6-2022

Economic Policy Uncertainty and Non-GAAP Reporting

Ryan H. Wynne
The Graduate Center, City University of New York

ECONOMIC POLICY UNCERTAINTY AND NON-GAAP REPORTING

by

RYAN WYNNE

A dissertation submitted to the Graduate Faculty in Business in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2022

Economic Policy Uncertainty and Non-GAAP Reporting

by

Ryan Wynne

This manuscript has been read and accepted for the Graduate Faculty in Business in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

Date	Carol Marquardt Chair of Examining Committee
Date	Karl Lang Executive Officer

Supervisory Committee:

Donal Byard

Kalin Kolev

Armen Hovakimian

THE CITY UNIVERSITY OF NEW YORK

ABSTRACT

Economic Policy Uncertainty and Non-GAAP Reporting

by

Ryan Wynne

Advisor: Carol Marquardt

ABSTRACT: This study investigates the impact of economic policy uncertainty (EPU) on non-GAAP reporting. Prior research documents that numerous factors influence the frequency and quality of non-GAAP earnings disclosures, but the expected association between EPU and non-GAAP reporting is unclear. On the one hand, greater EPU may increase investor demand for additional financial information, while on the other hand, more EPU may lead to less non-GAAP disclosure by making core or recurring earnings more difficult to predict. Additionally, greater EPU may provide increased opportunity for managers to use non-GAAP reporting to mislead investors. I document a significantly positive association, on average, between EPU and the frequency and quality of non-GAAP earnings disclosure, consistent with managers using non-GAAP disclosures to better inform investors when faced with greater EPU. Cross-sectional tests confirm that these results are stronger for firms more likely to be affected by EPU, such as government contractors. In addition, supplemental tests reveal variation across EPU components; specifically, increased tax policy uncertainty is associated with decreased quality of non-GAAP reporting for the most aggressive tax reporters. This study deepens our understanding of the economic factors driving non-GAAP reporting, a phenomenon which continues to grow more prevalent over time.

ACKNOWLEDGMENTS

I thank my dissertation committee, Professors Carol Marquardt (chair), Donal Byard, Armen Hovakimian, and Kalin Kolev, for their helpful feedback and guidance in developing this study.

CONTENTS

TABLES

FIGURES

Page

CHAPTER ONE

I. INTRODUCTION

This study investigates the impact of economic policy uncertainty (EPU) on non-GAAP reporting. Non-GAAP earnings disclosures are alternative earnings performance measures provided by individual firms that attempt to measure "core" or "permanent" earnings by making adjustments to reported GAAP earnings. Non-GAAP earnings disclosures are a common practice among publicly traded companies since at least the early 1990's (Bradshaw and Sloan 2002), and have become more frequent in recent years.[1] Prior literature documents that numerous factors influence the frequency and quality of non-GAAP earnings disclosures.[2] The majority of this research focuses on the firm-specific conditions under which non-GAAP reporting decisions vary (see, e.g.,Lougee and Marquardt 2004; Black, Christensen, Joo, and Schmardebeck 2017; Leung and Veenman 2018; Frankel et al. 2011; Kyung et al. 2019), while relatively few studies focus on economy-wide factors that may influence this disclosure decision on average (Brown et al. 2012; Kolev et al. 2008). I contribute to this latter line of inquiry by examining the effect of economic policy uncertainty on the frequency and quality of non-GAAP earnings disclosure.

As non-GAAP reporting continues to become a more common practice amongst firms, understanding the motivation behind this form of voluntary disclosure is of increasing importance. Additionally, Black et al. (2018) note that there is evidence that relative to GAAP earnings, non-GAAP earnings are both more persistent (Bhattacharya et al. 2003) and more relevant to firm value

[1] According to Audit Analytics, 97 percent of S&P 500 firms reported a non-GAAP earnings number in 2017. While Black et al. (2017) find that just 53 percent reported one in 2009.
[2] Black et al. (2018) provides a review of the academic literature on non-GAAP reporting, as well as the current state of non-GAAP reporting practices.

(Bradshaw and Sloan 2002; Brown and Sivakumar 2003; Frankel and Roychowdhury 2005). To the degree that firms' non-GAAP disclosure decisions are attributable to economic conditions exogenous to firms' operations, examining these forces will enhance our understanding of the determinants of both the frequency and quality of this reporting strategy. This enhanced understanding will be beneficial to numerous stakeholders, including regulators, as this reporting practice continues to be widely used.

Economy-wide uncertainty has the potential to influence both the operating and reporting strategies of firms in a variety of ways. It is likely that firms' voluntary disclosure strategies are influenced by investors' perceptions regarding the future of the economy. Given that investors often view non-GAAP earnings as a signal about future or recurring performance, their perception of non-GAAP earnings is likely colored by their degree of uncertainty regarding future economic growth. If various types of uncertainty influence investors' reaction to non-GAAP disclosures, then firms will likely consider the level of different types of uncertainty when trying to convey information via non-GAAP earnings disclosures. One type of uncertainty that will be the focus of this study is economic policy uncertainty (EPU). The ability to measure economic policy uncertainty (EPU) should allow for greater insight into both the non-GAAP reporting decision and how investors perceive these reports.

Baker et al. (2016) develops a novel index to measure economic policy uncertainty (EPU) based on the frequency of news articles discussing EPU, expiring tax policies, and disagreement amongst forecasters regarding future government spending and inflation. This "composite index" is a weighted index of three indicators of economic policy uncertainty. The first component is based on a search of 10 large newspaper publications, which is then transformed into a score rating

the volume of news articles discussing EPU.[3] The second component is the dollar-weighted number of tax codes set to expire in the next ten years meant to reflect uncertainty about future federal tax code provisions. The third component measures dispersion among forecasters' predictions about future levels of "Federal, State and Local Expenditures" and the CPI Index, reflecting uncertainty about policy-related macroeconomic variables.[4]

EPU has been shown to influence a variety of firm behaviors. For example, Gulen and Ion (2016) document a strong negative relationship between firm-level capital investment and EPU; Bhattacharya et al. (2017) find that EPU is inversely related to innovation as measured using patent-based proxies; and Bonaime et al. (2018) and Nguyen and Phan (2017) both report a strong negative association between EPU and M&A activity. With regard to corporate disclosure choices, the evidence regarding the influence of EPU is more equivocal. Nagar et al. (2019) and Boone et al. (2018) document that voluntary disclosure, as measured by the quantity of 8-K disclosures, is positively associated with EPU, while Kim et al. (2016) report a negative association between EPU and the likelihood of firms' issuance of management earnings guidance. In addition, Nagar et al. (2019) present evidence showing that GAAP earnings are less informative during times of high EPU.

The expected association between EPU and non-GAAP earnings disclosure is similarly unclear. On the one hand, EPU may be positively associated with the frequency and quality of non-GAAP reporting. A consistent theme across the prior research on non-GAAP reporting is that non-GAAP disclosure is more prevalent when the informativeness of GAAP earnings is lower

[3] For a complete discussion of the formulation of the news-based component of the EPU index please see Baker et al. (2016).
[4] "Forecasters" are those surveyed in the "Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters."

(Lougee and Marquardt 2004; Leung and Veenman 2018). To the extent that GAAP earnings is less informative during times of high EPU, as indicated by the results of Nagar et al. (2019), it is reasonable to expect the frequency and quality of non-GAAP earnings disclosures to increase during periods of high EPU. In this case, more informative non-GAAP earnings would serve as a substitute for less informative GAAP earnings.[5]

On the other hand, prior literature on non-GAAP earnings also reveals that managers can use non-GAAP disclosure opportunistically, for example, to meet earnings benchmarks (Doyle et al. 2013; Barth et al. 2012). If increased EPU allows managers greater discretion to behave opportunistically or makes opportunistic reporting choices more difficult for investors to detect, then one might expect to observe an increase in the frequency of non-GAAP reporting, but a decrease in its quality, during periods when EPU is high. Yet another possibility is that increased EPU may prevent managers from being able to accurately predict recurring or "core" earnings. Since non-GAAP earnings can be viewed as a mechanism through which managers may credibly disclose their private information about future recurring earnings (Bhattacharya et al. 2003; Choi et al. 2007), managers may be less willing to produce a non-GAAP earnings report in the face of increased uncertainty. In this case one could expect to observe a negative association between EPU and non-GAAP reporting frequency.

To examine the relationship between EPU and non-GAAP reporting, I employ the EPU index developed by Baker et al. (2016).[6] I obtain non-GAAP earnings disclosures from the Bentley et al. (2018) database, which tracks firms' actual non-GAAP EPS disclosure for over 7,000 firms from 2003-2016. After controlling for known determinants of firms' non-GAAP disclosures

[5] Imhoff and Lobo (1992) also find that GAAP earnings are less informative (as measured by earnings response coefficients) when *ex ante* uncertainty is high.
[6] The EPU index is available at policyuncertainty.com.

identified in the prior literature, I find a significantly positive association between overall EPU and the likelihood that firm managers issue a non-GAAP earnings report. However, I find that this result varies across components of the EPU index. In particular, I report evidence that the likelihood of non-GAAP disclosure is positively associated with the frequency of newspaper articles related to U.S. economic policies and with the dispersion of economic forecasts of future federal, state, and local expenditures, but is not significantly associated with the expiration of tax policies.[7]

To test whether EPU is associated with the quality of non-GAAP earnings, I follow prior literature (Doyle et al. 2003; Kolev et al. 2008; Heflin et al. 2015) and define quality based on the predictive power of non-GAAP earnings exclusions for future operating performance. That is, if the items excluded from non-GAAP earnings are more transitory and have low predictive power for future performance, they are considered "high quality" exclusions. These exclusions thus bring GAAP earnings closer to "core" or "permanent" earnings. If the exclusions are recurring items, they will exhibit greater predictive power for future performance compared to truly transitory exclusions. They are thus considered "low quality" exclusions that will not result in an improved measure of "core" earnings.

After controlling for other factors that affect non-GAAP earnings quality, I find that overall EPU is positively associated with the quality of non-GAAP earnings exclusions. That is, non-GAAP exclusions are *less correlated* with future operating performance when overall EPU is high. However, as with the results for non-GAAP reporting frequency, this finding varies across the components of the EPU index. Specifically, all components of the index are associated with

[7] The association between tax policy uncertainty and non-GAAP reporting is further explored in the supplemental analysis of Section VI.

improved non-GAAP earnings quality *except for* the tax policy component. I explore this finding in supplemental analyses later in the paper.

The main results suggest that overall EPU is positively associated with both the likelihood of non-GAAP earnings disclosure and the quality of those disclosures. These results are robust to numerous specifications. More specifically, I employ both probit and OLS regressions, as well as numerous controls for firm size, and remove total accruals as a control variable. Finally, I verify that the main findings are robust to a more granular analysis in which EPU is broken down into quartiles throughout the sample period.[8]

I also conduct several cross-sectional analyses to identify differential effects of EPU on non-GAAP reporting. The two factors I identify as potentially influencing the relationship between EPU and non-GAAP reporting are firms' sensitivity to EPU and firms' information environments. Baker et al. (2016) identify industries with a large percentage of revenue generated through government contracts as being particularly sensitive to EPU. I find that the positive association between EPU and non-GAAP earnings quality is significantly stronger for firms in industries more likely to generate revenue through government contracts, confirming that EPU is the likely driver of this finding. I also find that the positive association between EPU and the likelihood of non-GAAP earnings disclosures is significantly stronger for firms without analyst coverage. Analysts' reports may serve as a substitute for firm-issued non-GAAP disclosure, suggesting that investor demand for additional information may be responsible for the observed increase in non-GAAP disclosure frequency when EPU is higher.

[8] This additional test verifies that the effects observed when comparing above-median EPU periods with below-median EPU periods are consistent when comparing top-quartile EPU periods with bottom-quartile EPU periods.

I perform several supplemental analyses. First, I verify the results of Nagar et al. (2019) showing that earnings response coefficients are muted during times of higher EPU, confirming that GAAP earnings informativeness decreases in periods of higher EPU. I also document that the incremental information content of non-GAAP earnings does *not* drop along with GAAP informativeness during periods of higher EPU. To determine whether investors' response to GAAP earnings during times of high EPU is justified, I also test whether GAAP earnings are less predictive of future operating earnings and are less persistent when EPU is higher. My findings confirm that investors' muted response to GAAP earnings during times of higher (above-median) EPU is rational. Consistent with both the tenor of my main findings and prior findings in the non-GAAP literature, (Doyle et al. 2013; Kyung et al. 2019), these results suggest that managers substitute higher-quality non-GAAP disclosures when GAAP earnings quality is lower in response to high EPU.

Finally, I further investigate an apparent abnormality in my main results. All components of the EPU index have a positive association with non-GAAP exclusion quality, except for tax policy uncertainty. I investigate the specific types of exclusions that may explain this result. Following Donelson et al. (2019), I identify non-recurring income tax expense as an exclusion that is arguably of higher quality during periods of lower tax policy uncertainty. However, when tax policy uncertainty is high, the quality of non-recurring income tax expense decreases because managers have more difficulty identifying which tax expenses are non-recurring. I present significant empirical evidence consistent with this explanation. Additionally, I find that firms with relatively low marginal tax rates tend to exclude non-recurring income taxes that are correlated with future operating earnings. This "non-recurring" income tax expense, in this case, is actually a recurring item. Finally, I directly test the impact of a firm's marginal tax rate on the quality of

their non-GAAP exclusions and find that firms with lower marginal tax rates tend to have lower quality exclusions in general. This suggests a positive association between aggressive tax planning strategies and aggressive non-GAAP reporting.

This study makes several contributions to the existing literature. First, I extend our understanding of the motivations underlying firms' non-GAAP reporting by demonstrating its relationship to economic policy uncertainty. My results should be of interest to numerous stakeholders as non-GAAP reporting continues to become a more common practice, which has attracted the attention of the SEC (Black et al. 2018). Additionally, my study has potential implications for tax policy as it identifies that uncertainty contributes to a decrease in financial reporting quality for tax related items. Specifically, higher tax policy uncertainty is associated with a decrease in the exclusion quality of non-recurring income tax expense. Finally, this study is the first to identify a connection between aggressive tax planning and aggressive non-GAAP reporting.

The paper is organized as follows. Section II details the hypothesis development, Section III provides the research design, Section IV describes the sample selection and descriptive statistics, Section V provides the main results, Section VI details supplemental analyses, Section VII concludes.

II. HYPOTHESIS DEVELOPMENT

Non-GAAP earnings are a form of voluntary disclosure in which firm managers present an alternative performance measure by adjusting GAAP earnings to better reflect the firm's core or recurring earnings. Non-GAAP reporting is a widespread practice, especially among large firms. According to Audit Analytics, 97 percent of S&P 500 firms reported a non-GAAP earnings

number in 2017.[9] This a sizable increase compared to the findings in Black et al. (2017), who report that 53 percent of firms reported non-GAAP earnings in 2009. In addition to its prevalence, the utility of non-GAAP earnings has been well documented. As discussed in Black et al. (2018), there is evidence that non-GAAP earnings are more persistent than GAAP earnings (Bhattacharya et al. 2003) and more useful for valuation purposes (Bradshaw and Sloan 2002; Brown and Sivakumar 2003; Frankel and Roychowdhury 2005).

A number of prior studies evaluate the economic determinants of non-GAAP disclosure. For example, firm-specific factors known to influence non-GAAP reporting include: GAAP earnings informativeness (Lougee and Marquardt 2004); the ability to engage in traditional earnings management (Black et al. 2017); reporting GAAP earnings losses (Leung and Veenman 2018); board independence (Frankel et al. 2011); and the presence of managerial clawback provisions (Kyung et al. 2019). In addition, economy wide factors, such as investor sentiment (Brown et al. 2012) and regulatory scrutiny (Kolev et al. 2008), have also been shown to affect firms' non-GAAP disclosure decisions. I extend this line of inquiry by considering the potential effect of economic policy uncertainty (EPU) on non-GAAP reporting, which has not been previously examined in the accounting literature.

As observed by Bloom (2014), the economics literature has been examining questions related to uncertainty since the early 20th century, but there has been a recent surge in research related to economic policy uncertainty (EPU), in part due to the increased availability of empirical proxies for the construct. EPU can be broadly defined as uncertainty regarding government policy action that may impact the economy. This could refer to actions by the Federal Reserve, as well as

[9] https://blog.auditanalytics.com/long-term-trends-in-non-gaap-disclosures-a-three-year-overview/.

policies related to government spending and taxation. While the importance of such policy actions may be self-evident, the *uncertainty* around future policy action is a more recent topic of investigation.

