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## Happy 20 Year Anniversary Non-GAAP Earnings: A Systematic Review of the Literature

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# Happy 20 Year Anniversary Non-GAAP Earnings: A Systematic Review of the Literature

## Abstract

**Purpose:** It has been two decades since the first academic paper shone a spotlight on non-GAAP earnings. The past 20 years of research investigates concerns over the misuse of these disclosures and resulted in some significant changes to accounting and reporting standards across the globe. This paper aims to document the history of non-GAAP reporting and outline the emerging themes of the now matured practice of non-GAAP reporting.

**Methodology:** This systematic literature review searches two popular databases to identify the academic publications relating to non-GAAP reporting between 2002 and 2022. The paper uses bibliographic mapping to present the key statistics of the non-GAAP reporting field of research.

**Findings:** The non-GAAP reporting environment started out as the ‘wild West’ but, through regulation and public awareness, emerged as an important supplement to the traditional outputs of financial reporting. Current consensus is recent non-GAAP earnings are informative to users but there is lack of research into qualitative non-GAAP disclosures and the vast body of archival research needs triangulating with more experimental studies.

**Originality:** This paper contributes to the literature by documenting the past 20 years of non-GAAP reporting and identifying the important existing and emerging research areas concerning non-GAAP earnings disclosures.

**Keywords:** Non-GAAP earnings, Systematic literature review, Bibliometric analysis, Management disclosures

**Paper type:** Literature review

## 1 Introduction

In 2016 Virgin Australia announced an “Underlying EBIT of \$210.6 million” (Virgin Australia Holdings Limited, 2016). However, later in the same announcement, the reader is informed of a “Statutory Loss After Tax of \$224.7 million”. “Underlying EBIT” is an example of a management defined earnings measure, also known as non-GAAP disclosures.<sup>1</sup> Non-GAAP measures are disclosed primarily in earnings announcements but can appear in annual reports, regulatory filings, corporate websites, press releases, and anywhere GAAP measures are also found. Their calculation most commonly involves adding back to GAAP earnings non-cash, one-off, non-recurrent or other income and expenditure items management considers outside the ordinary course of business. These unaudited earnings measures are most often favourable as they usually exceed GAAP earnings. Non-GAAP disclosures in the United States (U.S.) rose to prominence in the mid-1990s (Bradshaw & Sloan, 2002). The practice quickly drew the attention of the financial press (Weil, 2001), industry bodies (Heitger & Ballou, 2003; James & Michello, 2003) and the U.S. regulator (Kabureck, 2017; SEC, 2001; White, 2016). Early impressions of the disclosures were resoundingly negative, with former Chief Accountant of the U.S. Securities and Exchange Commission (SEC), Lynn Turner, famously describing non-GAAP earnings as “everything but the bad stuff” (Dow Jones & Company Inc, 2001).

Initially, academic research focused on managements’ motivations for disclosing non-GAAP measures. The two competing, but not mutually exclusive, hypotheses of managers’ motivations are: (1) to provide market-useful information or (2) to mislead the market. The two motivations are respectively labelled as *informative* and *opportunistic*. Studies supporting the informative view cite higher quality earnings, a closer alignment to stock returns than GAAP earnings and voluntary non-GAAP disclosure when not doing so would have been more beneficial. However, proponents of the opportunistic view note non-GAAP earnings exclusions are often recurrent expenditures, used to beat analyst forecasts, and used to turn GAAP losses into non-GAAP profits.

The potentially opportunistic nature of non-GAAP earnings prompted the SEC, in 2001, to issue cautionary advice to the market (SEC, 2001). The U.S. Congress also intervened and enacted the Sarbanes-Oxley Act (SOX) in 2002, partially to address non-GAAP disclosures. The result was

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<sup>1</sup> GAAP is an acronym for Generally Accepted Accounting Principles. GAAP has both a specific and general meaning. Specifically, GAAP are the accounting standards adopted by the United States Securities and Exchange Commission for companies filing in the United States. More generally, the term GAAP refers to a collection of commonly followed accounting standards of any jurisdiction worldwide. This paper uses the term non-GAAP in the general sense. For example, a reference to a non-GAAP measure reported by an Australian company means the measure is not defined in the relevant Australian accounting standard, not that the measure does not follow the United States standards definition.

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2 changes to the Code of Federal Regulations (CFR), including the creation of Regulation G<sup>2</sup>, to govern  
3 public disclosures, and amendments to Regulation S-K<sup>3</sup>, to govern SEC filings. In announcing the  
4 changes, the SEC stated:  
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9 *“The amendments to our rules are intended to ensure that investors and others are not*  
10 *misled by the use of non-GAAP financial measures”* (SEC, 2002).  
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14 However, despite regulatory intervention there is still evidence investors are being misled by  
15 opportunistic disclosures (Barth *et al.*, 2012; Baumker *et al.*, 2014; Black *et al.*, 2017a; Choi &  
16 Young, 2015; Curtis *et al.*, 2014). Overall, there is continuing debate on the practice, suggesting that  
17 even after 20 years, it is still controversial. Prohibiting the practice of non-GAAP disclosures appears  
18 unrealistic, given its prevalence and potential to provide decision-useful information. Thus, regulators  
19 need to find a balance between the reporting of GAAP information, and supplementary non-GAAP  
20 disclosures, through the enactment of effective accounting standards permitting the practice while  
21 preserving the faithful representation of the information.  
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25 An SEC Compliance and Disclosure Interpretation (SEC, 2010) relaxed the disclosure criteria  
26 surrounding recurrent expenditure. This change reduced the effectiveness of non-GAAP regulations  
27 initially introduced by SOX (Bond *et al.*, 2017). More recent SEC updates (SEC, 2016, 2018) have  
28 further amended the interpretation of the SOX Act. In December 2016, the IASB project, *Primary*  
29 *Financial Statements*, was commissioned, in part, to address the issue of non-GAAP income  
30 statement measures (Kabureck, 2017). These factors suggest regulators and standard setters are  
31 actively modifying the regulations relating to non-GAAP earnings but are still yet to strike a balance  
32 between informing and protecting investors.  
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36 **The remainder of this paper is organised as follows. Section 2 details the systematic literature**  
37 **review research methodology. The historical research findings are described in Section 3. Discussion**  
38 **of the emerging research themes are contained in Section 4. Finally, Section 5 summarises the results**  
39 **and concludes the paper.**  
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## 42 43 44 45 46 47 48 49 50 **2 Systematic review method**

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52 This paper uses bibliographic mapping techniques to present articles sourced from the Web of Science  
53 and Scopus databases. Bibliometric tools are an established approach to analysing the extant literature  
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57 <sup>2</sup> Office of the Federal Register (2017a)

58 <sup>3</sup> Office of the Federal Register (2017b)  
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and provide concise summaries of a field of research's key characteristics, such as most-cited authors and articles. This systematic review follows the process outlined by Linnenluecke *et al.* (2020). The process is to identify literature for inclusion using keyword searches, cleanse the data, analyse and synthesise the data and finally, present the results, in our case, using bibliometric mapping tools.

### 2.1 *Keywords search and data cleansing*

The first step is a keyword search of both the Web of Science Core Collection<sup>4</sup> and SCOPUS<sup>5</sup> databases. The keywords linked using the Boolean operator "OR" were "non-gaap earnings", "non gaap earnings", "nongaap earnings", "street earnings", "proforma earnings", "pro-forma earnings" and "pro forma earnings". The rationale for the multiple search terms is discussed in section 3.1. The search returned 446 articles. The retrieved information, for each article, includes, author name(s), title, journal name, citation details, abstract and keywords. After removing duplicates, two reviewers independently inspected the title and abstract resulting in 193 articles being relevant to this review. The summary information associated with these articles is displayed in Table 1 of the Appendix.

### 2.2 *Data analysis, synthesis, and presentation*

The Bibliometrix package, from the open-source R statistical program, combines the final sample of 193 articles and is used to generate graphs, tables and images presented in this paper. Figure 1 presents the literature trend of annual scientific production from 2002 to 2022. As shown in the graph, there is a sustained increase in publications over the past two decades.

*Figure 1: Literature trends from 2002 to 2022*

Figure 2 displays the most productive authors and their annual output in the field. The sole 2002 publication is the seminal Bradshaw and Sloan (2002) paper. Also evident are three authors who have continually published since 2003 to 2022, Theodore Christensen, Ervin Black and Nilabhra Bhattacharya. These three authors have been prolific in the field and publish together often, as shown in Figure 3.

*Figure 2: Most productive authors*

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<sup>4</sup> <https://www.webofscience.com/wos/woscc/summary/7e0fa529-56a6-4ca1-a3e7-2df3a454f586-4fb55caa/times-cited-descending/1>

<sup>5</sup> <https://www.scopus.com/search/form.uri?display=basic#basic>

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Note: Bubble size is proportional to the number of documents and the colour intensity is proportional to the total citations per year.

*Figure 3: Author collaboration network*

Journal of Accounting Literature

### 3 Historical research findings

This section presents a review and synthesis of the relevant findings from the extant non-GAAP literature.

#### 3.1 From the beginning

Although many studies examine firms' 'core' or recurring earnings, it is a seminal paper by Bradshaw and Sloan (2002) that starts the "non-GAAP" literature. The early literature confusingly interchanges 'street' and 'pro forma' earnings to describe non-GAAP earnings. Gu and Chen (2004) were among the first to clarify the following now widely-accepted definitions:

1. 'Pro forma earnings' being the term used to describe the modified actual earnings figures reported by management.
2. 'Street earnings' being the term used to describe the modified actual earnings figures reported by analysts (such as First Call or I/B/E/S).<sup>6</sup>

Jointly the above terms are called "non-GAAP", or "non-IFRS" in jurisdictions outside the U.S. (Black *et al.*, 2017a; Choi *et al.*, 2007; Curtis *et al.*, 2014).<sup>7</sup> The distinction between "street" and "pro forma" earnings is important due to much of the non-GAAP literature attempting to understand managements' disclosure motivations. Prior to the large, manager-disclosed non-GAAP earnings sample made publicly available by Bentley *et al.* (2018), researchers looking for sample sizes larger than what could be hand collected settled for *street earnings* from data providers such as First Call or I/B/E/S.

The use of *pro forma* and *street earnings* in the early literature explains their significance in the keyword co-occurrences matrix, Figure 4, and their inclusion as search terms. *Non-GAAP earnings* is the now dominant term, as most studies use the actual disclosures made by management in their research, but the old terms are still used when distinction must be made between the two concepts.

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<sup>6</sup> First Call and I/B/E/S are databases that collate analyst estimates. Christensen (2012, p. 566) provides a detailed discussion on the calculation of street earnings. In summary, street earnings are calculated from reported (GAAP) earnings adjusted for items that have not been forecast by a majority of analysts.

<sup>7</sup> IFRS is an acronym for International Financial Reporting Standards. IFRS are the dominant accounting standards adopted by jurisdictions outside the United States of America.



