of this publication, which focuses on actions required to ensure the reporting of high-quality and reliable NGFMs, we further explain the details of current regulations across jurisdictions, including any key differences.

Table 1.1. Examples of NGFMs vs. Other Metrics

NGFMs/APMS	Other Metrics, Key Performance Indicators
<ul style="list-style-type: none"> • Adjusted revenue • Adjusted net income • EBITDA • Adjusted EBITDA • EBITDAR • EBIT • Adjusted EPS • Free cash flow • Funds from operation • Net debt • Unbilled deferred revenue • Book to bill ratio • Orders and order backlog • Return on capital employed (adjusted) 	<ul style="list-style-type: none"> • Same store sales • Average revenue per customer or user • Revenue per available room • Sales per square foot • Customer retention

1.4.2. Scope

This paper focuses on company NGFM reporting practices, which fall under the purview of securities regulators' oversight and are directly subject to management discretion and attendant issues. For example, issues of managed perception of performance usually arise with company-reported NGFMs. Other KPIs, including non-financial measures, are outside the scope of this publication. But we recognize that similar to NGFMs, these other measures are an important part of the overall corporate performance reporting framework (Chapman and Vaessen 2016; ICAS 2016).

Street earnings or data aggregator NGFMs are also outside the scope of this publication. A distinction between company-reported versus street and data aggregator NGFMs is as follows:

- Company NGFMs are derived from companies' exclusions of GAAP/IFRS components. In the United States, company-produced NGFMs are presented in different locations, including the management discussion and analysis (MD&A) sections of 10-K and 10-Q reports, press releases, and conference calls. They are not presented

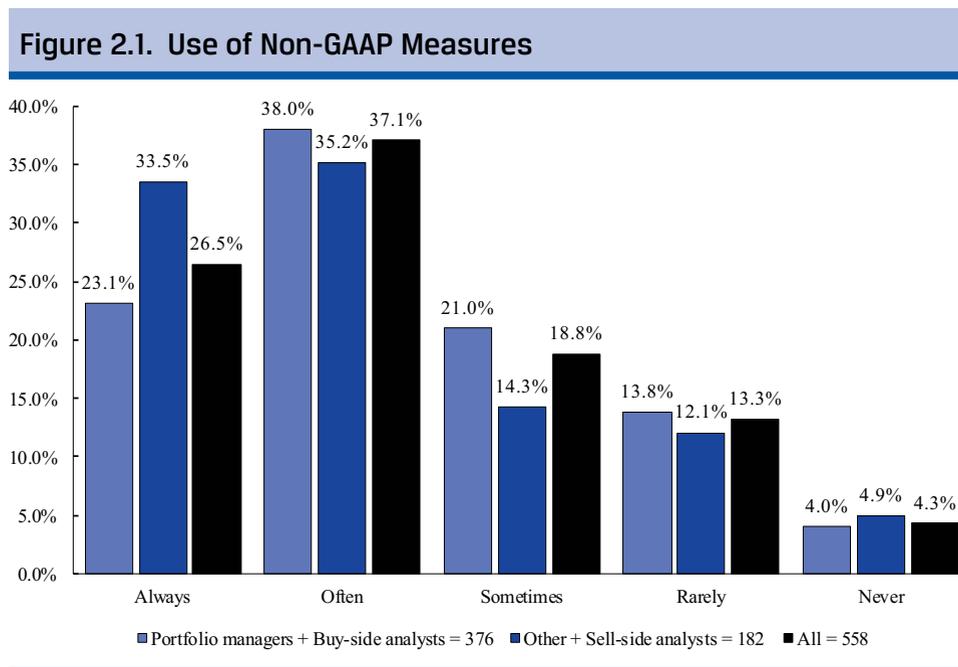
within audited financial statements, however. In IFRS reporting jurisdictions, NGFMs can be reported within audited financial statements.

- Street earnings are derived from adjustments made by sell-side analysts. These measures are sometimes constructed to conform to companies and data aggregators' definitions of adjusted earnings for the purpose of determining consensus earnings.
- Data aggregator performance measures tend to be normalized measures.

The adjustments made in deriving street earnings are not exactly the same as those for company-adjusted earnings. Nevertheless, there is likely to be an interplay between company, street, and data aggregator NGFMs. Some academic evidence suggests that managers play an active role in influencing the composition of street earnings via the earnings guidance process (Christensen, Merkley, Tucker, and Venkataraman 2011).

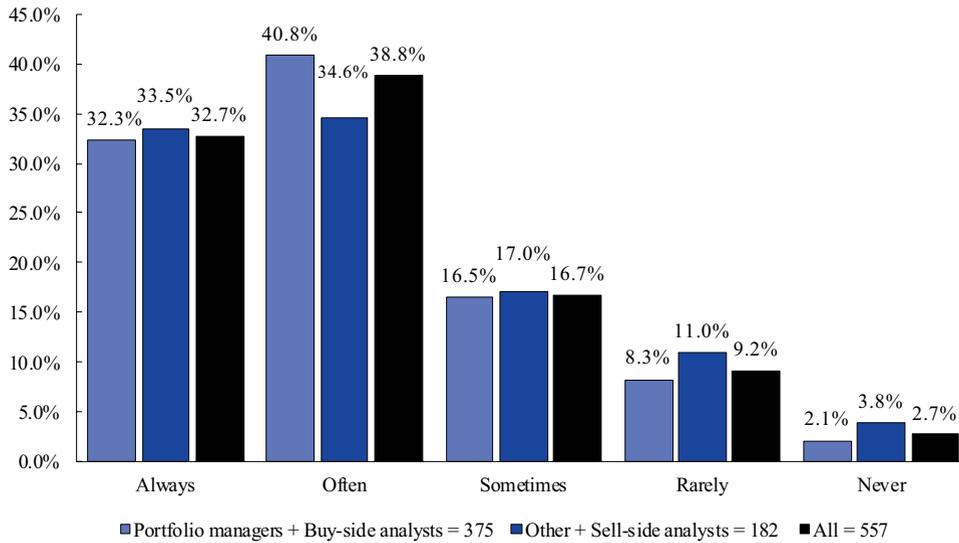
2. Investor Use of NGFMs

In this section, we analyze investor application of NGFMs. Our survey results show that investors use NGFMs considerably, albeit to a lesser extent than GAAP/IFRS measures. As **Figure 2.1** shows, 63.6% of our survey respondents always or often use NGFMs. Compared with “buy-side analyst and portfolio manager” respondents, a higher proportion of “sell-side analyst and other” respondents always or often use NGFMs.



However, as shown in **Figure 2.2**, 71.5% of all respondents always or often use GAAP/IFRS measures. A higher proportion of “buy-side analyst and portfolio manager” respondents always or often use GAAP/IFRS information compared with “sell-side analyst and other” respondents. For the “sell-side analyst and other” respondents, there is effectively the same level of use of both NGFM and GAAP/IFRS information. This survey result suggests that for many of our respondents, concerns about them ignoring GAAP/IFRS information and focusing only on potentially misleading NGFMs may be overstated.

Figure 2.2. Use of GAAP/IFRS Measures



2.1. Factors Influencing Investor Use of NGFMs

NGFMs are perceived as providing a bridge between mandatory financial reporting information and investors’ information needs for economically relevant and tailored financial analysis. Multiple factors contribute to investor demand for NGFMs, as reflected in **Figure 2.3**.

Figure 2.3. Investor Reasons for Applying NGFMs

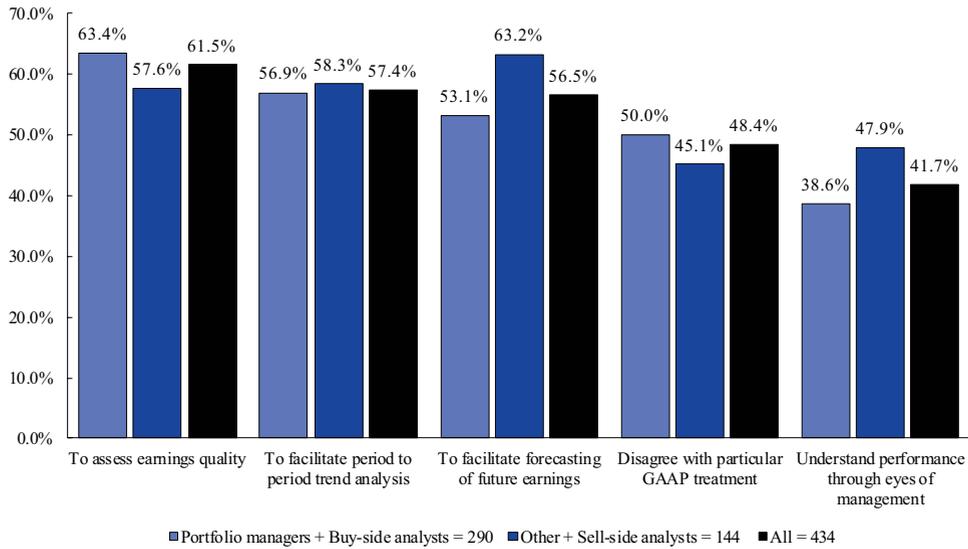
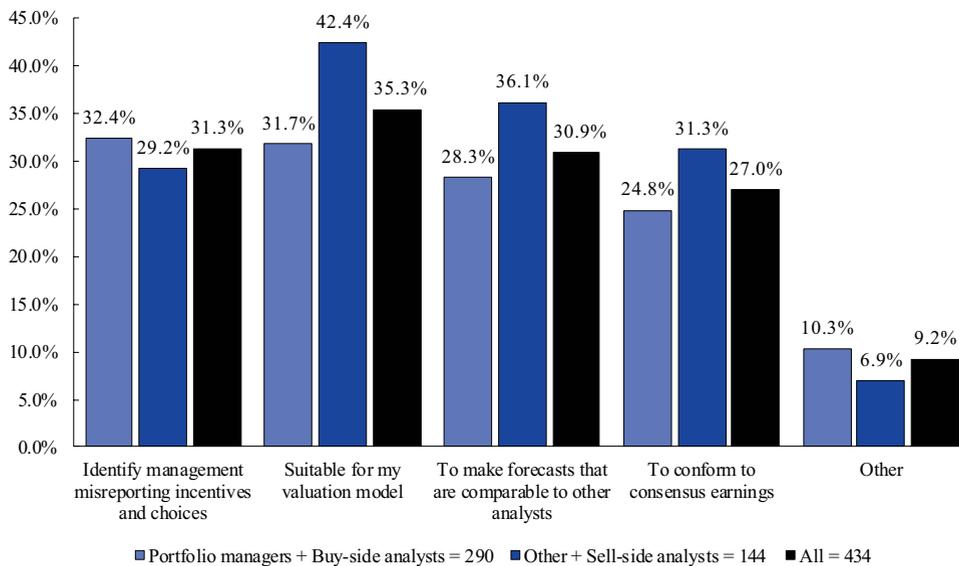


Figure 2.3. Investor Reasons for Applying NGFMs (continued)



2.1.1. Performance Analysis and Valuation Inputs

- *Investor preference for less volatile, more forecastable earnings streams.* Many capital market participants tend to prefer less volatile earnings streams as a basis for valuing companies. An academic survey (Brown, Call, Clement, and Sharp 2015) of sell-side analysts found that 56% of respondents considered sustainable and repeatable earnings to be high-quality earnings. There is a likely valuation premium for companies that exhibit such earnings properties (e.g., consumer goods sector companies).

The calculation of NGFMs often entails the exclusion of infrequent gains or losses and volatile GAAP/IFRS re-measurements. Consequently, non-GAAP measures are also likely, or at least intended, to be less volatile on a period-to-period basis than GAAP/IFRS performance measures. Many investors desire a less volatile year-to-year performance pattern because it facilitates both periodic trend analysis and core earnings forecasts. Member survey results (Figure 2.3) show the following reasons for using NGFMs:

- ▲ Facilitating period-to-period trend analysis (57.4% of respondents).
- ▲ Forecasting of future earnings (56.5% of respondents).
- *A desire to view core performance through the “eyes of management.”* Many investors seek to understand management’s company-specific perspective of performance, including how it is viewed internally. In our survey, 41.7% of respondents cited this factor as influencing the need for NGFMs. NGFMs can inform investors about a company’s operating performance (or “core earnings”) from a management perspective. For example, LinkedIn, which is one of the companies we analyzed (see Appendix A), states that it applies adjusted EBITDA to evaluate core performance and for budgetary planning purposes. It is not always clear, however, whether companies that communicate NGFMs apply any of them for internal management purposes in a fashion that justifies the characterization of these measures as conveying management’s view of performance.
- *Disagreement with accounting approaches.* NGFMs sometimes reflect adjustments for areas in which investors or companies disagree with the economic basis of particular accounting treatments. Hence, these adjustments could be seen as yielding a more economic representation of performance than the GAAP/IFRS measures. Nearly half (48.4%) of survey respondents cited this factor as influencing the need for NGFMs. The following selection of member survey comments reflects disagreement with extant accounting approaches:

Stock compensation needs to be addressed. It is a real expense, but the accounting treatment can deviate far from the reality of the expense. For instance, a company that grants a bunch of shares at a time when the share price is high and deemed volatile will amortize a large expense for the vesting period even though the price might have fallen and no shares will ever be exercised. Would make more sense to expense options upon exercise and to have enhanced disclosures around the outstanding but unexercised grants (maybe as part of the FD share calculation).

—Respondent

The appropriateness of when to recognize revenues varies by industry. Upfront recognition of subscription-linked revenues might be appropriate for a video game developer but probably not for a mobile subscription with a high degree of cancellation risk. NGFM/APM can be a much better measure to assess the underlying economics of the business in many cases.

—Respondent

Goodwill should not exist. It should be expensed or simply be a direct reduction to shareholder equity on the day of the acquisition. Goodwill is an estimate by management about the benefits that will be realized from cost savings and synergies generated by the acquisition. You don't get to put a dump truck on the balance sheet at some price above market price because you think it will generate some type of savings or synergy. You could keep goodwill on the balance sheet as a contra-shareholder equity account. If management was correct in their estimate of goodwill, the additional income resulting from savings and synergies will net out against the goodwill over time.

—Respondent

Business combinations cause step-up/step-downs in working capital accounts that should be taken out in analyzing performance post-acquisition. Disagree with add-backs of other costs of acquisitions.

—Respondent

2.1.2. Accounting Quality Indicator

Several investors have expressed that they can assess earnings quality or glean insight into management misreporting incentives through the pattern of companies' reporting of NGFMs. Our survey results show the following related reasons for NGFMs use:

- *To help assess earnings quality* (59.9% of respondents). The nature of adjustments alongside year-to-year persistence, as well as the magnitude of differences between adjusted and GAAP/IFRS earnings, can be an indicator of reporting companies' accounting quality. Incidentally, this was the most common reason for using NGFMs among our survey "buy-side analyst and portfolio manager" respondents.
- *To identify management misreporting incentives and choices* (28.6% of respondents). The number, nature, timing, and pattern of communicating NGFM adjustments can help investors to sketch a portrait of management's reporting "games." Along these lines, an audit analytics feature highlights that there is a higher probability of changes in estimates and restatements for firms with a high frequency of non-GAAP language in press releases.¹² An August 2016 *Wall Street Journal* feature¹³ affirms and highlights an updated version of the aforementioned audit analytics research findings based on reflecting incidences of restatements (both formal and revision) as well as material weaknesses in internal controls over the 2011–15 period across three types of US companies: GAAP metrics only, companies with non-GAAP metrics, and companies with non-GAAP metrics that improve GAAP net income by more than 100%. Anecdotally, we observe that some companies with a history of aggressive NGFM reporting, such as Valeant Pharmaceuticals International and Groupon, also have had accounting restatements.¹⁴

¹²See www.auditanalytics.com/blog/non-gAAP-measures-and-one-time-adjustments/. The blog article is based on a review of 8-K reports of Russell 3000 companies, and the results show a higher incidence of changes in accounting estimates, out-of-period adjustments, and restatements for firms that use non-GAAP language 20 or more times than for those that do not use non-GAAP language.

¹³See www.wsj.com/articles/one-more-reason-for-investors-to-worry-about-earnings-before-bad-stuff-1470261290.

¹⁴In its S-1 Filing with the SEC for its initial purchase offering IPO, Groupon had a non-GAAP metric, adjusted consolidated segment operating income (ACSOI) that excluded such items as online marketing expenses, acquisition-related expenses, stock compensation costs, and interest and tax expenses. It subsequently removed the ACSOI from the registration documents as a result of the SEC's scrutiny, as reported in an August 2011 *Wall Street Journal* feature: www.wsj.com/articles/SB10001424053111904006104576499962706947324. Valeant's aggressive NGFM was highlighted in the August 2016 *Wall Street Journal* feature already mentioned: www.wsj.com/articles/one-more-reason-for-investors-to-worry-about-earnings-before-bad-stuff-1470261290.

The use of NGFMs to assess accounting quality also explains why the SEC considers aggressive reporting of these measures to be a fraud risk factor (Leone 2010). However, it is also worth emphasizing that there is limited published empirical evidence verifying the overall efficacy of NGFMs' in quantitatively measuring either the accounting or earnings quality.¹⁵ While the aforementioned audit analytics research hints that NGFMs may be an indicator of restatements, Morgan Stanley (2016) presents multi-year data showing that the spread between GAAP and adjusted earnings is actually not a powerful indicator of earnings quality.

2.1.3. Industry Norms

A number of industry norms shape the demand for NGFMs, including the following:

- *Consensus earnings.* Consensus earnings¹⁶ have become institutionalized because sell-side analysts are assessed on the accuracy of their earnings forecasts, and these earnings align with or conform to data aggregator (e.g., Starmine) adjustments. In turn, company NGFM adjustments, which overlap with those made by data aggregators can be helpful for sell-side analysts while they are forecasting earnings. In our survey, 27.0% of respondents cited consensus earnings as influencing the need for NGFMs, with a higher proportion of “sell-side analysts and other” (31.3%) than “buy-side and portfolio manager” (24.8%) respondents citing this reason.
- *Comparison with other analyst forecasts.* This reason is similar to that of conforming to consensus earnings, and 30.3% of respondents gave this reason for applying NGFMs. A higher proportion of “sell-side analysts and other” (36.1%) than “buy-side and portfolio manager” (28.3%) respondents cited this reason.
- *NGFMs embedded in valuation approaches.* The popularity and embedded nature of EBITDA-based and free cash flow-based valuation methodologies creates demand for NGFMs. For instance, the Stern Stewart economic value added (EVA) methodology emphasizes the need to adjust for accounting adjustments deemed arbitrary and non-economic, such as amortization. Similar to the fundamental valuation approaches, multiples-based valuation methodologies usually entail repeatable components of earnings (e.g., underlying profit) as inputs. In our survey, 35.3% of respondents indicated that NGFMs are suitable for their valuation model. A higher proportion of

¹⁵Accounting quality includes but is broader than the notion of earnings quality. For example, accounting quality encompasses issues pertaining to balance sheet quality.

¹⁶Consensus earnings estimate is a figure based on the combined estimates of the analysts covering a public company.

“sell-side analysts and other” (42.4%) than “buy-side and portfolio manager” (31.7%) respondents cited this reason.

Other studies have affirmed the reasons for using NGFMs that we describe here. For example, an academic study (Brown et al. 2015) that surveyed sell-side analysts highlights the following reasons (see **Table 2.1**) that overlap with our survey findings on reasons for using NGFMs.

Table 2.1. Findings from Brown et al.'s (2015) Survey of Sell-Side Analysts' Reasons for Using NGFMs

Reasons for Excluding GAAP Earnings Components	Always	Never
Component is “non-recurring”	61.3%	7.2%
Excluding the component improves earnings forecast accuracy	49.7	14.9
Consistent with management guidance	37.2	22.2
Consistent with other sell-side analysts	36.1	24.4
Consistent with communication from I/B/E/S, First Call, Zacks Investment Research, or S&P	36.1	31.1

2.2. Different Types of NGFMs

Figure 2.4 delineates the extent to which investors use different NGFMs.