In their paper on EPU, Baker et al. (2016), note that both "…the Federal Open Market Committee and the International Monetary Fund suggest that uncertainty about U.S. and European fiscal, regulatory, and monetary policies contributed to a steep economic decline in 2008–2009 and slow recoveries afterward." Additionally, their paper provides evidence of the numerous ways in which uncertainty about economic policies is associated with both firm level and aggregate outcomes. Individual firms, and industries, who are exposed to EPU experience noticeable changes in stock price volatility, investment rates, and employment levels as the level of EPU changes over time.

The EPU index developed by Baker et al. (2016) has been widely adopted across numerous disciplines within the social sciences. The index measures EPU using a combination of uncertainty regarding future macroeconomic policies in the press, expiring of tax policies, and a lack of consensus among forecasters regarding future levels of government spending and the CPI index. Prior research documents that EPU, as measured by Baker et al. (2016), is significantly positively associated with a wide variety of economic variables such as aggregate earnings surprises (Kang and Wang 2018), risk premia (Brogaard and Detzel 2015), cost of capital and innovation, (Xu 2020), and firm level investment (Kang et al. 2014). These studies demonstrate that the EPU index captures a specific form of uncertainty that has a significant effect on firm behavior.

With its focus on future economic performance, the EPU index has several advantages over uncertainty measures that are derived from volatility or variability of past economic performance aggregated across individual firms, such as GDP or market returns. Using such measures presents

challenges in identifying whether changes in disclosure are the result of uncertainty or simply changes in firm performance. When evaluating non-GAAP disclosures, this could prove particularly challenging if the measure of uncertainty is directly correlated with negative events such as write-offs or investment impairments.[10]

Relative to performance-based measures, it is reasonable to assume that the EPU index is a more exogenous measure of economy-wide uncertainty. This is largely due to the fact that the components of the EPU index center on direct measures of attention (press coverage) and disagreement (forecast dispersion) with respect to *future* policy action. Thus, the impact of EPU on firms' disclosure strategy will reflect uncertainty regarding future events, rather than the mechanical impact of current firm performance.[11]

EPU has the potential to affect managers' non-GAAP disclosure decisions because it increases investor and managerial uncertainty regarding firm value (Pastor and Veronesi 2012; 2013), exacerbating information asymmetry. Prior research documents that managers may respond to increased information asymmetry by providing additional voluntary disclosures (e.g., Coller and Yohn 1997; Guay et al. 2016). In particular, Huang and Skantz (2016) report that non-GAAP disclosures are effective in reducing information asymmetry around earnings announcements.

Studies also show that non-GAAP disclosures are more prevalent when the informativeness of GAAP earnings is low (Lougee and Marquardt 2004; Leung and Veenman 2018); additionally, both Imhoff and Lobo (1992) and Nagar et al. (2019) find that GAAP earnings are less informative (as measured by ERC's) when uncertainty is high. To the degree that high EPU results in less

[10] In Section VI of the paper, I verify that my results are robust to controlling for periods of economic recessions.
[11] The relatively weak correlation between EPU and the total value of *Exclusions* discussed in Section IV is further evidence of this assertion.

informative GAAP earnings, it is reasonable to anticipate that firms will increase the frequency of non-GAAP earnings disclosures as a substitute.

While the above arguments suggest that higher levels of EPU will induce managers to increase their frequency of non-GAAP reporting, an alternative view is also possible. Verrecchia (1982, 1990) predicts that a reduction in a manager's private information or a decrease in investors' confidence about a manager's private information may lead to a decrease in voluntary disclosures. To the degree that high EPU prevents managers from being able to accurately predict recurring or "core" earnings, they may be less willing to produce a non-GAAP earnings report.[12] In support of this prediction, Kim et al. (2016) find that the frequency of management earnings forecasts decreases as macroeconomic uncertainty rises. Additionally, a reduction in investors' belief that managers can accurately predict recurring earnings may render non-GAAP reports less credible to investors. While the cost of producing a non-GAAP earnings report may be relatively low, if non-GAAP earnings are considered unreliable during times of high EPU, managers may forego issuing a non-GAAP earnings disclosure.

Hypothesis 1, stated in the null form, is as follows:

> **H1:** ***The level of EPU is not significantly associated with the likelihood that firms disclose non-GAAP earnings.***

H1 considers the association between EPU and the likelihood that firms disclose non-GAAP disclosures. I also consider the association between EPU and the quality of non-GAAP earnings disclosures. Non-GAAP earnings disclosure quality is traditionally defined in the literature as the degree to which items excluded from non-GAAP earnings (exclusions) are

[12] Although both GAAP and non-GAAP earnings are backwards looking, financial statement users have used manager reported non-GAAP earnings as a signal about future recurring earnings.

correlated with future performance. To better demonstrate the concept of non-GAAP exclusion quality, it is useful to examine some examples of non-GAAP earnings reported in firms' 8K disclosures. Figures 1 and 2 provide examples of non-GAAP disclosures for Alphabet, Inc. and Chipotle Mexican Grill, Inc. respectively.

In Figure 1, Alphabet presents quarterly earnings from the first quarter of 2019 both including and excluding the impact of a $1.7B fine announced by the European Commission. Alphabet states that the motivation for the adjustment is to provide "….data to facilitate comparison of current quarter performance to prior period…" Although the language in the disclosure focuses on comparing current earnings with past periods, this type of non-GAAP adjustment, at least in theory, should be useful to investors attempting to identify "core" or "recurring" earnings going forward. Alphabet would appear to be justified in excluding the impact of the lawsuit when reporting non-GAAP earnings as this appears to be a transitory item of little significance to future performance. However, this distinction is not always so clear.

Figure 2 presents "Adjusted Net Income and Adjusted Diluted Earnings per Share" for Chipotle Mexican Grill, Inc. for the third quarter of 2020. In this non-GAAP earnings report, numerous adjustments are made for a variety of expenses such as "Duplicate Rent Expense" and "Employee related restructuring costs." Like Alphabet, Chipotle states the purpose of this report is to "…facilitate meaningful evaluation of our operating performance across periods. These adjustments are intended to provide greater transparency of underlying performance and to allow investors to evaluate our business on the same basis as our management, which uses these non-GAAP measures in evaluating the company's performance."

This "greater transparency" is presumably the benefit that non-GAAP reporting provides to investors. As stated by Chipotle above, non-GAAP reporting allows investors to evaluate firm

performance on the same basis as the firm's management. Through non-GAAP reporting, managers should be able to disclose their private information regarding their expectations of future performance. As a result, non-GAAP reporting has the potential to provide incremental information beyond strictly backwards looking GAAP reporting.[13]

However, one can clearly see that the exclusions made in the first quarter of 2020, were also made in the first quarter of 2019. It is thus possible that these exclusions are not transitory, but rather recurring charges that are being excluded due to managerial discretion. Whether or not Chipotle is justified in excluding these items is an empirical question and will be the focus of the second hypothesis in this study. H2 will focus on how EPU impacts the quality of non-GAAP exclusions.

If managers respond to increased EPU by attempting to reduce information asymmetry or compensate for low GAAP earnings quality via non-GAAP disclosures, then I expect that non-GAAP earnings quality will be positively associated with EPU. Managers will provide a non-GAAP earnings figure that eliminates transitory items, which better reflects future recurring or "core" earnings.

Alternatively, if high EPU makes future recurring earnings more difficult to predict, the quality of non-GAAP earnings disclosures may suffer even though managers are attempting to better inform investors. In addition, prior research documents that non-GAAP earnings disclosures can also be used opportunistically by managers. For example, Doyle et al. (2013) report that non-GAAP earnings exclusions are used to meet analyst earnings forecasts, while Lougee and Marquardt (2004) document that non-GAAP earnings exclusions often allow firms to avoid

[13] The degree to which the incremental information contained in non-GAAP earnings varies with EPU is examined in Section VI.

reporting losses. Further, managers may use non-GAAP earnings disclosures to remove recurring items in order to falsely give the impression of higher core earnings. If a high level of EPU interferes with investors' ability to recognize opportunistic non-GAAP earnings disclosures, when EPU is high, managers may find it easier to mislead investors by reporting non-GAAP earnings figures of lower quality. As a result, the impact of EPU on the quality of non-GAAP earnings disclosures is ultimately an empirical issue.

Hypothesis 2 stated in the null form, is as follows:

> **H2:** ***The level EPU is not associated with the quality of firms' non-GAAP earnings disclosures.***

Through H1 and H2 I examine an overall shift in non-GAAP reporting behavior in response to the level of EPU. However, it is likely that the response to increased EPU will not be uniform across all firms. To increase the validity of my inferences, I examine two potential sources of cross-sectional variation in the association between the level of EPU and non-GAAP earnings disclosure frequency and quality. First, it is likely that a firm's relative sensitivity to EPU will vary. Baker et al. (2016) show that industries with revenues largely generated through government contracts are particularly sensitive to EPU. It is possible that these firms adjust their non-GAAP earnings disclosures to a greater degree than the average firm in response to variation in the level of EPU. This would imply that the effects observed in my test of H1 and H2 will be stronger for firms in these industries. Conversely, if these firms have acquired insider information through their business dealings with the government, they may be less impacted by this type of uncertainty. In this case, one would expect any association between the level of EPU and non-GAAP disclosures from testing H1 and H2 to be weaker for firms with government contracts.

Hypothesis 3, stated in the null form, is as follows:

H3a: ***The association between the level of EPU and the likelihood that a manager discloses non-GAAP earnings does not vary with a firm's level of revenue from government contracts.***

H3b: ***The association between the level of EPU and the quality of reported non-GAAP earnings does not vary with a firm's level of revenue from government contracts.***

As a second cross-sectional test, I also investigate how a firm's information environment influences its response to variation in the level of EPU. If managers respond to EPU by attempting to reduce information asymmetry through non-GAAP earnings disclosure, as argued in H1 and H2, their response may vary with the existing quality of the information environment. A firm's information environment refers, broadly, to the degree to which investors have access to a wide array of alternative information sources about a firm. The availability of a large number of alternative information sources - or a richer information environment - for a firm suggests that there may be less scope for non-GAAP earnings disclosures to reduce investors' uncertainty.

Numerous studies (Brennan and Subrahmanyan 1995; Alford and Berger 1999; Frankel and Li 2004) identify a positive association between analyst coverage and the quality of a firm's information environment. In common with prior studies (He and Tian 2013; He and Lin 2015), I use analyst coverage as a proxy for the quality of a firm's information environment. Analyst coverage may be a possible moderating factor in the relationship between the level of EPU and non-GAAP earnings disclosures. If a firm is covered, investors should have access to analysts' reports when informing their expectations of recurring earnings. This additional resource may

reduce the need for managers to issue their own non-GAAP earnings disclosures in response to higher levels of EPU.[14]

If this is the case, one would expect analyst coverage to serve as a moderating factor in a firm's response to changes in the level of EPU, potentially weakening any effects documented in H1 and H2. Conversely, analysts may be more likely to cover firms who release more precise disclosures (Arya and Mittendorf 2007). Thus, coverage may serve as an indication that a firm is more responsive to changes in the level of EPU and adjusts their non-GAAP disclosure strategy accordingly. This scenario would lead to the results of H1 and H2 being stronger for firms with analyst coverage.

Hypothesis 4, stated in the null form, is as follows:

H4a: ***The association between the level of EPU and the likelihood that a firm discloses non-GAAP earnings does not vary with the firm's analyst coverage.***

H4b: ***The association between the level of EPU and the quality of a firm's non-GAAP earnings does not vary with the firm's analyst coverage.***

III. RESEARCH DESIGN

In order to formally test H1, which examines the association between EPU and the likelihood that a firm's manager will disclose non-GAAP earnings, I estimate the following probit model:

[14]Barth et al. (2001) finds analyst coverage is higher for high intangibles firms, suggesting analyst coverage serves as a substitute for poor reporting quality.

$$\Pr(NONGAAPIssue) = \beta_0 + \beta_1 EPU + Controls + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \quad (1)$$

In order to determine the level of EPU during the sample period, I use the composite policy uncertainty index from Baker et al. (2016), available at policyuncertainty.com. The composite index is a weighted index of three indicators of economic policy uncertainty and is calculated monthly. The index is designed to capture overall economic policy uncertainty for a given month. The first component is based on a search of 10 large newspaper publications, which is then transformed into a score rating the volume of news articles discussing EPU.[15] The second component compiles a list of temporary federal tax code provisions. A dollar-weighted number of tax codes set to expire in the next ten years is generated to reflect uncertainty about future federal tax code provisions. The third component draws from the "Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters." This component measures dispersion among forecasters' predictions about future levels of "Federal Expenditures, and State and Local Expenditures" and the CPI Index. This third component is turned into an index to measure uncertainty about policy-related macroeconomic variables. The news-based component is given a ½ weighting, while tax policy, dispersion related to federal/state/local spending forecasts, and dispersion in CPI predictions are each given a 1/6 weighting.

The dependent variable, *NONGAAPIssue*, is an indicator variable equal to one if a firm issues a non-GAAP earnings number in a given fiscal quarter, and zero otherwise. The primary variable of interest is *EPU*, which is defined as the level of the Baker et al. (2016) three-factor

[15] For a complete discussion of the formulation of the news-based component of the EPU index please see Baker et al. (2016).

composite index during the final month of the fiscal quarter.[16] A significant coefficient on this variable would indicate that EPU significantly influences the likelihood of non-GAAP earnings disclosure in a fiscal quarter.

Following prior literature (Kyung et al. 2019), I include the following control variables in Equation (1). Because large firms tend to disclose non-GAAP earnings more frequently, I include firm size, defined as the natural log of quarterly sales revenue, or *Ln(Sales)*, as a control.[17] Firms with high intangibles or high-tech firms have less informative GAAP earnings, and therefore are more likely to release non-GAAP earnings than other firms (Lougee and Marquardt 2004), so I include intangible intensity (*Intangibles)* and a high-tech indicator variable (*Tech*). Since growth firms are more likely to report non-GAAP earnings, market-to-book ratio (*MtB*) as well as sales growth rate (*SalesGrowth*) are included in the model (Lougee and Marquardt 2004). (*Leverage)* is included to control for the increased likelihood of earnings management for highly levered firms, which may result in less informative GAAP earnings. Earnings volatility (*EarningsVol)* is used as a control because investors tend to demand additional information when earnings are volatile (DeFond and Hung 2013).

Additionally, firms with large special items are also more likely to report a non-GAAP earnings number. Following Heflin and Hsu (2008), this is controlled for with an indicator variable, *SPI,* that equals one if a firm reports any special items for the quarter, and zero otherwise, and with a continuous variable, *Special Items*, equal to the dollar amount of reported special items scaled by total assets and multiplied by negative one. Because firms that miss earnings benchmarks

[16] I use the final month of the fiscal quarter as this is most likely the time in which managers make the decision to exclude certain items from their non-GAAP earnings report. The results are robust to using the month in which GAAP and non-GAAP earnings are announced.

[17] In section VI, I use alternative controls for firm size including the natural log of total assets and the natural log of the market value of equity. The results remain qualitatively unchanged.

are more likely to disclose non-GAAP earnings, I include a loss indicator variable (*Loss*) that equals one when quarterly GAAP earnings before extraordinary items are negative and zero otherwise.

In addition, a "big bath" indicator variable (*BigBath*) is included because firms may be more likely to report non-GAAP earnings when they report a one-time charge that results in an operating loss. Heflin and Hsu (2008) find that firms are more likely to disclose non-GAAP earnings in the fourth fiscal quarter than in other quarters, so an indicator variable, *QTR4*, equal to one for the fourth fiscal quarter and zero otherwise, is included. Finally, following Doyle et al. (2003), I include total accruals *(Accruals*) as a control variable.[18] Equation (1) also includes industry and year fixed effects, and standard errors are clustered at the firm level.