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4 *Figure 4: Keyword co-occurrences*  
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10 Figure 4 displays a strong relationship is between *pro forma* and *street earnings* as much of the  
11 early literature compares these two concepts. Bhattacharya *et al.* (2003) collect both *street* and *pro*  
12 *forma* earnings and find a statistically significant mean difference of approximately 4 cents per share.  
13 Bentley *et al.* (2018) show managers' non-GAAP reporting (*pro forma earnings*) agree with I/B/E/S's  
14 *street earnings* 79% of the time. Literary commentators are in agreement that a difference exists  
15 between *street* and *pro forma earnings* (Bhattacharya *et al.*, 2003; Bradshaw, 2003; Christensen,  
16 2007). However, there is disagreement surrounding whether the difference is significant enough to  
17 invalidate the use of *street earnings* as a proxy for managements' *pro forma earnings*. Evidence  
18 suggests *street earnings* are a good enough proxy for *pro forma* figures, which has contributed to  
19 *street earnings*' continued use, but also relative decline. Over the first half of the 20-year review  
20 period (2002-2012), *street earnings* were employed as a proxy in 39% of the published studies. By  
21 the second half of the review period (2012-2022), that figure has dropped to 24%. Recent publications  
22 (for example, Hribar *et al.* (2021) and Abdel-Meguid *et al.* (2021)) employ I/B/E/S *street earnings*  
23 for their main analysis, to take advantage of the vast volume of observations, and then perform  
24 robustness checks on the publicly available *pro forma* database of Bentley *et al.* (2018).<sup>8</sup> Figure 5  
25 shows the evolution of author keywords over the review period. The historical use of *pro forma*  
26 *earnings* and *street earnings* ensures they remain significant, but the use of *non-GAAP earnings* has  
27 increased exponentially.  
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41 *Figure 5: Author keyword usage evolution over time*  
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44 Ultimately, the choice of *street earnings* or *pro forma earnings* may come down to the specific  
45 phenomenon under investigation. *Street earnings*, being analyst-prepared, may better represent what  
46 the market feels is the 'real' earnings of a firm. Therefore, it is no surprise they are more value-  
47 relevant and predictive compared to GAAP earnings. However, if managers' manipulation of the  
48 market and associated motivations are being investigated, then managements' *pro forma earnings* is  
49 the more relevant variable. Over the literature review time period, *street earnings* have become more  
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56 <sup>8</sup> At the time of writing, the Bentley *et al.* (2018) database contains approximately 50,000 firm-quarter observations from  
57 almost 5,000 firms. By way of comparison, Jennings *et al.* (2020) are able to analyse a street earnings sample consisting  
58 of 261,722 firm quarter observations.  
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2 reflective of managements' disclosures, while at the same time mining for *pro forma* disclosures has  
3 become more accessible. As a result, both non-GAAP measures are commonplace in the non-GAAP  
4 literature. For the remainder of this paper, we use the term non-GAAP to refer to both *pro forma* and  
5 *street earnings*.  
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### 10 3.2 *The nature and extent of non-GAAP disclosures*

11 The practice of non-GAAP reporting began in the mid-1990s and dramatically increased over time  
12 (Bradshaw & Sloan, 2002). Sixty-four per cent of ASX200 companies (Malone *et al.*, 2016), more  
13 than 80% of European firms (Guillamon-Saorin *et al.*, 2017), and 88% of U.S. S&P500 companies  
14 (Coleman & Usvyatsky, 2015) report non-GAAP earnings. Black *et al.* (2012) find the number of  
15 disclosures made by U.S. firms rose ninefold from 1998 to 2006. There was a dip in non-GAAP  
16 disclosures in 2002-2003 attributed to the introduction of Regulation G.  
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23 Non-GAAP earnings are generally significantly larger than GAAP earnings. Ciesielski and Henry  
24 (2017) find S&P500 adjustments to GAAP in 2014 totalled US\$132 billion and represented 22% of  
25 GAAP net income. A heavy bias towards excluding expense items from non-GAAP earnings is  
26 expected due to the conservative nature of accounting rules with respect to the recognition of revenue  
27 and expenses. However, critics of non-GAAP disclosure cite the recurrent nature, and inconsistent  
28 application, of exclusions as concerns (Dow Jones & Company Inc, 2001; James & Michello, 2003).  
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33 Isidro and Marques (2015) note that 54% of large European companies exclude recurrent  
34 expenditure items (such as depreciation, stock-based compensation expense and research and  
35 development costs). Koning *et al.* (2010) note over 40% of Dutch companies in their sample define  
36 their non-GAAP number differently when compared to the previous quarter. Bhattacharya *et al.*  
37 (2004) also find a large proportion of firms calculate their non-GAAP disclosures differently between  
38 periods. By way of contrast, a study by Black *et al.* (2021c), using data from 2009-2014, finds firms  
39 that change the calculation of their non-GAAP earnings from one year to the next overwhelmingly  
40 improve the informativeness of their disclosures.  
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47 The nature and magnitude of GAAP exclusions are not the only concerns of regulators and  
48 standard setters. The prominent presentation of non-GAAP profit, relative to GAAP profit, in  
49 corporate releases also draws attention. Regulations G and S-K bar the practice of emphasising a non-  
50 GAAP measure relative to the GAAP measure in U.S. disclosures and SEC filings. The practice is  
51 also banned in Australia (ASIC, 2011). Prior to these regulations, managers in both countries gave  
52 prominence to the non-GAAP measures (Bowen *et al.*, 2005; Cameron *et al.*, 2012; Marques, 2010).  
53 Overall, the practice of non-GAAP disclosures is widespread and gaining popularity. However,  
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2 evidence suggests non-GAAP disclosures are not only incomparable across companies and industries,  
3 but also successive periods of the same firm.  
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### 7 3.3 *Why do firms make non-GAAP disclosures?*

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9 Managers contend earnings information prepared using GAAP does not allow them to communicate  
10 the firm's 'real' profitability to financial statement users (Graham *et al.*, 2005). The implication is  
11 that the current reporting standards are deficient in that GAAP earnings are not sufficient for decision-  
12 makers. Managers' use of non-GAAP earnings disclosures can be justified if they are of a higher  
13 quality than the GAAP equivalent. The non-GAAP literature predominately utilises three approaches,  
14 suggested by Aboody and Lev (1998), in determining the quality of earnings: *valuation, information*  
15 *content, and predictive ability*. Often these terms are known collectively as *value relevance* or  
16 *informativeness* (Black *et al.*, 2018; Brown & Sivakumar, 2003; Young, 2014). Robust debate  
17 surrounds the use of variables, proxies, data sources, methodologies and inferences drawn  
18 (Abarbanell & Lehavy, 2007; Black *et al.*, 2012; Bond *et al.*, 2017; Christensen *et al.*, 2014; Kolev  
19 *et al.*, 2008).  
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28 More recent attempts to infer managers' non-GAAP disclosure motivations expand beyond the  
29 disclosed earnings figures. Bond *et al.* (2017) focus on accrual quality, individual income statement  
30 components, and cash flows. Christensen *et al.* (2014) investigate the trading patterns of short-sellers,  
31 as a proxy for sophisticated investors. Earnings surprise is another common proxy (Choi & Young,  
32 2015; Isidro & Marques, 2015); while other studies use expanded measures of earnings quality,  
33 including conservatism and earnings smoothness (Heflin *et al.*, 2015) and timeliness (Brown *et al.*,  
34 2012a). Regardless of the measure chosen, research overwhelmingly concludes one of two  
35 motivations explain managements' non-GAAP disclosures – informative or opportunistic.  
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#### 43 3.3.1 *Informative motivations*

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45 The informative motivation theory for non-GAAP disclosures is borne out of both signalling and  
46 information asymmetry theories. Proponents argue non-GAAP reporting is the signal management  
47 uses to inform investors of information management possesses, and it represents the true underlying  
48 performance of the firm. In support of this claim, proponents offer several lines of evidence. Most  
49 significantly, non-GAAP earnings disclosures have been shown to be of a higher quality than GAAP  
50 earnings (Bhattacharya *et al.*, 2003; Bradshaw & Sloan, 2002; Brown & Sivakumar, 2003; Choi &  
51 Young, 2015). Managers also voluntarily use non-GAAP disclosures even when not doing so would  
52 have been more beneficial (Curtis *et al.*, 2014; Entwistle *et al.*, 2006a). Standardisation of earnings  
53 measures is unlikely to enhance the informativeness of non-GAAP disclosures, as evidenced by  
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1 recent attempts. South Africa's *headline earnings* (Venter *et al.*, 2013; Venter *et al.*, 2014) and  
2 Standard and Poor's *core earnings* (Wieland *et al.*, 2013) were unsuccessful as each industry, firm,  
3 and period can present anomalies. Given the information asymmetry between managers and the  
4 market, managers are in the best position to distinguish between industry, firm, and period-specific  
5 persistent and transitory components of earnings. Therefore, it is difficult to impose a standardised  
6 earnings measure. Not that the difficulty has stopped standard-setters from trying, as the long-running  
7 'Disclosure Initiative – Principles of Disclosure' project (IASB, 2017) is dedicated to this topic.  
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14 Other studies concluding an informative motivation include the Curtis *et al.* (2014) analysis of  
15 one-time transitory gains and the Charitou *et al.* (2018) investigation of prominent non-GAAP  
16 disclosure locations. Managements' non-GAAP earnings are not the only non-GAAP measures  
17 shown to be superior to GAAP earnings. Batta and Muslu (2017) find that credit rating agencies make  
18 adjustments that better predict bankruptcies. Industry-specific metrics are also shown to provide  
19 decision-useful information, for example, *funds from operations* for real estate investment trusts  
20 (Baik *et al.*, 2008), *distributable cash* for income trusts (Cormier *et al.*, 2011), and *revenue-*  
21 *passenger-miles* for airlines (Francis *et al.*, 2003).  
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28 There are many methodological criticisms of how earnings quality is measured in studies.  
29 Abarbanell and Lehavy (2007) argued data in the tail of the distribution (extreme differences between  
30 GAAP and non-GAAP earnings by a limited number of firms) can explain the entire phenomenon.  
31 Their suggestion of throwing the "baby out with the bath water" was the topic of multiple journal  
32 editorials (Bradshaw & Soliman, 2007; Christensen, 2007). Further criticism came from using analyst  
33 forecasts to calculate earnings surprises (Cohen *et al.*, 2007). In response to the methodological  
34 criticisms, researchers reran some of the analysis and still find non-GAAP measures are more  
35 informative (Bradshaw *et al.*, 2018).  
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### 43 3.3.2 *Opportunistic motivations*

44 Wesley Bricker, the chief accountant at the Securities and Exchange Commission, notes there is a  
45 "mischievous quality to non-GAAP reporting" (Cohn, 2018). The second hypothesis for why  
46 managers disclose non-GAAP measures is they are trying to opportunistically<sup>9</sup> mislead the market.  
47 Evidence for opportunistically disclosing non-GAAP earnings figures includes managers using the  
48 unaudited non-GAAP earnings disclosures to aggressively exclude recurrent expenditure, including  
49 depreciation, amortisation, stock option expenses, and research and development costs (Barth *et al.*,  
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57 <sup>9</sup> Miller (2009, p. 4) defines opportunistic behaviour "as the propensity to seek advantages, through disclosure choices,  
58 that accrue specifically to either the firm, management, or a subset of investors".  
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2012; Bhattacharya *et al.*, 2003; Black *et al.*, 2017a; Doyle *et al.*, 2003), and even in post-Regulation G settings (Black *et al.*, 2017a). These aggressive exclusions are often given more prominence in corporate earnings announcements (Baumker *et al.*, 2014; Isidro & Marques, 2015), allow firms to meet earnings estimates (Black & Christensen, 2009), are applied differently from period to period (Baumker *et al.*, 2014; Bhattacharya *et al.*, 2004; Curtis *et al.*, 2014), and are released to the market in an accelerated fashion (Brown *et al.*, 2012a). Both Doyle *et al.* (2013) and Black *et al.* (2017b) find evidence of non-GAAP reporting substituting for other earnings management strategies.

Heflin and Hsu (2008) find that over a period of 20 quarters, almost no firm follows a consistent disclosure pattern, switching between GAAP and non-GAAP disclosures depending on the conditions at each quarter. Non-GAAP disclosures are also observed as a way managers can avoid reporting a GAAP loss (Walker & Louvari, 2003), later in the literature described as ‘loss converters’ (Leung & Veenman, 2018, p. 4). Indeed several studies cite the conversion of GAAP loss into a non-GAAP profit as an indicator of opportunistic and aggressive disclosure choices (Black *et al.*, 2012; Black & Christensen, 2009; Christensen *et al.*, 2014).