NGFMs under the other category included ROIC, annualized recurring revenue, adjusted funds from operations, net operating income (real estate), and debt adjusted cash flow.

The member survey results reveal that for “buy-side analyst and portfolio manager” respondents, free cash flow is the most commonly used NGFM, followed by EBITDA. For “sell-side analyst and other” respondents, EBITDA is the most commonly used NGFM. EBITDA’s popularity aligns with the findings of a study on the uses of financial statement information (Cascino et al., 2016), which reported that EBITDA was the second most relevant performance measure for a sample of European institutional investors. Free cash flow and EBITDA are popular, normally with the view that they are less

Figure 2.4. Investor Use of Different NGFMs

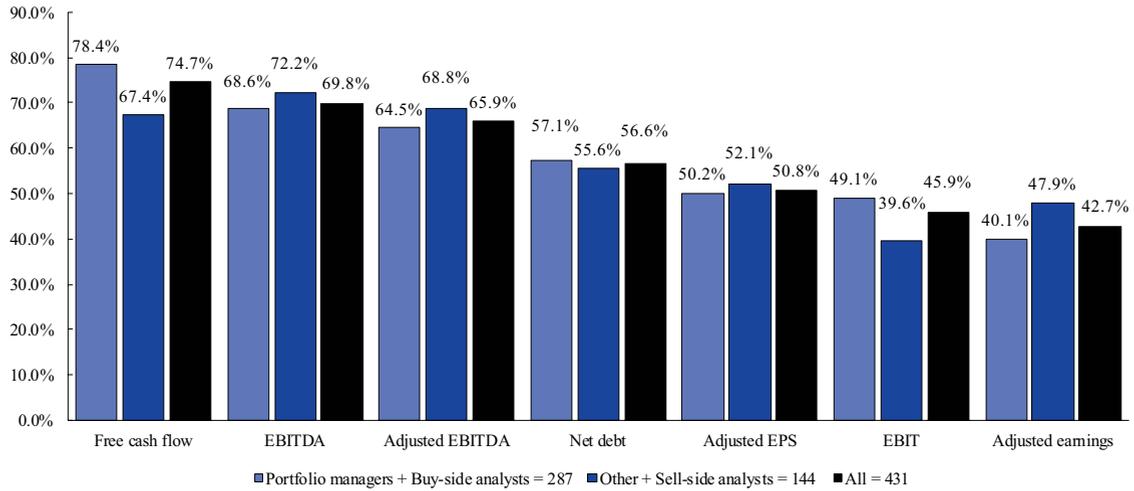
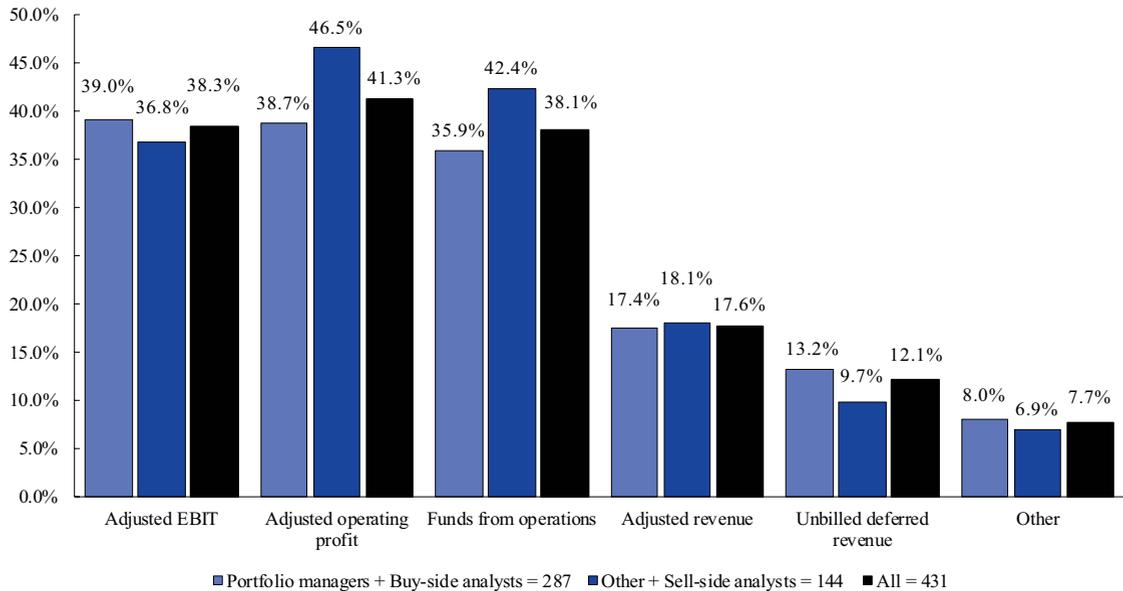


Figure 2.4. Investor Use of Different NGFMs (continued)



subject¹⁷ to accounting manipulations through management estimates than reported net earnings, but these measures have their own particular limitations too. We examine some of the criticisms:

- “Free cash flow” can be manipulated by artificially depressing the changes in working capital, which in turn inflates the reported cash flow from operating activities.¹⁸ Such manipulation can take various forms, including (1) classifying and “hiding” accounts receivable under “other investments,” resulting in classification as an investing activity rather than an operating activity in the cash flow statement; and (2) delaying payments to suppliers.
- EBITDA has been critiqued on several fronts, including the following:
 - ▲ *Poor proxy for cash flow generation ability.* Some critics view EBITDA as a rather poor proxy for cash flow generated from operations during a reporting period, among other reasons because of its failure to consider periodic changes in working capital (Ciesielski 2016; Stumpp, Marshella, Rowan, McCreary, and Coppola 2000; Trainer and Guske 2015).¹⁹
 - ▲ *Measurement error.* EBITDA is also subject to measurement error resulting from the possible allocation²⁰ of depreciation amounts across multiple line items (e.g., cost of goods sold, operating expenses such as selling, general, and administrative [SG&A] expenses, and the ending balance of work in progress and finished goods inventories). EBITDA is inaccurate if it only partially reflects depreciation adjustments. EBITDA is generally overstated for growing firms (more depreciation is included in ending inventory compared with beginning inventory) and understated for firms with declining inventories. Manufacturing firms are particularly susceptible to EBITDA measurement error (Melumad and Nissim 2008).
 - ▲ *Lack of comparability.* In a Standard & Poor’s *Credit Week* feature, Solak (2014) pointed out the inconsistencies of adjustments made in EBITDA determination

¹⁷All income statement line items are subject to management estimates. The further down the line of income statement, the more subject the summary measure becomes to the effects of multiple management accounting judgments.

¹⁸Free cash flow is defined as either (Cash flow from operations – Capital expenditure) or (Net income +/- Non-cash adjustments – Changes in working capital).

¹⁹Some users of EBITDA do not necessarily view it as proxy for cash flow generation. For example, one pharmaceutical sector analyst we interviewed indicated that she considered EBITDA to be simply a variant of “economic profit” and not a proxy for assessing companies’ cash flow generation.

²⁰Investors can face difficulties in discerning the complete and accurate depreciation amount because of its dispersed allocation when the income statement is presented by function rather than by nature.

across companies, effectively making this measure often not comparable across companies. That said, the author takes the view that after normalizing and ensuring a consistent definition of EBITDA and applying it to the (debt-to-EBITDA) metric as a leverage ratio, EBITDA offers a potent indicator of solvency because it effectively discriminates between potential defaulters and non-defaulters.

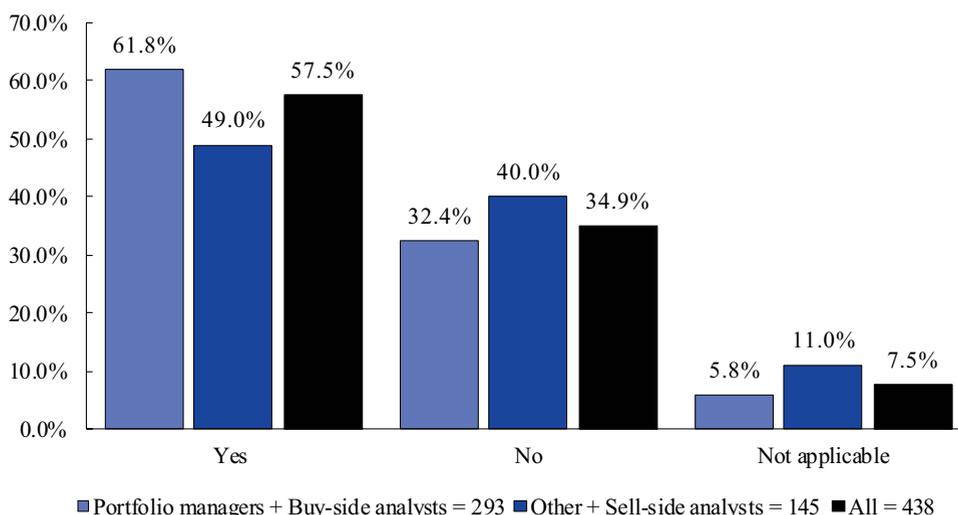
Notwithstanding the foregoing criticisms of these two most popular NGFMs, we recognize that insights on their usefulness must be drawn from the experience of seasoned investment professionals. Practical application offers the best yardstick for assessing different performance measures' relative analytical potency. We also acknowledge that conclusions on the valuation predictive power and performance measurement efficacy of different summary measures (GAAP or non-GAAP) can in part be informed by evidence from multi-period empirical analysis of these measures' value relevance. To that effect, Whalen, Baginski, and Bradshaw (2011) highlight evidence (Barth, Cram, and Nelson 2001) showing that stock returns are more highly correlated with net income than with cash flow from operations and EBITDA. In contrast to the evidence cited by Whalen et al. (2011), Barton, Hansen, and Pownall (2010) present a less clear-cut view of the "best performance measure," with evidence showing that no measure is superior in all circumstances. Barton et al. conclude that the context of financial statements users' application of different performance measures, ought to guide judgment on their usefulness.

For the aforementioned reasons, it is beyond the scope of this report to label one performance measure as necessarily better than another. The main point worth making is that investors should consider the pros and cons of different measures (GAAP or non-GAAP) and apply multiple indicators when assessing companies' performance and value. A blog feature by Ciesielski on Canadian company Valeant Pharmaceuticals International drives home the merits of examining a combination of performance metrics before judging companies' prospects or financial health.²¹

2.3. Investor Adjustments to NGFMs

Figure 2.5 highlights that 57.5% of all respondents further adjust NGFMs (61.8% of "buy-side analyst and portfolio manager" respondents). A higher proportion of "buy-side analyst and portfolio manager" than "sell-side analyst and other" respondents further adjust NGFMs.

²¹See <http://accountingobserver.com/blogpost/valeants-lessons-non-gaap-reporting-pitfalls/>.

Figure 2.5. Investors' Further Adjustments of NGFMs

Respondents' comments indicate that investors often reverse some of the company adjustments that companies make in NGFM calculations. Many comments reveal that investors frequently reverse companies' stock-based expenses adjustments in NGFM calculations. The following selection of comments details why members make adjustments:

I consider as "core" any costs that I view as an ongoing cost of business. For companies where acquisition is core to the business model, I even include intangible amortization. Legal charges, cash restructuring charges, royalty payments, and stock option expenses are examples of items often excluded from "core" earnings but that I include as costs in my own valuations.

—Respondent

The key source of information in non-GAAP metrics are the reconciling items management provides to the GAAP metrics. It is simply another source of information. I then typically construct my own view of normalized earnings/cash flow based on my analysis. Non-GAAP metrics as presented by management (in most circumstances) should not be accepted without question.

—Respondent

Companies present NGFM in the best light for them. I use their adjustments but decide which ones are legitimate. I use the same standard across my universe.

—Respondent

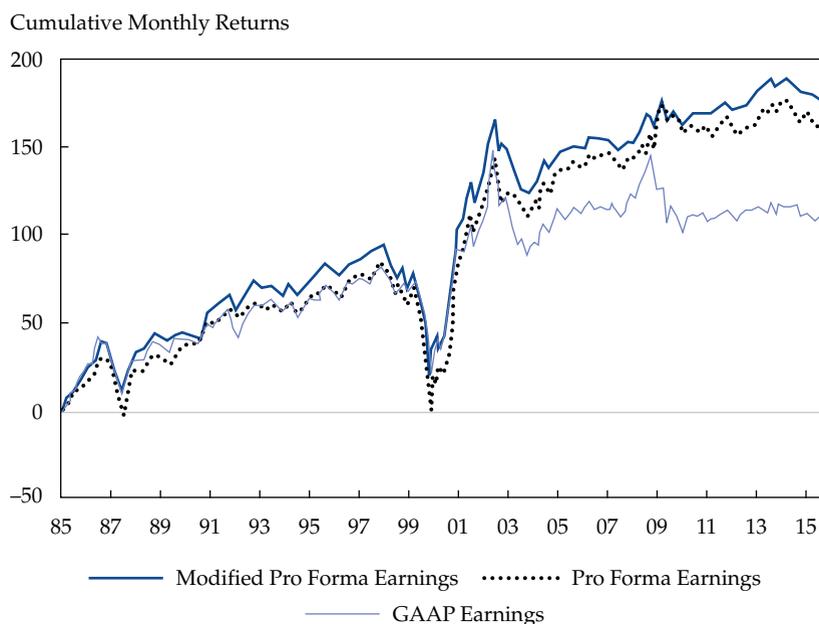
Remove one-time items and spread them over useful life if somewhat recurring.

—Respondent

Some respondents suggested that they make further adjustments to NGFMs with the aim of conforming to other standardized forms of adjusted earnings (e.g., credit rating agency adjusted earnings or CFA Society of the UK headline earnings).

A key takeaway from the finding that most respondents are further adjusting NGFMs is that many investors most likely consider these measures as simply a starting point—one that allows them to derive a version of earnings that they deem economic. Such a view aligns with the findings, shown in **Figure 2.6** of a 2016 Morgan Stanley (MS) publication, which showed that modified pro forma earnings have superior predictive qualities.²² The MS study shows that modified pro forma earnings, when applied as inputs for P/Es, are more predictive of value than either company-reported adjusted earnings (pro forma or non-GAAP earnings) or GAAP earnings. The MS study also showed that modified pro forma earnings, despite being upwardly biased, generally track patterns of GAAP/IFRS earnings, and therefore it is hard to construe them as misleading in their portrayal of performance.

²²Modified pro forma earnings are derived by backing out only truly one-off, non-recurring items from GAAP/IFRS measures or line items.

Figure 2.6. Price/Earnings Factor Efficacy, 1985–2015

Source: Based on data from Morgan Stanley Equity Research.

2.4. Conclusion

Our survey results reveal the diversity and sophistication of investors' motives for using NGFMs. The results also show that many investors further adjust NGFMs, even reversing management adjustments. The fact that many investors are further adjusting NGFMs perhaps should lessen the concern that many investors use these measures as inputs for valuation in an uncritical fashion.

NGFMs are only a starting point for many investors to derive their true version of economic earnings. Thus, a key question is whether companies are providing the best starting point possible and communicating only high-quality NGFMs that provide incremental information beyond the relatively standardized, mandatory reporting framework (GAAP/IFRS). In the following sections, we review the state of play in calculation and quality of NGFM communication.

3. Investor Views on NGFM Calculation Adjustments

Companies usually report NGFMs based on two conflicting and potentially broad motives—to better inform investors or to manage their perception of performance.²³ Stakeholders can gauge the quality of NGFMs by assessing the nature, appropriateness, and timing of NGFM adjustments. Investors' views on the appropriateness of specific NGFM adjustments, which is the focus of discussion in this section, is at the heart of their perception of the overall quality of summary adjusted performance measures. Such views on appropriateness also reveal the likely reversing adjustments to reported NGFMs that are made by many investors (See Section 2.3).

3.1. Views Based on General Nature of NGFM Adjustments

Table 3.1 presents member survey results on appropriateness based on the general nature of adjustments. The results fall under four categories of responses—namely, “usually appropriate,” “sometimes appropriate (inappropriate),” “usually inappropriate,” and “not sure” categories. At face value, the “sometimes appropriate (inappropriate)” category may seem like an ambiguous category and one that makes it hard to readily infer a precise, aggregate dichotomous view of whether respondents consider the nature of adjustment to be appropriate or not. However, this particular category was meant to reveal the proportion of investors who may be encountering “gray areas” or multiple scenarios where an adjustment can be either appropriate or inappropriate. It also allows a three data point comparison (i.e., ignoring “not sure”) across different line items.

In addition, the inclusion of the “sometimes appropriate (inappropriate)” category does not preclude the possibility of the results reflecting largely dichotomous findings if that is the actual profile of respondents views (i.e., if respondents are only either for or against

²³Both academic research (Bhattacharya et al. 2003) and investor feedback (Section 2) reveal the valuation relevance and information content of NGFMs. At the same time, academic evidence shows that managers apply NGFMs in an opportunistic manner to meet earnings targets and to portray a more positive performance picture than that conveyed by the reported GAAP number (Black and Christensen 2009; Isidoro and Marques 2009).

Table 3.1. General Views on the Nature of Adjustments in NGFM Calculations

	Usually Appropriate	Sometimes Appropriate/ Inappropriate	Usually Inappropriate	Not Sure
Recurring business expenses	10.6%	20.8%	64.9%	3.6%
Items not under management control	26.8	44.8	23.9	4.5
Non-cash items	33.3	41.9	22.1	2.7
Non-recurring expenses	43.4	41.3	13.0	2.2

particular adjustments in NGFM calculations). If the latter situation does not apply, this additional category helps to avoid a false aggregate precision in categorizing investor viewpoints. Significant proportions of respondents in the “sometimes appropriate (inappropriate)” category can also signal the need for accounting standard setters and regulators to undertake investor outreach to identify and unpack fact patterns that create a view for investors of there being a continuum of appropriateness for adjusting particular line items while calculating NGFMs.

3.1.1. Key Takeaways: General Nature of NGFM Adjustments

The foregoing survey results (Table 3.1) on general nature of line items show the following:

- Most investors are concerned about the appropriateness of companies adjusting recurring expenses. In contrast, most of them consider it appropriate to adjust non-recurring expenses.
- Many investors consider it either usually or sometimes appropriate to adjust non-cash items. This finding suggests that many investors may be encountering analytical situations where they seek a picture of “cash earnings” as a performance measure.
- Many investors consider it sometimes appropriate to adjust items that are not under management control. However, as we discuss in Section 4, such items as foreign currency remeasurements that are perceived as not being under management control are, strictly speaking, also under management control.

3.1.2. Questionable Trends of Non-Recurring NGFM Adjustments

Many investors consider adjustments desirable when they are truly one-off or unusual in nature in the context of a particular reporting period. For instance, the oil price drop-related impairment charge recorded by energy sector companies in 2014–15 could be seen as a one-off, irregular occurrence and therefore not a component of core earnings. It is reasonable to view non-recurring gains, losses, charges, and expenses related to past events as unnecessary components of sustainable adjusted performance measures as these are expected to have no bearing on the performance during future reporting periods.

Nonetheless, many investors tend to be concerned about items that companies label as exceptional or one-off but actually recur every couple of years. If a line item does not occur every reporting period but has a cycle of recurrence (e.g., inventory adjustments), then it should be seen as pertinent for predicting future earnings.

The observed recurrence tendency for one-off or exceptional line items could explain why 54.3% of member respondents viewed these adjustments as either usually inappropriate (13.0%) or sometimes inappropriate (41.3%). Indeed, academic empirical evidence backs the notion that non-recurring expenses often recur. Dechow and Schrand (2004) cite evidence from the following older studies that highlight the recurrent nature of items often categorized as infrequent or unusual:

- Using data from 1989 through 1992, Francis, Hanna, and Vincent document in a 1996 study that a company's likelihood of taking a write-off—including impairment charges on goodwill; plant, property, and equipment; or inventory and restructuring charges—was positively related to the number of charges it took in the previous five years and to the average number of charges taken by other companies in the same industry.
- Using data from 1975 through 1994, Elliot and Hanna find in a 1996 study that 50% of companies taking one write-off went on to take a second within 12 quarters. Half of those went on to take a third write-off, and 6% of sample companies that took at least one write-off eventually took more than four in the subsequent 12-quarter period.