In order to test H2, I adopt the most common approach to assessing the quality of non-GAAP earnings by determining whether non-GAAP exclusions have implications for future performance (Barth et al. 2012; Bentley et al. 2018; Black et al. 2017; Curtis et al. 2014; Doyle et al. 2003; Frankel et al. 2011; Gu and Chen 2004; Heflin et al. 2015; Kolev et al. 2008; Leung and Veenman 2018; Whipple 2015). If excluded items are transitory, they will have no predictive power for future performance; thus the "highest quality" non-GAAP exclusions are those that have the least association with future performance. To formally test H2, which examines the effect of EPU on the quality of non-GAAP exclusions, I follow prior literature referenced above and estimate the following regression model:

$$FutureOpEarnings = \beta_0 + \beta_1 NonGAAPEarnings + \beta_2 Exclusions + \beta_3 EPUHigh$$

[18] In section VI I perform robustness tests that exclude the control for total accruals and the results remain qualitatively unchanged.

$$+ \beta_4 EPUHigh\ X\ Exclusions + Controls$$

$$+ Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \qquad (2)$$

The dependent variable, *FutureOpEarnings*, is the sum of operating earnings for the four subsequent fiscal quarters, beginning with q+1. The variable *NonGAAPEarnings* is non-GAAP earnings as reported in the Bentley et al. (2018) database, and *Exclusions* is defined as GAAP earnings minus non-GAAP earnings, where GAAP earnings is obtained from COMPUSTAT. *FutureOpEarnings, NonGAAPEarnings***,** and *Exclusions* are all scaled by total assets in the current quarter. In addition, the variables *SalesGrowth, Ln(Sales), EarningsVol, Loss, MtB***,** and *Accruals* are included as controls (see Kyung et al. 2019)**.** Industry and year fixed effects are also included, and standard errors are clustered at the firm level.

Consistent with prior literature, the quality of non-GAAP reporting is reflected in the estimated coefficient on *Exclusions*. If the excluded items are truly non-recurring, then β_2 should equal zero. However, prior research (Curtis et al. 2014; Doyle et al. 2003; Kolev et al. 2008) documents that the estimated coefficient on *Exclusions* can be significantly different from zero. More specifically, excluding expenses and losses from non-GAAP earnings is associated with lower future operating income, while excluding revenue and gains predicts higher future income.

To test H2, the primary variable of interest is the interaction between *Exclusions* and the uncertainty variable *EPUHigh,* which is defined as an indicator variable that equals 1 if the composite uncertainty index in the final month of quarter q is above the median value of the index during the sample period (104.2), and zero otherwise.[19]

[19] In Section VI, I further granularize the dichotomous EPU variable into EPU quartiles. The relationship between EPU and non-GAAP exclusion quality remains qualitatively unchanged.

I dichotomize the EPU variable for several reasons. In prior research the quality of non-GAAP exclusions is determined by the coefficient on *Exclusions,* which is a continuous variable. Interacting *Exclusions* with the continuous EPU variable from H1 would be difficult for interpretation as the coefficient on the interaction term could be interpreted as the correlation with future performance as *both Exclusions* and *EPU* rise. By dichotomizing the EPU variable, the coefficient on *Exclusions* represents quality when EPU is relatively low and the coefficient on *EPUHigh X Exclusions* represents the *change* in the quality of exclusions for higher states of EPU relative to lower states of EPU. This structure is also useful later in the study when I perform cross-sectional analyses and employ a three-way interaction term.[20]

A positive coefficient on *EPUHigh X Exclusions* implies that in the face of greater economic policy uncertainty, managers tend to exclude more recurring items from non-GAAP earnings, perhaps due to fears of poor performance, thereby decreasing the quality of non-GAAP reporting. This would be consistent with managers acting opportunistically when EPU is relatively high. This may be because it is more difficult for investors to recognize opportunistic behavior when EPU is relatively high. Alternatively, this could represent a decrease in quality resulting from EPU making it more difficult for managers to predict recurring earnings in the future. Conversely, a negative coefficient on *EPUHigh X Exclusions* would indicate that managers reduce their opportunistic behavior and exclude fewer recurring items from non-GAAP earnings, perhaps due to perceptions of increased scrutiny or pressure from investors for more accurate information when EPU is high.[21]

[20] Another motivation for dichotomizing the EPU variable is the lack of economic meaning behind a unit change in the index. Considering the variable is a generated index, comparing high and low states is a more accurate reflection of the economic environment rather than focusing on a one unit increase or decrease.

[21] This result would also be consistent with non-GAAP reporting being a substitute for less informative GAAP earnings during periods of higher EPU. This possibility is further explored in Section VI.

IV. SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

The primary source of non-GAAP reporting data from this study comes from the Bentley et al. (2018) database, which covers 146,121 observations from 7,090 firms over 2003-2016. The database tracks firms' actual non-GAAP EPS disclosures from firms' earnings announcement press releases. This will allow for the direct observation of managers' disclosure decisions. By comparing the non-GAAP EPS reports from the Bentley et al. (2018) database with GAAP EPS data in COMPUSTAT, one can identify the ways in which a firm's GAAP and non-GAAP earnings differ.

Figure 3 provides a visual representation of non-GAAP reporting and EPU over time. Consistent with Black et al. (2018), there is a clear rise in non-GAAP reporting frequency over time. The vertical bars represent the mean value of *NONGAAPIssue* for a given quarter throughout the sample. This can be interpreted as the percentage of firms in the sample that issued a non-GAAP earnings number in the given quarter. The value of *EPU* in the final month of the quarter is overlaid throughout the sample period. As previously defined, *EPU* is the value of the composite economic policy uncertainty index from Baker et al. (2016). *EPU* does not appear to strongly trend in any particular direction throughout the period, but rather crosses the median value (104.2) numerous times throughout the sample period.

Table 1 provides descriptive statistics for the sample. After requiring complete data for all variables, the final sample used to test H1 contains 102,699 firm-quarter observations for 5,084 firms over 2003-2016. Of these 102,699 observations, there are 37,028 firm quarters in which a non-GAAP earnings report was issued, or a relative frequency of 0.361, which is comparable to

that reported by Bentley et al. (2018).[22] Both mean and median values of the independent variables differ significantly between the non-GAAP issuers and non-issuers. Mean (median) *EPU* is significantly higher for firm-quarters when a non-GAAP report is issued, at 121.8 (108.95) for non-GAAP issuers versus 112.9 (100.74) for non-issuers. Issuing firms tend to have higher sales, a greater amount of intangible assets, higher leverage, and are more likely to be tech firms. Conversely, issuing firms have lower sales growth and lower earnings volatility. The firm quarters in which a non-GAAP report is released are more likely to be the fiscal fourth quarter, quarters containing special items charges, and quarters in which a firm takes a "big bath." [23] Issuing firm quarters are less likely when a firm reports a loss for GAAP earnings and also tend to occur when total accruals are less negative.

Table 2 provides Pearson and Spearman correlation coefficients between the variables used to test H1 and H2. Consistent with the results displayed in Table 1, *EPU* is positively and significantly correlated (0.11) with *NONGAAPIssue.* This result is consistent with firms being more likely to issue a non-GAAP earnings number during periods of higher EPU. Additionally, *EPU* is only weakly correlated with *SPI* (0.08), *SpecialItems* (0.08), *Loss* (0.01), and *BigBath* (0.04). This result provides further evidence that *EPU* is not a proxy for economic downturns and thus not associated with an increase in one time write offs or impairments. Given that the relationship between *EPU* and *NONGAAPIssue* is stronger than the relationship between EPU and these items, it would appear that EPU plays a role in the *disclosure decision* related to non-GAAP, not the underlying business performance.

[22] The reason for the discrepancy with the 97% reported in the introduction is that the sample extends back to 2003 and includes many firms outside the S&P 500. This emphasizes the importance of controlling for size in multiple ways during the analysis.

[23] The term "big bath" refers to quarters where a firm reports negative GAAP earnings and also reports income reducing special items.

Additionally, there appears to be a relationship between *EPU* and the type of items that are excluded when reporting non-GAAP earnings. The correlation between *EPU* and total *Exclusions* is slightly negative (-0.03), while the correlation between *EPU* and *SpecialItems* is slightly positive (0.04), which implies that the correlation between *EPU* and "Other Exclusions" would be negative. This suggests that a positive association between non-GAAP quality and EPU may be due to reduced opportunistic behavior by managers rather than increased informativeness of non-GAAP disclosures.[24]

Regarding the propensity to issue a non-GAAP report, *SPI, SpecialItems, Ln(Sales),* and *Intangibles* have a positive relationship with *NONGAAPIssue,* while *Accruals* has a negative relationship. These results are consistent with the findings in Table 1 documenting the differences between reporting and non-reporting firm quarters. Finally, there is a positive and significant correlation (0.21) between *Exclusions* and *FutureOpEarnings,* suggesting that non-GAAP exclusions are not entirely transitory. This is consistent with prior research regarding the predictive ability of exclusions on future performance (Curtis et al. 2014; Doyle et al. 2003; Kolev et al. 2008).

V. MAIN RESULTS

Tests of H1

Table 3 presents the results from estimates of Equation (1). These results show that the variable of interest, *EPU,* has a positive and significant impact on the likelihood that a firm will

[24] Black et al. (2018) provide categories of total exclusions including "Recurring" and "Nonrecurring" exclusions. Future analysis using their classifications may provide more definitive evidence regarding the specific cause of the improvement in non-GAAP quality in response to higher EPU documented in this study.

issue a non-GAAP earnings number. In Column (1), where *EPU* is defined using the composite measure of economic policy uncertainty, the estimated coefficient is 0.0005 and is statistically significant ($p<0.05$). This finding is consistent with managers responding to investor demand for additional information regarding firms' core earnings during times of high EPU.[25]

Regarding the control variables, *Ln(Sales)*, *Intangibles*, *Tech*, *SPI*, *Special Items*, *Loss*, and *QTR4* all have a positive and significant impact on the likelihood of a firm issuing a non-GAAP earnings report in Column (1). As expected, based on the prior literature, *Leverage*, *BigBath*, and *Accruals* have significantly negative estimated coefficients. The coefficients on the control variables are generally consistent with Kyung et al. (2019). These results suggest that even after controlling for other factors, EPU plays a positive and significant role in the non-GAAP disclosure decision. This main result for H1 will be central to the analysis going forward. Subsequent tests regarding non-GAAP quality and firm sensitivity to EPU should be considered within the context that EPU is generally associated with an increased level of non-GAAP disclosure. Whether or not this increased level of disclosure is used to inform or mislead investors will be examined further throughout the paper.

The results are consistent across two of the three individual components of the composite index. As shown in Columns (2) and (4), when *EPU* is based on news coverage or federal/state/local survey data, its estimated coefficient remains significantly positive ($p<0.01$ and $p<0.05$ respectively). However, when *EPU* is based on tax policy uncertainty, as in Column (3), it

[25] This result is also consistent with the possibility that less informative GAAP earnings during higher periods of macroeconomic uncertainty results in an increased likelihood of firms issuing non-GAAP earnings data. Additional tests in Section VI will address this issue.

is no longer significantly associated with non-GAAP disclosure.[26] In addition, when the CPI Survey dispersion is used to measure *EPU,* as in Column (5), the estimated coefficient on *EPU* is -0.0003 and marginally significantly negative (p<.10). [27]

Tests of H2

The results from estimating Equation (2) are presented in Table 4. As shown in Column (1), there is a positive and significant relationship between *Exclusions* and *FutureOpEarnings*. The estimated coefficient is 0.777 and highly significant (p<0.01), which suggests managers exclude some recurring items from non-GAAP earnings, consistent with prior literature. However, the interaction term between *EPUHigh* and *Exclusions* has a negative and highly significant estimated coefficient of -0.241 (p< 0.01). This implies that during times of higher EPU, the predictive relationship between exclusions and future operating performance weakens. Because "high quality" non-GAAP earnings should only exclude items that are non-recurring, this finding indicates that the quality of non-GAAP exclusions are higher in times of greater EPU. This may be due to increased investor scrutiny during periods of high EPU or to managers substituting non-GAAP disclosures for lower quality GAAP earnings when EPU is high.[28]

Since *EPU* is based on a generated index, quantifying the economic significance of these results may not be a particularly meaningful exercise. However, identifying the relative strength of the coefficients on *Exclusions* and *EPUHigh* X *Exclusions* may be informative. The negative

[26] As will be shown in subsequent analyses, the tax policy uncertainty measure of EPU diverges in significant ways from the rest of the components of the composite index. Within this context, an insignificant result in Table 3 is not particularly informative.
[27] While CPI forecast dispersion is a component of the EPU index, CPI is not a direct policy measure, but rather a result of a variety of policy actions. This result is thus an interesting area of future research, but outside of the scope of this study.
[28] The impact of EPU on the informativeness of GAAP earnings and incremental information content of non-GAAP earnings is further discussed in Section VI.

coefficient on the interaction (-0.241) represents the difference in the average quality of exclusions when comparing periods of high and low EPU. Dividing this difference by the coefficient on *Exclusions* (0.777) results in the average quality of non-GAAP exclusions being approximately 31% higher during periods of high EPU relative to periods of low EPU.[29]

In regards to the control variables, *SalesGrowth* and *Ln(Sales)* have positive and at least marginally significant ($p<0.10$ and $p<0.01$ respectively) relationships with future operating earnings. Additionally, *Loss* and *Accruals* have a negative and significant ($p<0.01$) relationship with future operating earnings. The signs and magnitudes of the estimated coefficients on these variables are generally consistent with prior findings (Kyung et al. 2019).

Columns (2) through (5) present results from estimating Equation (2) for the individual components of the composite uncertainty index. *EPUHigh* is similarly defined as in Column (1), i.e., *EPUHigh* equals 1 if the value of the relevant component is above its median value during the sample period and 0 otherwise. The results across the various uncertainty measures are consistent – the estimated coefficient on *EPUHigh X Exclusions* is significantly negative ($p<0.01$) -- with the exception of the tax policy uncertainty index. As shown in Column (3), the estimated coefficient on *EPUHigh X Exclusions* is positive at 0.287 and highly significant ($p<0.01$), which suggests that a higher level of tax policy uncertainty is associated with a *decrease* in non-GAAP exclusion quality. This particular result warrants further investigation and will be explored in more detail in Section VI.

Tests of H3 and H4

[29] This interpretation is based on the assumption that a coefficient of 0 represents the highest possible exclusion quality

In H3a, I investigate whether the overall increase in the frequency of non-GAAP earnings issuance in response to high levels of EPU is stronger for firms that are more sensitive to this type of uncertainty. As a measure of EPU sensitivity, I follow Baker et al. (2016), and identify the top 8 industries whose revenues are significantly made up of government contracts (3-digit SIC codes 376, 348, 381, 871, 372, 373, 278, and 160). *Contracts* is an indicator variable equal to 1 if a firm's primary three digit SIC code falls in one of the above 8 industries, and 0 otherwise.[30] The estimation model is as follows:

$$\Pr(NONGAAPIssue) = \beta_0 + \beta_1 EPU + \beta_2 Contracts + \beta_3 EPU\ X\ Contracts + Controls + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \quad (3)$$

Equation (3) is the same as Equation (1), with the inclusion of *Contracts* and its interaction term with *EPU*. Given the positive coefficient on *EPU* reported in Table 3, a positive estimated coefficient on the interaction term implies that the effect of EPU on the likelihood of non-GAAP disclosure is stronger for firms in industries that tend to rely more on government contracts, while a negative coefficient implies a weaker relationship for these firms.

Column (1) of Table 5 presents the estimation results for H3a. There is a marginally significantly negative coefficient of -0.313 on the main effect for *Contracts* ($p < 0.10$), indicating that firms likely to have government contracts are somewhat less likely to disclose non-GAAP earnings, all else equal. Consistent with the results of estimating Equation (1) the main effect of *EPU* is positive (0.0005) and significant ($p<0.05$). However, the estimated coefficient on the interaction term (*EPU X Contracts)* in Column (1) is 0.0003 and not significantly different from zero (Z-Stat = 0.36). This suggests that firms likely to rely more on government contracts are no

[30] The mean of *Contracts* is 0.023.

more (or less) likely to issue a non-GAAP earnings report than other firms when faced with higher levels of economic policy uncertainty.

In H3b, I investigate whether a firm's change in disclosure quality in response to EPU varies with their relative exposure to EPU. To formally test H3b, I add the *Contracts* variable defined above and its interactions with *Exclusions* and *EPUHigh* to Equation (2), as follows:

$$\begin{aligned} FutureOpEarnings = {} & \beta_0 + \beta_1 NonGAAPEarnings + \beta_2 Exclusions + \beta_3 EPUHigh \\ & + \beta_4 Contracts + \beta_5 Exclusions\ X\ EPUHigh \\ & + \beta_6 Exclusions\ X\ Contracts + \beta_7 EPUHigh\ X\ Contracts \\ & + \beta_8 Exclusions\ X\ EPUHigh\ X\ Contracts + Controls \\ & + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \end{aligned} \quad (4)$$

The key variable of interest in Equation (4) is the triple interaction between *Exclusions*, *EPUHigh*, and *Contracts*. The results from the interaction of *EPUHigh* and *Exclusions* reported in Table 4 suggest that higher levels of EPU are associated with an increase in non-GAAP exclusion quality. A significantly negative coefficient on the triple interaction term *(Exclusions X EPUHigh X Contracts)* suggests that this effect is stronger for firms in industries that likely rely more on government contracts, while a positive coefficient suggests the effect is weaker.