The non-GAAP literature is saturated with analyses concluding managers’ opportunistic use of non-GAAP disclosures to meet or beat analyst forecasts (Bhattacharya *et al.*, 2003; Bhattacharya *et al.*, 2004; Black & Christensen, 2009; Brown *et al.*, 2012b; Chen, 2010; Doyle *et al.*, 2013; Isidro & Marques, 2015; Lont *et al.*, 2020; Thielemann & Dinh, 2019) as well as influence analyst calculations (Athanasakou *et al.*, 2009; Christensen *et al.*, 2011; Cotter *et al.*, 2006; Graham *et al.*, 2005; Griffin & Lont, 2021). Those firms that just miss earnings targets employ the most aggressive exclusions (Choi & Young, 2015).

Opportunistic reporting of non-GAAP metrics is associated with CEO narcissism. Abdel-Meguid *et al.* (2021) suggest the discretion available in non-GAAP disclosures appeals to more self-centred CEOs. Frankel *et al.* (2011) find evidence of managers using non-GAAP disclosures to meet earnings targets prior to selling their own shares. Shiah-Hou and Teng (2016) examine managers’ earnings press releases and find evidence of CEOs and CFOs who sell shares in a two-week post-earnings announcement window are more likely to report low-quality non-GAAP exclusions. Laurion and Sloan (2022) find almost a third of earnings guidances issued by managers exclude significant recurring expenses in their forward-looking non-GAAP earnings forecasts that are not excluded by analysts, and use ‘unreasonable effort’<sup>10</sup> as the justification for doing so.

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<sup>10</sup> The SEC requires managers to reconcile non-GAAP measures to the most directly comparable GAAP measure. However, there is an exemption for forward-looking non-GAAP measures if it would require ‘unreasonable efforts’ to do so (SEC, 2018).

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2 In summary, the opportunistic characteristic of non-GAAP disclosures is a worrying aspect for  
3 regulators and standards setters. Managements' ability to mislead financial statement users through  
4 non-GAAP disclosures can undermine the relevance of financial statements.  
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### 8 9 3.3.3 *Combating opportunism*

10 Seetharaman *et al.* (2014) find firms with accounting experts on the audit committee are less likely  
11 to use non-GAAP reporting, and when they do, the exclusions are of a higher quality. Firm  
12 characteristics that mitigate opportunistic behaviours, and improve the quality of exclusions, include  
13 having independent boards (Frankel *et al.*, 2011), increased levels of institutional ownership  
14 (Jennings & Marques, 2011), increased media attention (Koning *et al.*, 2010), increased investor  
15 scrutiny following debt covenant violations (Christensen *et al.*, 2019), and stricter regulation (Black  
16 *et al.*, 2017a). This collection of papers highlights the nuanced nature of the non-GAAP literature.  
17 Over time, researchers build on previous findings to discover patterns within patterns, sometimes  
18 superficially contradictory, until the evidence can be fully teased apart and triangulated. All areas of  
19 legitimate research behave in this manner, particularly in their early stages. The non-GAAP literature  
20 being only 20 years old contributes to the apparent turbulent nature of the extant literature.  
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30 Evidence suggests past SEC regulations are broadly successful in curbing opportunistic corporate  
31 reporting behaviour. The SOX Act, and subsequent regulations, are credited with decreasing the  
32 emphasis of non-GAAP, relative to GAAP, disclosures (Bowen *et al.*, 2005; Entwistle *et al.*, 2006b;  
33 Marques, 2006), improving the quality of non-GAAP to GAAP reconciliations (Baik *et al.*, 2008;  
34 Zhang & Zheng, 2011), decreasing the likelihood of non-GAAP earnings being used to meet or beat  
35 analyst forecasts (Chen, 2010; Heflin & Hsu, 2008; Kolev *et al.*, 2008), and increasing the quality of  
36 non-GAAP exclusions (Black *et al.*, 2012; Black *et al.*, 2017a; Bond *et al.*, 2017; Chen, 2010; Heflin  
37 & Hsu, 2008; Kolev *et al.*, 2008). In sum, evidence suggests recent non-GAAP disclosures are  
38 predominately informative (Black *et al.*, 2021c; Hribar *et al.*, 2021).  
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### 47 3.4 *How do non-GAAP disclosures affect users' decisions?*

48 Inferring the non-GAAP reporting motivations of managers is a major focus the literature.<sup>11</sup> Both the  
49 informative and opportunistic motivations are premised on financial statement users relying on non-  
50 GAAP disclosures to make investment decisions; otherwise, the disclosures would be pointless. To  
51 date, there is very little research from the perspective of what makes non-GAAP information useful  
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57 <sup>11</sup> It is not possible to infer managements' intentions from their reporting behaviour. Therefore, the term 'opportunistic'  
58 may not be a strictly accurate fit in all circumstances. Instead, it refers to the potential of the disclosures to be misleading.  
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2 and how users use non-GAAP disclosures to make decisions. This section details the decision-making  
3 non-GAAP literature.  
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5 The opportunism motivation suggests the benefits to managers of using non-GAAP disclosures to  
6 mislead investors is increased share prices. Hirshleifer and Teoh (2003) provide an explanation for  
7 this apparent contradiction to the efficient market hypothesis. Non-GAAP decision-making literature  
8 broadly supports the Hirshleifer and Teoh (2003) theory. The presence and prominence of non-GAAP  
9 disclosures (Allee *et al.*, 2007; Elliott, 2006; Frederickson & Miller, 2004) and emphasis of prior  
10 period benchmarks (Krische, 2005) can affect the investment decisions of investors. The presence of  
11 a GAAP reconciliation (Dilla *et al.*, 2014; Elliott, 2006) and the format of the reconciliation (Hogan  
12 *et al.*, 2017) also affect users' decision making.  
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15 Aubert and Grudnitski (2014) find that high-quality non-GAAP reconciliations reduce market  
16 mispricing.<sup>12</sup> Less sophisticated investors rely significantly more on non-GAAP disclosures when  
17 making investment decisions than do professional investors (Frederickson & Miller, 2004; Johnson  
18 *et al.*, 2014; Reimsbach, 2014), although non-GAAP disclosures can also affect professional  
19 investors' judgments (Andersson & Hellman, 2007; Dilla *et al.*, 2013; Elliott, 2006). Notably, though,  
20 Dilla *et al.* (2014) is the only study to classify the participants based on their financial reporting  
21 knowledge rather than arbitrary group membership.  
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24 There are few non-GAAP experimental studies and the ones that exist differ widely. Frederickson  
25 and Miller (2004) and Johnson *et al.* (2014) employed a GAAP and non-GAAP scenario that did not  
26 contain a reconciliation, while Andersson and Hellman (2007) only investigated the decisions of  
27 analysts. Hogan *et al.* (2017) utilise two different reconciliation types but lacked a GAAP-only  
28 control group or separation of participants based on financial knowledge. Guggenmos *et al.* (2022)  
29 look at disclosures from a managerial perspective. Consequently, the effect of non-GAAP disclosure  
30 prominence, or types of non-GAAP reconciliations, on the decisions of financial statement users  
31 remains largely unresolved. Collectively, experimental findings support regulating the presence and  
32 format of non-GAAP disclosures. In sum, this body of research supports the inclusion of regulations  
33 concerning reconciliations and disclosure prominence. However, with so few studies in the area, and  
34 some containing conflicting findings, the exact nature of the most effective regulation is yet to be  
35 resolved.  
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57 <sup>12</sup> The authors define reconciliation quality as "the degree to which a pro forma disclosure fully articulates the difference  
58 between non-GAAP and GAAP earnings" (p. 159).  
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### 3.5 *Non-GAAP, an international issue*

*Non-GAAP reporting is not just a U.S. phenomenon and thus not solely a function of unique aspects of the FASB's and SEC's reporting regulations.*

Figure 6 shows U.S. authors affiliations dominating the non-GAAP literature. International studies examining the practice mostly mirror the U.S. findings. Researchers note non-GAAP reporting is prevalent in the United Kingdom (U.K.) (Choi *et al.*, 2007; Grey *et al.*, 2013) and the Netherlands (Koning *et al.*, 2010). Further European evidence is provided by Isidro and Marques (2013, 2015) and Guillamon-Saorin *et al.* (2017), while there is also evidence from Australia (Cameron *et al.*, 2012; Johnson *et al.*, 2014; Malone *et al.*, 2016; Ribeiro *et al.*, 2019) and New Zealand (Lont *et al.*, 2020).

#### *Figure 6: Most productive countries*

Non-U.S. jurisdictions are also working to regulate non-GAAP disclosures. The Australian Securities and Investment Commission released *Regulatory Guide 230: Disclosing non-IFRS financial information* (ASIC, 2011). Even though similar guidance regarding the use of non-GAAP measures has been issued by the standards boards or market regulators of other countries (for example, New Zealand, United Kingdom, France, South Africa, and Ireland), differences persist. For instance, South Africa has mandated the separate disclosure of a non-GAAP income statement measure, *headline earnings* (Howard *et al.*, 2019; Venter *et al.*, 2013; Venter *et al.*, 2014), whilst Irish firms are recommended to disclose all non-GAAP measures in one location in the annual report (Irish Auditing & Accounting Supervision Authority, 2012). Furthermore, mandating the separation of recurrent and non-recurrent expenditure is something both the FASB and IASB are examining (IASB, 2017; Linsmeier, 2016).

## **4 Emerging research themes**

There are several research themes that emerge from the two-decades of non-GAAP research. These include the coexistence of informative and opportunistic motivations for disclosure, the refinement of non-GAAP disclosures, their use in performance contracting, and qualitative non-GAAP disclosure research. We consider each of these themes in turn.

### *4.1 Informative and opportunism coexisting*

The preceding discussion predominately sets out the underlying dichotomous premise of management disclosing non-GAAP measures to either opportunistically mislead the market or reduce information asymmetry by better informing the market. A more pragmatic view is that some managers use non-



GAAP disclosures for informative purposes while others use them opportunistically. Many studies find evidence for opportunistic and informative motives in the same sample.

Choi and Young (2015) find firms that meet earnings forecasts exhibit high-quality exclusions, but those firms that miss earnings targets adopt low-quality exclusions. Yet both categories of firms are found to use non-GAAP disclosures, one opportunistically and the other informatively. Barth *et al.* (2012) show the exclusion of stock option expense can be informative in one firm's non-GAAP measure but appear opportunistically in another. Jennings and Marques (2011) find non-GAAP disclosures are used opportunistically by managers, but only for firms with weaker corporate governance.

More recently, Henry *et al.* (2020) use textual analysis of conference calls to find that firms most likely to emphasise the non-GAAP earnings result, relative to GAAP earnings, are those where non-GAAP performance is superior to GAAP performance and when the non-GAAP result achieves a benchmark that the GAAP result misses. This opportunistic reporting contrasts with the authors' contemporaneous finding of firms emphasising their non-GAAP earnings when they have less value-relevant GAAP earnings, clear support for the informative motivation hypothesis. Curtis *et al.* (2014) find evidence for both opportunistic and informative motives. Specifically, they find roughly half of their matched sample disclose transitory gains (informative) while the other half do not (opportunistic). Their pragmatic findings mirror the later literature and contrast with the early years of non-GAAP research that was generally picking sides in the debate. This evidence clearly shows managers go to great lengths to notify financial statement users of *their* numbers.