3.2. Views on Specific Line Items as NGFM Adjustments

We review a selection of 14 specific line items that are frequently adjusted in NGFM calculations of S&P 500 and FTSE 100 companies (see Appendix A). There are other key line items not included in our analysis.²⁴ We did assess inventory write-downs and distinguished asset impairments (intangible versus PPE), however, taking the view that investor perspectives could vary on adjustments of write-downs of short-term versus long-lived assets. Furthermore, in our review of investor perspectives on stock option expenses, we also distinguished views based on the form of settlement (cash versus non-cash settled stock options).

In analyzing CFA Institute member views on appropriateness of specific adjustments, as shown in **Table 3.2**, the line items that we consider fall in the following categories: (1) usually recurring, (2) usually non-recurring, or (3) either recurring or non-recurring. Similar to the general nature of adjustments, the following results have four categories of responses, including the “sometimes appropriate (inappropriate)” category, which is meant to reflect the proportion of investors who may be encountering “gray areas” or fact patterns that create a continuum shaping their views of whether it is appropriate or not to exclude a line item during NGFM calculation.

²⁴We do not analyze debt extinguishment, interest-related revenues and costs, non-operating income, tax resolution, tax adjustments, or bank-specific adjustments.

Table 3.2. Appropriateness of Specific Adjustments

	Usually Appropriate	Sometimes Appropriate/ Inappropriate	Usually Inappropriate	Not Sure
<i>Usually recurring</i>				
Depreciation of property, plant and equipment (PPE)**	33.2%	26.6%	35.4%	4.7%
Amortization of acquired intangibles*	30.4	38.7	23.6	7.2
Non-cash-settled stock-based compensation**	12.6	29.1	49.1	8.6
Cash-settled stock-based compensation**	10.4	22.6	55.4	11.1
<i>Either recurring or non-recurring</i>				
Acquisition and business combination related costs*	30.0%	44.8%	21.4%	3.8%
Restructuring costs*	23.9	50.9	21.6	3.6
Fair value remeasurements*	24.2	47.5	17.9	10.3
Foreign currency remeasurements*	24.4	47.1	21.5	7.0
Inventory write-downs**	20.0	41.9	32.2	5.9
Pension re-measurements**	18.6	48.2	22.4	10.9
Legal costs**	17.5	47.5	30.5	4.5
<i>Usually non-recurring</i>				
One-off asset sales*	56.3%	30.3%	9.6%	3.9%
Impairment of intangible assets*	35.9	41.3	18.4	4.5
Impairment of PPE*	34.0	44.9	16.3	4.8

Notes: See our detailed discussion of each line item in Section 4. As noted earlier, the sometimes appropriate (inappropriate) category is informative because it conveys the proportion of respondents who may face circumstances where their judgements on the appropriateness of an NGFM adjustment can differ on a case by case basis.

**More respondents consider usually inappropriate than usually appropriate.

*More respondents consider usually appropriate than usually inappropriate.

3.2.1. Key Takeaways: Views on Specific Line Item NGFM Adjustments

We make the following key inferences from the member survey results in Table 3.3:

- A majority of respondents consider one-off sales adjustments to be usually appropriate. This finding is consistent with the findings on investor views on non-recurring items in Section 3.1.
- Most respondents consider stock-based compensation (cash and non-cash settled) adjustments to be usually inappropriate.
- Apart from stock option expenses, more respondents consider NGFM adjustments of other line items (depreciation of PPE, inventory write-downs, pension re-measurements, and legal costs) usually inappropriate compared with those who consider it usually appropriate.
- For usually recurring expenses, a significant proportion of respondents consider non-cash item (depreciation and amortization) NGFM adjustments to be usually appropriate. That said, more respondents consider amortization of acquired intangibles to be usually appropriate than those who consider depreciation of PPE to be usually appropriate.
- A significant proportion of respondents, ranging from 26.8% to 50.1%, consider it sometimes appropriate (inappropriate) to adjust all the reviewed line items in NGFM calculations. This finding reveals that many investors tend to evaluate line item adjustments on a case-by-case basis, and they have no “hard and fast” rules on what should never or be always excluded from NGFM calculations.

Our survey questions did not ask for explanations why respondents considered particular NGFM line item adjustments to be sometimes appropriate (inappropriate). Hence, we recommend further enquiry to deepen the understanding of fact patterns that influence investor views on appropriateness or inappropriateness of NGFM-related adjustments. We recommend that such further digging ought to be undertaken by other future researchers or by regulator and standard setter investor outreach activities.

3.2.2. Related Insights from Other Studies

Another study (Brown et al. 2015), which surveyed sell-side analysts’ construction of “street earnings,” presents findings, as shown in **Table 3.3**, that are partly consistent with

our results. Specifically, the study shows that one-off items are usually adjusted (i.e., extraordinary items, discontinued items, and cumulative effect of accounting changes). It also shows that many sell-side analysts are uncomfortable with stock option expense adjustments. Additionally, the Brown study sheds light on adjustments not reviewed in this publication—namely, sell-side analyst views on the following NGFM adjustments: non-operating items, cumulative effect of accounting changes, and working capital changes. It highlights, however, that a high percentage of sell-side analysts make adjustments of restructuring charges and asset impairments—revealing a level of comfort with these adjustments greater than what our member survey portrays. Conversely, the Brown study respondents seem less inclined to adjust amortization and depreciation expenses than our member survey respondents.²⁵

Table 3.3. Brown et al. (2015) Study of Sell-Side Analyst Adjustments

Line Items	Always	Never
Extraordinary items	71.0%	4.9%
Discontinued items	63.7	9.3
Restructuring charges	57.7	8.8
Asset impairments	55.7	13.1
Cumulative effect of accounting changes*	41.1	17.8
Non-operating items*	39.8	18.8
Stock option expense	25.4	48.1
Amortization	17.8	56.7
Changes in working capital*	12.8	66.7
Depreciation	11.8	70.8

*Items for which we did not seek views on their appropriateness.

²⁵We make this inference of differences between the Brown study and our member survey based on the responses about appropriateness of amortization, depreciation, asset impairments, and restructuring charges.

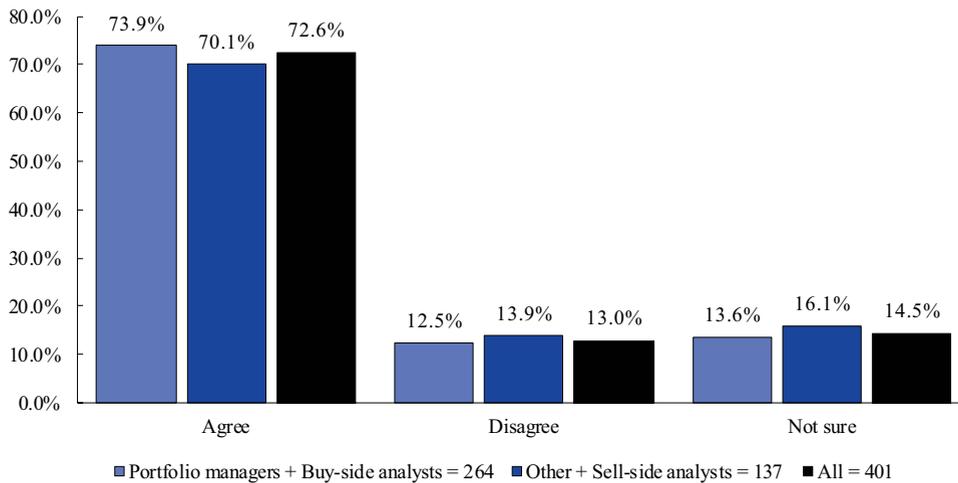
3.3. Other Issues in NGFM Calculation

3.3.1. Cherry Picking

Another way that some companies bias reported aggregate performance is by including transitory gains in core earnings or adjusted operating profit.²⁶ Yet these companies sometimes exclude transitory losses, resulting in an upward bias and asymmetrical inclusion of gains. Empirical academic evidence shows that companies engage in such “cherry picking” in opportunistic fashion (e.g., Curtis, McVay, and Whipple 2014). The Center for Audit Quality (CAQ) recently issued a paper that cites evidence from a 2014 University of Washington and University of Georgia study that found that, for a sample of US companies, 27% of companies disclosed non-GAAP earnings that excluded one-time losses but did not report adjusted figures for one-time gains (CAQ 2016).

Cherry picking is particularly worrisome because it is hard for investors to detect its occurrence. Reconciliations mainly communicate what is excluded from a GAAP/IFRS line item. Hence, securities regulators’ focus on providing guidelines for curtailing the practice, and on considering “cherry picking” misleading, is fully warranted and supported by investors, as shown in **Figure 3.1**.

²⁶“Transitory” connotes lacking persistence and being hard to predict on a period-to-period basis.

Figure 3.1. Views on Selective Reporting of Gains

3.3.2. Reflecting Performance Effects of Strategic Choices

Linked with NGFM calculation adjustments is a general concern that NGFMs sometimes fail to appropriately represent performance as a result of certain strategic choices by businesses (e.g., merger and acquisition [M&A] activities). For example, serial acquirers fail to appropriately portray their economic performance when they communicate NGFMs better suited to business models experiencing organic growth. This distortion of true economic performance occurs whenever serial acquirers make adjustments for amortization of acquired intangibles and other business combination expenses while determining their NGFMs.²⁷ The same concern of distorted performance applies to serial restructuring firms whenever they adjust for restructuring costs. Often a serial acquirer is also a serial restructurer, so the need for integration is constant. The following member survey respondent comment reflects the articulated concern:

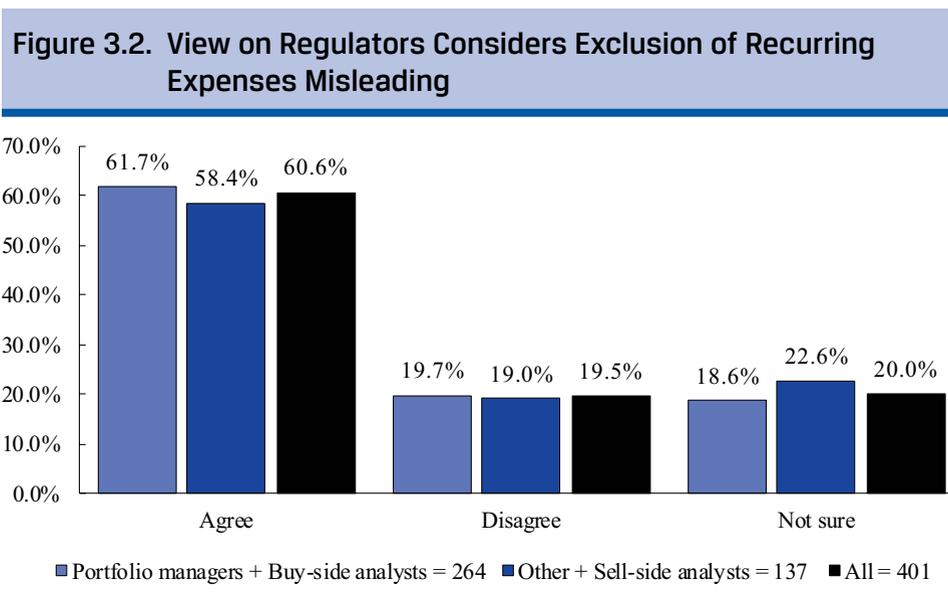
Companies often are too aggressive with adjustments. Restructuring and M&A-related expenses in particular can be core to company results but adjusted away.
—Respondent

²⁷Adjustments of amortization of acquired intangibles are also questionable for companies that may not be serial acquirers but also license products (e.g., pharmaceutical companies).

3.4. Conclusion

Our survey results reveal that many investors often evaluate the appropriateness of line item adjustments on a case-by-case basis and have no “hard and fast” rules about what should never or always be excluded from NGFM calculations. We observe, however, that most respondents oppose adjustment of recurring expenses, especially stock option expenses. Our survey results also show that investor concerns on recurring expense/charge adjustments exist regardless of whether companies label these as “one-off,” exceptional, or special items. Consequently, there is investor support for securities regulators to assess the exclusion of recurring expenses in NGFM calculations as being misleading—60.6% of respondents support doing so, as shown in **Figure 3.2**.

In the next section, we articulate our perspectives on typical NGFM adjustments in more detail.



4. Detailed Investor Perspectives on Specific NGFM Adjustments

Building on Section 3, this section provides a more detailed analysis of the typical specific line item adjustments made while calculating NGFMs on which we sought member views. This section unpacks reasons why investors and/or companies' management may consider a specific line item adjustment to be either appropriate or inappropriate in the context of NGFM calculations.

4.1. Usually Recurring Line Items as NGFM Adjustments

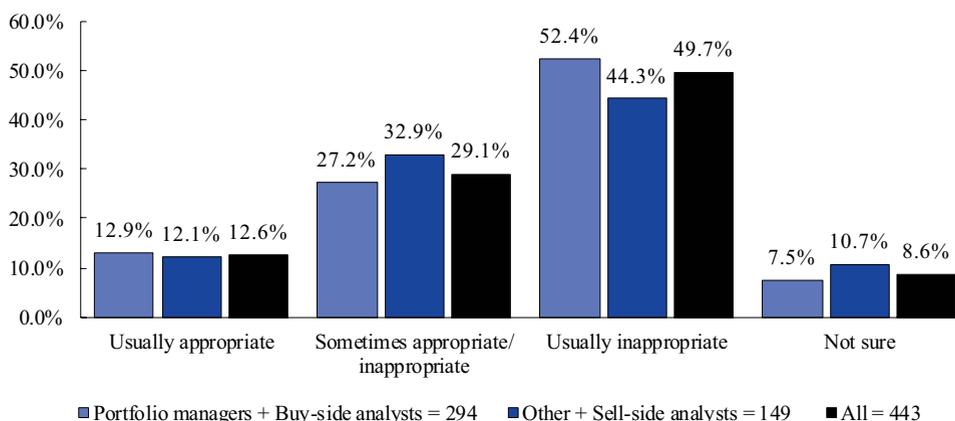
In this subsection, we analyze three NGFM adjustments that we consider as usually recurring within periodic income statements—namely, stock option expenses, amortization of acquired intangible assets and depreciation of property, plant, and equipment.

4.1.1. *Stock Option Expenses as NGFM Adjustments*

Adjusting stock-based compensation expenses while calculating either adjusted net income or other NGFMs is particularly common in the information technology sector. Several technology companies have provided odd explanations for excluding stock option expenses from their NGFM calculations. For example, in its 2016 annual report, Salesforce.com contended that it considers granting stock options to only attract and retain employees and it does not consider related expenses to be period specific, operating costs (See Appendix A). Other companies (e.g., Facebook), as pointed out by Calcbench (2016), have raised concerns about the measurement reliability/error of the stock expense calculation.

Member survey results reveal concerns about stock option expense adjustments regardless of the nature of settlement (cash versus non-cash). The results, shown in **Figure 4.1**, show that 78.8% of respondents consider it either usually inappropriate (49.7%) or sometimes inappropriate (29.1%) to adjust non-cash settled stock option compensation expenses while calculating NGFMs. Compared with the proportion of “sell-side analyst and other” respondents, a higher proportion of buy-side respondents (i.e.,

Figure 4.1. Views on Non-Cash-Settled Stock-Based Compensation Expense as NGFM Adjustments



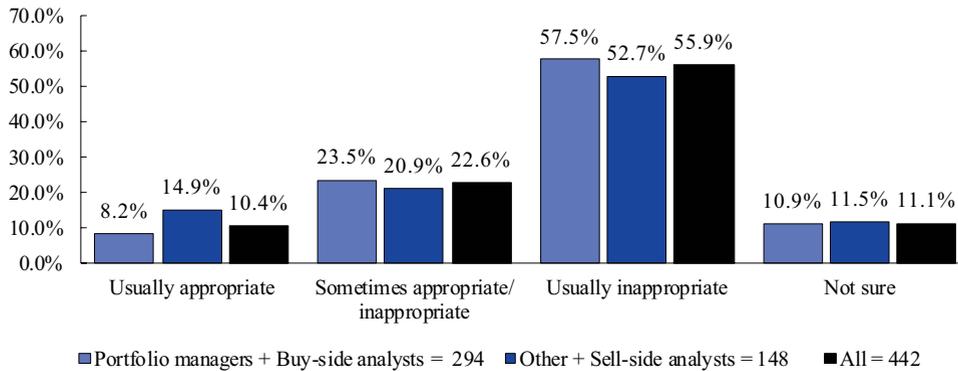
portfolio managers and research analysts) viewed the non-cash settled expense adjustment in NGFMs as inappropriate. As shown in **Figure 4.2**, there is an even stronger view against adjustments for cash-settled stock option compensation expenses, with 55.9% of respondents considering it usually inappropriate and 22.6% considering it sometimes inappropriate to adjust these expenses.

Our findings resonate with those of the CFA Society of the UK's 2015 study, whose survey results show that 85% of respondents disagreed with excluding stock-based compensation expenses from NGFM calculations.²⁸ Moreover, an academic study (Barth, Gow, and Taylor 2012) analyzing the exclusions made in sell-side "street earnings" compared with those made in company-reported NGFMs found that analysts' exclusions of stock-based compensation expenses concurred with management's exclusions in only 37% of cases.

The lack of investor support for companies backing out stock compensation expenses while calculating NGFMs is unsurprising, because these are real economic expenses

²⁸It is worth noting that the CFA Society of the UK survey gave a two-choice answer (i.e., exclude or include), whereas our survey had three choices (usually appropriate; sometimes appropriate/inappropriate, and usually inappropriate). Because the CFA Society of the UK respondents were forced to pick one of two choices, it is unsurprising that there an even higher percentage of them oppose stock expense exclusion in NGFM.

Figure 4.2. Views on Cash-Settled Stock-Based Compensation Expense as NGFM Adjustments



with tax implications, incurred by companies in exchange for their executives' and employees' services.

Furthermore, it is not unusual for companies to spend cash buying back granted stock in order to minimize the dilution of ownership that occurs when outstanding shares increase over time—meaning that there is a deferred cash outflow from the aforementioned companies occurring in exchange for employee services. Indeed, Lazonick (2014) observed that for high technology companies, the volume of open market stock repurchases is often a multiple of the granted options exercised, and such repurchases usually lead to a non-economic inflation of stock price and EPS. The aforementioned share buybacks are also often preceded by the granting of stock options. In this fashion, granting stock options can perversely occur within companies with the intent of bolstering both the stock price and the EPS at future dates. Concurrently, ignoring stock option expenses while calculating adjusted performance measures implies that companies are misleadingly reflecting that they are deriving benefits (real benefits via employee services and potentially inflated benefits via the share buybacks' effect on stock price and EPS) at no cost—a seeming “free lunch” that is not meant to exist.

4.1.2. Amortization of Acquired Intangible Assets as NGFM Adjustments

Amortization of acquired intangibles is one of the most frequent NGFM-related adjustment for FTSE 100 and S&P 500 companies (See Appendix A). Under US GAAP

and IFRS, amortization is required for intangible assets with a finite economic life (e.g., copyrights, trademarks, or non-compete covenants). Amortization of finite-life intangible assets is an accounting allocation meant to reflect the “consumption of the initially recognized asset value” or systematic decline in these assets’ value.

The systematic write-down of the value of finite-life intangible assets is a legitimate cost of doing business during any reporting period because during their lifetime, these assets contribute to generating revenue. Standard amortization approaches require preparers to apply methods that reflect the pattern of consumption of the finite-life intangible asset. In the event that the pattern of consumption of the asset cannot be determined reliably, then the straight-line amortization is applied as the default approach.

Companies’ management sometimes offer the following justifications for excluding amortization of acquired intangible assets in NGFM calculations:

- The item is a non-cash expense.
- The initial value of acquired intangible assets is outside management’s control.
- It ensures a consistent accounting approach across acquired and internally generated intangible assets. The latter category of assets are not recognized in the financial statements, and companies’ management may consider that adjusting for amortization of acquired intangibles in NGFM is simply offsetting the effects of not recognizing internally generated intangibles on the balance sheet. In other words, the aggregate portfolio of intangible assets is understated in the first place because of unrecognized internally generated intangibles.