Column (1) of Table 6 presents the results from estimating Equation (4). Consistent with the results from Table 4, the coefficient on *Exclusions* is positive (0.769) and significant ($p<0.01$). This result again implies that for most firms, *Exclusions* are not entirely transitory. Again, consistent with Table 4, the coefficient on *Exclusions X EPUHigh* is negative (-0.228) and significant ($p<0.01$). This again implies that most firms see an improvement in non-GAAP

exclusion quality during periods of higher EPU. Regarding the impact of government contracts, the estimated coefficient on the triple interaction term *(Exclusions X EPUHigh X Contracts)* is negative (-1.259) and significant ($p<0.05$). This suggests that the improvement in exclusion quality in response to higher levels of EPU is stronger for firms in industries that tend to rely more on government contracts. This result is consistent with firms that are more sensitive to EPU having a stronger reaction when making their non-GAAP disclosure decisions in response to higher levels of EPU. Overall, this result verifies that sensitivity to EPU is an important factor in determining a firm's non-GAAP reporting response to changes in EPU. This again provides additional evidence that the main results in Table 4 are being driven by EPU and not an unidentifiable omitted factor.

The second set of cross-sectional tests for H4a and H4b focus on the impact of analyst coverage on a firm's non-GAAP disclosure decision in response to heightened levels of EPU. To the degree that analyst coverage provides a substitute for, and hence reduces the need for firms to alter their self-reported non-GAAP earnings, the results from Tables 3 and 4 may vary cross-sectionally with analyst coverage. In order to test H4a, the impact of analyst coverage on the likelihood of non-GAAP issuance in response to heightened levels of EPU, I modify the probit model used in Equation (1) as follows:

$$\Pr(NONGAAPISSUE) = \beta_0 + \beta_1 EPU + \beta_2 Coverage + \beta_3 EPU\ X\ Coverage + Controls + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \quad (5)$$

Coverage is an indicator variable equal to 1 if the firm is covered by at least one analyst in the given quarter, and zero otherwise.[31] The key variable of interest is the interaction between

[31] This indicator variable identifies firms that are covered by at least one analyst in I/B/E/S. The mean of *Coverage* is 0.752.

EPU and *Coverage*. The results in Table 3 indicate that there is an overall increase in the likelihood of non-GAAP issuance as EPU rises. A positive coefficient on the interaction term *(EPU X Coverage)* would suggest that this effect is stronger for firms with analyst coverage, while a negative coefficient could suggest that the effect is weaker. In other words, a positive coefficient on the interaction term would suggest that firms who are *not* covered by analysts respond more strongly to higher levels of EPU. One explanation for this would be that analyst reports serve as a substitute for firm-issued non-GAAP earnings.

The results from testing H4a are presented in Column (2) of Table 5. Consistent with the results from Table 3, the coefficient on *EPU* is positive (0.0014) and significant ($p<0.01$). This suggests that firms who are not covered by sell-side analysts increase their non-GAAP earnings disclosure in response to higher levels of EPU. The estimated coefficient on the interaction term *(EPU X Coverage)* is negative at -0.001 and significant ($p < 0.05$), indicating that firms that are covered by analysts are less likely to increase their non-GAAP reporting in response to high EPU than firms who are not covered. This result implies that firms without analyst coverage are more likely to respond to investor demands for additional information due to economy-wide policy uncertainty. This provides some support for the idea that that an increase in non-GAAP issuance in response to higher EPU is at least partially driven by investor demand for additional information. This result is also consistent with the findings in Bentley et al. (2018) that analysts' reports serve as a partial substitute for manager issued non-GAAP earnings.

In H4b, I examine how analyst coverage is associated with variation in the improvement in non-GAAP exclusion quality in response heightened EPU. Similar to Equation (4), I employ a three-way interaction term between *Exclusions*, *EPUHigh*, and *Coverage*, as follows:

$$FutureOpEarnings = \beta_0 + \beta_1 NonGAAPEarnings + \beta_2 Exclusions + \beta_3 EPUHigh$$
$$+ \beta_4 Coverage + \beta_5 Exclusions\ X\ EPUHigh$$
$$+ \beta_6 Exclusions\ X\ Coverage + \beta_7 EPUHigh\ X\ Coverage$$
$$+ \beta_8 Exclusions\ X\ EPUHigh\ X\ Coverage + Controls$$
$$+ Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \quad (6)$$

As with H3b, the primary coefficient of interest is β_8 on the three-way interaction term *(Exclusions X EPUHigh X Coverage)*. The results reported in Table 4 show an overall improvement in non-GAAP exclusion quality in response to high levels of EPU; i.e., the estimated coefficient on *EPUHigh X Exclusions* is significantly negative (p<0.01). An estimated significant negative coefficient on *Exclusions X EPUHigh X Coverage* implies that there is an incremental improvement in exclusion quality for firms with analyst coverage, while a positive estimated coefficient implies that this effect is weaker for covered firms.

As shown in Column (2) of Table 6, the coefficient on *Exclusions* is positive (0.806) and significant (p<0.01), suggesting that exclusions are correlated with future performance. Consistent with the results of Table 4, the coefficient on *Exclusions* X *EPUHigh* is negative (-0.333) and significant (p<0.01). This implies that for firms who are *not covered* by analysts, there is a significant improvement in non-GAAP exclusion quality when EPU is higher. However, the estimated coefficient on the three-way interaction term *(Exclusions X EPUHigh X Coverage)* is positive (0.119), but not statistically different from zero (p>0.10). This result suggests that the degree to which a firm improves exclusion quality in response to increasing EPU does not vary cross-sectionally with analyst coverage. This result implies that analyst coverage plays a role in

the decision of whether to issue a non-GAAP report (perhaps due to a substitution effect), but the quality of these non-GAAP earnings reports is not dependent on a firm's analyst coverage.

Overall, the main results from Tables 3 and 4 provide evidence of a positive association between EPU and both non-GAAP reporting likelihood and non-GAAP exclusion quality. Cross-sectional results show that the relationship between EPU and non-GAAP exclusion quality is stronger for firms with government contracts. Finally, the likelihood of reporting a non-GAAP earnings report in response to rising EPU is greater for firms who are not covered by sell-side analysts.

VI. SUPPLEMENTAL ANALYSES

The results presented in Section V document that, on average, the frequency and quality of non-GAAP earnings disclosure increases with higher levels of EPU. In this section, I perform a series of supplemental analyses that seek to further explain the causes behind this association. First, I explore whether these findings are related to a change in GAAP earnings informativeness as well as a change in the incremental information contained in non-GAAP earnings reports in response to EPU. Second, because my results vary with the components of the EPU index, I examine the effect of tax policy uncertainty on non-GAAP reporting in greater detail. Finally, I perform numerous robustness tests on my main results using alternative specifications.

GAAP Earnings Informativeness and EPU

Prior research has established an inverse relationship between GAAP earnings informativeness and non-GAAP exclusion quality (Lougee and Marquardt 2004; Leung and Veenman 2018). Thus, one possible cause for an increase in non-GAAP reporting frequency and

exclusion quality in response to heightened levels of EPU is a contemporaneous decrease in GAAP earnings informativeness. Nagar et al. (2019) provide general support for this assertion, documenting a negative relationship between EPU and the strength of earnings response coefficients to GAAP earnings.

This section of the paper seeks to first verify the findings of Nagar et al. (2019) within the sample of this paper. Next, I examine the impact of EPU on the incremental information content of non-GAAP earnings over GAAP earnings. Additionally, robustness tests extend the findings by documenting a decrease in the predictive power of GAAP earnings on future operating earnings and a decrease in earnings persistence in response to higher levels of EPU. These additional tests provide evidence that reduced ERC's for GAAP earnings are not a result of investor inattention; rather, the informativeness of GAAP earnings decreases across numerous measures as EPU rises.

In order to test the impact of EPU on GAAP earnings informativeness, I follow Nagar et al. (2019) and regress three-day abnormal returns on earnings surprise interacted with the indicator variable *EPUHigh*. as follows.

$$CAR = \beta_0 + \beta_1 Surprise + \beta_2 EPUHigh + \beta_3 EPUHigh\ X\ Surpise + \varepsilon \quad (7)$$

In the above model *CAR* is the three-day abnormal return around the earnings announcement date, and *Surprise* is the year over year change in quarterly earnings before extraordinary items. The results of the estimates of equation (7) are displayed in Column (1) of Panel A of Table 7. The coefficient on *Surprise* is positive (0.276) and significant ($p<0.01$) representing the earnings response coefficient during periods of lower EPU. The coefficient on the interaction term between *EPUHigh* and *Surprise* is negative (-0.099) and significant ($p<0.01$). This implies a weaker price reaction to GAAP earnings surprises during higher levels of EPU. This is

consistent with a decrease of GAAP earnings informativeness during periods of higher EPU relative to lower EPU periods. The results are consistent with Nagar et al. (2019) and show that high EPU has a dampening effect on ERC's for GAAP earnings.

Next, I extend the results of Nagar et al. (2019) and investigate the impact of EPU on the incremental information content of non-GAAP earnings relative to GAAP earnings. In order to identify the incremental information content of non-GAAP earnings during periods with varying levels of EPU, I estimate Equation (8) as follows:

$$CAR = \beta_0 + \beta_1 Surprise + \beta_2 EPUHigh + \beta_3 EPUHigh\ X\ Surpise + \beta_4 Non - GAAP\ Surpise + \beta_5 EPUHigh\ X\ Non - GAAP\ Surpise + \varepsilon \quad (8)$$

Where *Non-GAAP Surprise* is the year over year change in reported non-GAAP earnings scaled by total assets and other variables remain the same as defined in Equation (7). Column (2) of Panel A of Table 7 reports results from estimating Equation (8). When including both GAAP and non-GAAP earnings surprises, the coefficient on *Surprise* remains positive (0.131) and significant ($p<0.01$). Additionally, the coefficient on *Non-GAAP Surprise* is positive (0.385) and significant ($p<0.01$). This implies that during periods of relatively lower EPU, Non-GAAP earnings provide investors with a significant amount of incremental information content relative to GAAP earnings. Similar to Column (1), the coefficient on *EPUHigh* X *Surprise* is negative (-0.086) and significant ($p<0.05$), confirming a decrease in GAAP informativeness during periods of higher EPU. However, the coefficient on *EPUHigh* X *Non-GAAP Surprise* is not significantly different than 0 ($p>0.10$). This implies that the incremental information content of non-GAAP earnings remains significant throughout periods of higher EPU. Taken together, these results imply that the decrease in GAAP informativeness in response to higher levels EPU is *not* associated with a corresponding reduction in non-GAAP earnings informativeness.

In addition to the market tests in Panel A, I also estimate Equation (9) and Equation (10) which provide additional evidence of the association between EPU and GAAP earnings informativeness. While Panel A of Table 7 focuses on investors' reactions to GAAP and non-GAAP disclosures, Panel B focuses on the informativeness of GAAP earnings as measured by the predictive ability of GAAP earnings with respect to future operating performance. Equations (9) and (10) are as follows:

$$FutureOpEarnings = \beta_0 + \beta_1 GAAPEarnings + \beta_2 EPUHigh + \beta_3 EPUHigh\ X\ GAAPEarnings + Controls + Industry\ Fixed\ Effect + + Year\ Fixed\ Effect + \varepsilon \quad (9)$$

$$FutureGAAPEarnings = \beta_0 + \beta_1 GAAPEarnings + \beta_2 EPUHigh + \beta_3 EPUHigh\ X\ GAAPEarnings + Controls + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \quad (10)$$

Where *GAAPEarnings* are GAAP earnings scaled by total assets, *FutureGAAPEarnings* are GAAP earnings summed over quarters q+1 to q+4 and scaled by total assets in quarter q, and *FutureOpEarnings* is as previously defined. The results from estimating Equation (9) are presented in Column (1) of Panel B in Table 7. The coefficient on *GAAPEarnings* is positive (2.616) and significant ($p<0.01$). This suggests that in periods of lower EPU, GAAP earnings are predictive of future operating performance. There is a negative (-0.267) and significant ($p<0.01$) coefficient on the interaction term between *GAAPEarnings* and *EPUHigh*, indicating that the predictive power of GAAP earnings for future operating performance significantly decreases with higher levels of EPU. This suggests that the informativeness of GAAP earnings is lower during times of higher

EPU[32]. Following the methodology described in Section V, comparing the main (2.616) and interaction effects (-0.267), results in a roughly 10% decrease in GAAP earnings informativeness moving from periods of lower to higher EPU. In combination with the results from estimating Equation (2), this result provides additional evidence of an inverse relationship between the informativeness of GAAP earnings and the quality of non-GAAP exclusions.

Equation (10) defines GAAP earnings informativeness as GAAP earnings persistence and the results from estimating Equation (10) are presented in Column (2) of panel B in Table 7. Equation (10) is the same as Equation (9) except the measure of future performance is *FutureGAAPEarnings* rather than *FutureOpEarnings*. The coefficient on *GAAPEarnings* is positive (0.098) and significant ($p<0.01$). This suggests that during periods of lower EPU, GAAP earnings are somewhat predictive of future GAAP earnings. Again, the coefficient on the interaction term *EPUHigh X GAAPEarnings* is negative (-0.026) and significant ($p<0.01$). This result implies that when EPU is higher, GAAP earnings are less persistent.

This result provides additional evidence of a decrease in GAAP earning informativeness when EPU is higher. Again, following the methodology described in Section V, comparing the main (0.098) and interaction effects (-0.026), results in a roughly 27% decrease in GAAP earnings informativeness moving from periods of lower to higher EPU. Taking the results of Equations (7) through (10) together, there is strong evidence that GAAP earnings are less informative when EPU is higher. Given the inverse relationship between GAAP earnings informativeness and non-GAAP exclusion quality, it is reasonable to partially attribute the observed improvement in non-GAAP exclusion quality in Table 4 to a contemporaneous decrease in GAAP earnings informativeness

[32] Informativeness, in this case, is defined by the degree to which current GAAP earnings predict future operating performance.

during periods of higher EPU. Finally, there does not appear to be a material change in the incremental information content of non-GAAP earnings when comparing periods of higher and lower EPU.

Tax Policy Uncertainty

As previously noted, all of the individual components of the composite EPU index appear to have a positive relationship with non-GAAP exclusion quality, with the exception of tax policy uncertainty. In fact, the results of Table 4 suggest that non-GAAP exclusion quality is significantly *lower* during periods of higher tax policy uncertainty. Given this digression from the other components, this section further investigates this result to identify the cause. Tables 8-10 decompose total exclusions between non-recurring income taxes, special items, and other exclusions. Additionally, these tables identify the impact of marginal tax rates on firms' responses to tax policy uncertainty.[33]

Non-Recurring Income Taxes and Tax Policy Uncertainty

As a first step to better understand how tax policy uncertainty influences non-GAAP exclusion quality, Equation (10) investigates tax specific non-GAAP exclusions. Prior research (Donelson et al. 2019; Beardsley et al. 2017; Bratten et al. 2019) identify non-recurring income taxes (NRT) as a tax specific exclusion that should be highly transitory. Donelson et al. (2019) posit that "Non-recurring income taxes are material transitory items that affect earnings through tax expense and have become increasingly common. Prior studies either ignore these items or imply that managers disclose them strategically." To further investigate the impact of tax policy uncertainty, this section will focus on the "quality" of non-recurring tax exclusions during periods

[33] Additional analyses comparing marginal tax rates and overall non-GAAP exclusion quality is performed at the end of the section

when tax related EPU is at varying levels. Thus, Equation (11) splits total exclusions between non-recurring income taxes, "nrtq" in COMPUSTAT, and other exclusions. Equation (11) is as follows:

$$\begin{aligned} FutureOpEarnings = {} & \beta_0 + \beta_1 NonGAAPEarnings + \beta_2 ExcluOtherNRT \\ & + \beta_3 EPUHigh\_Tax + \beta_4 EPUHigh\_Tax\ X\ ExcluOtherNRT \\ & + \beta_5 NRT + \beta_6 EPUHigh\_Tax\ X\ NRT + Controls \\ & + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \end{aligned} \quad (11)$$

In the above equation, *EPUHigh_Tax* is the indicator variable from Table 4 when tax policy uncertainty is above the median level for the sample period. *NRT* is non-recurring income taxes as defined by COMPUSTAT scaled by total assets and *ExcluOtherNRT* is *Exclusions* minus *NRT*. Results from estimating Equation (11) are presented in Column (1) of Table 8. The coefficient on *ExcluOtherNRT* is positive (0.506) and significant ($p<0.01$); however, the coefficient on *NRT* is not significantly different from zero ($p>0.10$). This result is consistent with non-recurring income tax expense being an exclusion of high-quality during periods of relatively low tax policy uncertainty. However, positive coefficients on *EPUHigh_Tax* X *ExcluotherNRT* (0.298, $p<0.01$) and *EPUHigh_Tax* X *NRT* (0.311, $p<0.05$) imply that at higher levels of tax policy uncertainty, both non-recurring tax exclusions and other exclusions are of lower quality.