#### 4.2 Improving non-GAAP disclosures

Overall, the literature agrees that regulations improve the quality of non-GAAP disclosures. U.S. regulations brought about a decrease in emphasis of non-GAAP disclosures relative to GAAP (Bowen *et al.*, 2005; Entwistle *et al.*, 2006b; Marques, 2006), an increase in the quality of reconciliations to GAAP (Baik *et al.*, 2008; Zhang & Zheng, 2011), a decrease in the likelihood of managers using non-GAAP disclosures to meet or beat earnings targets (Chen, 2010; Heflin & Hsu, 2008; Jennings & Marques, 2011), and an increase in the quality of non-GAAP exclusions (Black *et al.*, 2012; Black *et al.*, 2017a; Bond *et al.*, 2017; Chen, 2010; Heflin & Hsu, 2008; Kolev *et al.*, 2008). There was a temporary decline in the use of non-GAAP disclosures (Entwistle *et al.*, 2006a; Marques, 2006) in response to regulatory attention, but that trend reversed, and non-GAAP disclosures are above pre-Regulation G levels (Black *et al.*, 2021c; Black *et al.*, 2017a; Bond *et al.*, 2017; Ciesielski & Henry, 2017).

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2 Firm characteristics, such as board composition (Frankel *et al.*, 2011; Jennings & Marques, 2011),  
3 accounting expertise of audit committee members (Seetharaman *et al.*, 2014), number of directorships  
4 the audit committee chair holds (Lee, 2021), and level of institutional ownership (Jennings &  
5 Marques, 2011), are effective in improving the quality of non-GAAP disclosures. External factors,  
6 such as analyst coverage (Christensen *et al.*, 2021), media attention (Koning *et al.*, 2010), and the  
7 level of competition within an industry (Isidro & Marques, 2021), similarly inhibit opportunism.  
8 Given some managers disclose non-GAAP earnings measures opportunistically and others  
9 informatively, market participants cannot rely on individual firms or managers to act altruistically.  
10 Future research could examine other publicly available characteristics to build a more predictive  
11 profile of altruistic and opportunistic non-GAAP disclosing firms.  
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14 An examination of SEC comment letters sent to firms to address their use of non-GAAP measures  
15 in mandatory filings, for example, 10-Ks, 10-Qs, and earnings releases, finds support for regulatory  
16 effectiveness (Chen *et al.*, 2021a; Jo & Yang, 2020). These findings suggest regulation, and its  
17 enforcement, is improving the disclosure quality of non-GAAP measures. However, despite the  
18 moderating effects of internal governance and external monitoring, some managers continue to  
19 opportunistically disclose non-GAAP earnings measures. Both professional and less sophisticated  
20 investors can be misled by these disclosures. The usefulness of non-GAAP disclosures, coupled with  
21 their deceptive potential, is the reason standard setters strive to determine the regulatory balance  
22 between managers informing, but not misleading, financial statement users. The question remaining  
23 is not if regulation can improve financial information, but what regulation provides users with the  
24 most useful financial information?  
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#### 40 4.3 Performance contracting

41 Up to this point, most research focuses on managements' opportunistic behaviour to mislead investors  
42 and influence the share price. However, a recent addition to the non-GAAP literature is another  
43 avenue management can personally benefit from non-GAAP disclosures, that is, using the measures  
44 in performance contracting. Recent research in the accounting literature centres around the  
45 relationship between non-GAAP measures and performance contracting. Curtis *et al.* (2021) report  
46 that 84% of S&P500 firms use adjusted earnings to determine managers' bonus compensation. The  
47 adjusted earnings figures used by compensation committees are substantially the same non-GAAP  
48 measures managers disclose in earnings releases (Black *et al.*, 2021a; Curtis *et al.*, 2021). The  
49 findings of non-GAAP literature regarding performance contracting mirrors the main body of non-  
50 GAAP literature; that is, they are mixed and contextual.  
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2 Guest *et al.* (2022) examine the link between abnormally high CEO remuneration and non-GAAP  
3 earnings announcements, finding a limited, but economically significant, number of CEOs behave  
4 opportunistically. Black *et al.* (2021b) provide supportive findings but note that boards have a  
5 moderating effect on the quality of non-GAAP earnings reported by management. That is, the non-  
6 GAAP measure used for performance contracting is of a significantly higher quality when boards  
7 report the same non-GAAP measure as management in their proxy statements. This result is  
8 supported by Kyung *et al.* (2021), who find, consistent with the efficient contracting theory, corporate  
9 boards mitigate agency issues by using non-GAAP performance measures in determining executive  
10 compensation.

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12 European firms with directors' compensation linked to market performance are more likely to  
13 issue non-GAAP earnings disclosures, give them greater prominence compared to the GAAP figure,  
14 less likely to provide reconciling information, and the disclosure contains lower quality exclusions  
15 (Grey *et al.*, 2013; Isidro & Marques, 2013). Lont *et al.* (2020) find New Zealand managers have  
16 opportunistic intentions to disclose non-GAAP measures to increase their cash-based compensation.  
17 The authors note the New Zealand business environment is less litigious, has a light-handed approach  
18 to regulation, and there is little chance of standard-setting penalising misleading non-GAAP  
19 disclosures. As a result, it is not surprising to see a difference between New Zealand and the highly  
20 regulated markets of the U.S. and Europe. This New Zealand evidence provides further support for  
21 non-GAAP measures to be the subject of effective regulation.

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23 Black *et al.* (2021a) also look at CEO compensation but from an explicitly temporal perspective.  
24 Their findings support Lont *et al.* (2020) in that managers' non-GAAP earnings disclosures are of  
25 higher quality in firms employing long-term incentive plans. Although this specific non-GAAP  
26 evidence is new, their findings are consistent with agency and optimal contracting theories.

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28 Agency theory suggests corporate leadership, including managers and directors, and shareholder  
29 rewards should be aligned. If managers and directors' remuneration is linked to non-GAAP measures,  
30 and the non-GAAP measures are low quality, they risk significant backlash from shareholders that  
31 view their behaviour as opportunistic. For example, Grey *et al.* (2013) find firms disclosing non-  
32 GAAP EPS is positively related to compensation packages linked to EPS growth. Isidro and Marques  
33 (2013) find firms are more likely to disclose and promote non-GAAP earnings when compensation  
34 is linked to market performance. Both Black *et al.* (2021b) and Guest *et al.* (2022) find evidence of  
35 CEOs using low-quality non-GAAP disclosures to increase personal wealth. However, these  
36 opportunistic behaviours can be mitigated by the board involvement (Black *et al.*, 2021b; Kyung *et al.*  
37 *et al.*, 2021) and by employing longer-term incentive plans (Black *et al.*, 2021a; Lont *et al.*, 2020).  
38 Alternatively, consistent with agency theory, if non-GAAP measures are a better indicator of firm  
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2 performance, then corporate leadership should be remunerated in line with them. However, firms will  
3 need to manage the negative connotations associated with non-GAAP measures, and any additional  
4 scrutiny, if they are being used in performance contracting.  
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#### 8 9 4.4 *Qualitative non-GAAP disclosure research*

10 Despite calls from academics to research qualitative management non-GAAP disclosures (Miller,  
11 2009; Young, 2014), only two papers have been published on the topic. In the first paper, Guillamon-  
12 Saorin *et al.* (2017) find evidence of management attempting to distort users' perceptions of low-  
13 quality non-GAAP disclosures using impression management in earnings releases. In the second  
14 paper, Chen *et al.* (2021a) examine the qualitative characteristics of non-GAAP disclosures and score  
15 them relative to their adherence to regulations. They find non-financial (qualitative) non-GAAP  
16 disclosures contain value-relevant information. These authors are the first to specifically address  
17 management's non-GAAP justification and internal use, respectively items (C) and (D) of Item 10  
18 (e) of Regulation S-K of the Code of Federal Regulations.<sup>13</sup> Unfortunately, their research is not  
19 granular enough to draw inferences about items (C) and (D).  
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28 The examination of the qualitative characteristics of non-GAAP disclosures is a field that  
29 requires more attention if we are to fully understand the non-GAAP phenomenon. Chen *et al.* (2021a)  
30 demonstrate how the vast quantities of information make it difficult for an archival study to unpack  
31 non-GAAP nuances. A different approach is required. For example, a working paper by Brosnan *et*  
32 *al.* (2023) takes an experimental approach and finds management's disclosure of their use of non-  
33 GAAP earnings to determine executive remuneration can affect investor judgments.  
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54 <sup>13</sup> Item 10 (e) of Regulation S-K of the Code of Federal Regulations has four requirements for entities disclosing of non-  
55 GAAP measures in SEC filings. In addition to (C) and (D) above, (A) dictates non-GAAP measures cannot be given  
56 greater prominence than the comparable GAAP measure and (B) demands a quantitative reconciliation to the most  
57 comparable GAAP measure. As discussed in section **Error! Reference source not found.**, both (A) and (B) have been  
58 the subject of prior studies.  
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## 5 Conclusion

This systematic review shows that as a result of regulation and public awareness, non-GAAP reporting is maturing and becoming more accepted among financial statement users (Cohn, 2019; Curtis *et al.*, 2021). Non-GAAP reporting is no longer the “wild west”. As a consequence, more recent papers demonstrate a more sophisticated approach to draw out the nuances of managements’ disclosure motivations (Abdel-Meguid *et al.*, 2021; Chen *et al.*, 2021b; Guest *et al.*, 2022). Given non-GAAP measures can be simultaneously informative and opportunistic, a goal, and challenge, of standard setters and regulators, is to create accounting standards that allow managers to inform the market while at the same time mitigating the potential to mislead users of financial statements through non-GAAP disclosures (IASB, 2017; SEC, 2002).

Despite research showing most recent non-GAAP disclosures are informative, the emerging themes include accepting that while firms are permitted to make non-GAAP disclosures, some will do so with opportunistic intent. Standard setters and regulators need to craft disclosure principles that protect investors from nefariously motivated managers, but still allow managers to use non-GAAP measures to communicate decision-useful information. Another area requiring further academic attention includes how management and boards use non-GAAP measures in remunerating key personnel. A disconnect from agency theory can occur if corporate remuneration packages are not aligned with a change in shareholder wealth. Finally, the SEC filing regulations demand two qualitative disclosures concerning non-GAAP measures. To date, very little research has examined the usefulness of such information.

Undoubtedly the perception of non-GAAP disclosures has shifted over the past two decades, from Lynn Turner, describing them as “everything but the bad stuff” (Dow Jones & Company Inc, 2001), to Wesley Bricker suggesting they have a “mischievous quality” (Cohn, 2018). From the early days of trying to identify which firms were using non-GAAP measures to mislead investors, a consensus has emerged that the measures are largely informative to investors. Both the FASB and IASB are actively seeking to incorporate new measures into the preparation of financial statements, and companies continue to report them in their communications to the market. However, the real test of their usefulness will be determined by investors.