Another concern about amortization of intangibles can arise when the pattern of economic benefits generated by intangibles is not constant across reporting periods while in contrast and in tandem, the amortization is recognized on a straight-line basis. This situation can occur when intangible assets that are acquired in a business combination (e.g. customer relationships) are valued using an expected churn rate but the amortization then occurs on a straight-line basis. If there is poor matching of economic benefits and associated costs of consumption for the asset, such a mismatch can contribute to artificial²⁹

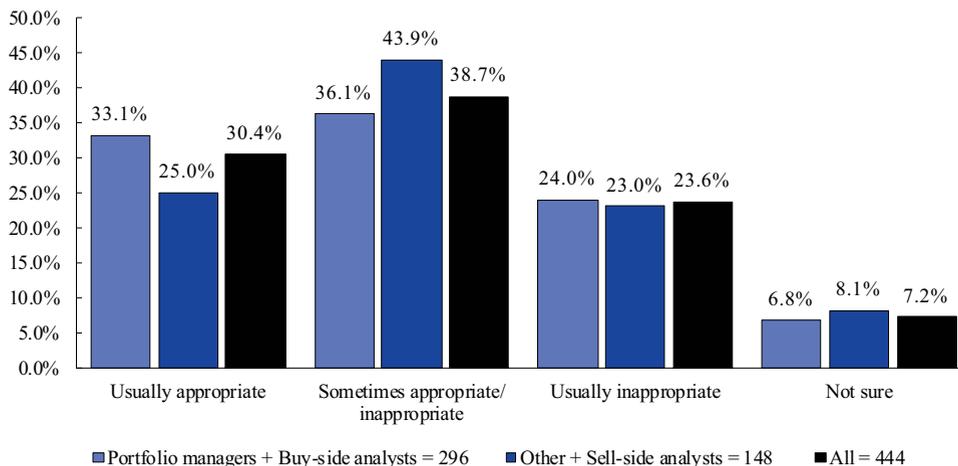
²⁹There is a difference between “artificial” and “real economic” profit volatility. Artificial profit volatility can occur due to accounting recognition mismatches (e.g. between revenues and related expenses or between mismatches in re-measurements of related or linked assets and liabilities). Real, economic profit volatility arises from the combined effects of management strategic, operational, investing, and financing choices alongside the impact of economic environment on revenues, costs, gains, or losses.

volatility of net profit (Melumad and Nissim 2008) and could provide a reason for some companies to adjust amortization of intangibles in their NGFM calculation.

Nonetheless, if the only concern is the artificial volatility that results from the economic benefit versus amortization mismatch, it would seem sensible that rather than entirely backing out amortization while calculating the NGFM, preparers ought to apply their estimates of the economic consumption of held acquired intangible assets. Doing so would allow any adjusted performance measure to better reflect the economic profit.

Member survey results, shown in **Figure 4.3**, show that 38.7% of respondents consider it sometimes appropriate (inappropriate), 30.4% usually appropriate, and 23.6% usually inappropriate for companies to adjust amortization while calculating NGFMs. A higher proportion of respondents, especially “buy-side analyst and portfolio manager” respondents, consider it usually appropriate to adjust amortization than those who consider it usually inappropriate.

Figure 4.3. Views on Amortization of Acquired Intangibles as NGFM Adjustments



The following respondent comments highlight reasons why some investors concur with preparers adjusting/excluding amortization while calculating NGFMs. The first comment highlights concerns about disconnect between cash outflows and amortization, the second comment is on the need for consistency in accounting for internally generated and acquired intangibles, and the third comment relates to the double counting of expenses.

In business combinations, the purchase price allocation to intangible assets such as "customer relations" seems to be a bit arbitrary and then the amortization of those assets even more so. It makes it difficult to discern if the combined entity will need to spend to replenish these assets on an ongoing basis. If there is no cash flow pattern that mimics these assets, just allocate it to goodwill. Then, at least, it stays on the balance sheet as a reminder of how much management paid for the asset and keeps reported returns on invested capital under pressure because the goodwill remains until it is impaired—management needs to be held accountable for the full purchase price of the deal.

—Respondent

Treatment of amortization between acquired and internally generated assets should be harmonized.

—Respondent

"Customer relationships" is typically an "asset" acquired during a business combination, which is then amortized. . . . A company is already incurring the expense to maintain this "asset" via its customer interaction, which is expensed in the current period via marketing, advertising, sales, commissions, payroll, etc. The costs incurred with maintaining those customer relationships are already captured in the income statement and cash flow.

—Respondent

Though these comments highlight why some investors find it appropriate for companies to exclude amortization while calculating NGFMs, as noted earlier, our survey results show that 23.6% consider excluding amortization during NGFM calculation to be usually inappropriate and 38.7% sometimes inappropriate. Plus, there are supporting comments for reversing any amortization exclusion in NGFM calculations, as shown next.

Intangibles (acquired or internally generated) should be amortized.

—Respondent

I consider as “core” any costs that I view as an ongoing cost of business. For companies where acquisition is core to the business model, I even include intangible amortization. Legal charges, cash restructuring charges, royalty payments, and stock option expenses are examples of items often excluded from “core” earnings but that I include as costs in my own valuations.

—Respondent

Other studies also highlight mixed views on the appropriateness of amortization adjustments. For instance, Brown et al.’s (2015) survey of sell-side analysts showed that 17.8% of respondents always adjust for amortization in street earnings, whereas 56.7% never adjust these charges.

4.1.3. Depreciation of Property, Plant, and Equipment as NGFM Adjustments

Depreciation is the systematic allocation of the carrying value of property, plant, and equipment (PPE) and is meant to reflect the consumption of the original cost of these assets over their useful economic life. The depreciation amount depends on the method applied (e.g., straight line, reduced balance, or sum of digits) and is subject to management estimates of economic useful life and residual value. The depreciation charge should not be ignored in economic performance measures simply because it is a non-cash item or because it is related to past period costs of acquiring long-lived tangible assets. Depreciation is intended to match the realization of economic benefits from the held tangible assets with the associated consumption of their acquisition costs and helps to align accounting with economic profit. If the accounting depreciation charge equates to the “economic depreciation,”³⁰ there will be an alignment between accounting and economic profit. Hence, one could argue that a better alternative to backing out accounting depreciation while calculating NGFMs ought to be adjusting accounting depreciation to be equal to the “economic depreciation.”

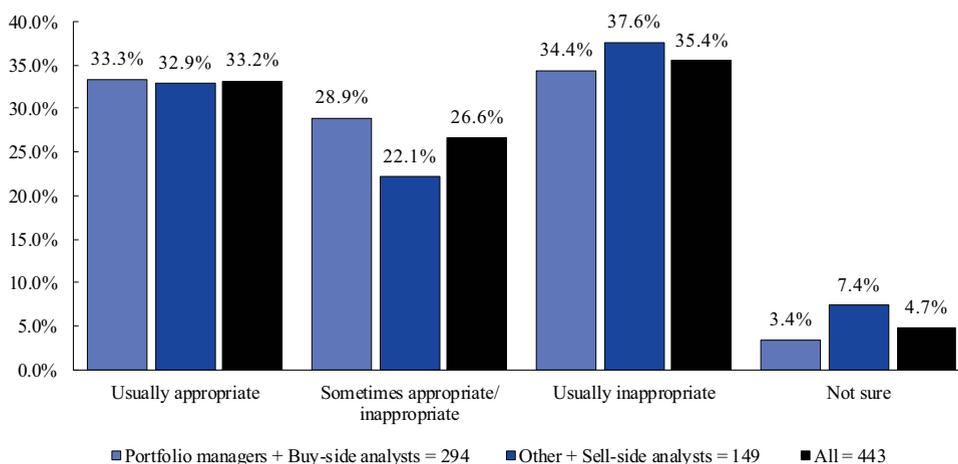
The adjustment and backing out of depreciation charges in NGFM calculation is usually done for measures that are meant to depict “cash earnings” such as EBITDA. However, investors need to be alert to whether the correct depreciation amount is being adjusted,

³⁰Harper (2010) defines “economic depreciation” as the true amount that a company needs to allocate annually in order to maintain and replace its fixed asset base.

because depreciation can be allocated across multiple line items,³¹ such as (1) cost of goods sold, (2) operating expenses such as the selling, general and administrative expenses, and (3) the ending balance of work in progress and finished goods inventories. Measures such as EBITDA are inaccurate if they only reflect partial depreciation adjustments. EBITDA is generally overstated for growing firms (more depreciation is included in ending inventory compared with beginning inventory) and understated for firms with declining inventories. Manufacturing firms in particular are susceptible to errors in reported EBITDA (Melumad and Nissim 2008).

Member survey results, shown in **Figure 4.4**, show that 35.4% of respondents consider it usually inappropriate, 26.6% sometimes appropriate (inappropriate), and 33.2% usually appropriate to adjust for depreciation of PPE.

Figure 4.4. Views on PPE Depreciation as NGFM Adjustments



Our survey reveals that a higher proportion of respondents view it as usually inappropriate to adjust depreciation while calculating NGFM than those who have such a view for the amortization of acquired intangibles. In similar vein, Brown et al.'s (2015) survey of sell-side analysts shows that only 11.8% of respondents always adjust for depreciation in street

³¹Investors can face difficulties in discerning the complete and accurate depreciation amount because of its dispersed allocation when the income statement is presented by function rather than by nature.

earnings, whereas 70.8% never adjust these charges. The same survey shows that 17.8% always adjust for amortization, whereas 56.7% never adjust.

Across both our and Brown et al.'s (2015) surveys, there is a higher proportion of respondents opposed to adjusting depreciation than those opposed to adjusting amortization while calculating NGFMs. A question could arise as to why this is the case given that both depreciation and amortization are non-cash items. We hypothesize that, as discussed in Section 4.1.2 and as some of our survey respondent comments reveal, many investors could be facing challenges interpreting the economics of business combination accounting, including the recognition and amortization of acquired intangibles. In contrast, our survey respondents' overall comments do not reveal any investor doubts on the economic relevance of depreciation. Respondents who consider it appropriate to adjust depreciation while calculating NGFM seem to do so mainly because they are seeking proxies for "cash earnings."

4.2. Either Recurring or Non-Recurring Line Items as NGFM Adjustments

The following is an analysis of NGFM-related adjustments of line items that we consider can be either recurring or non-recurring, including restructuring; acquisition and legal costs; inventory write-downs; and fair value, pension, and foreign currency re-measurements.

4.2.1. Restructuring Costs as NGFM Adjustments

As highlighted in Appendix A, restructuring costs were the most frequent NGFM adjustment across S&P 500 and FTSE 100 companies. Questions about the appropriateness of adjusting restructuring costs can arise because for many businesses, restructuring is an ongoing imperative and a necessary response to rapidly changing market environments, essential to enhancing productivity, cost efficiency, and revenue-generating potential. In other words, restructuring costs can be an ongoing cost of business rather than pertaining to a one-off business recalibration.

The often recurring nature of restructuring cost adjustments in NGFM calculations was highlighted in a Standard & Poor's (2014) commentary showing that 21 FTSE 100 companies had recurrent restructuring expenses in each of the four financial years prior to 2014. Hence, many investors find it questionable when seemingly serial restructuring

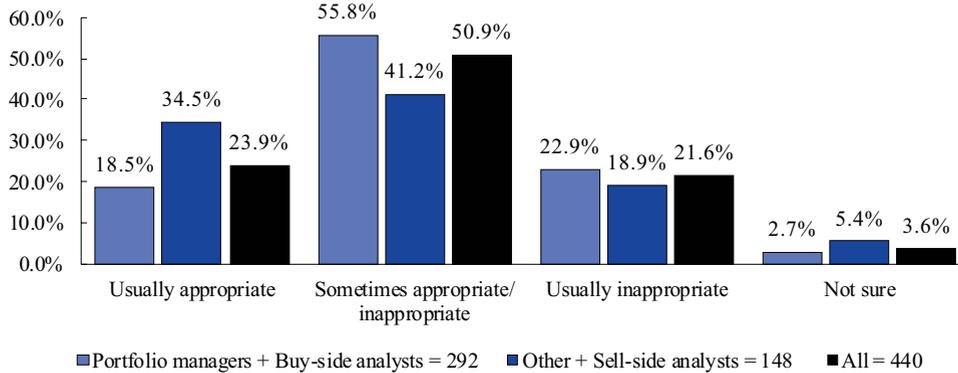
firms incur restructuring charges every year but still end up excluding such charges from their NGFM calculations.

Another illustration of questionable adjustments appears in a Calcbench (2016) publication describing the case of Hewlett-Packard (HP), which has reported \$8.6 billion of restructuring charges since 2008, had a restructuring charge every year since 2009, and adjusted these charges in communicated NGFMs. Furthermore, the Calcbench report observes the seemingly ongoing nature of HP's restructuring activities. For example, in 2012, HP management announced plans to trim 29,000 jobs at a cost of \$3.7 billion. In 2015, the company completed the plan with 55,800 jobs lost at a cost of \$5.5 billion. The management then announced a new restructuring plan that would run through 2018. In other words, restructuring charges seem to be a part of HP's ongoing business and ought to be reflected in summary performance measures.

Restructuring costs that are adjusted in NGFM calculations can consist of recurring and/or one-off type expenses, and these have differing information content for investors. Academic research (e.g., Jaggi, Lin, Govindaraj, and Lee 2009) shows that value relevance of restructuring activities and associated costs depends on the perceived impact of the particular restructuring activity on sustainable core performance (i.e., future revenues and operating costs). The academic evidence shows that costs associated with workforce layoffs or facility closures can signal positive future performance prospects and are normally positively associated with abnormal stock returns.³² On the other hand, investors seem indifferent to restructuring costs that mainly consist of asset write-downs. Hence, for analytical purposes, it is helpful for investors to be able to discern the nature of companies' restructuring costs. Yet, companies rarely provide disclosures that adequately contextualize these costs and explain why they are appropriate NGFM adjustments.

Our member survey results, shown in **Figure 4.5**, show that 50.9% of respondents consider it sometimes appropriate (inappropriate), 23.9% view it as usually appropriate, and 21.6% view it as usually inappropriate to adjust restructuring costs in NGFM calculations. A higher proportion of "sell-side analyst and other" than "buy-side and portfolio manager" respondents consider it usually appropriate to adjust these costs.

³²Workforce layoffs can also signal declining morale and/or organizational instability, and they can lower the outlook on future revenue prospects.

Figure 4.5. Views on Restructuring Costs as NGFM Adjustments

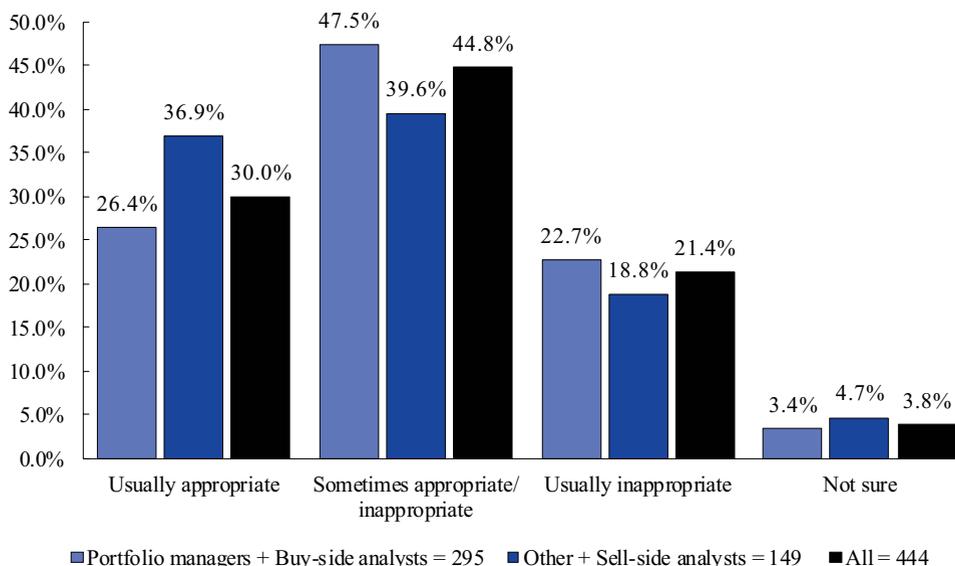
4.2.2. Acquisition Costs and Other Business Combination Expenses as NGFM Adjustments

Acquisition costs can include legal costs, accounting services, and consultancy fees. Other business combination charges include the re-measurement of contingent consideration arising from past acquisitions. These costs are frequently adjusted in NGFM calculations by FTSE 100 and S&P 500 companies.

Similar to restructuring costs, acquisition and business combination costs are likely to be seen as inappropriate NGFM calculation adjustments when they have been made by serial acquirers and are recurrent expenses.

Member survey results, as shown in **Figure 4.6**, reveal that 44.8% of respondents consider it somewhat appropriate (inappropriate), 30.0% consider it usually appropriate, and 21.4% consider it usually inappropriate to adjust acquisition and business combination charges in determining NGFMs. A higher proportion of “sell-side analyst and other” than “buy-side analyst and portfolio manager” respondents consider it usually appropriate to adjust these charges.

Figure 4.6. Views on Acquisition Costs and Business Combination Expenses as NGFM Adjustments



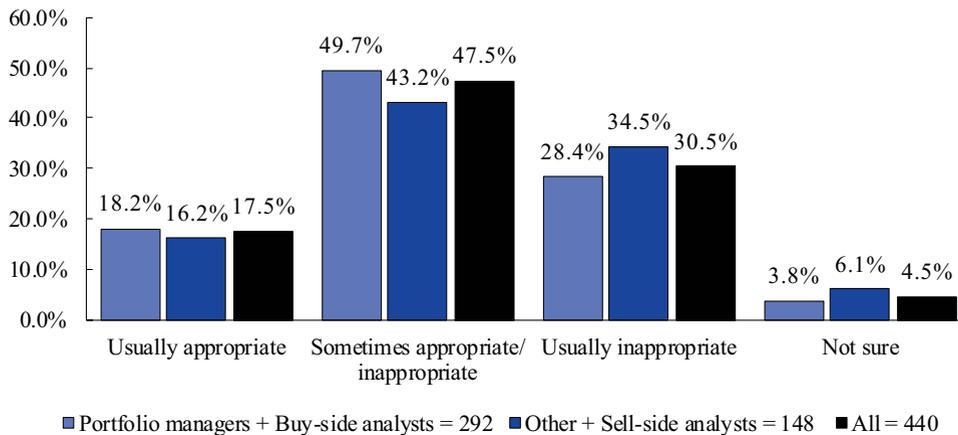
4.2.3. Legal Costs as NGFM Adjustments

Legal costs are frequently adjusted in NGFM calculations by FTSE 100 and S&P 500 companies. Legal costs tend to recur in sectors with product safety risk (e.g., the pharmaceutical industry and, in recent times, the banking sector). Legal cost adjustments are questionable when they have a recurrent pattern. For example, our analysis of the NGFM reporting of two pharmaceutical companies (Appendix A)—GlaxoSmithKline and AstraZeneca—shows recurring legal costs for both.

Nonetheless, company disclosures rarely contextualize the nature of legal costs (i.e., distinguishing one-off versus recurrent components), nor do they provide reasons for suitability of these costs as adjustments in NGFM calculations.³³

Member survey results, as shown in **Figure 4.7**, reveal that 47.5% of respondents consider it sometimes appropriate (inappropriate), 30.5% usually inappropriate, and only 17.5% usually inappropriate to adjust legal costs in NGFM calculations.

³³A general refrain by companies against disclosing the nature of legal costs is that such disclosures could jeopardize or prejudice outcomes of ongoing legal cases.

Figure 4.7. Views on Legal Costs as NGFM Adjustments

4.2.4. Inventory Write-Downs as NGFM Adjustments

Inventory³⁴ is a commonly held asset category across many businesses, including those that have manufacturing and merchandising activities. The carrying value of inventories is recognized on the balance sheet at the lower of cost or market value under US GAAP or the lower of cost or net realizable value under IFRS. Under the valuation premise of both US GAAP and IFRS, inventory write-downs can result from product obsolescence and/or significant price declines.