There are likely two alternative explanations for this result. First, it is possible that during periods of higher tax policy uncertainty, it is more difficult for firms to identify which income tax expenses should be deemed non-recurring. Alternatively, firms may take advantage of greater tax policy uncertainty by opportunistically misclassifying recurring tax expenses as non-recurring and excluding them from non-GAAP earnings. Overall, this result provides a partial explanation as to why tax policy uncertainty has the opposite effect on non-GAAP exclusion quality than the other EPU measures in the composite index.

To further verify the impact of non-recurring taxes in decreasing exclusion quality during higher tax policy uncertainty periods, Equation (12) decomposes total exclusions into non-recurring taxes, special items, and other exclusions. Equation (12) is as follows:

$$FutureOpEarnings = \beta_0 + \beta_1 NonGAAPEarnings + \beta_2 ExcluOtherNRT\&SPX + \beta_3 EPUHigh\_Tax + \beta_4 EPUHigh\_Tax\ X\ ExcluOtherNRT\&SPX + \beta_5 SPX + \beta_6 EPUHigh\_Tax\ X\ SPX + \beta_7 NRT + \beta_8 EPUHigh\_Tax\ X\ NRT + Controls + Industry\ Fixed\ Effect + Year\ Fixed\ Effect + \varepsilon \quad (12)$$

In the above equation *SPX* and *NRT* are special items[34] and non-recurring income tax expense scaled by total assets. *ExcluOtherNRT&SPX* is *Exclusions* minus *NRT* minus *SPX*. The results from Equation (12) are presented in Column (1) of Table 9. During periods of lower tax policy uncertainty, there are positive and significant coefficients on *NRT* (0.923, p<0.01) and *SPX* (-0.203, p<0.01). The primary focus is on the respective interaction terms between *EPUHigh_Tax* and the components making up total exclusions. When fully decomposed interaction term between *EPUHigh_Tax* and *NRT* is positive (0.329) and significant (p<0.10). This result provides additional evidence that the observed decrease in total exclusion quality in response to higher levels of tax policy uncertainty is being partially driven by a decrease in quality of tax related exclusions. This result helps to verify that the divergent result for tax policy uncertainty relative to the other EPU measures in Table 4 is not an anomaly.

[34] Following Kolev et al. (2008) SPX is after tax special items calculated as earnings per share from operations less GAAP earnings per share, multiplied by diluted shares outstanding, scaled by total assets and multiplied by negative 1

Marginal Tax Rates

The final supplementary analysis of this paper focuses on the impact of marginal tax rates on exclusion quality in response to tax policy uncertainty. While there is evidence of firms adjusting their GAAP reporting to support aggressive tax strategies (Cloyd et al. 1996), the relationship between non-GAAP reporting and marginal tax rates remains unclear. Columns (2) and (3) in Tables 8 through 10 divide the sample based on marginal tax rates. Marginal tax rates are obtained from John Graham's marginal tax rate database.[35] An indicator variable "High Tax" is generated that is equal to 1 if a firm's marginal tax rate is greater than the median rate for firms in that year[36]. When observing Columns (2) and (3) in Table 10, a number of differences between the groups emerge. Overall, both the high and low tax rate groups display a decrease in exclusion quality as tax policy uncertainty rises. This is shown by positive coefficients on the interaction between *EPUHigh_Tax* and *Exclusions.*

For the low tax group (Column (2)) the coefficient is 0.423 and significant ($p<0.01$). For the high tax group (Column (3)), the coefficient is 0.234 and significant ($p<0.01$) as well. However, the coefficients on *Exclusions* and the interaction term are much higher for firms in the lower marginal tax rate group. This can be seen by comparing the coefficients in Columns (2) and (3). This implies that firms in the low marginal tax rate group have lower quality exclusions in both high and low tax policy uncertainty environments.[37] To the degree that low marginal tax rates

[35] https://faculty.fuqua.duke.edu/~jgraham/taxform.html
[36] I use the median tax rate for the year to avoid the impact of changes in tax rates and strategies over time as well as identify low marginal tax firms relative to their peers in a given year.
[37] When comparing the coefficients for *Exclusions* for the low and high marginal tax groups, a "seemingly unrelated estimation" test of equality of coefficients results in the low marginal tax group having a significantly higher coefficient ($p=0.0102$).

serve as a proxy for aggressive tax strategies, there appears to be a positive relationship between aggressive tax strategies and aggressive non-GAAP reporting.

Regarding the impact of marginal tax rates on non-recurring income tax exclusions, Tables 8 and 9 display differing results for the two groups. Most notably, in both Tables 8 and 9 the coefficient on *NRT* is positive and significant for the low marginal tax rate firms, but insignificant for the higher marginal tax rate firms. In Table 8, the coefficient on *NRT* for the low tax group in Column (2) is 0.586 and significant ($p<0.01$). In Table 9, the coefficient on *NRT* in Column (2) is 1.150 and significant ($p<0.01$)[38]. This implies that firms with lower marginal tax rates tend to be more aggressive in excluding tax items as non-recurring than firms with higher marginal tax rates. This is evidenced by the fact that non-recurring tax exclusions for the low tax group are positively and significantly correlated with future operating performance. This is consistent with the results in Table 8 of aggressive tax strategies being positively associated with aggressive non-GAAP reporting.

Robustness Tests of Main Results

Tables 11 and 12 present robustness tests of the main results from H1 and H2. Table 11 presents tests of Equation (1) from Table 3 Column (1) where EPU is the composite economic policy uncertainty index. Because Equation (1) contains industry and year fixed effects, I verify the results of the probit regression by running an OLS regression with *NONGAAPIssue* as the dichotomous dependent variable. The results remain qualitatively unchanged with a positive (0.0002) and significant ($p<0.05$) coefficient on *EPU*. Next, I verify that the impact of *EPU* on

[38] When comparing the coefficients for *NRT* for the low and high marginal tax groups, a "seemingly unrelated estimation" test of equality of coefficients results in the low marginal tax group having a significantly higher coefficient in both Table 8 ($p=0.016$) and Table 9 ($p=0.0051$).

non-GAAP issuance is robust when controlling for periods of economic recessions. The results of this test are presented in Column (2) of Table 11. *Recession* is an indicator variable equal to 1 if the economy is in a recession for the month ending the given quarter and 0 otherwise [39]. After including the *Recession* variable, the coefficient on *EPU* remains both positive (0.0006) and significant ($p<0.01$). This suggests the main results of H1 are robust when controlling for periods of economic recession.

Columns (3) and (4) of Table 11 present results from using various measures to control for firm size. Equation (1) utilizes the natural log of quarterly sales as the main control for firm size. In Column (3) *Ln(Sales)* is replaced with the natural log of total assets (*Ln(Total Assets)*). Using this alternative control for size results in qualitatively similar results to the main results for H1. In Column (3) the coefficient on *EPU* remains positive (0.00048) and significant ($p<0.01$). Similarly, Column (4) presents results when replacing *Ln(Sales)* with the natural log of the market value of equity. Again, the results presented in Column (4) remain qualitatively unchanged with the coefficient on *EPU* being both positive (0.0010) and significant ($p<0.01$). Taken together, the results present in Columns (3) and (4) suggest that the results from estimating Equation (1) are robust to various measures of firm size as a control variable.

Finally, Column (5) of Table 11 presents results when excluding the control variable *Accruals* because non-GAAP exclusions are generally non-cash charges. The inclusion of the *Accruals* variable may influence the results in a mechanical way. To alleviate this concern, Column (5) presents results from estimating Equation (1) with the *Accruals* variable removed. After removing the *Accruals* variable, the coefficient on *EPU* remains positive (0.0006) and significant

[39] For my sample period, there is only one period of recession. *Recession* is equal to 1 for the period beginning December, 2007 through June, 2009.

(p-value<0.01). This suggests the results from estimating Equation (1) are robust to both the inclusion and exclusion of a control variable for total accruals.

Table 12 presents robustness tests for the results of Equation (2) used to test H2 in Column (1) of Table 4. Again, *EPUHigh* is an indicator variable equal to 1 when the composite index is above the median value for the sample period and 0 otherwise. The dependent variable is again *FutureOpEarnings*. Column (1) presents results when including a control for periods of recessions. Columns (2) and (3) present results using alternative measures for firm size. Finally, Column (4) presents results after removing the *Accruals* control variable. The results for all alternative specifications are qualitatively similar to the main results of H2. For each column, both *NonGAAPEarnings* and *Exclusions* have positive and significant (p-value<0.01) coefficients. Additionally, the interaction term between *EPUHigh* and *Exclusions* has a negative and significant (p-value<0.01) for all specifications. This suggests the results of H2 that higher levels of EPU are associated with improved non-GAAP exclusion quality are robust to a variety of specifications.

The final set of robustness tests are presented in Table 13. Column (1) of Table 13 presents the results of the main analysis when the composite EPU index is broken up into quartiles rather than split by the median value for the sample period.[40] This more granular specification should again reflect the change in non-GAAP exclusion quality as levels of EPU vary. Consistent with the main results from Table 4, the coefficient on the interaction term (*QTREPU X Exclusions*) is negative (-0.633) and significant (p<0.01). This confirms that the quality of non-GAAP exclusions is significantly improved during periods of high EPU relative to periods of low EPU. This result

[40] *QTREPU* is codified so that the composite EPU index value is broken into quartiles and coded 0, 0.25, 0.5, and 0.75. 0 being the lowest quartile in the sample period and 0.75 being the highest.

provides additional support for the findings throughout the paper of the role of EPU in determining the quality of non-GAAP exclusions.

Column (2) of Table 13 presents results when directly interacting *High Tax* and *Exclusions*. This test attempts to statistically verify the relationship between aggressive non-GAAP reporting and aggressive tax strategies. As previously defined, *High Tax* is an indicator variable equal to 1 if the firm's marginal tax rate is above the median marginal tax rate for all firms during the current year and 0 otherwise. The coefficient on *Exclusions* represents the quality of non-GAAP exclusions for firms with relatively low marginal tax rates, while the coefficient on *High Tax X Exclusions* represents the relative difference between firms with higher marginal tax rates relative to firms with lower marginal tax rates. The coefficient on the interaction term (*High Tax X Exclusions)* is negative (-0.258) and significant ($p<0.01$). This result suggests that firms with lower marginal tax rates have non-GAAP exclusions that are of significantly lower quality than firms with higher marginal tax rates. This test provides evidence of a direct link between firms with aggressive tax strategies and aggressive non-GAAP reporting.[41]

VII. CONCLUSIONS

This paper identifies a positive relationship between economic policy uncertainty (EPU) and the frequency of non-GAAP earnings reporting. Additionally, I find a positive association between the level of EPU and the quality of non-GAAP exclusions. These results are robust to a variety of specifications and measures to control for firm size. Cross-sectional analyses indicate that the impact of EPU on non-GAAP reporting quality is stronger for firms in industries that

[41] This result is consistent with the test of equality of coefficients from "seemingly unrelated estimation" conducted on the results presented in Tables (8-10).

generate a larger fraction of their revenues from government contracts. This implies that the effect of EPU is stronger for firms who have business models that are more sensitive to EPU. Additionally, I find that the impact of EPU on non-GAAP reporting frequency is stronger for firms who are not covered by sell-side analysts. This implies a firm's information environment plays a role in its non-GAAP reporting response to higher levels of EPU.

Supplemental analyses confirm that the informativeness of GAAP earnings decreases during periods of higher EPU. This partially explains the use of increased non-GAAP reporting as a substitute during periods of higher EPU. Additionally, tax policy uncertainty (a component of EPU) has an adverse effect on the quality of non-GAAP reporting. I identify non-recurring income tax expense as an exclusion that significantly decreases in quality as tax policy uncertainty rises. Finally, I identify a positive relationship between aggressive tax strategies (defined as low marginal tax rates) and aggressive non-GAAP reporting.

Variable Definitions	
Accruals	Net income less cash from operations, divided by total assets
Analyst Coverage	Indicator variable equal to 1 if there was a median analyst forecast for the firm quarter and 0 otherwise
BigBath	Indicator variable equal to 1 if a firm reports negative GAAP earnings and income-decreasing special items and 0 otherwise
CAR	Three-day abnormal return around the earnings announcement date
CPI Survey	Value of the CPI Survey component of the EPU index from policyuncertainty.com in the final month of quarter q
Composite Index	Value of the Economic Policy Uncertainty index from policyuncertainty.com in the final month of quarter q
EarningsVol	Standard deviation of ROA over the past 8 quarters
ExcluOtherNRT	Exclusions minus NRT
ExcluOtherNRT&SPX	Exclusions minus NRT and SPX
Exclusions	Exclusions per share (GAAP EPS ((epsfiq)) minus Non-GAAP EPS) multiplied by diluted shares outstanding (cshfdq) scaled by total assets
EPU	Value of the Economic Policy Uncertainty index from policyuncertainty.com in the final month of quarter q
EPUHigh	Indicator variable equal to 1 if the composite EPU index for the month is above the median level throughout the sample period and 0 otherwsie
EPUHigh_Tax	Indicator variable equal to 1 if the tax policy component of the EPU index for the month is above the median level throughout the sample period and 0 otherwsie
Fed/State/Local Survey	Value of the Federal, State, and Local spending survey component of the EPU index from policyuncertainty.com in the final month of quarter q
FutureGAAPEarnings	GAAP Earnings (epsfiq*cshfdq) summed over quarters q+1 to q+4 and scaled by total assets in quarter q
FutureOpEarnings	Operating Earnings (oepsxq x cshfdq) summed over quarters q+1 to q+4 and scaled by total assets in quarter q
GAAP Earnings	GAAP Earnings (epsfiq*cshfdq) scaled by total assets
Government Contracts	Indicator variable equal to 1 if the firm is a member of SIC industries 376,348,381,871,372,373,278, or 160 and 0 otherwise
High Tax	Indicator variable equal to 1 if the firm's marginal tax rate for the year is above the median marginal tax rate for firms in that year from John Graham's marginal tax rate database and 0 otherwise
Intangibles	Intangible assets divided by total assets
Leverage	Total liabilities divided by total assets
Ln(Sales)	Natural logarithm of quarterly sales
Ln(Total Assets)	Natural logarithm of total assets
Ln(MVE)	Natural logarithm of the market value of equity
Loss	Indicator variable equal to 1 if earnings before extraordinary items < 0 and 0 otherwise
MtB	Market to book ratio (market value of equity divided by book value of equity
News	Value of the news based component of the EPU index from policyuncertainty.com in the final month of quarter q
NonGAAPEarnings	Manager issued non-GAAP EPS from Bentley et al. (2018) database multiplied by diluted shares outstanding and scaled by total assets
NONGAAPIssue	Indicator variable equal to 1 if a firm reports a manager issued non-GAAP EPS number for the quarter in the Bentley et al. (2018) database and 0 otherwise
Non-GAAP Surprise	Year over year change in reported non-GAAP earnings scaled by total assets.
NRT	Non-recurring income taxes from compustat scaled by total assets
QTR4	Indicator variable equal to 1 for 4th quarter and 0 otherwise
QTREPU	The composite EPU index value broken into quartiles and coded 0, 0.25, 0.5, and 0.75. 0 being the lowest quartile in the sample period and 0.75 being the highest
Recession	Indicator variable equal to 1 if the quarter ends while the economy is in a period of recession
SalesGrowth	year over year quarterly sales growth scaled by total assets in quarter
Special Items	Special items reported in compustat, divided by total assets and multiplied by -1
SPI	Indicator variable equal to 1 if firm reports special items and 0 otherwise
SPX	After-tax special items calculated as earnings per share from operations less GAAP earnings per share, multiplied by diluted shares outstanding and scaled by total assets and multiplied by negtive 1
Surprise	Year over year change in earnings before extraordinary items scaled by total assets
Tax Policy	Value of the Tax Policy component of the EPU index from policyuncertainty.com in the final month of quarter q
Tech	Indicator variable equal to 1 if firm is in a high-tech industry as defined in Francis and Schipper (1999) and 0 otherwise

Figure 1

Non-GAAP Disclosure

Alphabet Announces First Quarter 2019 Results

MOUNTAIN VIEW, Calif. – April 29, 2019 – Alphabet Inc. (NASDAQ: GOOG, GOOGL) today announced financial results for the quarter ended March 31, 2019.