## 6 References

- Abarbanell, J. S., & Lehavy, R. (2007), Letting the "tail wag the dog": The debate over GAAP versus street earnings revisited. *Contemporary Accounting Research*, 24(3), pp. 675-723. doi: 10.1506/car.24.3.1
- Abdel-Meguid, A., Jennings, J. N., Olsen, K. J., & Soliman, M. T. (2021), The impact of the CEO's personal narcissism on non-GAAP earnings. *The Accounting Review*, 96(3), pp. 1-25. doi: 10.2308/TAR-2017-0612
- Aboody, D., & Lev, B. (1998), The value relevance of intangibles: The case of software capitalization. *Journal of Accounting Research*, 36, pp. 161-191. doi: 10.2307/2491312
- Allee, K. D., Bhattacharya, N., Black, E. L., & Christensen, T. E. (2007), Pro forma disclosure and investor sophistication: External validation of experimental evidence using archival data. *Accounting, Organizations & Society*, 32(3), pp. 201-222. doi: 10.1016/j.aos.2006.09.012
- Andersson, P., & Hellman, N. (2007), Does pro forma reporting bias analyst forecasts? *European Accounting Review*, 16(2), pp. 277-298. doi: 10.1080/09638180701390966
- ASIC (2011), Regulatory guide 230: Disclosing non-IFRS financial information, ASIC, Australia.
- Athanasakou, V. E., Strong, N. C., & Walker, M. (2009), Earnings management or forecast guidance to meet analyst expectations? *Accounting and Business Research*, 39(1), pp. 3-35. doi: 10.1080/00014788.2009.9663347
- Aubert, F., & Grudnitski, G. (2014), The role of reconciliation quality in limiting mispricing of non-GAAP earnings announcements by EURO STOXX firms. *Advances in Accounting*, 30(1), pp. 154-167. doi: 10.1016/j.adiac.2014.03.008
- Baik, B., Billings, B. K., & Morton, R. M. (2008), Reliability and transparency of non-GAAP disclosures by real estate investment trusts (REITs). *The Accounting Review*, 83(2), pp. 271-301. doi: 10.2308/accr.2008.83.2.271
- Barth, M. E., Gow, I. D., & Taylor, D. J. (2012), Why do pro forma and street earnings not reflect changes in GAAP? Evidence from SFAS 123R. *Review of Accounting Studies*, 17(3), pp. 526-562. doi: 10.1007/s11142-012-9192-9
- Batta, G., & Muslu, V. (2017), Credit rating agency and equity analysts' adjustments to GAAP earnings. *Contemporary Accounting Research*, 34(2), pp. 783-817. doi: 10.1111/1911-3846.12293
- Baumker, M., Biggs, P., McVay, S. E., & Pierce, J. (2014), The disclosure of non-GAAP earnings following regulation G: An analysis of transitory gains. *Accounting Horizons*, 28(1), pp. 77-92. doi: 10.2308/acch-50645
- Bentley, J. W., Christensen, T. E., Gee, K. H., & Whipple, B. C. (2018), Disentangling managers' and analysts' non-GAAP reporting. *Journal of Accounting Research*, 56(4), pp. 1039-1081. doi: 10.1111/1475-679X.12206
- Bhattacharya, N., Black, E. L., Christensen, T. E., & Larson, C. R. (2003), Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics*, 36(1-3), pp. 285-319. doi: 10.1016/j.jacceco.2003.06.001
- Bhattacharya, N., Black, E. L., Christensen, T. E., & Mergenthaler, R. D. (2004), Empirical evidence on recent trends in pro forma reporting. *Accounting Horizons*, 18(1), pp. 27-43. doi: 10.2308/acch.2004.18.1.27

- 1  
2 Black, D. E., Black, E. L., Christensen, T. E., & Gee, K. H. (2021a), CEO pay components and aggressive  
3 non-GAAP earnings disclosure. *Journal of Accounting, Auditing & Finance*, 68(2), pp. 1353-1377.  
4 doi: 10.1177/0148558X21989907  
5
- 6 Black, D. E., Black, E. L., Christensen, T. E., & Gee, K. H. (2021b), Comparing non-GAAP EPS in earnings  
7 announcements and proxy statements. *Management Science*, 68(2), pp. 1353-1377. doi:  
8 10.1287/mnsc.2020.3928  
9
- 10 Black, D. E., Black, E. L., Christensen, T. E., & Heninger, W. G. (2012), Has the regulation of pro forma  
11 reporting in the US changed investors' perceptions of pro forma earnings disclosures? *Journal of*  
12 *Business Finance and Accounting*, 39(7-8), pp. 876-904. doi: 10.1111/j.1468-5957.2012.02297.x  
13
- 14 Black, D. E., & Christensen, T. E. (2009), US managers' use of 'pro forma' adjustments to meet strategic  
15 earnings targets. *Journal of Business Finance and Accounting*, 36(3-4), pp. 297-326. doi:  
16 10.1111/j.1468-5957.2009.02128.x  
17
- 18 Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2018), Non-GAAP reporting: Evidence  
19 from academia and current practice. *Journal of Business Finance and Accounting*, 45(3-4), pp. 259-  
20 294. doi: 10.1111/jbfa.12298  
21
- 22 Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2021c), Non-GAAP earnings: A  
23 consistency and comparability crisis? *Contemporary Accounting Research*, 38(3), pp. 1712-1747. doi:  
24 10.1111/1911-3846.12671  
25
- 26 Black, E. L., Christensen, T. E., Kiosse, P. V., & Steffen, T. D. (2017a), Has the regulation of non-GAAP  
27 disclosures influenced managers' use of aggressive earnings exclusions? *Journal of Accounting,*  
28 *Auditing and Finance*, 32(2), pp. 209-240. doi: 10.1177/0148558X15599131  
29
- 30 Black, E. L., Christensen, T. E., Taylor Joo, T., & Schmardebeck, R. (2017b), The relation between earnings  
31 management and non-GAAP reporting. *Contemporary Accounting Research*, 34(2), pp. 750-782. doi:  
32 10.1111/1911-3846.12284  
33
- 34 Bond, D., Czernkowski, R., Lee, Y.-S., & Loyeung, A. (2017), Market reaction to non-GAAP earnings around  
35 SEC regulation. *Journal of Contemporary Accounting and Economics*, 13(3), pp. 193-208. doi:  
36 10.1016/j.jcae.2017.09.001  
37
- 38 Bowen, R. M., Davis, A. K., & Matsumoto, D. A. (2005), Emphasis on pro forma versus GAAP earnings in  
39 quarterly press releases: Determinants, SEC intervention, and market reactions. *The Accounting*  
40 *Review*, 80(4), pp. 1011-1038. doi: 10.2308/accr.2005.80.4.1011  
41
- 42 Bradshaw, M. T. (2003), A discussion of 'Assessing the relative informativeness and permanence of pro forma  
43 earnings and GAAP operating earnings'. *Journal of Accounting and Economics*, 36(1-3), pp. 321-335.  
44 doi: 10.1016/j.jacceco.2003.09.002  
45
- 46 Bradshaw, M. T., Christensen, T. E., Gee, K. H., & Whipple, B. C. (2018), Analysts' GAAP earnings forecasts  
47 and their implications for accounting research. *Journal of Accounting and Economics*, 66(1), pp. 46-  
48 66. doi: 10.1016/j.jacceco.2018.01.003  
49
- 50 Bradshaw, M. T., & Sloan, R. G. (2002), GAAP versus the street: An empirical assessment of two alternative  
51 definitions of earnings. *Journal of Accounting Research*, 40(1), pp. 41-66. doi: 10.1111/1475-  
52 679x.00038  
53
- 54 Bradshaw, M. T., & Soliman, M. (2007), Discussion of "letting the 'tail wag the dog': The debate over GAAP  
55 versus street earnings revisited". *Contemporary Accounting Research*, 24(3), pp. 725-739+658+666.  
56 doi: 10.1506/car.24.3.2  
57  
58  
59  
60

- 1  
2 Brosnan, M., Duncan, K., Hasso, T., & Hollindale, J. (2023), Non-GAAP earnings and executive  
3 compensation: an experiment. *Accounting & Finance, forthcoming*. doi: 10.1111/acfi.13098  
4
- 5 Brown, L. D., & Sivakumar, K. (2003), Comparing the value relevance of two operating income measures.  
6 *Review of Accounting Studies, 8*(4), pp. 561-572. doi: 10.1023/a:1027328418571  
7
- 8 Brown, N. C., Christensen, T. E., & Elliott, W. B. (2012a), The timing of quarterly 'pro forma' earnings  
9 announcements. *Journal of Business Finance and Accounting, 39*(3-4), pp. 315-359. doi:  
10 10.1111/j.1468-5957.2012.02281.x  
11
- 12 Brown, N. C., Christensen, T. E., Elliott, W. B., & Mergenthaler, R. D. (2012b), Investor sentiment and pro  
13 forma earnings disclosures. *Journal of Accounting Research, 50*(1), pp. 1-40. doi: 10.1111/j.1475-  
14 679X.2011.00427.x  
15
- 16 Cameron, R., Percy, M., & Stevenson-Clarke, P. (2012), Do large Australian companies emphasise non-GAAP  
17 financial measures: Over statutory net profit (GAAP) in annual reports? *JASSA: The Finsia Journal*  
18 *of Applied Finance, 3*(1), pp. 19-25. doi: 10.3316/ielapa.423684742673962  
19
- 20 Charitou, A., Floropoulos, N., Karamanou, I., & Loizides, G. (2018), Non-GAAP earnings disclosures on the  
21 face of the Income Statement by UK Firms: The effect on market liquidity. *The International Journal*  
22 *of Accounting, 53*(3), pp. 183-202. doi: 10.1016/j.intacc.2018.07.003  
23
- 24 Chen, C. Y. (2010), Do analysts and investors fully understand the persistence of the items excluded from  
25 street earnings? *Review of Accounting Studies, 15*(1), pp. 32-69. doi: 10.1007/s11142-008-9079-y  
26
- 27 Chen, H. C., Lee, Y. J., Lo, S. Y., & Yu, Y. (2021a), Qualitative characteristics of non-GAAP disclosures and  
28 non-GAAP earnings quality. *Journal of Accounting and Economics, 72*(1). doi:  
29 10.1016/j.jacceco.2021.101402  
30
- 31 Chen, J. V., Gee, K. H., & Neilson, J. J. (2021b), Disclosure prominence and the quality of non-GAAP  
32 earnings. *Journal of Accounting Research, 59*(1), pp. 163-213. doi: 10.1111/1475-679X.12344  
33
- 34 Choi, Y.-S., & Young, S. (2015), Transitory earnings components and the two faces of non-generally accepted  
35 accounting principles earnings. *Accounting and Finance, 55*(1), pp. 75-103. doi: 10.1111/acfi.12040  
36
- 37 Choi, Y. S., Lin, S., Walker, M., & Young, S. (2007), Disagreement over the persistence of earnings  
38 components: evidence on the properties of management-specific adjustments to GAAP earnings.  
39 *Review of Accounting Studies, 12*(4), pp. 595-622. doi: 10.1007/s11142-007-9048-x  
40
- 41 Christensen, T. E. (2007), Discussion of "letting the 'tail wag the dog': The debate over GAAP versus street  
42 earnings revisited". *Contemporary Accounting Research, 24*(3), pp. 741-762. doi: 10.1506/car.24.3.3  
43
- 44 Christensen, T. E. (2012), Discussion of "Why do pro forma and street earnings not reflect changes in GAAP?  
45 Evidence from SFAS 123R". *Review of Accounting Studies, 17*(3), pp. 563-571. doi: 10.1007/s11142-  
46 012-9197-4  
47
- 48 Christensen, T. E., Drake, M. S., & Thornock, J. R. (2014), Optimistic reporting and pessimistic investing: Do  
49 pro forma earnings disclosures attract short sellers? *Contemporary Accounting Research, 31*(1), pp.  
50 67-102. doi: 10.1111/1911-3846.12009  
51
- 52 Christensen, T. E., Gomez, E., Ma, M., & Pan, J. (2021), Analysts' role in shaping non-GAAP reporting:  
53 evidence from a natural experiment. *Review of Accounting Studies, 26*(1), pp. 172-217. doi:  
54 10.1007/s11142-020-09564-7  
55
- 56  
57  
58  
59  
60