Inventory write-downs can signal the product obsolescence risk borne by reporting companies as well as the variability of underlying product margins. Certain industries are more prone to this risk than others. Hence, it seems misleading if the summary performance measure (adjusted net earnings) of a company X that has high product obsolescence risk is depicted as being similar to a measure for a company Y that does not (i.e., seeming similarity of performance arises only because company X backs out inventory write-downs while calculating adjusted performance measures).

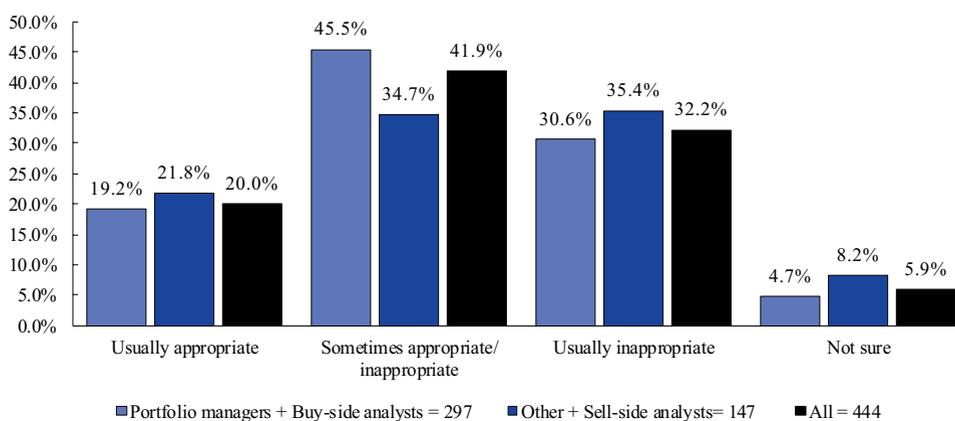
In any case, investors ought not to ignore patterns of inventory write-downs, even when these have been stripped out of adjusted performance measures in NGFMs, because the pattern of these write-downs can signal and have information content on whether earnings management or the misrepresentation of core performance has occurred. For

³⁴Inventories consist of raw material, work-in-progress goods, finished production goods, and purchased merchandise.

example, firms may overstate³⁵ inventory write-downs in a particular reporting period so as to reduce future periods' cost of goods sold (i.e., for the written-down inventory) and correspondingly increase the “core earnings” and reported net income of future periods (Melumad and Nissim 2008).

Member survey results, as shown in **Figure 4.8**, reveal that 41.9% of respondents consider it sometimes appropriate (inappropriate), 32.2% find it usually inappropriate, and only 20.0% find it usually appropriate to have inventory write-downs as adjustments while calculating NGFMs.

Figure 4.8. Views on Inventory Write-Downs as NGFM Adjustments



Comparing Views on Short-Term vs. Long-Term Asset Write-Downs

We sought investor views on inventory write-downs as NGFM adjustments—partly because we wanted to assess whether investors had different views on write-downs on short-lived versus long-lived assets (i.e., impairments as discussed in Section 4.3.2). A comparison of the survey responses across adjustment categories suggests that investors tend to consider more inappropriate any NGFM calculation-related adjustments for write-downs of short-lived assets relative to those for impairments of long-lived assets.

³⁵Measuring market value (US GAAP) or net realizable value (IFRS) involves a set of management judgments.

4.2.5. Fair Value Re-Measurements as NGFM Adjustments

Some companies exclude unrealized fair value gains or losses from financial instruments and other contractual arrangements (e.g., contingent consideration liability re-measurements) in NGFM calculations. Both FTSE 100 and S&P 500 companies had gains and losses of investment securities as a significant frequency/magnitude adjustment in NGFM calculations.

Fair value measurement of investment securities is required by accounting standards and value relevant, as a significant body of academic studies demonstrates (e.g., Barth, Beaver, and Landsman 1996, 2001). It is also supported by many investors (CFA Institute 2010, 2013). Nevertheless, questions remain about its appropriateness, and many stakeholders oppose its required application.

Preparers' adjustments of fair value re-measurements in NGFM calculations can, in part, be explained by their concerns about the incremental volatility in net income as a result of fair value measurement of held assets and liabilities. Incremental earnings volatility from fair value re-measurements negates any desired portrayal of a steady trend of net earnings. As we show in **Table 4.1**, a majority (51%) of chief financial officers (CFOs) associate enhancing earnings quality with either (1) having steady, sustainable, repeatable earnings (28%) or (2) stripping out items such as fair value re-measurements (23%). Similarly, Brown et al.'s (2015) survey of sell-side analysts found that 56% of respondents considered sustainable and repeatable earnings to be high-quality earnings.

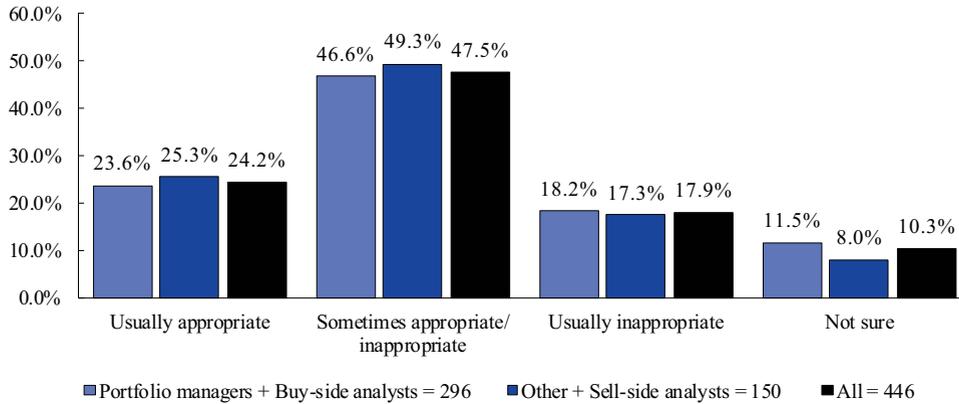
Table 4.1. CFO Perspectives on Earnings Quality

CFO's Concept of Earnings Quality	Percentage of Responses (public firms)
Sustainable, repeatable, recurring, consistent, reflects long-term trend, reliable, has the highest chance of being repeated in future periods	28%
Free from special or one-time items, not from reserves, fair value adjustments, accounting gimmicks, market fluctuations, gains/losses, fluctuations in effective tax rates, F/X adjustments	23
Accurately reflects economic reality, accurately reflects the results of operations	17
Quality earnings come from normal core operations	9
Earnings that are backed by cash flows	8
Accurate application of GAAP rules	8
Transparency/clarity	7
Consistently reported, consistently applied GAAP	6
Conservative	4
Regular revenues minus regular expenses, normal margin on revenues	3
Growing	1
EBITDA	1

Source: Dichev, Graham, Harvey, and Rajgopal (2015).

Member survey results, as shown in **Figure 4.9**, reveal that 47.5% of respondents consider it sometimes appropriate (inappropriate), 24.2% usually appropriate, and 17.9% usually inappropriate to adjust for fair value re-measurements while calculating NGFMs.

Figure 4.9. Views on Fair Value Re-Measurements as NGFM Adjustments



4.2.6. Pension Re-Measurements as NGFM Adjustments

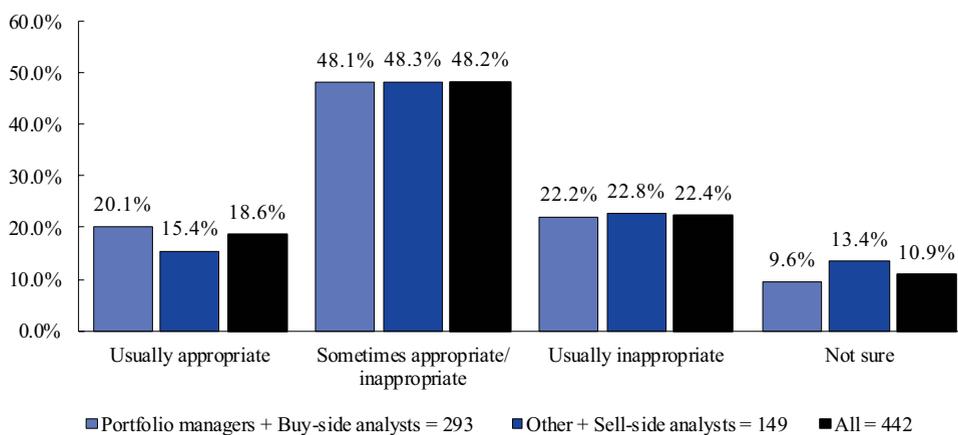
Pension expenses consist of service costs and net pension liability interest expenses. These two components are recurrent and economically relevant expenses for any reporting period. Pension expenses also include actuarial gains or losses and past (prior) service costs related to pension plan amendments, curtailments, and settlements (Shamrock 2012).³⁶ These latter two costs can be volatile and irregular in occurrence.

Pension re-measurements tend to be adjusted by preparers to minimize the volatility of adjusted earnings. Regardless of their volatile nature, pension re-measurements have information content on pension plan associated risks, are value relevant, and ought to be under investor scrutiny.

Member survey results, as shown in **Figure 4.10**, reveal that 48.2% of respondents consider it sometimes appropriate (inappropriate), 22.4% consider it usually inappropriate, and only 18.6% consider it usually appropriate to exclude pension re-measurements from NGFM calculations.

³⁶Actuarial gains or losses and past (prior) service costs are recognized in OCI under both US GAAP and IFRS. Under US GAAP, these items can be reclassified to income statement.

Figure 4.10. Views on Pension Re-Measurements as NGFM Adjustments



4.2.7. Foreign Currency Re-Measurements as NGFM Adjustments

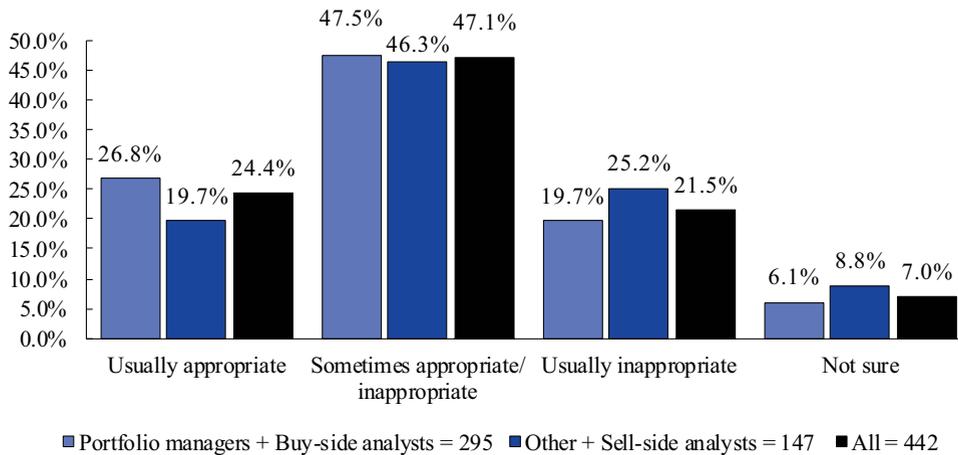
Dichev et al (2015) CFO survey highlights that 23% of respondent CFOs construe the elimination of foreign currency fluctuations from earnings to be a means of enhancing overall “earnings quality.” Furthermore, companies sometimes cite the lack of management control as a reason for excluding foreign currency transaction re-measurements when reporting adjusted operating profit. However, this line of reasoning seems to overlook that management has a choice and control over the foreign countries in which a company can trade, borrow, or invest, as well as over the choice and extent of applying hedging strategies.

Adjusting foreign currency re-measurement effects while calculating adjusted operating profit is understandable if the underlying foreign currency exposure relates to investing, lending, or borrowing activities. Such an adjustment becomes contentious, however, if it relates to exposures from operating activities (e.g., export sales or imports of production inputs), which can be seen as a misrepresentation of the performance of any business model that has foreign currency risk exposures through its operating activities. Although many investors desire to know a constant-currency view of operating performance, such a view should be provided as a supplemental disclosure and not represented as core performance. In general, companies do a poor job of disclosing their foreign currency exposures, and there is a question of why currency effects should be excluded from core or

underlying performance metrics. These changes are no less real than changes in demand or cost (energy, for example).

Member survey results, as shown in **Figure 4.11**, reveal that 47.0% of respondents consider it sometimes appropriate (inappropriate), 21.7% usually inappropriate, and 24.4% usually appropriate to adjust foreign re-measurements while calculating NGFMs.

Figure 4.11. Views on Foreign Currency Re-Measurements as NGFM Adjustments



4.3. Usually Non-Recurring Line Items as NGFM Adjustments

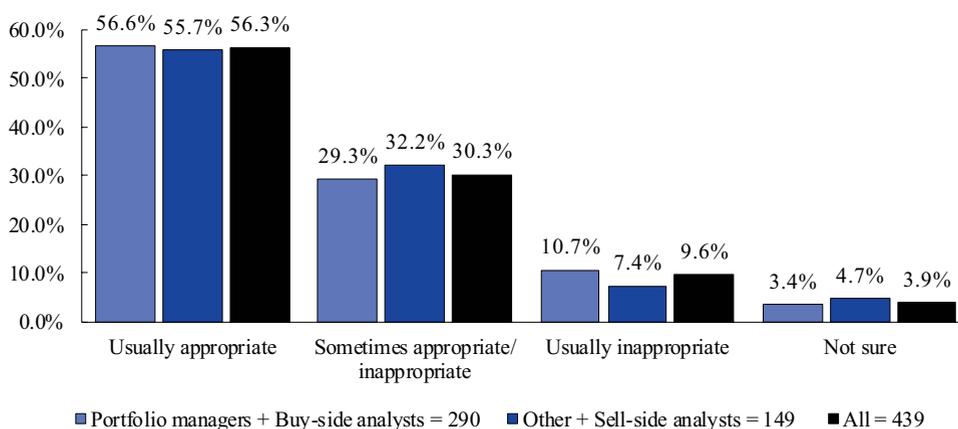
In this subsection, we analyze a selection of NGFM adjustments of line items that we consider usually non-recurring. These items include one-off asset sales and impairment of long-lived assets (intangible assets and PPE).

4.3.1. One-Off Asset Sales as NGFM Adjustments

Investors usually consider the exclusion of one-off asset sales in NGFM calculations to be appropriate. Member survey results, as shown in **Figure 4.12**, reveal that a majority

(56.3%) find such NGFM adjustments to be usually appropriate, 30.3% sometimes appropriate, and only 9.6% usually inappropriate. With findings that are reasonably aligned with our member survey, Brown et al. (2015) reveal that sell-side analysts make the following adjustments when determining street earnings: 71% always adjust extraordinary items, and 63.7% always adjust discontinued operations.

Figure 4.12. Views on One-Off Asset Sales as NGFM Adjustments



4.3.2. Long-Lived Asset Impairments as NGFM Adjustments

An analysis of FTSE 100 and S&P 500 companies shows that companies frequently adjust results for effects of impairments and that this category had the highest magnitude of NGFM-related adjustments in 2015, particularly as a result of energy companies' exposure to oil price declines. The justification for adjusting long-lived asset impairments tends to be that they are seen as lumpy and an irregular occurrence. We further analyze the impairment of different asset classes (intangibles and PPE) in this section.

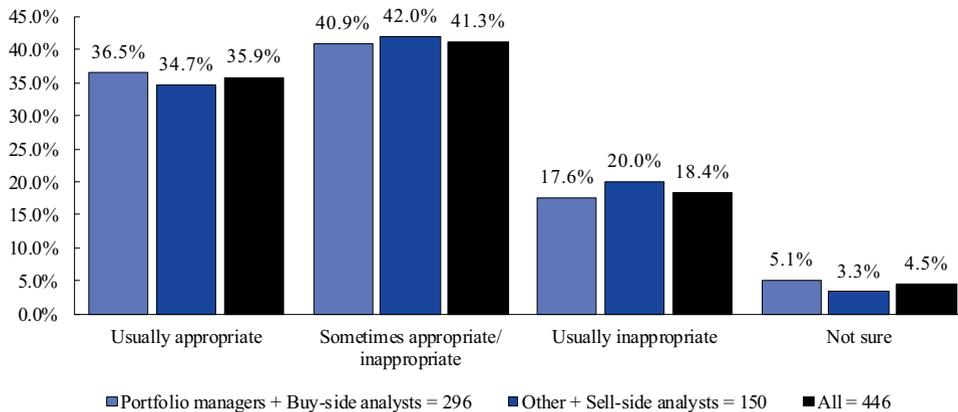
Intangible Asset Impairment as NGFM Adjustments

US GAAP and IFRS require impairment testing for intangible assets (e.g., goodwill and brand names) with an indefinite economic life. Impairment is required whenever there is evidence that an asset's carrying value exceeds its recoverable amount.³⁷

Investors have differing views on the accounting treatment of goodwill, and many choose to ignore goodwill write-offs. Hence, adjustments of goodwill impairments in NGFMs are aligned with the valuation approaches of those investors who ignore goodwill impairment.

Member survey results, as shown in **Figure 4.13**, reveal that 41.3% of respondents consider it sometimes appropriate (inappropriate), 35.9% usually appropriate, and 18.4% usually inappropriate to adjust impairments of intangible assets while calculating NGFMs.

Figure 4.13. Views on Impairments of Intangible Assets as NGFM Adjustments



³⁷If recoverable amount is less than carrying value, an impairment charge is taken. IFRS has a single-step evaluation based on assessing the recoverable amount (i.e., the higher of fair value less costs of disposal and value in use of asset determined on a discounted cash flow basis). Companies do not have to calculate both potential components of recoverable amount. US GAAP has a two-step process: (1) Compare future undiscounted cash flows of the asset(s) (recoverable amount) with the carrying value (cost less accumulated depreciation); (2) if the recoverable amount is less than the carrying value, the carrying value is written down to fair value of the asset(s). The impaired value becomes the new cost basis, and write-backs are prohibited.

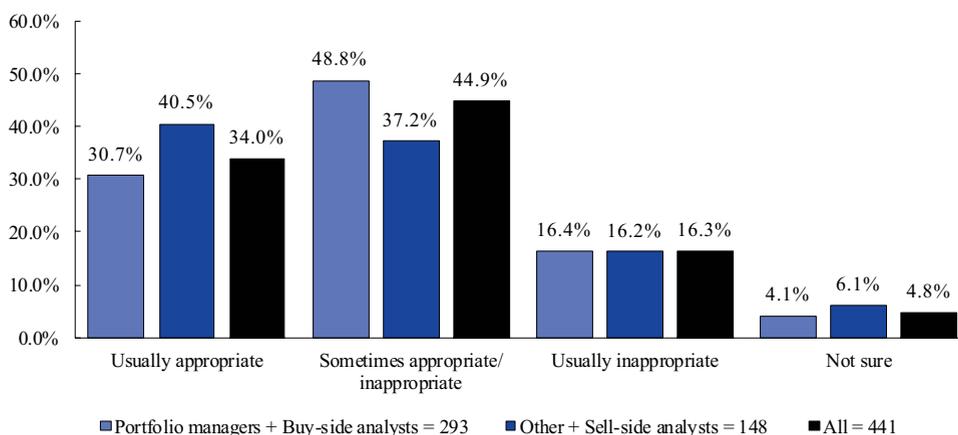
PPE Impairment as NGFM Adjustments

Both US GAAP and IFRS require fixed assets to be reviewed whenever events or changes in circumstances indicate that the asset's carrying amount (i.e., the net book value) may not be recoverable.

Both intangible asset and PPE impairments ought to be under analytical scrutiny regardless of whether they are included in the adjusted summary performance measures. Impairments can signal adverse effects of deteriorating economic circumstances on future cash flows, which ought to be pertinent for valuation of reporting companies. An empirical analysis (Amiraslani, Iatridis, and Pope 2014) of companies from European Union countries, Norway, and Switzerland found that 31% of economic losses are reflected in earnings—5.7% attributable to PPE impairments, 7.4% to impairments of intangible assets, and 17.8% to goodwill impairments.