"We delivered robust growth led by mobile search, YouTube, and Cloud with Alphabet revenues of $36.3 billion, up 17% versus last year, or 19% on a constant currency basis," said Ruth Porat, Chief Financial Officer of Alphabet and Google. "We remain focused on, and excited by, the significant growth opportunities across our businesses."

Q1 2019 financial highlights

The table below provides summary data to facilitate comparison of current quarter performance to prior period given the announcement on March 20, 2019 by the European Commission (EC) of its decision that certain contractual provisions in agreements that Google had with AdSense for Search partners infringed European competition law and the associated €1.5 billion ($1.7 billion as of March 31, 2019) fine.

Q1 2019 summary results	Including Fine (GAAP)	Excluding Fine
Revenues	$36,339	$36,339
Operating income	$6,608	$8,305
Operating margin	18%	23%
Net income	$6,657	$8,339
Diluted EPS	$9.50	$11.90

The following summarizes our consolidated financial results for the quarters ended March 31, 2018 and 2019 (in millions, except for per share information, percentages, and number of employees; unaudited), reported on a GAAP basis including the effect of the EC fine:

	Three Months Ended March 31, 2018	Three Months Ended March 31, 2019
Revenues	$31,146	$36,339
Increase in revenues year over year	26%	17%
Increase in constant currency revenues year over year	23%	19%
Operating income	$7,633	$6,608
Operating margin	25%	18%
Other income (expense), net	$2,910	$1,538
Net income	$9,401	$6,657
Diluted EPS	$13.33	$9.50
Diluted shares (in thousands)	705,134	700,879

Source: https://www.sec.gov/Archives/edgar/data/1652044/000165204419000011/googexhibit991q12019.htm

Figure 2

Non-GAAP Disclosure

The following provides a reconciliation of non-GAAP financial measures presented in the text above to the most directly comparable financial measures calculated and presented in accordance with GAAP.

Adjusted net income is net income excluding expenses related to certain legal proceedings, restaurant asset impairment, corporate restructuring, and certain other costs. Adjusted general and administrative expense is general and administrative expense excluding certain other costs and transformation expenses. We present these non-GAAP measures in order to facilitate meaningful evaluation of our operating performance across periods. These adjustments are intended to provide greater transparency of underlying performance and to allow investors to evaluate our business on the same basis as our management, which uses these non-GAAP measures in evaluating the company's performance. Our adjusted net income, adjusted diluted earnings per share, and adjusted general and administrative expenses measures may not be comparable to other companies' adjusted measures. These adjustments are not necessarily indicative of what our actual financial performance would have been during the periods presented and should be viewed in addition to, and not as an alternative to, our results prepared in accordance with GAAP. Further details regarding these adjustments are included in the tables below.

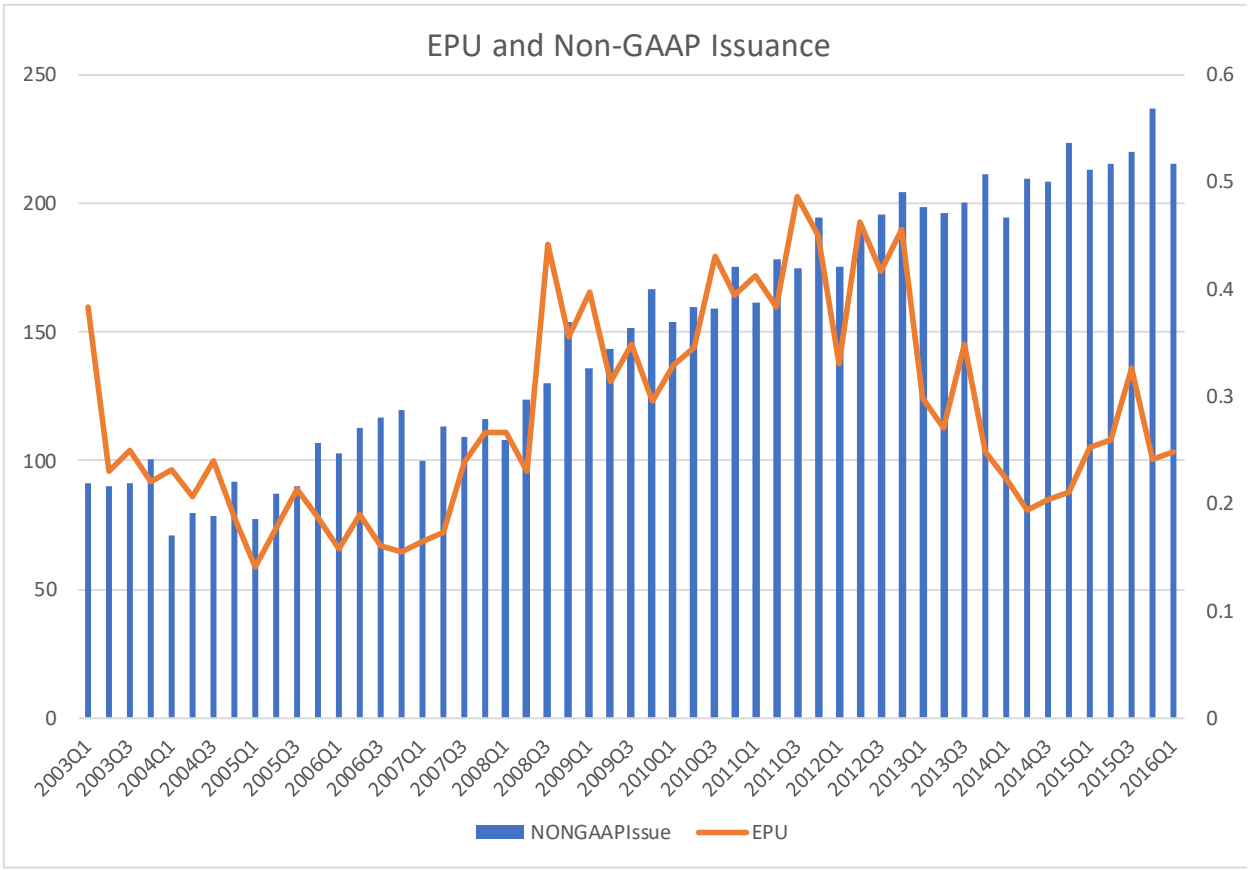
Adjusted Net Income and Adjusted Diluted Earnings Per Share

	Three months ended September 30,	
	2020	2019
Net income	$ 80,244	$ 98,582
Non-GAAP adjustments:		
Restaurant costs:		
Operating lease asset impairment and other restaurant costs[1]	2,954	182
Duplicate rent expense[2]	74	214
Corporate Restructuring:		
Duplicate rent expense[2]	1,638	942
Employee related restructuring costs[3]	275	1,515
Legal proceedings[4]	28,700	7,550
Other adjustments[5]	2,007	2,110
Total non-GAAP adjustments	$ 35,648	$ 12,513
Tax effect of non-GAAP adjustments	(8,844)	(2,791)
After tax impact of non-GAAP adjustments	$ 26,804	$ 9,722
Adjusted net income	$ 107,048	$ 108,304
Diluted weighted-average number of common shares outstanding	28,454	28,388
Diluted earnings per share	$ 2.82	$ 3.47
Adjusted diluted earnings per share	$ 3.76	$ 3.82

(1) Operating lease asset impairment charges, and other expenses for restaurants due to underperformance.
(2) Duplicate rent expense for the corporate headquarter relocation and office consolidation announced in May 2018 and rent expense for closed restaurants for the announced restaurant closures in June 2018.
(3) Costs for employee severance, stock modifications, transition expenses, recruitment, relocation costs, third party and other employee-related costs.
(4) For the three months ended September 30, 2020 and 2019, charges relate to settlements for several distinct legal matters. These amounts are expected to exceed typical costs for these types of legal proceedings.
(5) For the three months ended September 30, 2020, other adjustments consist of an asset impairment charge related to digital technology of $1,875 and stock modification charges associated with the departure of our former Executive Chairman primarily related to his 2017 agreement of $132. For the three months ended September 30, 2019, other adjustments consist of an asset impairment charge related to our corporate aircraft, which was sold.

Source: https://www.sec.gov/Archives/edgar/data/1058090/000105809020000035/cmg-20201021xex99_1.htm

Figure 3



This graph presents the average value of *NONGAAPIssue* and the value of *EPU* during the sample period. The bars represesent the proportion of firms who issue a non-GAAP earnings number in the given quarter. *EPU* is the value of the composite economic policy uncertainty index from policyuncertainty.com in the final month of the quarter. *NONGAAPIssue* is an indicator variable equal to 1 if a firm reports a non-GAAP earnings number in the given quarter and 0 otherwise. Data consists of 102,699 observations from 2003-2016

Table 1

Descriptive Statistics

Panel A

	NONGAAPIssue			*NONGAAPIssue*		
	=0	=1		=0	=1	
Variable	Mean			Median		
EPU	112.918	121.800	***	100.744	108.953	***
Ln(Sales)	4.395	5.477	***	4.503	5.422	***
Intangibles	0.144	0.242	***	0.068	0.197	***
Tech	0.288	0.417	***	0.000	0.000	***
MtB	3.055	3.072		2.167	2.229	***
SalesGrowth	0.019	0.013	***	0.016	0.012	***
Leverage	0.481	0.505	***	0.447	0.498	***
EarningsVol	0.031	0.024	***	0.012	0.010	***
SPI	0.315	0.717	***	0.000	1.000	***
SpecialItems	0.002	0.007	***	0.000	0.001	***
Loss	0.309	0.294	***	0.000	0.000	
BigBath	0.097	0.199	***	0.000	0.000	
QTR4	0.219	0.265	***	0.000	0.000	
Accruals	-0.198	-0.048	***	-0.243	-0.038	***
N	65,671	37,028		65,671	37,028	

Panel B:

	N	Mean	Median
NONGAAPIssue	102,699	0.361	0.000
FutureOpEarnings	96,612	0.004	0.046
NonGAAPEarnings	37,020	0.013	0.140
Exclusions	37,020	-0.013	-0.005
GAAPEarnings	102,699	-0.003	0.010

This table provides summary statistics for relavant variables. Variable descriptions are presented in Appendix A. Stars represent the results of a t-test for differences in means. *,**,*** represent significance at the 90%, 95%, and 99% level respectively. All medians are significantly different at the 99% level based on a Two-sample Wilcoxon rank-sum (Mann-Whitney) test. All continous independent variabes are winsorized at the 1% and 99% level.

Table 2

Correlations

	NONGAAPIssue	*FutureOpEarnings*	*NonGAAPEarnings*	*EPU*	*Exclusions*	*Ln(Sales)*	*Intangibles*	*Tech*	*MtB*	*SalesGrowth*	*Leverage*	*EarningsVol*	*SPI*	*SpecialItems*	*Loss*	*BigBath*	*QTR4*	*Accruals*
NONGAAPIssue		0.02	.	0.12	.	0.24	0.25	0.13	0.02	-0.06	0.08	-0.06	0.39	0.31	-0.02	0.14	0.05	-0.12
FutureOpEarnings	0.08		0.71	-0.02	0.24	0.38	0.09	-0.16	0.32	0.30	-0.09	-0.33	-0.05	-0.05	-0.61	-0.30	0.01	-0.26
NonGAAPEarnings	.	0.66		-0.01	0.05	0.23	0.12	0.10	0.43	0.31	-0.16	-0.20	-0.05	-0.08	-0.60	-0.43	0.05	-0.21
EPU	0.11	0.01	0.01		-0.02	0.10	0.03	-0.02	-0.15	-0.11	0.05	0.02	0.09	0.08	0.01	0.04	-0.01	-0.07
Exclusions	.	0.21	0.14	-0.03		0.32	-0.03	-0.31	-0.03	0.06	0.14	-0.24	-0.04	-0.39	-0.52	-0.45	-0.06	0.20
Ln(Sales)	0.25	0.41	0.32	0.09	0.18		0.24	-0.30	0.05	0.08	0.39	-0.45	0.24	0.13	-0.40	-0.09	0.02	-0.18
Intangibles	0.24	0.09	0.10	0.03	0.03	0.18		0.04	0.01	0.02	0.10	-0.24	0.25	0.19	-0.13	0.04	0.01	-0.06
Tech	0.13	-0.17	0.01	-0.02	-0.08	-0.31	0.04		0.13	-0.04	-0.20	0.22	0.02	0.03	0.19	0.08	0.00	0.05
MtB	0.00	0.01	0.08	-0.04	0.00	-0.01	-0.01	0.05		0.26	0.02	0.00	-0.08	-0.05	-0.14	-0.15	0.01	-0.06
SalesGrowth	-0.04	0.12	0.28	-0.07	0.13	0.09	0.02	-0.03	0.07		-0.04	-0.09	-0.12	-0.09	-0.26	-0.18	0.01	0.02
Leverage	0.04	-0.15	-0.09	0.04	-0.03	0.24	0.06	-0.13	-0.03	-0.02		-0.05	0.19	0.12	0.03	0.10	0.00	-0.02
EarningsVol	-0.04	-0.21	-0.09	0.01	-0.05	-0.21	-0.06	0.11	0.02	-0.04	0.05		-0.02	0.00	0.42	0.19	-0.01	0.15
SPI	0.39	0.03	-0.02	0.08	-0.06	0.24	0.22	0.02	-0.03	-0.09	0.15	-0.01		0.57	0.06	0.43	0.09	-0.07
SpecialItems	0.11	-0.06	-0.13	0.04	-0.75	-0.03	0.04	0.03	-0.02	-0.09	0.07	0.03	0.21		0.16	0.55	0.08	-0.10
Loss	-0.02	-0.41	-0.55	0.01	-0.41	-0.42	-0.10	0.19	-0.01	-0.22	0.08	0.17	0.06	0.25		0.60	0.01	0.14
BigBath	0.14	-0.13	-0.37	0.04	-0.39	-0.08	0.04	0.08	-0.04	-0.15	0.11	0.07	0.43	0.45	0.60		0.06	-0.03
QTR4	0.05	0.01	0.04	-0.01	-0.08	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.09	0.09	0.01	0.06		-0.32
Accruals	-0.12	-0.36	-0.19	-0.05	0.47	-0.25	-0.06	0.10	0.00	0.04	0.03	0.11	-0.07	-0.21	0.14	-0.04	-0.17	

This table presents correlations between the relevant variables. Variable definitions are provided in Appendix A. The top portion of the table presents Spearman Correlations while the bottom portion presents Pearson Correlations. All non-0 correlations are significant at the 99% level. All continous independent variabes are winsorized at the 1% and 99% level.