- 1  
2 Christensen, T. E., Merkley, K. J., Tucker, J. W., & Venkataraman, S. (2011), Do managers use earnings  
3 guidance to influence street earnings exclusions? *Review of Accounting Studies*, 16(3), pp. 501-527.  
4 doi: 10.1007/s11142-011-9158-3  
5
- 6 Christensen, T. E., Pei, H., Pierce, S. R., & Tan, L. (2019), Non-GAAP reporting following debt covenant  
7 violations. *Review of Accounting Studies*, 24(2), pp. 629-664. doi: 10.1007/s11142-019-09492-1  
8
- 9 Ciesielski, J. T., & Henry, E. (2017), Accounting's tower of babel: Key considerations in assessing non-GAAP  
10 earnings. *Financial Analysts Journal*, 73(2), pp. 34-50. doi: 10.2469/faj.v73.n2.5  
11
- 12 Cohen, D. A., Hann, R. N., & Ogneva, M. (2007), Another look at GAAP versus the Street: an empirical  
13 assessment of measurement error bias. *Review of Accounting Studies*, 12(2-3), pp. 271-303. doi:  
14 10.1007/s11142-007-9029-0  
15
- 16 Cohn, M. (2018), SEC chief accountant warns against mischief in non-GAAP reporting. *Accounting Today*,  
17 May 3, 2018.  
18
- 19 Cohn, M. (2019), Investor group wants companies to explain non-GAAP metrics used to set executive comp.  
20 *Accounting Today*, May 1, 2019.  
21
- 22 Coleman, D., & Usvyatsky, O. (2015), Trends in non-GAAP disclosures, Sutton, MA Retrieved from:  
23 <http://www.auditanalytics.com/blog/trends-in-non-gaap-disclosures/>  
24
- 25 Cormier, D., Lapointe-Antunes, P., & Magnan, M. (2011), Revisiting the relevance and reliability of non-  
26 GAAP reporting: The case of the income trusts. *Contemporary Accounting Research*, 28(5), pp. 1585-  
27 1609. doi: 10.1111/j.1911-3846.2011.01079.x  
28
- 29 Cotter, J., Tuna, I., & Wysocki, P. D. (2006), Expectations management and beatable targets: How do analysts  
30 react to explicit earnings guidance? *Contemporary Accounting Research*, 23(3), pp. 593-624. doi:  
31 10.1506/FJ4D-04UN-68T7-R8CA  
32
- 33 Curtis, A., Li, V., & Patrick, P. H. (2021), The use of adjusted earnings in performance evaluation. *Review of*  
34 *Accounting Studies*, 26(4), pp. 1290-1322. doi: 10.1007/s11142-021-09580-1  
35
- 36 Curtis, A. B., McVay, S. E., & Whipple, B. C. (2014), The disclosure of non-GAAP earnings information in  
37 the presence of transitory gains. *The Accounting Review*, 89(3), pp. 933-958. doi: 10.2308/accr-50683  
38
- 39 Dilla, W. N., Janvrin, D. J., & Jeffrey, C. (2013), The impact of graphical displays of pro forma earnings  
40 information on professional and nonprofessional investors' earnings judgments. *Behavioral Research*  
41 *in Accounting*, 25(1), pp. 37-60. doi: 10.2308/bria-50289  
42
- 43 Dilla, W. N., Janvrin, D. J., & Jeffrey, C. (2014), Pro forma accounting disclosures: The effect of  
44 reconciliations and financial reporting knowledge on nonprofessional investors' judgments. *Advances*  
45 *in Accounting*, 30(1), pp. 43-54. doi: 10.1016/j.adiac.2013.12.002  
46
- 47 Dow Jones & Company Inc. (2001), SEC probes 4 firms for possible abuses of pro-forma results. *Wall Street*  
48 *Journal*, June 19, 2001.  
49
- 50 Doyle, J. T., Jennings, J. N., & Soliman, M. T. (2013), Do managers define non-GAAP earnings to meet or  
51 beat analyst forecasts? *Journal of Accounting and Economics*, 56(1), pp. 40-56. doi:  
52 10.1016/j.jacceco.2013.03.002  
53
- 54 Doyle, J. T., Lundholm, R. J., & Soliman, M. T. (2003), The predictive value of expenses excluded from pro  
55 forma earnings. *Review of Accounting Studies*, 8(2-3), pp. 145-174. doi: 10.1023/a:1024472210359  
56  
57  
58  
59  
60

- 1  
2 Elliott, W. B. (2006), Are investors influenced by pro forma emphasis and reconciliations in earnings  
3 announcements? *The Accounting Review*, 81(1), pp. 113-133. doi: 10.2308/accr.2006.81.1.113  
4
- 5 Entwistle, G., Feltham, G., & Mbagwu, C. (2006a), Financial reporting regulation and the reporting of pro  
6 forma earnings. *Accounting Horizons*, 20(1), pp. 39-55. doi: 10.2308/acch.2006.20.1.39  
7
- 8 Entwistle, G., Feltham, G., & Mbagwu, C. (2006b), Misleading disclosure of pro forma earnings: An empirical  
9 examination. *Journal of Business Ethics*, 69(4), pp. 355-372. doi: 10.1007/s10551-006-9095-4  
10
- 11 Francis, J., Schipper, K., & Vincent, L. (2003), The relative and incremental explanatory power of earnings  
12 and alternative (to earnings) performance measures for returns. *Contemporary Accounting Research*,  
13 20(1), pp. 121-164. doi: 10.1506/XVQV-NQ4A-08EX-FC8A  
14
- 15 Frankel, R., McVay, S., & Soliman, M. (2011), Non-GAAP earnings and board independence. *Review of*  
16 *Accounting Studies*, 16(4), pp. 719-744. doi: 10.1007/s11142-011-9166-3  
17
- 18 Frederickson, J. R., & Miller, J. S. (2004), The effects of pro forma earnings disclosures on analysts' and  
19 nonprofessional investors' equity valuation judgments. *The Accounting Review*, 79(3), pp. 667-686.  
20 doi: 10.2308/accr.2004.79.3.667  
21
- 22 Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005), The economic implications of corporate financial  
23 reporting. *Journal of Accounting and Economics*, 40(1), pp. 3-73. doi: 10.1016/j.jacceco.2005.01.002  
24
- 25 Grey, C., Stathopoulos, K., & Walker, M. (2013), The impact of executive pay on the disclosure of alternative  
26 earnings per share figures. *International Review of Financial Analysis*, 29, pp. 227-236. doi:  
27 10.1016/j.irfa.2012.09.005  
28
- 29 Griffin, P. A., & Lont, D. H. (2021), Evidence of an increasing trend in earnings surprises over the past two  
30 decades: The role of positive manager-initiated non-GAAP adjustments. *Journal of Business Finance*  
31 *and Accounting*. doi: 10.1111/jbfa.12527  
32
- 33 Gu, Z., & Chen, T. (2004), Analysts' treatment of nonrecurring items in street earnings. *Journal of Accounting*  
34 *and Economics*, 38(1-3), pp. 129-170. doi: 10.1016/j.jacceco.2004.09.002  
35
- 36 Guest, N. M., Kothari, S. P., & Pozen, R. (2022), Why do large positive non-GAAP earnings adjustments  
37 predict abnormally high CEO pay? *The Accounting Review*, 97(6), pp. 297-326. doi: 10.2308/TAR-  
38 2019-0003  
39
- 40 Guggenmos, R. D., Rennekamp, K. M., Rupa, K., & Wang, S. (2022), The relationship between non-GAAP  
41 earnings and aggressive estimates in reported GAAP numbers. *Journal of Accounting Research*, 60(5),  
42 pp. 1915-1945. doi: 10.1111/1475-679X.12434  
43
- 44 Guillamon-Saorin, E., Isidro, H., & Marques, A. (2017), Impression management and non-GAAP disclosure  
45 in earnings announcements. *Journal of Business Finance and Accounting*, 44(3-4), pp. 448-479. doi:  
46 10.1111/jbfa.12238  
47
- 48 Heflin, F., & Hsu, C. (2008), The impact of the SEC's regulation of non-GAAP disclosures. *Journal of*  
49 *Accounting and Economics*, 46(2-3), pp. 349-365. doi: 10.1016/j.jacceco.2008.07.002  
50
- 51 Heflin, F., Hsu, C., & Jin, Q. (2015), Accounting conservatism and street earnings. *Review of Accounting*  
52 *Studies*, 20(2), pp. 674-709. doi: 10.1007/s11142-014-9311-x  
53
- 54 Heitger, D. L., & Ballou, B. (2003), Pro forma earnings: Adding value or distorting perception? *The CPA*  
55 *Journal*, March 2003.  
56  
57  
58  
59  
60

- 1  
2 Henry, E., Hu, N., & Jiang, X. (2020), Relative emphasis on non-GAAP earnings in conference calls:  
3 Determinants and market reaction. *European Accounting Review*, 29(1), pp. 169-197. doi:  
4 10.1080/09638180.2019.1664312  
5
- 6 Hirshleifer, D., & Teoh, S. H. (2003), Limited attention, information disclosure, and financial reporting.  
7 *Journal of Accounting and Economics*, 36(1-3), pp. 337-386. doi: 10.1016/j.jacceco.2003.10.002  
8
- 9 Hogan, B. R., Krishnamoorthy, G., & Maroney, J. J. (2017), Pro forma earnings presentation effects and  
10 investment decisions. *Behavioral Research in Accounting*, 29(2), pp. 11-24. doi: 10.2308/bria-51775  
11
- 12 Howard, M., Maroun, W., & Garnett, R. (2019), Misuse of non-mandatory earnings reporting by companies  
13 Evidence from an emerging economy. *Meditari Accountancy Research*, 27(1), pp. 125-146. doi:  
14 10.1108/MEDAR-12-2017-0247  
15
- 16 Hribar, P., Mergenthaler, R., Roeschley, A., Young, S., & Zhao, C. X. (2021), Do managers issue more  
17 voluntary disclosure when GAAP limits their reporting discretion in financial statements? *Journal of*  
18 *Accounting Research*, 60(1), pp. 299-351. doi: 10.1111/1475-679X.12401  
19
- 20 IASB (2017), Disclosure Initiative - Principles of Disclosure, Discussion Paper, London, IFRS Foundation.  
21
- 22 Irish Auditing & Accounting Supervision Authority. (2012), Alternative performance measures - a survey of  
23 their use together with key recommendations, Naas, County Kildare Retrieved from:  
24 <https://www.iaasa.ie>  
25
- 26 Isidro, H., & Marques, A. (2013), The effects of compensation and board quality on non-GAAP disclosures in  
27 Europe. *The International Journal of Accounting*, 48(3), pp. 289-317. doi:  
28 10.1016/j.intacc.2013.07.004  
29
- 30 Isidro, H., & Marques, A. (2015), The role of institutional and Economic factors in the strategic use of non-  
31 GAAP disclosures to beat earnings benchmarks. *European Accounting Review*, 24(1), pp. 95-128. doi:  
32 10.1080/09638180.2014.894928  
33
- 34 Isidro, H., & Marques, A. (2021), Industry competition and non-GAAP disclosures. *Accounting and Business*  
35 *Research*, 51(2), pp. 156-184. doi: 10.1080/00014788.2020.1798209  
36
- 37 James, K. L., & Michello, F. A. (2003), The dangers of pro forma reporting. *The CPA Journal*, February 2003.  
38
- 39 Jennings, J., Seo, H., & Soliman, M. T. (2020), The market's reaction to changes in relative performance  
40 rankings. *Review of Accounting Studies*, 25(2), pp. 672-725. doi: 10.1007/s11142-020-09532-1  
41
- 42 Jennings, R., & Marques, A. (2011), The joint effects of corporate governance and regulation on the disclosure  
43 of manager-adjusted non-GAAP earnings in the US. *Journal of Business Finance and Accounting*,  
44 38(3-4), pp. 364-394. doi: 10.1111/j.1468-5957.2011.02238.x  
45
- 46 Jo, K. M., & Yang, S. (2020), SEC comment letters on firms' use of non-GAAP measures: The determinants  
47 and firms' responses. *Accounting Horizons*, 34(2), pp. 167-184. doi: 10.2308/horizons-16-134  
48
- 49 Johnson, A., Percy, M., Stevenson-Clarke, P., & Cameron, R. (2014), The impact of the disclosure of non-  
50 GAAP earnings in Australian annual reports on non-sophisticated users. *Australian Accounting*  
51 *Review*, 24(3), pp. 207-217. doi: 10.1111/auar.12034  
52
- 53 Kabureck, G. R. (2017), Accounting for non-GAAP earnings measures. *IFRS Foundation*, March 2, 2017  
54 Retrieved from [http://www.ifrs.org/news-and-events/2017/03/accounting-for-non-gaap-earnings-](http://www.ifrs.org/news-and-events/2017/03/accounting-for-non-gaap-earnings-measures/)  
55 [measures/](http://www.ifrs.org/news-and-events/2017/03/accounting-for-non-gaap-earnings-measures/)  
56  
57  
58  
59  
60