Member survey results, as shown in **Figure 4.14**, reveal that 44.9% of respondents consider it sometimes appropriate (inappropriate), 33.9% usually appropriate, and only 16.3% usually inappropriate to adjust PPE impairments while calculating NGFMs. The results show that a higher proportion of “sell-side analyst and other” respondents than “buy-side analyst and portfolio manager” respondents consider it usually appropriate to adjust PPE impairments. This latter finding of sell-side support is consistent with Brown et al. (2015), which shows that 55.1% of sell-side respondents always adjust asset impairments in “street earnings.”

Figure 4.14. Views on PPE Impairments as NGFM Adjustments



4.4. Conclusion

The diversity of both company adjustments in NGFM calculations and investor views on these adjustments' appropriateness confirms the multi-dimensional aspects of performance as well as the potentially differing views on how to best present these aspects. We posit that enhancing GAAP/IFRS reporting requirements on presentation of primary financial statements, including possibly defining different earnings components, could reduce the need for particular NGFMs that are currently subject to inconsistent definition across companies. Such an enhancement could negate the various concerns associated with the discretionary definition of performance measures. We discuss investor expectations from accounting standard setters in the follow-up and second part of this publication.

5. Investor Views on NGFM Communication, Transparency, and Application

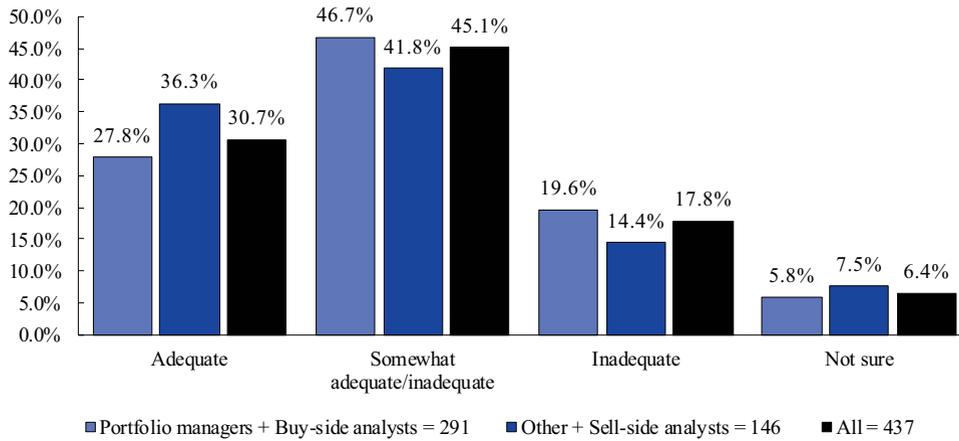
In this section, we review issues around companies' communication and transparency of NGFMs as well as the application of these measures as a basis for determining executive compensation. Our analysis is based on survey results where we assess investor views on across period comparability, adequacy of reconciliation and disclosures, prominence and links to executive compensation.

The responses on adequacy of across period comparability, reconciliations, and disclosures fall under four analytical categories—namely, “adequate,” “sometimes adequate (inadequate),” “inadequate,” and “not sure.” We consider “adequate” to be the only satisfactory response. Both the “sometimes adequate (inadequate)” and “inadequate” categories reveal at least some room for improvement by some companies.

5.1. Across-Period Comparability of NGFMs

Companies have discretion on the choice and determination of NGFMs, which often leads to inconsistencies in reporting of these measures across time and companies. To improve period-to-period comparability, the SEC, IOSCO, and ESMA all require companies to provide comparative data for prior periods.

Our survey results, as shown in **Figure 5.1**, however, reveal that 45.1% of respondents consider comparability across reporting periods to be somewhat adequate and 17.8% consider it inadequate. The results also hint at lower satisfaction by “buy-side analyst and portfolio manager” respondents compared with “sell-side analyst and other” respondents on this reporting aspect.

Figure 5.1. Views on Period-to-Period NGFM Adjustments

5.2. Reconciliations and Disclosures

Table 5.1 provides a summary of survey findings on NGFM-related reconciliation and disclosures. The results show that less than 30% of survey respondents find any of the assessed elements of reconciliations or disclosures to be adequately reported. These findings confirm the general need to improve NGFM reconciliation and disclosures (i.e., after combining the proportion of respondents in the “sometimes adequate (inadequate)” and “inadequate” categories).

Table 5.1. Views on Adequacy of Reconciliations

	Adequate	Sometimes Adequate/ Inadequate	Inadequate	Not Sure
<i>Reconciliations</i>				
Signposting and location of reconciliations within the annual reports and/or other management communication documents**	24.4%	40.0%	26.7%	8.8%
Management choice of the most directly comparable GAAP/IFRS line item*	22.2	50.2	16.5	11.1
Disaggregation of adjustments in the reconciliation to the most directly comparable GAAP/IFRS line item*	28.5	43.7	19.0	8.8
<i>Disclosures</i>				
Explanations for using particular NGFMs/APMs*	24.7%	45.5%	24.2%	5.7%
Contextual information, explanation and economic reasons provided for the chosen NGFMs/APMs related adjustments**	23.4	38.5	31.3	6.8
Disclosures that can enable the reconciliation and comparison of different NGFMs/APMs that are communicated by similar companies**	21.5	39.4	31.2	7.9

*A higher proportion of respondents found this reconciliation or disclosure component to be adequate than those who found it inadequate.

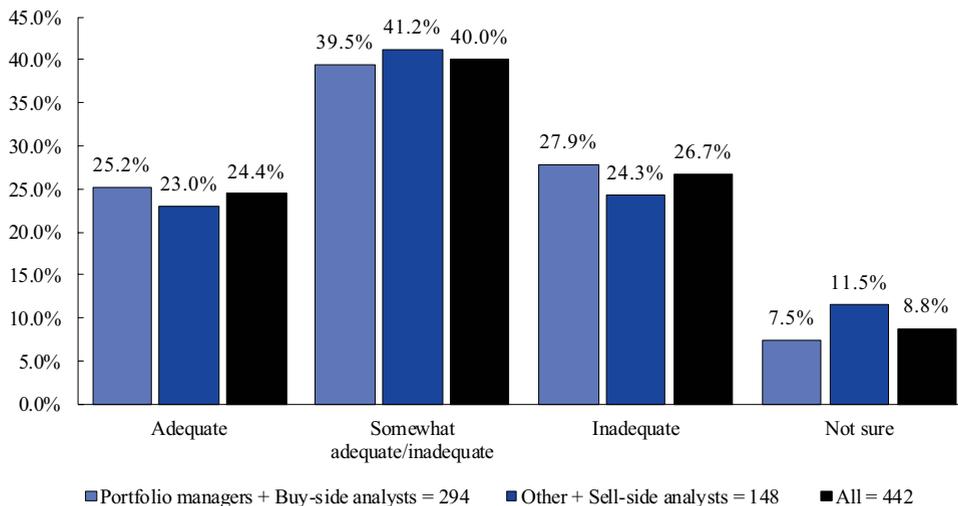
**A higher proportion of respondents found this reconciliation or disclosure component to be inadequate than those who found it adequate.

5.2.1. NGFM Reconciliation to Most Directly Comparable GAAP/IFRS Line Item

Signposting of Reconciliation and Disclosures

These reconciliations can have diverse locations within company financial statements, as shown by PwC's (2016) review of FTSE 100 reconciliations. The PwC study shows that of the 95 companies that used APMs, 93 provided a reconciliation. Furthermore, 35 out of those 93 presented the reconciliation on the face of the financial statements, and another 43 presented the reconciliation in the front half. Despite the placement diversity, there is usually poor signposting for NGFM reconciliation, and in many instances, the reconciliation is relatively difficult to find without using a PDF document search function. Our member survey results, as shown in **Figure 5.2**, reveal that 40.0% of respondents consider signposting of reconciliation and disclosures to be somewhat adequate (inadequate), and a higher proportion of respondents view it as inadequate (26.7%) than adequate (24.4%).

Figure 5.2. Views on Signposting and Location of Reconciliations within Annual Reports

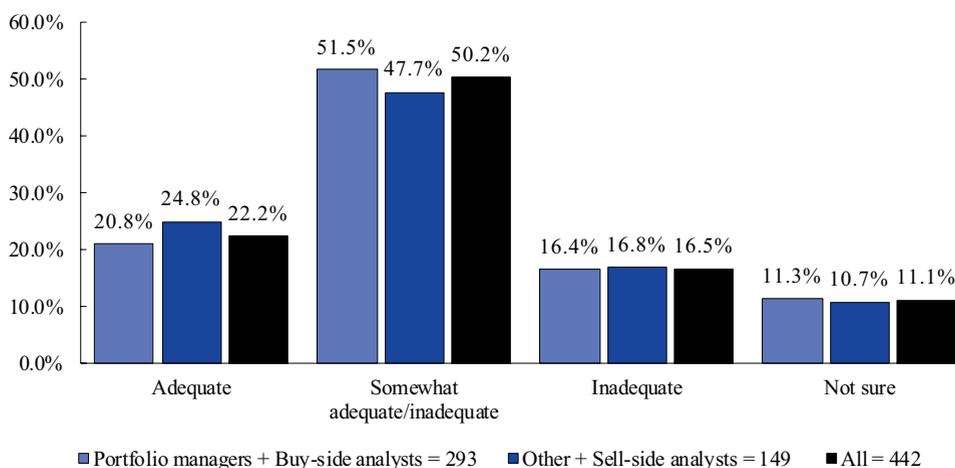


Company Choice of Most Directly Comparable GAAP/IFRS Line Items

Even for the same NGFM, there is often significant variation in companies' choice of the most directly comparable GAAP/IFRS line. For example, EBITDA is sometimes reconciled to "net income" and in other cases to "operating profit." The question arises whether EBITDA is intended as an alternative measure of (1) earnings, (2) operating profit, or even (3) cash flow operations. Conversely, different NGFMs are reconciled to net income by different companies. LinkedIn reconciles adjusted EBITDA (see Appendix A) whereas Salesforce.com reconciles adjusted net income to net income.

Member survey results, as shown in **Figure 5.3**, reveal that 50.2% of respondents view management's choice of directly comparable GAAP/IFRS line item as somewhat adequate (inadequate), and a higher proportion view it as adequate (22.2%) than inadequate (16.5%).

Figure 5.3. Views on Management Choice of Most Directly Comparable GAAP/IFRS Numbers



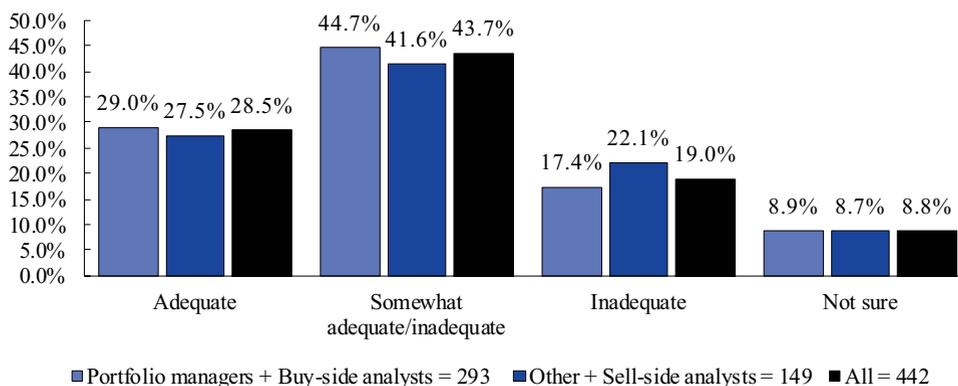
Adequacy of Disaggregation

There are many instances in which the NGFM reconciliation disaggregation level is inadequate, even after considering any additional information in the accompanying disclosures. For example, for German software company SAP (see Appendix A), the reconciliation does not adequately disaggregate exclusions by nature of the expense. Instead, some items are reported by function (e.g., general and administrative expenses, sales and marketing, and R&D). The accompanying disclosure indicated that these operating expenses consisted of discontinued operations but did not specify the related amounts.

“Other” Classification: Another aspect of disaggregation that presents a concern for investors is the “other” line item classification, particularly if there are any recurring expenses that are lumped into this “other” category and are then effectively out of sight for investors who may have considered it appropriate to reverse these expenses while further adjusting companies NGFM calculations. PwC’s (2016) analysis of FTSE 100 firms shows a significant magnitude of adjustments in this category. An example of “other” classification that warrants an explanation can be seen in one of the companies we analyze- GlaxoSmithKline (GSK) (see Appendix A). GSK had £9.7 billion categorized as “disposals and other” in its 2015 adjusted operating profit calculation. Questions arise on the split in amounts between “disposal” versus “other” and the nature of these “other” expenses. Overall, an explanation of the nature of NGFM adjustments labeled as “other” can facilitate investors’ ability to better analyze companies.

Member survey results, as shown in **Figure 5.4**, reveal that 43.7% of respondents consider the disaggregation of adjustments in NGFM reconciliations to be somewhat adequate, and a higher proportion view it as adequate (28.5%) than inadequate (19.0%).

Figure 5.4. Views on Disaggregation of Adjustments

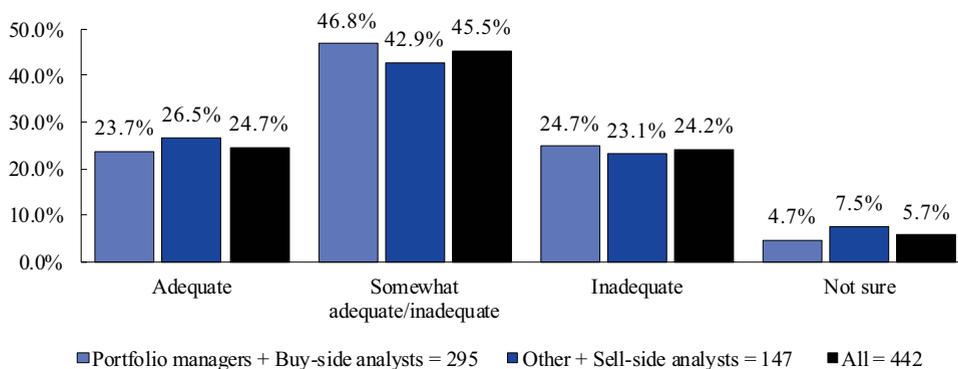


5.2.2. Disclosures

Explanation on Choice of NGFM

Our member survey results, as shown in **Figure 5.5**, reveal that 45.5% consider explanations on the choice of NGFM to be somewhat adequate (inadequate), and the proportion who view such explanations as adequate (24.7%) and inadequate (24.2%) is roughly equal.

Figure 5.5. Views on Explanations for NGFMs

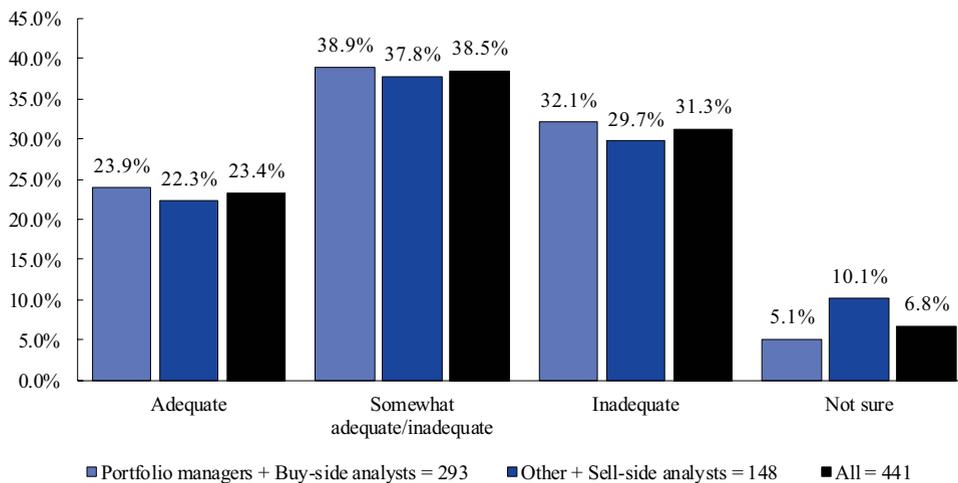


Contextualizing an Entity's View of Performance

It is helpful for investors to understand the economic justification of adjustments made in NGFM calculations. In general, better contextual information is needed around NGFM adjustments. Companies' management should explain why they consider it appropriate to adjust certain costs that sometimes have a recurring pattern (e.g., restructuring, acquisition, and legal costs) and why such adjustments are not considered part of an ongoing, sustainable performance profile. Yet disclosures of NGFM adjustments can be inadequate, as we observed in analyzing a sample of six companies (see Section 5.3).

Member survey results, as shown in **Figure 5.6**, reveal that 38.7% of respondents consider disclosures that contextualize or provide economic reasons for adjustments to be somewhat adequate, and a higher proportion consider these disclosures to be inadequate (31.2%) than adequate (23.3%). In comparing the survey responses across different components of reconciliation and disclosures, we find that this aspect of disclosure is one for which investors expect the most significant improvement, alongside disclosures that facilitate comparison across companies.

Figure 5.6. Views on Economic Reasons for Adjustments



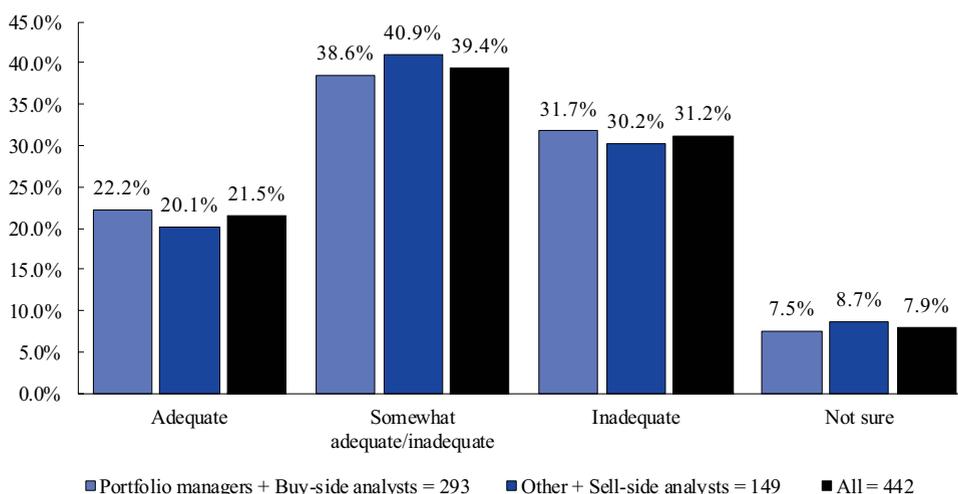
Disclosures That Facilitate Comparability across Similar Companies

In addition to comparability across periods, another challenge with NGFM reporting is that these measures' are incomparable across companies because of inconsistent definitions. In many cases, the definitions themselves are unclear. Similar companies and peers in the same sector (e.g., pharmaceutical or technology companies, such as the ones we analyze in Section 5.3) usually determine NGFMs using different adjustments to the GAAP/IFRS number.

Investors can better compare companies if the disclosures of NGFM adjustments have a level of detail that enables reconstruction of comparable NGFMs across similar companies, even in cases where similar companies have communicated different NGFMs or applied different definitions.

Our member survey results, as shown in **Figure 5.7**, reveal that only 39.4% consider disclosures that enable comparability across companies to be somewhat adequate (inadequate), and a higher proportion consider these disclosures to be inadequate (31.2%) than adequate (21.5%). Alongside disclosures that provide economic reasons for making adjustments, this aspect of disclosure is one for which investors expect the most significant improvement.