Table 3

Economic Policy Uncertainty and Non-GAAP Issuance

Dep: NONGAAPIssue	Composite Index		News		Tax Policy		Fed/State/Local Survey		CPI Survey	
Column	(1)		(2)		(3)		(4)		(5)	
	Coef	Z-Stat	Coef	Z-Stat	Coef	Z-Stat	Coef	Z-Stat	Coef	Z-Stat
EPU	0.0005 **	2.48	0.0003 ***	2.73	0.00003	1.27	0.0006 **	2.06	-0.0003 *	-1.64
Ln(Sales)	0.179 ***	17.71	0.179 ***	17.72	0.162 ***	16.49	0.179 ***	17.71	0.179 ***	17.71
Intangibles	0.971 ***	12.05	0.971 ***	12.05	0.971 ***	12.16	0.971 ***	12.06	0.971 ***	12.05
Tech	0.592 ***	10.75	0.592 ***	10.75	0.562 ***	10.34	0.592 ***	10.76	0.592 ***	10.76
MtB	0.0006	0.66	0.001	0.66	0.000	0.52	0.001	0.64	0.001	0.64
SalesGrowth	0.030	0.31	0.030	0.3	0.005	0.05	0.031	0.32	0.026	0.27
Leverage	-0.195 ***	-3.59	-0.195 ***	-3.59	-0.198 ***	-3.67	-0.194 ***	-3.59	-0.194 ***	-3.59
EarningsVol	0.041	0.44	0.041	0.44	-0.019	-0.21	0.042	0.45	0.042	0.45
SPI	0.830 ***	38.85	0.830 ***	38.85	0.826 ***	38.93	0.830 ***	38.84	0.830 ***	38.85
SpecialItems	3.354 ***	9.04	3.356 ***	9.05	3.298 ***	8.99	3.342 ***	9	3.365 ***	9.08
Loss	0.186 ***	6.15	0.186 ***	6.14	0.142 ***	4.71	0.187 ***	6.16	0.186 ***	6.15
BigBath	-0.136 ***	-4.34	-0.136 ***	-4.33	-0.115 ***	-3.67	-0.136 ***	-4.33	-0.136 ***	-4.33
QTR4	0.048 ***	5.09	0.049 ***	5.12	0.040 ***	4.26	0.049 ***	5.12	0.049 ***	5.14
Accruals	-0.646 ***	-7.51	-0.646 ***	-7.51	-0.670 ***	-7.85	-0.648 ***	-7.55	-0.649 ***	-7.55
Constant	-2.640 ***	-10.04	-2.627 ***	-10	-1.321 ***	-3.09	-2.637 ***	-9.98	-2.561 ***	-9.75
Pseudo R^2	0.2471		0.2471		0.2457		0.2471		0.2471	
N	102,699		102,699		102,699		102,699		102,699	

This table provides results for the impact of EPU on the non-GAAP earnings decision. The first column presents results for the composite index, while the remaining columns present results for the individual components. *Non-GAAPIssue* is an indicator variable equal to 1 if the firm issues a non-GAAP earnings report and 0 otherwise. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 4

Economic Policy Uncertainty and Non-GAAP Exclusions Quality

	Uncertainty Variable									
Dep: FutureOpEarnings	Composite Index		News		Tax Policy		Fed/State/Local Survey		CPI Survey	
Column	(1)		(2)		(3)		(4)		(5)	
	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat
NonGAAPEarnings	2.864 ***	27.91	2.866 ***	27.96	2.875 ***	27.88	2.863 ***	27.86	2.867 ***	27.83
Exclusions	0.777 ***	7.92	0.816 ***	8.07	0.490 ***	7.03	0.730 ***	8.34	0.885 ***	11.90
EPUHigh	-0.005 ***	-2.64	-0.006 ***	-4.41	-0.040 ***	-11.05	0.012 ***	5.54	-0.003 ***	-3.06
EPUHigh X Exclusions	-0.241 ***	-2.99	-0.286 ***	-3.56	0.287 ***	3.51	-0.210 ***	-2.68	-0.395 ***	-5.99
SalesGrowth	0.029 *	1.85	0.030 *	1.87	0.029 *	1.83	0.031 **	1.97	0.031 *	1.94
Ln(Sales)	0.010 ***	12.5	0.010 ***	12.48	0.010 ***	12.69	0.010 ***	12.57	0.010 ***	12.48
EarningsVol	-0.009	-0.76	-0.009	-0.77	-0.009	-0.77	-0.009	-0.77	-0.009	-0.76
Loss	-0.010 ***	-3.96	-0.010 ***	-3.85	-0.010 ***	-3.55	-0.011 ***	-4.20	-0.009 ***	-3.62
MtB	0.000	0.36	0.000	0.38	0.000	0.35	0.000	0.35	0.000	0.32
Accruals	-0.270 ***	-8.00	-0.270 ***	-8.02	-0.271 ***	-8.00	-0.269 ***	-7.97	-0.273 ***	-8.08
Constant	-0.020 **	-2.13	-0.019 **	-2.05	-0.026 ***	-2.72	-0.029 ***	-3.04	-0.021 **	-2.26
R^2	0.5256		0.5259		0.5262		0.5264		0.5273	
N	34,608		34,608		34,608		34,608		34,608	

This table presents results for impact of EPU on non-GAAP exclusions quality. *FutureOpEarnings* is operating earnings (ocpsxq x cshfdq) summed over quarters q+1 to q+4 and scaled by total assets in quarter q. *Exclusions* are exclusions per share (GAAP EPS ((epsfiq)) minus Non-GAAP EPS) multiplied by diluted shares outstanding (cshfdq) scaled by total assets. Results are presented for the composite index as well as the individual components. *EPUHigh* is an indicator variable equal to 1 if the value of the index is above the median level for the sample period. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 5

Economic Policy Uncertainty and Non-GAAP Issuance: Cross-Sectional Variation

Dep: NONGAAPIssue	Contracts		Coverage	
Column	(1)		(2)	
	Coef	Z-Stat	Coef	Z-Stat
EPU	0.0005 **	2.44	0.0014 ***	3.29
Factor	-0.313 *	-1.67	0.274 ***	4.56
EPU X Contracts	0.0003	0.36		
EPU X Coverage			-0.001 **	-2.48
Ln(Sales)	0.180 ***	17.76	0.173 ***	16.94
Intangibles	0.978 ***	12.07	0.971 ***	12.05
Tech	0.589 ***	10.70	0.587 ***	10.67
MtB	0.001	0.62	0.000	0.50
SalesGrowth	0.034	0.35	0.021	0.22
Leverage	-0.194 ***	-3.59	-0.173 ***	-3.24
EarningsVol	0.041	0.45	0.047	0.50
SPI	0.828 ***	38.70	0.833 ***	38.94
SpecialItems	3.352 ***	9.03	3.358 ***	9.01
Loss	0.187 ***	6.14	0.191 ***	6.28
BigBath	-0.137 ***	-4.35	-0.138 ***	-4.38
QTR4	0.049 ***	5.12	0.047 ***	4.91
Accruals	-0.643 ***	-7.48	-0.642 ***	-7.43
Constant	-2.645 ***	-10.03	-2.821 ***	-10.47
Pseudo R^2	0.2476		0.2482	
N	102,699		102,699	

This table presents results for the impact of government contracts and analyst coverage on the relationship between EPU and non-GAAP issuance. *Contracts* is an indicator variable equal to 1 if the firm is a member of SIC industries 376,348,381,871,372,373,278, or 160 and 0 otherwise. *Coverage* is an indicator variable equal to 1 if there was a median analyst forecast for the firm quarter and 0 otherwise. Contract firms make up 2.3% of the sample and covered firms coverage make up 75.2%.All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 6

Economic Policy Uncertainty and Non-GAAP Exclusions Quality: Cross-Sectional Variation

Dep: FutureOpEarnings	Contracts		Coverage	
Column	(1)		(2)	
	Coef	T-Stat	Coef	T-Stat
NonGAAPEarnings	2.864 ***	27.92	2.860 ***	28.06
Exclusions	0.769 ***	7.80	0.806 ***	5.38
EPUHigh	-0.004 **	-2.38	-0.012 ***	-2.71
Factor	0.021 **	1.97	0.008 **	2.42
Exclusions X EPUHigh	-0.228 ***	-2.81	-0.333 **	-2.11
Exclusions X Contracts	0.773	1.38		
Exclusions X Coverage			-0.041	-0.24
EPUHigh X Contracts	-0.026 ***	-2.84		
EPUHigh X Coverage			0.008 *	1.82
Exclusions X EPUHigh X Contracts	-1.259 **	-2.22		
Exclusions X EPUHigh X Coverage			0.119	0.66
SalesGrowth	0.029 *	1.81	0.029 *	1.86
Ln(Sales)	0.010 ***	12.49	0.010 ***	12.32
EarningsVol	-0.009	-0.77	-0.008	-0.72
Loss	-0.010 ***	-3.96	-0.010 ***	-3.75
MtB	0.000	0.36	0.000	0.29
Accruals	-0.270 ***	-8.00	-0.268 ***	-7.91
Constant	-0.020 **	-2.17	-0.026 ***	-2.67
R^2	0.5259		0.5269	
N	34,608		34,608	

This table presents results for the impact of government contracts and analyst coverage on the relationship between EPU and non-GAAP exclusion quality. *Contracts* is an indicator variable equal to 1 if the firm is a member of SIC industries 376,348,381,871,372,373,278, or 160 and 0 otherwise. *Coverage* is Indicator variable equal to 1 if there was a median analyst forecast for the firm quarter and 0 otherwise. Contract firms make up 1.5% of the sample and covered firms coverage make up 84.4%.All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 7

Economic Policy Uncertainty and GAAP Earnings Quality

Panel A: ERC's

	(1)		(2)	
DepVar: CAR	Coef	T-Stat	Coef	T-Stat
Surprise	0.276 ***	19.73	0.131 ***	3.89
EPUHigh	0.002 ***	3.74	0.0036 ***	3.05
EPUHigh X Surprise	-0.099 ***	-5.88	-0.086 **	-2.26
Non-GAAP Surprise			0.385 ***	5.46
EPUHigh X Non-GAAP Surprise			0.098	1.15
Constant	0.001	1.19	0.0004	0.46
R^2	0.0082		0.0108	
N	91,067		24,387	

Panel B: Earnings Persistence

	Dependent Variable			
	Future OpEarnings		*FutureGAAPEarnings*	
Column	(1)		(2)	
	Coef	T-Stat	Coef	T-Stat
GAAPEarnings	2.616 ***	25.38	0.098 ***	11.21
EPUHigh	-0.003	-1.05	0.000	-1.16
EPUHigh X GAAPEarnings	-0.267 ***	-2.62	-0.026 ***	-3.64
SalesGrowth	0.028	1.37	-0.001	-0.63
Ln(Sales)	0.015 ***	18.08	0.000 ***	6.54
EarningsVol	-0.190 ***	-2.88	-0.013 ***	-2.84
Loss	0.015 **	2.20	0.003 ***	7.47
MtB	0.000 *	1.81	0.000 **	-2.30
Accruals	-0.593 ***	-15.5	-0.019 ***	-8.03
Constant	-0.047 ***	-3.32	-0.003 ***	-5.30
R^2	0.461		0.246	
N	96,611		83,876	

This table presents results for the impact EPU on GAAP earnings informativeness. Panel A Column (1) measures variation in ERC's with *Surprise* defined as the year-over-year change in earnings scaled by total assets. CAR is the three-day abnormal return around the announcement date. *EPUHigh* is an indicator variable equal to 1 if the value of the index is above the median level for the sample period. Panel A Column (2) measures the incremental information of non-GAAP earnings with *Non-GAAP Surprise* being the year over year change in non-GAAP earnings scaled by total assets, Panel B defines informativenss as persistance with future GAAP earnings and future operating earnings being the dependent variables. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 8

Tax Policy Uncertainty and Non-Recurring Income Taxes

Dep: FutureOpEarnings	Full Sample		High Tax=0		High Tax=1	
Column	(1)		(2)		(3)	
	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat
NonGAAPEarnings	2.884 ***	28.03	2.351 ***	11.24	2.844 ***	19.18
ExcluOtherNRT	0.506 ***	7.12	0.658 ***	3.55	0.170 ***	3.13
EPUHigh_Tax	-0.040 ***	-10.95	-0.067 ***	-7.63	-0.014 ***	-4.54
EPUHigh_Tax X ExcluOtherNRT	0.298 ***	3.44	0.435 **	2.12	0.258 ***	3.29
NRT	0.192	1.55	0.586 ***	2.61	-0.053	-0.36
EPUHigh_Tax X NRT	0.311 **	2.09	0.363	1.61	0.240	1.46
SalesGrowth	0.029 *	1.84	0.048	1.25	0.118 ***	3.74
Ln(Sales)	0.010 ***	12.62	0.010 ***	4.49	0.001	1.27
EarningsVol	-0.009	-0.76	-0.057	-0.94	0.083	1.18
Loss	-0.009 ***	-3.5	-0.008	-1.18	0.004	1.57
MtB	0.000	0.39	0.000	-0.26	0.000 **	2.16
Accruals	-0.270 ***	-7.99	-0.442 ***	-3.34	-0.104 ***	-4.28
Constant	-0.025 ***	-2.67	-0.003	-0.14	-0.056 **	-2.05
R^2	0.5268		0.4384		0.5322	
N	34,608		6,179		12,122	

This table presents results for the impact of tax policy uncertainty on non-recurring income taxes. *NRT* is non-recurring income taxes from compustat scaled by total assets. *ExcluOtherNRT* is *Exclusions* minus *NRT*. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 9

Tax Policy Uncertainty, Non-Recurring Income Taxes, and Special Items

Dep: FutureOpEarnings	Full Sample		High Tax=0		High Tax=1	
Column	(1)		(2)		(3)	
	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat
NonGAAPEarnings	2.960 ***	28.63	2.387 ***	11.03	2.912 ***	18.78
ExcluOtherNRT&SPX	1.012 ***	7.75	1.002 ***	4.81	0.423 ***	3.41
EPUHigh_Tax	-0.041 ***	-11.09	-0.068 ***	-7.3	-0.015 ***	-4.45
EPUHigh_Tax X ExcluOtherNRT&SPX	0.236	1.39	0.463	1.42	0.373 **	2.3
SPX	-0.203 ***	-2.57	0.175	0.78	-0.101	-1.39
EPUHigh_Tax X SPX	-0.235 *	-1.77	-0.445	-1.44	-0.060	-0.55
NRT	0.923 ***	6.23	1.150 ***	4.71	0.286	1.44
EPUHigh_Tax X NRT	0.329 *	1.72	0.651 *	1.69	0.345	1.5
SalesGrowth	0.030	1.81	0.044	1.1	0.117 ***	3.45
Ln(Sales)	0.008 ***	11.21	0.009 ***	4.01	0.001	0.9
EarningsVol	-0.004	-0.40	-0.033	-0.58	0.117	1.56
Loss	-0.014 ***	-5.26	-0.011 *	-1.72	0.000	0.1
MtB	0.000	0.4	0.000	-0.11	0.000 *	1.75
Accruals	-0.265 ***	-7.68	-0.451 ***	-3.22	-0.100 ***	-3.82
Constant	-0.018 *	-1.88	0.002	0.08	-0.054 **	-1.9
R^2	0.5451		0.448		0.5394	
N	31,791		5,660		10,889	

This table shows the results for the impact of tax policy uncertainty on both non-recurring taxes and special items. *NRT is* as previously defined. *SPX* is earnings per share from operations less GAAP earnings per share, multiplied by diluted shares outstanding, scaled by total assets and multiplied by negative 1. *ExcluOtherNRT&SPX* is *Exclusions* minus *NRT* and *SPX*. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 10

Tax Policy Uncertainty and Non-GAAP Exclusions Quality

Dep: FutureOpEarnings	Full Sample		High Tax=0		High Tax=1	
Column	(1)		(2)		(3)	
	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat
NonGAAPEarnings	2.875 ***	27.88	2.346 ***	11.16	2.837 ***	19.09
Exclusions	0.490 ***	7.03	0.654 ***	3.53	0.162 ***	3.01
EPUHigh_Tax	-0.040 ***	-11.05	-0.067 ***	-7.7	-0.014 ***	-4.61
EPUHigh_Tax X Exclusions	0.287 ***	3.51	0.423 **	2.24	0.234 ***	3.15
SalesGrowth	0.029 *	1.83	0.047	1.24	0.118 ***	3.74
Ln(Sales)	0.010 ***	12.69	0.010 ***	4.5	0.001	1.31
EarningsVol	-0.009	-0.77	-0.057	-0.94	0.079	1.13
Loss	-0.010 ***	-3.55	-0.008	-1.20	0.004	1.48
MtB	0.000	0.35	0.000	-0.26	0.000 **	2.16
Accruals	-0.271 ***	-8.00	-0.442 ***	-3.34	-0.104 ***	-4.3
Constant	-0.026 ***	-2.72	-0.003	-0.15	-0.056 **	-2.06
R^2	0.5262		0.4383		0.5316	
N	34,608		6,179		12,122	