- 1  
2 Kolev, K., Marquardt, C. A., & McVay, S. E. (2008), SEC scrutiny and the evolution of non-GAAP reporting.  
3 *The Accounting Review*, 83(1), pp. 157-184. doi: 10.2308/accr.2008.83.1.157  
4
- 5 Koning, M., Mertens, G., & Roosenboom, P. (2010), The impact of media attention on the use of alternative  
6 earnings measures. *Abacus*, 46(3), pp. 258-288. doi: 10.1111/j.1467-6281.2010.00319.x  
7
- 8 Krische, S. D. (2005), Investors' evaluations of strategic prior-period benchmark disclosures in earnings  
9 announcements. *The Accounting Review*, 80(1), pp. 243-268. doi: 10.2308/accr.2005.80.1.243  
10
- 11 Kyung, H., Ng, J., & Yang, Y. G. (2021), Does the use of non-GAAP earnings in compensation contracts lead  
12 to excessive CEO compensation? Efficient contracting versus managerial power. *Journal of Business  
13 Finance and Accounting*, 48(5-6), pp. 841-868. doi: 10.1111/jbfa.12506  
14
- 15 Laurion, H., & Sloan, R. (2022), When does forecasting GAAP earnings entail unreasonable effort? *Journal  
16 of Accounting and Economics*, 73(1), pp. 101437. doi: 10.1016/j.jacceco.2021.101437  
17
- 18 Lee, C. H. (2021), Non-generally accepted accounting principles disclosures and audit committee chairs'  
19 external directorships. *Journal of Business Finance and Accounting*, 49(1-2), pp. 111-139. doi:  
20 10.1111/jbfa.12566  
21
- 22 Leung, E., & Veenman, D. (2018), Non-GAAP earnings disclosure in loss firms. *Journal of Accounting  
23 Research*, 56(4), pp. 1083-1137. doi: 10.1111/1475-679X.12216  
24
- 25 Linnenluecke, M. K., Marrone, M., & Singh, A. K. (2020), Conducting systematic literature reviews and  
26 bibliometric analyses. *Australian journal of management*, 45(2), pp. 175-194. doi:  
27 10.1177/0312896219877678  
28
- 29 Linsmeier, T. J. (2016), Revised model for presentation in statement(s) of financial performance: Potential  
30 implications for measurement in the conceptual framework. *Accounting Horizons*, 30(4), pp. 485-498.  
31 doi: 10.2308/acch-51543  
32
- 33 Lont, D. H., Ranasinghe, D., & Roberts, H. (2020), Non-GAAP disclosures and CEO pay levels. *The  
34 International Journal of Accounting*, 55(04). doi: 10.1142/S109440602050016X  
35
- 36 Malone, L., Tarca, A., & Wee, M. (2016), IFRS non-GAAP earnings disclosures and fair value measurement.  
37 *Accounting and Finance*, 56(1), pp. 59-97. doi: 10.1111/acfi.12204  
38
- 39 Marques, A. (2006), SEC interventions and the frequency and usefulness of non-GAAP financial measures.  
40 *Review of Accounting Studies*, 11(4), pp. 549-574. doi: 10.1007/s11142-006-9016-x  
41
- 42 Marques, A. (2010), Disclosure strategies among S&P 500 firms: Evidence on the disclosure of non-GAAP  
43 financial measures and financial statements in earnings press releases. *The British Accounting Review*,  
44 42(2), pp. 119-131. doi: 10.1016/j.bar.2010.02.004  
45
- 46 Miller, J. S. (2009), Opportunistic disclosures of earnings forecasts and non-GAAP earnings measures. *Journal  
47 of Business Ethics*, 89(1), pp. 3-10. doi: 10.1007/s10551-008-9903-0  
48
- 49 Code of Federal Regulations, 17 C.F.R. § 244 - Regulation G (2017a).  
50
- 51 Code of Federal Regulations, 17 C.F.R. § 229.10 (Item 10) General (e) (1) (i) Use of non-GAAP financial  
52 measures in Commission filings (2017b).  
53
- 54 Reimsbach, D. (2014), Pro forma earnings disclosure: The effects of non-GAAP earnings and earnings-before  
55 on investors' information processing. *Journal of Business Economics*, 84(4), pp. 479-515. doi:  
56 10.1007/s11573-013-0688-y  
57  
58  
59  
60

- 1  
2 Ribeiro, A., Shan, Y., & Taylor, S. (2019), Non-GAAP earnings and the earnings quality trade-off. *Abacus*,  
3 55(1), pp. 6-41. doi: 10.1111/abac.12150  
4
- 5 SEC (2001), Cautionary advice regarding the use of "pro forma" financial information in earnings releases,  
6 Washington, DC, US Government Publishing Office. December 4, 2001.  
7
- 8 SEC (2002), Conditions for use of non-GAAP financial measures, Final Rule: RIN 3235-A169, Washington,  
9 US Government Publishing Office.  
10
- 11 SEC (2010), Compliance and Disclosure Interpretations, Washington, DC, US Government Publishing Office.  
12 January 11, 2010.  
13
- 14 SEC (2016), Compliance and Disclosure Interpretations, Washington, DC, US Government Publishing Office.  
15 May 17, 2016.  
16
- 17 SEC (2018), Compliance and Disclosure Interpretations, Washington, DC, US Government Publishing Office.  
18 April 4, 2018.  
19
- 20 Seetharaman, A., Wang, X. F., & Zhang, S. B. (2014), An empirical analysis of the effects of accounting  
21 expertise in audit committees on non-GAAP earnings exclusions. *Accounting Horizons*, 28(1), pp. 17-  
22 37. doi: 10.2308/acch-50584  
23
- 24 Shiah-Hou, S. R., & Teng, Y. Y. (2016), The informativeness of non-GAAP earnings after Regulation G?  
25 *Finance Research Letters*, 18, pp. 184-192. doi: 10.1016/j.frl.2016.04.015  
26
- 27 Thielemann, F., & Dinh, T. (2019), Non-GAAP earnings disclosures around regulation G – The case of  
28 “implicit non-GAAP reporting”. *Advances in Accounting*, 46, pp. 100432. doi:  
29 10.1016/j.adiac.2019.100432  
30
- 31 Venter, E. R., Cahan, S. F., & Emanuel, D. (2013), Mandatory earnings disaggregation and the persistence and  
32 pricing of earnings components. *The International Journal of Accounting*, 48(1), pp. 26-53. doi:  
33 10.1016/j.intacc.2013.01.005  
34
- 35 Venter, E. R., Emanuel, D., & Cahan, S. F. (2014), The value relevance of mandatory non-GAAP earnings.  
36 *Abacus*, 50(1), pp. 1-24. doi: 10.1111/abac.12020  
37
- 38 Virgin Australia Holdings Limited. (2016), Virgin Australia Holdings Limited (ASX: VAH) reports financial  
39 results for full year ended 30 June 2016, Retrieved from [https://www.virginaustralia.com/au/en/about-](https://www.virginaustralia.com/au/en/about-us/media/2016/va-financial-results-2016/)  
40 [us/media/2016/va-financial-results-2016/](https://www.virginaustralia.com/au/en/about-us/media/2016/va-financial-results-2016/)  
41
- 42 Walker, M., & Louvari, E. (2003), The determinants of voluntary disclosure of adjusted earnings per share  
43 measures by UK quoted companies. *Accounting and Business Research*, 33(4), pp. 295-309. doi:  
44 10.1080/00014788.2003.9729655  
45
- 46 Weil, J. (2001), Ignore the items behind the curtain: EPS means different things to different earnings. *Wall*  
47 *Street Journal*, October 16, 2001  
48
- 49 White, M. J. (2016) *Board diversity, non-GAAP and sustainability*. Keynote Address, International Corporate  
50 Governance Network Annual Conference, San Francisco, California, June 27, 2016, Available at:  
51 <https://www.sec.gov/news/speech/chair-white-icgn-speech.html>.  
52
- 53 Wieland, M. M., Dawkins, M. C., & Dugan, M. T. (2013), The differential value relevance of S&P's core  
54 earnings versus GAAP earnings: The role of stock option expense. *Journal of Business Finance and*  
55 *Accounting*, 40(1-2), pp. 55-81. doi: 10.1111/jbfa.12013  
56  
57  
58  
59  
60

- 1  
2 Young, S. (2014), The drivers, consequences and policy implications of non-GAAP earnings reporting.  
3 *Accounting and Business Research*, 44(4), pp. 444-465. doi: 10.1080/00014788.2014.900952  
4
- 5 Zhang, H., & Zheng, L. (2011), The valuation impact of reconciling pro forma earnings to GAAP earnings.  
6 *Journal of Accounting and Economics*, 51(1-2), pp. 186-202. doi: 10.1016/j.jacceco.2010.07.001  
7  
8  
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11  
12  
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**7 Appendix**

*Table 1: Summary information from merged databases*

Journal of Accounting Literature

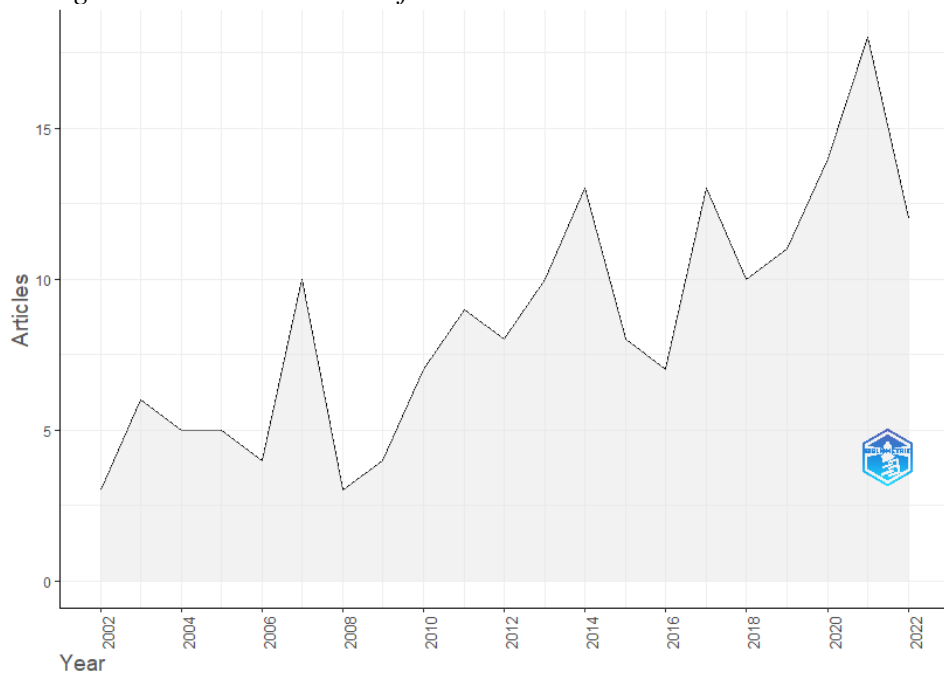
Table 1: Summary information from merged databases