Figure 5.7. Views on Disclosures That Enable Comparison with Similar Companies



5.2.3. Case Studies: Assessing Quality of NGFM Reconciliation and Disclosures

To further contextualize the discussion around quality and communication of NGFMs that we have presented in the previous sections, we analyzed the NGFM reporting for a selected sample of six firms in the technology and pharmaceutical sectors, including US GAAP and IFRS reporting firms (See Appendix A for the detailed analysis). We recognize that the analysis of NGFM reporting for a small sample (six companies) cannot be used to make inferences about the general population of reporting companies. Nevertheless, such an analysis helps to illustrate matters that are of concern to investors.

We selected companies from the technology and pharmaceutical sectors because NGFM reporting is prevalent within these two sectors, as highlighted by several studies (Black et al. 2016; Calcbench 2016; Morgan Stanley 2016). The selected technology companies (SAP, Salesforce.com, and LinkedIn) and pharmaceutical companies (GlaxoSmithKline, AstraZeneca, and Merck) all have distinctive business models, which helps us to gauge whether observed differences in NGFM reporting across companies are influenced by differences in reporting companies' business models. After all, financial statement preparers are often motivating NGFM reporting as an opportunity to convey company-specific views of performance.

In our analysis in Appendix A, we reviewed the reconciliation to the most directly comparable GAAP/IFRS, as well as the explanations for NGFM-related adjustments within the accompanying disclosures. Our analysis of NGFM reporting in these six companies yields the following general observations:

- The use of different NGFMs by the different companies (adjusted operating profit, adjusted net income, operating profit, profit before tax, and adjusted EBITDA).
- A general exclusion of recurring expenses in NGFM calculation, the most pronounced being stock compensation expense for the technology companies. Pharmaceutical companies usually excluded seemingly recurring legal costs, restructuring costs, and amortization of intangibles charges.
- A general upward adjustment of the summary GAAP/IFRS measure because of the magnitude and frequency of exclusion of expenses and charges (recurring and non-recurring), although some of the companies adjusted gains across different reporting periods (e.g., Merck).

- The accompanying disclosures related to NGFM types and adjustments were quite a mixed bag. There were useful information nuggets provided by some of the companies. For example, AstraZeneca gave some details regarding its restructuring activities, including distinguishing between asset write-downs and cash costs. However, these six companies often only gave generic reasons for why line items were adjusted in NGFM calculations. A common justification was that the adjustments enable companies to give investors a better view of performance. Another was that a line item was not influenced by operating activities (e.g., Salesforce.com’s reason for excluding stock option expenses).
- There was no elaboration on why investors would be better informed about performance based on any interplay between company’s specific business model features and NGFM adjustments. It was also not clear whether the adjustments being made were simply a result of company management’s disagreeing with the accounting standards recognition and measurement requirements (e.g., measurement method of amortization of acquired intangibles).
- Limited incremental business model insights on differing business models from NGFM reporting: Differing business models can necessitate differing production, operating, investing, and financing contractual arrangements. NGFMs are meant to present a view of performance through the “eyes of management,” reflecting company-specific features and augmenting the general purpose, standardized, mandated accounting information.

In some cases, NGFM measures and/or adjustments are described as better reflecting the economics of underlying transactions (e.g., SAP’s non-IFRS revenue due to acquisitive activities). But it was generally challenging to readily discern how differences in business models may have influenced the NGFM type and line item adjustments. For example, the three pharmaceutical companies we analyzed employ three distinctive different business models as described by Miemietz (2013).

- ▲ AstraZeneca: Pure-play pharmaceutical focused on human health, branded prescription drugs
- ▲ GSK: Balanced drug portfolio diversified to include branded and over-the-counter human health drugs and animal health products
- ▲ Merck: Diversified industrial that covers other business models beyond pharmaceuticals, such as agriculture or chemicals

That being said, the NGFM adjustments and accompanying disclosures that we observed across the three pharmaceutical companies do not explicitly convey to readers incremental insights of how differing business models may necessitate differing adjustments in the respectively reported adjusted performance measures.

5.3. Prominence: Reporting Relative to GAAP/IFRS Measures

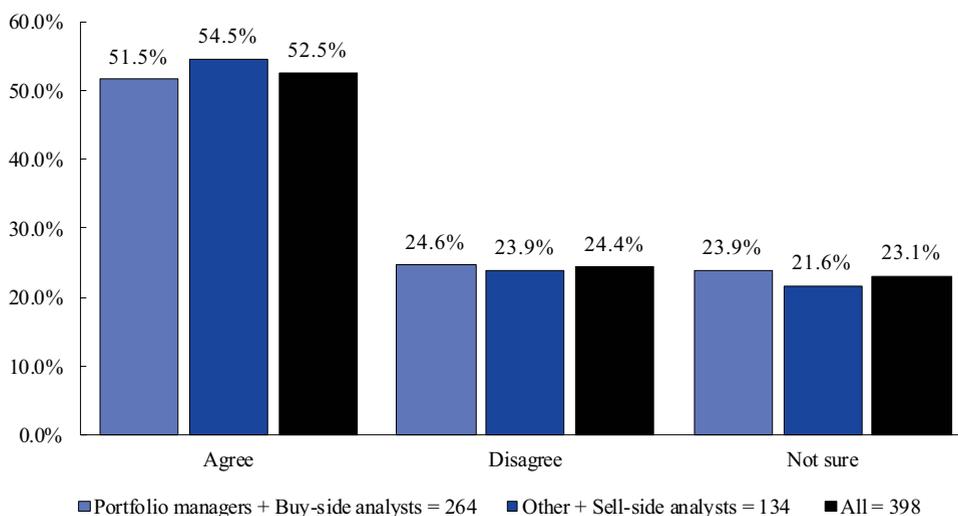
In the communication of their performance, some companies accord greater prominence to NGFMs relative to the GAAP/IFRS measures. The undue prominence of NGFMs is particularly a concern due to the capacity of these measures to mislead retail investors or those financial information users that rely heavily on data aggregators.

Academic research provides evidence that suggests retail investors are susceptible to being misled when undue prominence is accorded to NGFMs in management's communication (e.g., press releases). For instance, the research (Bhattacharya, Black, Christensen, and Mergenthaler, 2007) shows that retail investors tend to immediately trade on pro forma information within press releases, while sophisticated investors stay out of the market around the press release dates.³⁸ Thus, there is a concern whenever management emphasizes or gives greater prominence to the NGFM relative to the GAAP/IFRS number.

The SEC's recent clarification and signaling of its increased oversight over reporting practices (e.g. location, tabular presentation, bold fonts) that could be construed as providing greater prominence to NGFMs than GAAP/IFRS should help mitigate this general concern. Our survey results (**Figure 5.8**) show a majority of respondents (52.4%) support specific rather than general guidelines on what constitutes undue or greater prominence of NGFMs relative to GAAP/IFRS.

³⁸Some caution may be required with respect to the inferences made from this particular cited academic study (Bhattacharya et al. 2007) because it was based on data from the 1990s to the early 2000s. It is not clear whether the same pattern of sophisticated investors ignoring NGFM at the press release date would still hold in today's market environment—especially with the advent of high-frequency trading strategies where several institutional funds seek all forms of arbitrage opportunities. For example, if there is an over-reaction (e.g., buying spree of a particular stock by retail investors because of released NGFMs that leads to overvaluation of the stock), a sophisticated investor who identifies discrepancies between the NGFM-depicted and the true economic performance has a profit opportunity that can be derived by shorting the same stock.

Figure 5.8. Views on Guidelines to Mitigate against Undue Prominence of NGFMs



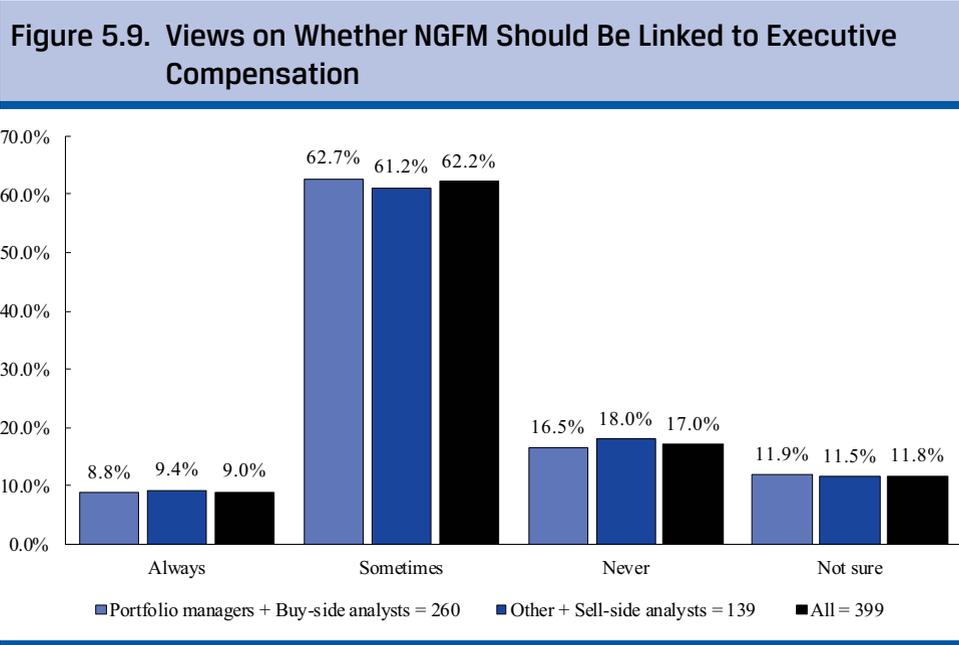
5.4. Application Issues: NGFM-Linked Executive Compensation

Whenever executive compensation is linked to certain adjusted measures of performance, investors are concerned if these measures do not appropriately reflect the reporting entity's economic performance. Trainer and McBride (2015) highlight how NGFMs can boost executive pay at shareholders' expense, observing that in 2012, 63 S&P 500 firms paid out adjusted performance-based bonuses despite underperforming the index.

Trainer and McBride (2015) further describe the case of technology company Discovery Communications, for which a misleading application of adjusted operating income before depreciation and amortization (AOIBDA) formed the basis for determining the CEO's bonus. The AOIBDA metric strips out stock option and restructuring expenses, and it showed that Discovery Communications exceeded the designated performance targets for a six-year period (2009 through 2014). Using a similar unadjusted measure, however—OIBDA (i.e., not excluding stock option and restructuring expenses)—the company would have missed its target in three of the same six years.

The concern about executive compensation linked to adjusted performance measures arises from several instances of NGFMs failing to reflect the true economic performance of reporting businesses. As with any contractual arrangement that rewards an upside realization but fails to reflect all costs associated with underperformance, NGFM-linked compensation can contribute to morally hazardous behavior by managers and impose unwanted agency costs. In other words, managers are likely to take disproportionate risks that jeopardize shareholder interests whenever they are eligible for rewards for outperformance while remaining exempt from penalties for underperformance.

Despite these concerns, our member survey results (**Figure 5.9**) show that 62.2% of respondents consider it sometimes appropriate to link NGFMs to executive compensation, suggesting a need to consider this matter case by case rather than prohibiting or always applying these measures in deriving executive pay.



5.5. Conclusion

Investor feedback on the reconciliation and disclosures of NGFMs affirms that the various global securities regulators (SEC, IOSCO, and ESMA) have been barking up the right tree, addressing a legitimate investor concern with their respective guidelines. Nevertheless, the question lingers as to whether their measures go far enough to ensure that companies communicate NGFMs effectively. We will explore this question in the follow-up and second part of this publication, alongside the role of other key actors that can potentially affect the supply and quality of NGFMs (e.g., audit committees, auditors, and accounting standard setters).

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7. Appendix A

Appendix A consists of aggregate data on key line item adjustments, case studies of NGFM reporting, and the member survey respondent profile.

7.1. Data on Key Line Item Adjustments

Tables 7.1 and **7.2** delineate the frequency and magnitude of NGFM adjustments for S&P 500 companies for the 2009–2014 period as reported by Black et al. (2016). **Figure 7.1** outlines the same for the FTSE 100 companies in 2015 as reported by PwC (2016).

Table 7.1. Frequency of Adjustments: S&P 500 Companies

	2009	2010	2011	2012	2013	2014
Restructuring*	52.5%	45.9%	42.1%	49.0%	51.5%	48.0%
Investment gains/losses*	17.6	20.1	19.0	19.7	21.0	27.6
Acquisition*	26.1	34.4	31.7	36.1	35.2	36.0
Stock compensation	17.6	17.0	17.6	16.5	17.0	15.0
Amortization*	22.3	20.5	23.1	22.3	22.8	24.0
Impairment*	29.0	24.3	25.5	30.6	27.5	27.6
Legal	21.8	19.7	23.8	22.3	25.9	28.2
Pension (MTM)*	1.3	1.9	3.1	3.5	0.3	4.2
Pension (OPEB)*	2.1	2.7	5.2	9.4	7.7	10.2
Currency	1.3	3.1	1.4	1.3	4.3	5.4
Tax resolution/change**	30.7	40.2	37.2	31.3	34.6	35.1
Tax adjustments (NGFM)**	36.1	33.2	35.2	36.8	36.7	37.5
Debt extinguishment**	10.5	19.7	13.4	16.1	14.5	18.6
Interest revenues/costs**	6.7	6.6	6.6	5.2	5.2	4.5

*Also frequently adjusted in FTSE 100.

**Not part of our list of reviewed adjustments in Sections 3 and 4.

Source: Black et al. (2016).

Table 7.2. Magnitude of Adjustments: S&P 500 Companies

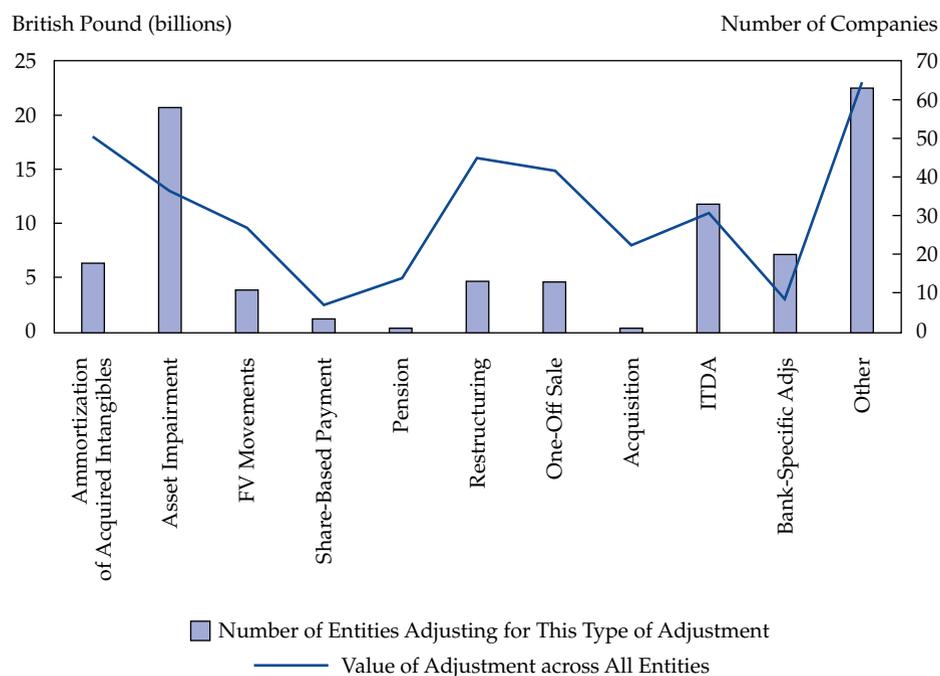
	2009	2010	2011	2012	2013	2014
Restructuring*	51.6%	45.3%	35.5%	51.2%	52.1%	57.9%
Investment gains/losses*	(14.1)	(11.8)	(12.2)	(2.3)	(2.4)	(18.0)
Acquisition*	18.3	30.9	29.6	29.4	34.7	47
Stock compensation	22.6	23.5	27	29.1	31.3	32.5
Amortization*	41.7	37.1	41.6	44	46.2	54.3
Impairment*	60.9	38.1	63.4	110.8	57.4	64.3
Legal	16.8	9	22.8	20.6	22.2	21
Pension (MTM)*	1.3	2.3	3.4	4.2	0.1	4.7
Pension (OPEB)*	1.2	0.8	2.7	6.5	4.8	6.2
Currency	0.1	0.5	0.1	0.1	0.7	0.9
Tax resolution/change**	(6.7)	(5.2)	(12.9)	(10.4)	(7.9)	(4.4)
Tax adjustments (NGFM)**	(44.6)	(36.8)	(38.3)	(52.2)	(50.9)	(59.5)
Debt extinguishment**	4.0	9.1	7.4	8.2	10.1	13.4
Interest revenues/costs**	2.4	2.5	2.4	1.8	1.0	1.0

*Also frequently adjusted in the FTSE 100.

**Not part of our list of reviewed adjustments in Sections 3 and 4.

Source: Black et al. (2016).

Figure 7.1. Value and Number of FTSE 100 Adjustments Reported by PwC



Notes: FV is fair value. ITDA is interest, taxes, depreciation, and amortization.

7.2. Case Studies: Software and Pharmaceutical Companies' NGFM Reconciliation and Disclosures

In this subsection, we review the reconciliation and disclosures for a selected small sample of six companies in the technology and health care sectors. We also discuss key conclusions from this review in Section 5.2.3.

Technology Companies Review

SAP

Assessing SAP's NGFM Reconciliation and Disclosures

Reconciliation of NGFM to the most directly comparable IFRS line item (**Table 7.3**):

- There is an upward adjustment of operating profit in five of six years.
- There is no disaggregation of the tax effects of NGFMs within the reconciliation.
- The reconciliation does not adequately disaggregate the exclusions by the nature of an expense. Instead, some items are reported by function (e.g., general and administrative expenses, sales and marketing, and R&D).

Table 7.3. Reconciliation of Operating Profit (millions)

	2015	2014	2013	2012	2011	2010
<i>SAP</i>						
Operating profit, non-IFRS	€6,348	€5,638	€5,514	€5,190	€4,710	€4,007
Operating profit, IFRS	€4,252	€4,331	€4,479	€4,041	€4,881	2,591
Upward (downward) adjustment	€2,096	€1,307	€1,035	€1,149	(171)	1,416
Operating margin, non-IFRS	30.5%	32.1%	32.6%	31.8%	33.0%	32.0%
Operating margin, IFRS	20.5%	24.7%	26.6%	24.9%	34.3%	20.8%
<i>Adjustments</i>						
Revenue	€11	€19	€82	€81	€27	€74
Cost of revenue	696	471	487	542	317	220
Restructuring	621	126	70	8	4	(3)
Sales and marketing	449	170	205	223	127	95
Research and development	202	127	120	129	41	23
General and administration	116	86	70	164	30	26
<u>Litigation</u>	—	<u>309</u>	—	—	<u>(717)</u>	<u>981</u>
Total	€2,095	€1,308	€1,034	€1,147	(€171)	€1,416

Disclosures:

- The disclosures are explained at a high level, including why revenue adjustment was required, indicating that it relates to acquisitive intangible assets for which revenue recognition is prohibited under IFRS.
- There is a generic disclosure of operating expenses. There was an indication that these operating expenses comprised discontinued operations, but there was no specificity on the related amounts.

Salesforce.com

Assessing Salesforce.com's NGFM Reconciliation and Disclosures

Reconciliation of NGFM to the most directly comparable GAAP line items (**Table 7.4**):

- There is an upward adjustment of operating income in all six years analyzed.
- Stock compensation expense is a significant expense, and its exclusion in the adjusted measure, transformed operating losses into operating profits for four of the six years analyzed.
- There was a one-off item in 2016 (i.e., operating lease termination gain).
- Salesforce.com also provided other NGFMs (adjusted net income, adjusted EPS) and accompanying reconciliation. There is also a reconciliation of the GAAP-operating cash flow to the “free cash flow.”
- In adjusted net income reconciliation (not shown in this report), Salesforce.com adjusted for amortization of purchased intangibles and the amortization of debt discount.
- The adjusted net income reconciliation (not shown here) had a disaggregation of tax effects of NGFM adjustments. In 2014, it excluded certain tax effects related to acquisitions in the computation of non-GAAP tax expense, as it considered these to be non-cash.