Summary Information	
Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2002:2022
Sources (Journals, Books, etc)	60
Documents	193
Annual Growth Rate %	7.18
Document Average Age	7.76
Average citations per doc	28.57
Average citations per year per doc	2.568
References	1
DOCUMENT TYPES	
article	157
article; early access	12
article; proceedings paper	7
editorial material	11
review	5
review; early access	1
DOCUMENT CONTENTS	
Keywords Plus (ID)	0
Author's Keywords (DE)	438
AUTHORS	
Authors	355
Author Appearances	494
Authors of single-authored docs	32
AUTHORS COLLABORATION	
Single-authored docs	37
Documents per Author	0.544
Co-Authors per Doc	2.56
International co-authorships %	23.32

Accounting Literature



Figure 1: Literature trends from 2002 to 2022

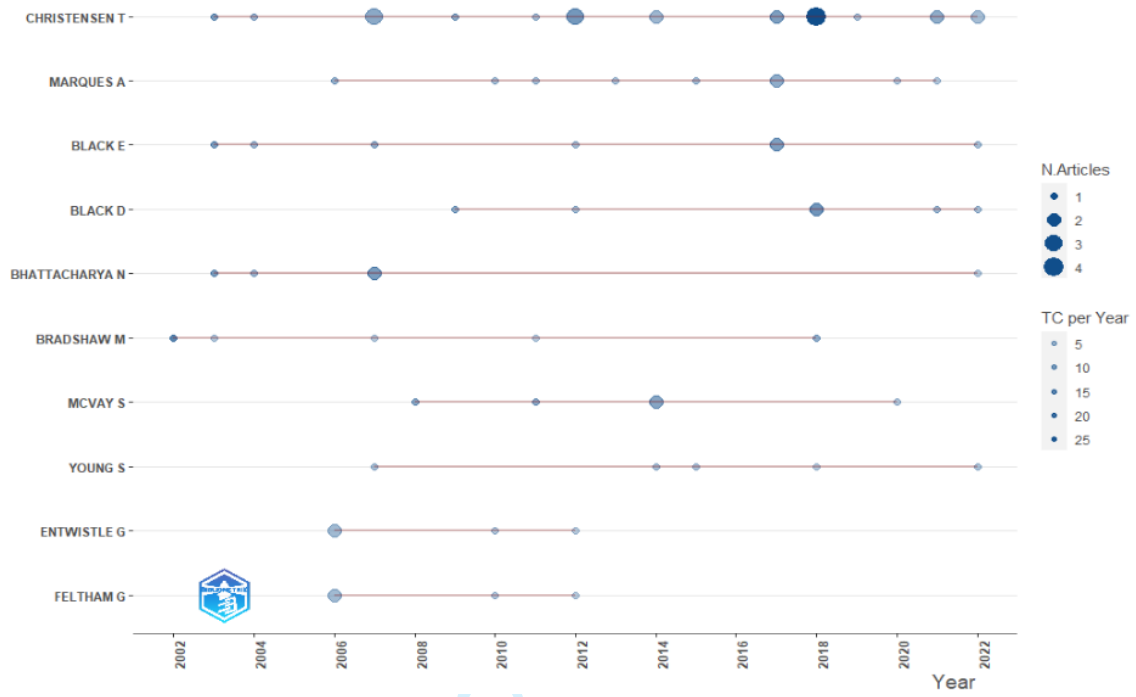


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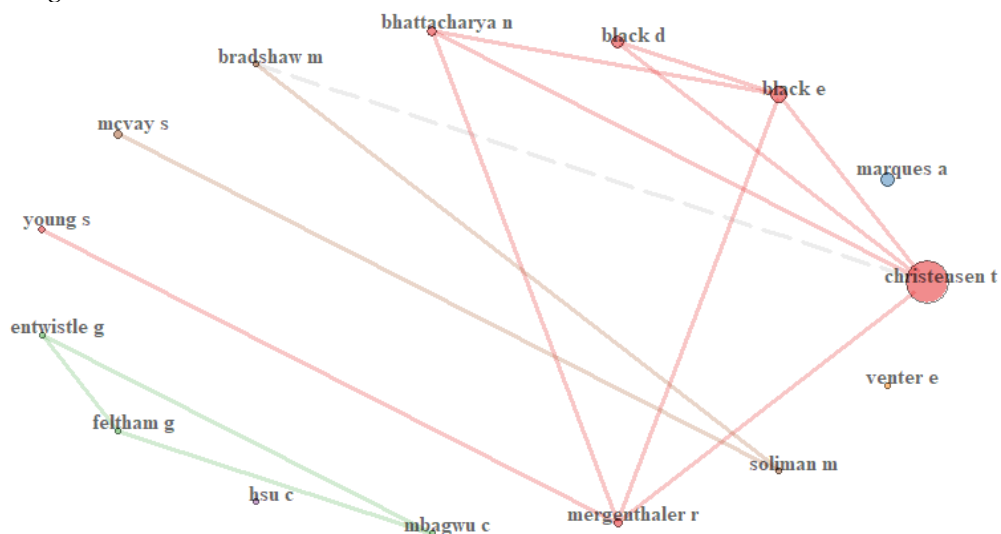
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Figure 2: Most productive authors



Journal of Accounting Literature

Figure 3: Author collaboration network

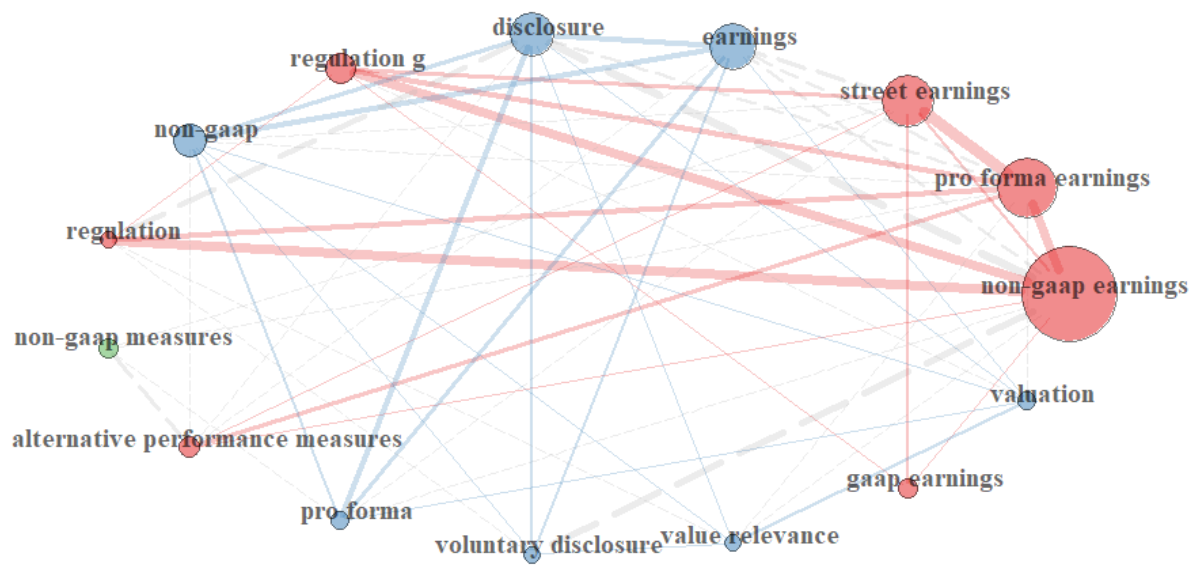


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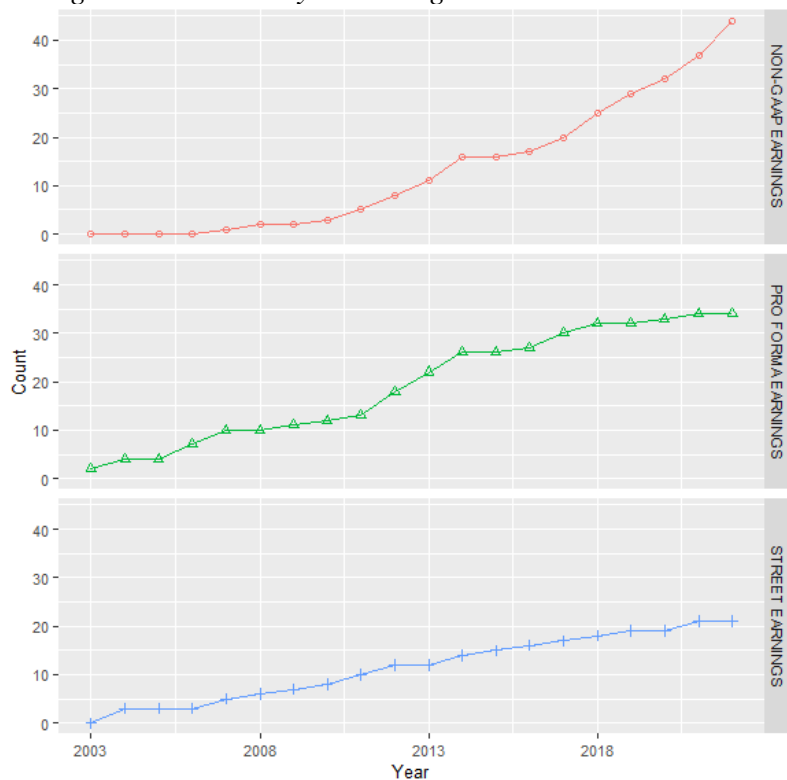
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Figure 4: Keyword co-occurrences



Accounting Literature

Figure 5: Author keyword usage evolution over time

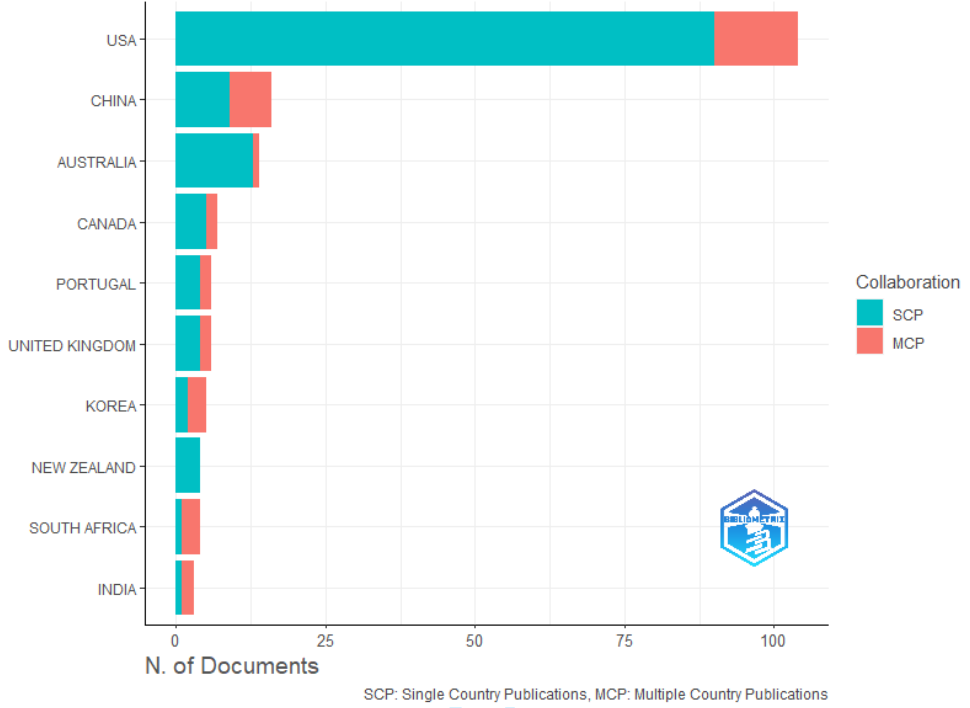


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Figure 6: Most productive countries



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