Table 7.4. Reconciliation of Operating Income (thousands)

	2016	2015	2014	2013	2012	2011
<i>Salesforce</i>						
Income (loss) from operations, non-GAAP	\$830,004	\$574,105	\$363,741	\$356,811	\$261,492	\$237,594
Income (loss) from operations	114,923	(145,633)	(286,074)	(110,710)	(35,085)	97,497
Upward (downward) adjustment	715,081	719,738	649,815	467,521	296,577	140,097
<i>Adjustments</i>						
Amortization of purchased intangibles	\$158,070	\$154,973	\$146,535	\$88,171	\$67,319	\$19,668
Stock-based expenses	593,628	564,765	503,280	379,350	229,258	120,429
<u>Operating lease termination</u>	<u>(36,617)</u>					
Total	\$715,081	\$719,738	\$649,815	\$467,521	\$296,577	\$140,097

Disclosures:

- Salesforce.com, in its 2016 annual report, explains that it awards stock option to attract and retain employees and does not consider related expenses as period specific, operating costs. In our opinion, such a view by companies that is contrary to the accounting standard requirements warrants a richer explanation than the generic one provided. Incidentally, Salesforce.com's management admits that if it did not pay employees via stock-based compensation, the company would have incurred a higher cash salary expense—implicitly acknowledging that stock-based compensation is, in fact, a substitute for cash-based compensation. Yet the management does not explain why the accounting for compensation should vary depending on nature of compensation (i.e., cash versus non-cash).
- There was hardly any meaningful economic explanation of why exclusions of recurring line items (stock option expenses, amortization of acquired intangibles) were made while determining non-GAAP measures. The stated reason for excluding these particular expenses was that they were not considered by management to be affected by operations during any particular reporting period. A generic reason was provided for the other exclusions made in determining the adjusted measures, namely that these other exclusions were intended to enhance investors' view of performance.

LinkedIn

Assessing LinkedIn's NGFM Reconciliation and Disclosures

Reconciliation of NGFM to the most directly comparable GAAP line items (**Table 7.5**):

- There is an upward adjustment of net income in all six years analyzed.
- There could be a question of whether net income is the most directly comparable number for the adjusted EBITDA metric.
- Stock compensation expense represents a key adjustment in LinkedIn's NGFM calculation.
- There is no disaggregation of tax effects within the reconciliation.

Table 7.5. Reconciliation of Net Income (thousands)

	2015	2014	2013	2012	2011	2010
LinkedIn						
Net income (loss)	(\$164,761)	(\$15,320)	\$26,769	\$21,610	\$11,912	\$15,385
Adjusted EBITDA	779,804	592,214	376,243	223,030	98,713	47,959
Upward (downward) adjustment	944,565	607,534	349,474	201,420	86,801	32,574
Adjustment						
Provision (benefit) for income taxes	(\$49,969)	\$46,525	\$22,459	\$35,504	\$11,030	\$3,581
Other (income) expense	63,788	4,930	(1,416)	(252)	2,903	610
Depreciation and amortization	420,472	236,946	134,516	79,849	43,100	19,551
Stock-based compensation	<u>510,274</u>	<u>319,133</u>	<u>193,915</u>	<u>86,319</u>	<u>29,768</u>	<u>8,832</u>
Total	\$944,565	\$607,534	\$349,474	\$201,420	\$86,801	\$32,574

Disclosures:

- The disclosures explain the use of adjusted EBITDA, namely, that it is used by the compensation committee, used internally to evaluate core performance, and used for budgetary planning purposes.
- The disclosures do not provide an economic rationale for excluding stock compensation expenses in the NGFM.

Pharmaceutical Companies Review

GlaxoSmithKline

Assessing GlaxoSmithKline's (GSK's) NGFM Reconciliation and Disclosures

Reconciliation of NGFM to the most directly comparable IFRS line items (**Table 7.6**):

- GSK included a “core results reconciliation” as well as a “reconciliation of free and adjusted cash flow” within the strategic report section of its annual report. It may seem like a bit of nitpicking, but by not applying the standard or commonly applied language to describe the reconciliation (i.e., either NGFM or APM) and considering that these measures are reported in different locations (PwC 2016), first-time readers of GSK financial statements may find it difficult to identify and access the “core results.”
- The adjustments in arriving at the core results are further disaggregated by function. For example, intangible asset amortization is allocated across the cost of sales and research and development (R&D) categories. Restructuring charges is allocated across the cost of sales, SG&A, and R&D categories.
- There is an upward adjustment of operating profit in five of the six years.
- Pharmaceutical companies usually communicate core earnings; hence, adjusting “other operating income,” as occurred from 2010 through 2012, seems sensible.
- Questions could arise from the exclusion of seemingly recurring costs, including restructuring, intangible asset amortization, intangible asset impairment, and legal and acquisition accounting costs.
- A truly one-off item occurred in 2015 (i.e., disposals and other). There is a question, however, of what is in “other” versus “disposal”.
- There is no disaggregation of tax effects within the reconciliation.

Table 7.6. Reconciliation of Operating Profit (millions)

	2015	2014	2013	2012	2011	2010
<i>GlaxoSmithKline</i>						
Operating profit, adjusted	£5,729	£6,594	£8,015	£8,330	£8,803	£9,497
Operating profit, GAAP	10,322	3,597	7,028	7,392	7,807	3,783
Upward (downward) adjustment	(4,593)	2,997	987	938	996	5,714
<i>Adjustments</i>						
Intangible asset amortization	£563	£575	£547	£477	£441	£428
Intangible asset impairment	206	150	739	693	109	137
Major restructuring	1,891	750	517	557	590	1,345
Legal costs	221	548	252	436	157	4,001
Acquisition accounting	2,238	843	(1,068)	29		
Disposals and other	(9,712)	131				
Other operating income				(1,254)	(301)	(197)
Total	(£4,593)	£2,997	£987	£938	£996	£5,714

Disclosures:

- Management indicated that it uses the “core results” to manage the performance of the group, but the accompanying disclosures barely had any contextualizing information or economically insightful reasons for the adjustments highlighted within the “core results reconciliation.”

AstraZeneca

Assessing AstraZeneca's NGFM Reconciliation and Disclosures

Reconciliation of NGFM to the most directly comparable IFRS line items (**Table 7.7**):

- AstraZeneca included a “core results reconciliation” within the strategic report section of its annual report, albeit without a year to year comparison. Unlike GSK, AstraZeneca also characterized these measures as non-GAAP.

- The adjustments in arriving at core-results were further disaggregated by function.
- There is an upward adjustment in operating profit for all six years.
- Unlike GSK, AstraZeneca does not seem to make any downward adjustment for “other operating income”—probably because as a “pure-play”³⁹ pharmaceutical company it does not have material amounts of other operating income.
- Questions could arise on the appropriateness of excluding seemingly recurring costs such as restructuring, intangible asset amortization/impairments, and legal costs.
- The truly one-off items seem to be profit on the sale of Astra Tech, post-retirement plan amendments, and BMS’s share of the diabetes alliance.
- There is no disaggregation of tax effects within the reconciliation.

³⁹Miemiets (2013) characterized AstraZeneca as falling under the “pure-play” business model category for pharmaceutical companies.

Table 7.7. Reconciliation of Operating Profit (millions)

	2015	2014	2013	2012	2011	2010
<i>AstraZeneca</i>						
Operating profit, core	£6,902	£6,937	£8,390	£10,430	£13,167	£13,603
Operating profit	4,114	2,137	3,712	8,148	12,795	11,494
Upward (downward) adjustment	2,788	4,800	4,678	2,282	372	2,109
<i>Adjustments</i>						
Restructuring costs	£1,034	£1,558	£1,421	£1,558	£1,161	£1,202
Intangible amortization and impairments	1,604	1,883	1,712	591	22	568
Amortization			1,591		537	518
BMS's share of diabetes alliance	54	1,078				
Legal provisions and other	96	281	(46)	133	135	612
Profit on sale of Astra Tech					(1,483)	
<u>Post-retirement plan amendments</u>						(791)
Total	£2,788	£4,800	£4,678	£2,282	£372	£2,109

Disclosures:

- There is quite a robust explanation for AstraZeneca's restructuring activities since 2007 (i.e., a four-phase ongoing restructuring started in 2007 and expanded in 2013; additional restructuring initiated in 2015) and the associated costs, including identifying specific asset write-downs and cash costs. Despite this profile of seemingly ongoing restructuring activities, AstraZeneca's management characterized the four-phase restructuring activities as yielding a one-time restructuring charge.
- The accompanying "core results" disclosures also cross-reference the notes in the financial statements related to legal costs, amortization, and impairment charges, but it still remains unclear why these line items are not considered as part of the "core results."

Merck

Assessing Merck's NGFM Reconciliation and Disclosures

Reconciliation of NGFM to the most directly comparable GAAP line items (**Table 7.8**):

- There is an upward adjustment of net income in five of the six years analyzed.
- Questions could arise from the exclusion of recurring costs, including restructuring and legal and acquisition/divestiture costs.
- There are a number of truly one-off items (foreign currency, gain on disposal of assets, loss on extinguishment of debt) that are excluded in the adjusted performance measure. Merck has also excluded several one-off gains during different reporting periods.

Table 7.8. Reconciliation of Profit before Tax (millions)

	2015	2014	2013	2012	2011	2010
<i>Merck</i>						
Profit before tax, adjusted	\$13,034	\$13,589	\$13,482	\$15,575	\$15,426	\$13,549
Profit before tax	5,401	17,283	5,545	8,739	7,334	1,653
Upward (downward) adjustment	7,633	(3,694)	7,937	6,836	8,092	11,896
<i>Adjustments</i>						
Acquisition and divestiture-related costs	\$5,398	\$5,946	\$5,549	\$5,344	\$5,939	\$9,403
Restructuring costs	1,110	1,978	2,401	999	1,911	1,986
<i>Other</i>						
Foreign currency	876					
Net charge related to litigation settlements	680			493		
Arbitration settlement					500	
Vioxx Liability Reserve						950
Gain on sale of assets (migraine programs, manufacturing facilities)	(250)				(127)	
Gain on divestiture (ophthalmic products, JJMCP joint venture)	(147)	(480)			(136)	
Gain on divestiture of Merck Consumer care		(11,209)				
Gain on AstraZeneca Option exercise		(741)				(443)
Loss on extinguishment of debt		628				
Additional year of expense for health care reform fee		193				
<u>Other</u>	<u>(34)</u>	<u>(9)</u>	<u>(13)</u>		<u>5</u>	
Total	\$7,633	(\$3,694)	\$7,937	\$6,836	\$8,092	\$11,896

Disclosures:

- Merck’s accompanying disclosures give details of acquisitions, research collaborations and licensing arrangements and it acknowledges that the associated costs (e.g. amortization of acquired intangibles) are recurring in nature. It, however, does not give much details about the nature and amounts of restructuring costs (e.g. asset write-downs, cash costs) but it acknowledges that restructuring costs are recurring in nature. Merck states that it excludes both recurring acquisition and restructuring costs to give investors a better view of performance- which is a rather generic reason.
- Merck briefly explains the various items that it considers to be one-off in nature and cross references the note in the financial statements that has more details on the line item. One such line item is the foreign exchange losses related to the devaluation of Venezuela net monetary assets.

7.3. Member Survey Respondent Profile

Figure 7.2, Figure 7.3, Figure 7.4, and Figure 7.5 show the profile of the member survey respondents.

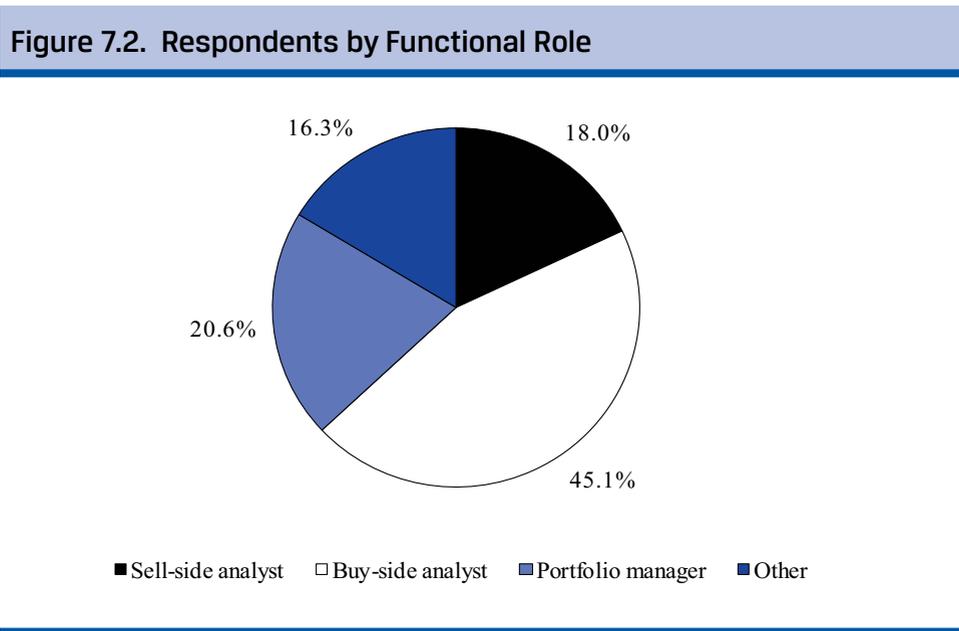


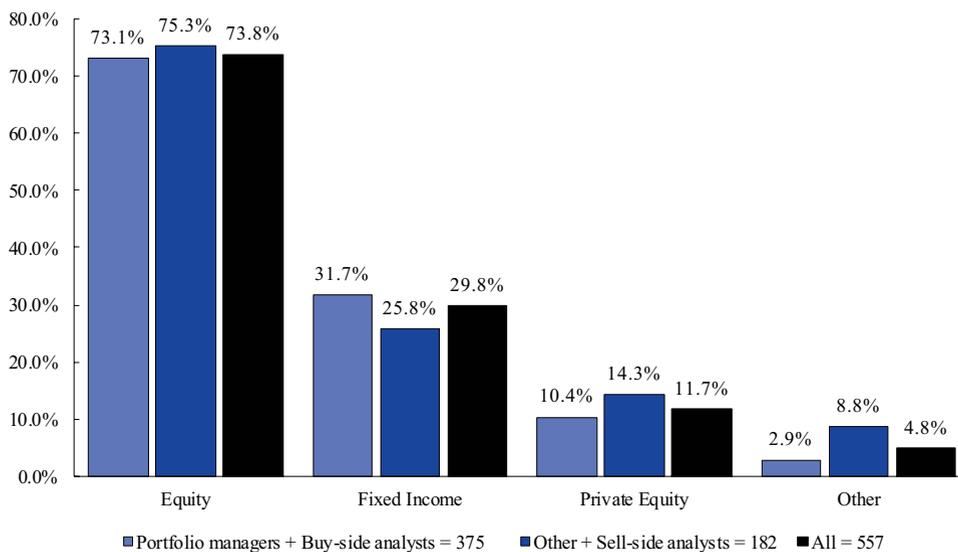
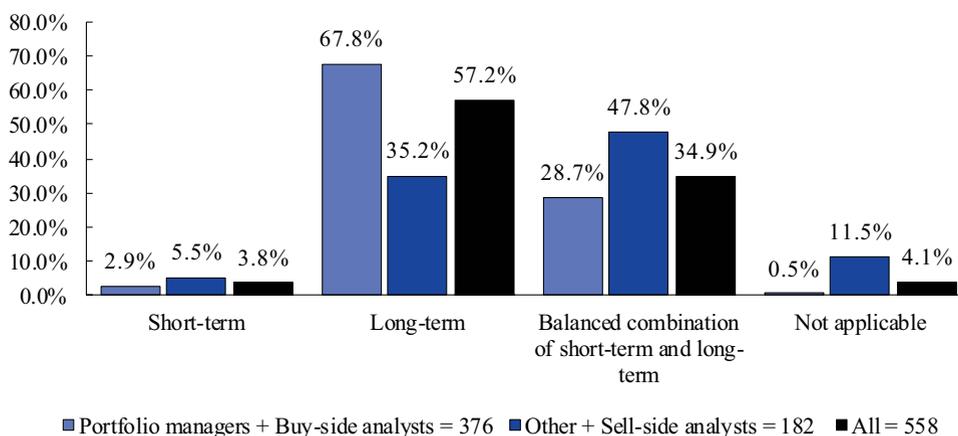
Figure 7.3. Respondents by Asset Class**Figure 7.4. Respondents by Investment Horizon**

Figure 7.5. Sectors Covered by Respondents

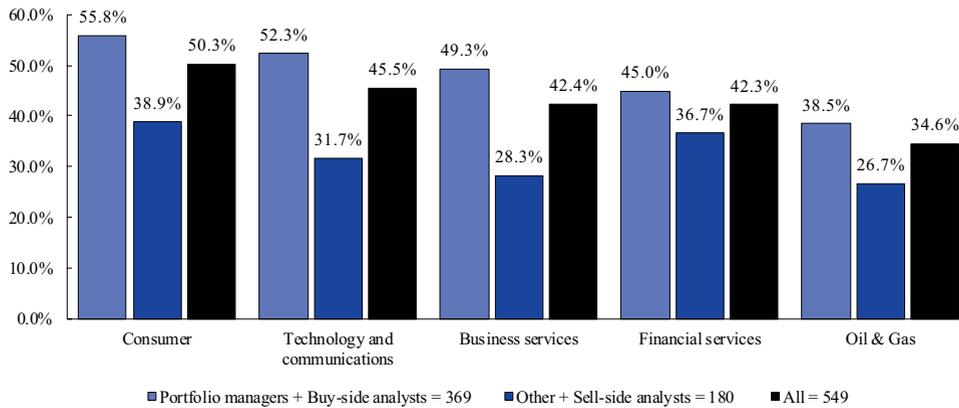
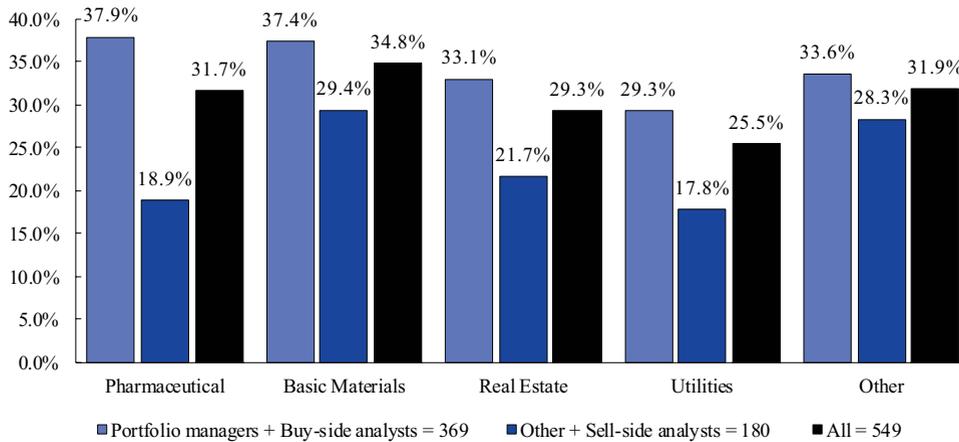


Figure 7.5. Sectors Covered by Respondents (continued)





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We are thankful for helpful comments from various reviewers, including Hilary Eastman, CFA, PricewaterhouseCoopers; Marietta Miemietz, CFA, Primavenue Advisory Services; Erin Greenfield, CFA, Trimark Investments; Richard Schreuder, CFA, Saemor Capital; Tony Sondhi of AC Sondhi & Associates; Gerry White, CFA, Grace and White Associates; the following IFRS Foundation staff members: Fred Nieto, CFA, Rachel Knubley, Michelle Fisher, Suzanne Morsfield; and Jason Voss, CFA, CFA Institute.

We also thank Jack Ciesielski, CFA, R.G. Associates, and Mark O'Sullivan, PricewaterhouseCoopers, for participating as key speakers in a related CFA Institute member webcast in June 2016 and whose perspectives and published work helped inform our understanding of key issues around the reporting of non-GAAP financial measures.

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ISBN 978-1-942713-30-2



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