This table presents results for the impact of tax policy uncertianty on non-GAAP exclusion policy. *EPUHigh_Tax* is an indicator variable equal to 1 if the tax policy uncertianty index is above the median level for the sample period and 0 otherwise. *High Tax* is an Indicator variable equal to 1 if the firm's marginal tax rate for the year is above the median marginal tax rate for firms in that year from John Graham's marginal tax rate database and 0 otherwise. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 11

Robustness Tests of H1

Dep: NONGAAPIssue	OLS		Inclusion of Recession		Size=Ln(Total Assets)		Size= Ln(MVE)		Accruals Removed	
Column	(1)		(2)		(3)		(4)		(5)	
	Coef	T-Stat	Coef	Z-Stat	Coef	Z-Stat	Coef	Z-Stat	Coef	Z-Stat
EPU	0.0002 **	2.94	0.0006 ***	3.19	0.00048 **	2.53	0.0010 ***	5.18	0.0006 ***	3.08
Recession			-0.0725 ***	-3.68						
Ln(Total Assets)					0.19591 ***	17.98				
Ln(MVE)							0.1747 ***	18.72		
Ln(Sales)	0.049 ***	18.87	0.179 ***	17.71					0.185 ***	18.53
Intangibles	0.299 ***	12.56	0.971 ***	12.06	0.866 ***	10.57	0.983 ***	12.34	0.969 ***	12.04
Tech	0.179 ***	11.43	0.592 ***	10.75	0.541 ***	9.93	0.469 ***	8.64	0.592 ***	10.72
MtB	0.0002	0.70	0.001	0.64	0.001	0.61	-0.002 ***	-2.65	0.001	0.78
SalesGrowth	-0.001	-0.03	0.025	0.25	0.359 ***	3.53	0.020	0.19	-0.026	-0.27
Leverage	-0.049 ***	-3.84	-0.194 ***	-3.59	-0.158 ***	-3.00	-0.013	-0.27	-0.208 ***	-3.82
EarningsVol	0.012	0.58	0.040	0.43	0.044	0.49	-0.068	-0.74	0.016	0.18
SPI	0.267 ***	38.48	0.829 ***	38.84	0.822 ***	38.17	0.861 ***	40.02	0.823 ***	38.53
SpecialItems	1.217 ***	11.04	3.360 ***	9.05	3.510 ***	9.21	3.429 ***	9.15	4.232 ***	12.05
Loss	0.058 ***	7.19	0.187 ***	6.17	0.129 ***	4.34	0.141 ***	4.74	0.173 ***	5.65
BigBath	-0.056 ***	-5.90	-0.136 ***	-4.33	-0.108 ***	-3.46	-0.081 ***	-2.60	-0.136 ***	-4.33
QTR4	0.015 ***	5.91	0.050 ***	5.22	0.049 ***	5.16	0.046 ***	4.89	0.078 ***	9.03
Accruals	-0.139 ***	-7.13	-0.644 ***	-7.49	-0.776 ***	-9.02	-0.732 ***	-8.87		
Constant	-0.250 ***	-3.68	-2.656 ***	-10.09	-3.039 ***	-11.93	-3.003 ***	-11.96	-2.665 ***	-10.12
R^2 /Pseudo R^2	0.2863		0.2472		0.2506		0.2479		0.2459	
N	102,699		102,699		102,699		102,699		102,699	

This table provides results for the impact of EPU on the non-GAAP earnings disclosure decision. *Non-GAAPIssue* is an indicator variable equal to 1 if the firm issues a non-GAAP earnings report and 0 otherwise. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 12

Robustness Tests of H2

Dep: FutureOpEarnings	Inclusion of Recession		Size=Ln(Total Assets)		Size= Ln(MVE)		Accruals Removed	
Column	(1)		(2)		(3)		(4)	
	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat
NonGAAPEarnings	2.864 ***	27.91	2.945 ***	28.59	2.855 ***	26.93	3.119 ***	28.19
Exclusions	0.777 ***	7.92	0.794 ***	7.93	0.790 ***	7.85	0.426 ***	4.70
EPUHigh	-0.005 **	-2.47	-0.005	-2.64	-0.004 **	-2.36	-0.005 ***	-2.60
EPUHigh X Exclusions	-0.241 ***	-2.99	-0.249 ***	-3.06	-0.261 ***	-3.21	-0.240 ***	-2.68
Recession	-0.001	-0.64						
Ln(Total Assets)			0.008 ***	11.04				
Ln(MVE)					0.009 ***	13.93		
Ln(Sales)	0.010 ***	12.50					0.011 ***	12.05
SalesGrowth	0.029 *	1.84	0.037 **	2.31	0.025	1.59	-0.001	-0.04
EarningsVol	-0.009	-0.77	-0.011	-0.84	-0.010	-0.76	-0.014	-0.95
Loss	-0.010 ***	-3.95	-0.011 ***	-4.41	-0.010 ***	-3.96	-0.011 ***	-4.26
MtB	0.000	0.36	0.000	0.31	0.000	-0.96	0.000	0.52
Accruals	-0.270 ***	-8.00	-0.277 ***	-8.08	-0.272 ***	-7.87		
Constant	-0.020 **	-2.14	-0.020 **	-2.55	-0.026 ***	-3.52	-0.020 ***	-2.15
R^2	0.5256		0.5209		0.5236		0.5015	
N	34,608		34,608		34,608		34,608	

This table presents results for impact of EPU on non-GAAP exclusions quality. *FutureOpEarnings* is operating earnings (ocpsxq x cshfdq) summed over quarters q+1 to q+4 and scaled by total assets in quarter q. *Exclusions* are exclusions per share (GAAP EPS ((epsfiq)) minus Non-GAAP EPS) multiplied by diluted shares outstanding (cshfdq) scaled by total assets. EPUHigh is an indicator variable equal to 1 if the value of the index is above the median level for the sample period. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level and *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

Table 13

Additional Robustness Tests

Dep: FutureOpEarnings	QTREPU		High Tax	
Column	(1)		(2)	
	Coef	T-Stat	Coef	T-Stat
NonGAAPEarnings	2.871 ***	27.99	2.668 ***	19.55
Exclusions	0.943 ***	9.88	0.658 ***	4.26
QTREPU	-0.002	-0.72		
High Tax			0.021 ***	9.47
QTREPU X Exclusions	-0.633 ***	-5.23		
High Tax X Exclusions			-0.258 ***	-2.68
Ln(Sales)	0.031 *	1.94	0.081 ***	3.58
SalesGrowth	0.010 ***	12.39	0.005 ***	4.49
EarningsVol	-0.009	-0.77	-0.059	-1.04
Loss	-0.009 ***	-3.59	-0.005	-1.41
MtB	0.000	0.39	0.000	1.13
Accruals	-0.269 ***	-7.95	-0.264 ***	-3.75
Constant	-0.021 **	-2.24	-0.013	-0.99
R^2	0.5268		0.5069	
N	34,608		18,301	

This table presents results for the impact of EPU on non-GAAP exclusions quality. *FutureOpEarnings* is operating earnings (ocpsxq x cshfdq) summed over quarters q+1 to q+4 and scaled by total assets in quarter q. *Exclusions* are exclusions per share (GAAP EPS ((epsfiq)) minus Non-GAAP EPS) multiplied by diluted shares outstanding (cshfdq) scaled by total assets. *QTREPU* is the composite EPU index broken down into quartiles. *High Tax* is an indicator variable equal to 1 if a firms marginal tax rate is above the median tax rate for the current year and 0 otherwise. All regressions have both industry and year fixed effects. All continous independent variabes are winsorized at the 1% and 99% level. Standard errors are clustered at the firm level *,**,*** represent significance at the 90%, 95%, and 99% level respectively.

REFERENCES

Alford, A. W., & Berger, P. G. (1999). A simultaneous equations analysis of forecast accuracy, analyst following, and trading volume. *Journal of Accounting, Auditing & Finance*, *14*(3), 219-240.

Arya, A., & Mittendorf, B. (2007). The interaction among disclosure, competition between firms, and analyst following. *Journal of Accounting and Economics*, *43*(2-3), 321-339.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics*, *131*(4), 1593-1636.

Barth, M. E., Beaver, W. H., & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of accounting and economics*, *31*(1-3), 77-104.

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), 526-562.

Beardsley, E. L., Mayberry, M. A., & McGuire, S. T. (2017). Street Effective Tax Rates: Informative or Opportunistic?. Working paper, University of Notre Dame

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), 1039-1081.

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), 285-319.

Bhattacharya, U., Hsu, P. H., Tian, X., & Xu, Y. (2017). What affects innovation more: Policy or policy uncertainty?. *Journal of Financial and Quantitative Analysis*, *52*(5), 1869-1901.

Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2020). Non-GAAP earnings: a consistency and comparability crisis?. *Tuck School of Business Working Paper*, (2759312).

Black, D., Black, E., Christensen, T., & Gee, K. (2016). *CEO compensation incentives and non-GAAP earnings disclosures*. Working paper, Dartmouth College, University of Oklahoma, University of Georgia, and Stanford University.

Black, E. L., Christensen, T. E., Taylor Joo, T., & Schmardebeck, R. (2017). The relation between earnings management and non-GAAP reporting. *Contemporary Accounting Research*, *34*(2), 750-782

Black, E. L., Christensen, T. E., Kiosse, P. V., & Steffen, T. D. (2017). Has the regulation of non-GAAP disclosures influenced managers' use of aggressive earnings exclusions?. *Journal of Accounting, Auditing & Finance*, *32*(2), 209-240.

Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2018). Non-GAAP reporting: Evidence from academia and current practice. *Journal of Business Finance & Accounting*, *45*(3-4), 259-294.

Bloom, N. (2014). Fluctuations in uncertainty. *Journal of Economic Perspectives*, *28*(2), 153-76.

Bonaime, A., Gulen, H., & Ion, M. (2018). Does policy uncertainty affect mergers and acquisitions?. *Journal of Financial Economics*, *129*(3), 531-558.

Boone, A. L., Kim, A., & White, J. T. (2018). Political uncertainty and firm disclosure. Working Paper, Vanderbilt University

Bradshaw, M. T., & Sloan, R. G. (2002). GAAP versus the street: An empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research*, *40*(1), 41-66.

Bratten, B., Larocque, S., & Yohn, T. L. (2019). On the Informativeness of Unexpected Exclusions from Street Earnings. Working Paper, University of Kentucky

Brennan, M. J., & Subrahmanyam, A. (1995). Investment analysis and price formation in securities markets. *Journal of financial economics*, *38*(3), 361-381.

Brogaard, J., & Detzel, A. (2015). The asset-pricing implications of government economic policy uncertainty. *Management Science*, *61*(1), 3-18.

Brown, N. C., Christensen, T. E., Elliott, W. B., & Mergenthaler, R. D. (2012). Investor sentiment and pro forma earnings disclosures. *Journal of Accounting Research*, *50*(1), 1-40.

Brown, L. D., & Sivakumar, K. (2003). Comparing the value relevance of two operating income measures. *Review of Accounting Studies*, *8*(4), 561-572

Chen, S., DeFond, M. L., & Park, C. W. (2002). Voluntary disclosure of balance sheet information in quarterly earnings announcements. *Journal of Accounting and Economics*, *33*(2), 229-251.

Choi, Y. S., Lin, S., Walker, M., & Young, S. (2007). Disagreement over the persistence of earnings components: evidence on the properties of management-specific adjustments to GAAP earnings. *Review of Accounting Studies*, *12*(4), 595-622.

Cloyd, C. B., Pratt, J., & Stock, T. (1996). The use of financial accounting choice to support aggressive tax positions: Public and private firms. *Journal of Accounting research*, 34(1), 23-43.

Coller, M., & Yohn, T. L. (1997). Management forecasts and information asymmetry: An examination of bid-ask spreads. *Journal of Accounting Research*, *35*(2), 181-191.

Curtis, A. B., McVay, S. E., & Whipple, B. C. (2014). The disclosure of non-GAAP earnings information in the presence of transitory gains. *The Accounting Review*, *89*(3), 933-958.

DeFond, M. L., & Hung, M. (2003). An empirical analysis of analysts' cash flow forecasts. *Journal of Accounting and Economics*, *35*(1), 73-100.

Donelson, D. C., Koutney, C., & Mills, L. F. (2019). Nonrecurring Income Taxes: Highly Predictable Only During Tax Reform. Working Paper, University of Texas at Austin, George Mason University.

Doyle, J. T., Lundholm, R. J., & Soliman, M. T. (2003). The predictive value of expenses excluded from pro forma earnings. *Review of Accounting Studies*, *8*(2-3), 145-174.

Doyle, J. T., Jennings, J. N., & Soliman, M. T. (2013). Do managers define non-GAAP earnings to meet or beat analyst forecasts?. *Journal of Accounting and Economics*, *56*(1), 40-56.

Frankel, R., & Li, X. (2004). Characteristics of a firm's information environment and the information asymmetry between insiders and outsiders. *Journal of Accounting and Economics*, *37*(2), 229-259.

Frankel, R., McVay, S., & Soliman, M. (2011). Non-GAAP earnings and board independence. *Review of Accounting Studies*, *16*(4), 719-744.

Frankel, R., & Roychowdhury, S. (2005). *Testing the clientele effect: An explanation for non-GAAP earnings adjustments used to compute I*. B/E/S earnings. Working Paper (MIT)

Gu, Z., & Chen, T. (2004). Analysts' treatment of nonrecurring items in street earnings. *Journal of Accounting and Economics*, *38*, 129-170.

Guay, W., Samuels, D., & Taylor, D. (2016). Guiding through the fog: Financial statement complexity and voluntary disclosure. *Journal of Accounting and Economics*, *62*(2-3), 234-269.

Gulen, H., & Ion, M. (2016). Policy uncertainty and corporate investment. *The Review of Financial Studies*, *29*(3), 523-564.

He, H., & Lin, Z. (2015). Analyst following, information environment and value relevance of comprehensive income: Evidence from China. *Asia-Pacific Journal of Financial Studies*, *44*(5), 688-720.

He, J. J., & Tian, X. (2013). The dark side of analyst coverage: The case of innovation. *Journal of Financial Economics*, *109*(3), 856-878.

Heflin, F., Hsu, C., & Jin, Q. (2015). Accounting conservatism and street earnings. *Review of Accounting Studies*, *20*(2), 674-709.

Huang, Q., & Skantz, T. R. (2016). The informativeness of pro forma and street earnings: an examination of information asymmetry around earnings announcements. *Review of Accounting Studies*, *21*(1), 198-250.

Imhoff Jr, E. A., & Lobo, G. J. (1992). The effect of ex ante earnings uncertainty on earnings response coefficients. *Accounting Review*, *67(2)*,427-439.

Kang, W., Lee, K., & Ratti, R. A. (2014). Economic policy uncertainty and firm-level investment. *Journal of Macroeconomics*, *39*, 42-53.

Kang, W., & Wang, J. (2018). Oil shocks, policy uncertainty and earnings surprises. *Review of Quantitative Finance and Accounting*, *51*(2), 375-388.

Kim, K., Pandit, S., & Wasley, C. E. (2016). Macroeconomic uncertainty and management earnings forecasts. *Accounting Horizons*, *30*(1), 157-172.

Kolev, K., Marquardt, C. A., & McVay, S. E. (2008). SEC scrutiny and the evolution of non-GAAP reporting. *The Accounting Review*, *83*(1), 157-184.

Kyung, H., Lee, H., & Marquardt, C. (2019). The effect of voluntary clawback adoption on non-GAAP reporting. *Journal of Accounting and Economics*, *67*(1), 175-201.

Leung, E., & Veenman, D. (2018). Non-GAAP earnings disclosure in loss firms. *Journal of Accounting Research*, *56*(4), 1083-1137.

Lougee, B. A., & Marquardt, C. A. (2004). Earnings informativeness and strategic disclosure: An empirical examination of "pro forma" earnings. *The Accounting Review*, *79*(3), 769-795.

Nagar, V., Schoenfeld, J., & Wellman, L. (2019). The effect of economic policy uncertainty on investor information asymmetry and management disclosures. *Journal of Accounting and Economics*, *67*(1), 36-57.

Nguyen, N. H., & Phan, H. V. (2017). Policy uncertainty and mergers and acquisitions. *Journal of Financial and Quantitative Analysis*, *52*(2), 613-644.

Pastor, L., & Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The Journal of Finance*, *67*(4), 1219-1264.

Pástor, Ľ., & Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial Economics*, *110*(3), 520-545.

Verrecchia, R. E. (1982). Information acquisition in a noisy rational expectations economy. *Econometrica: Journal of the Econometric Society*, 1415-1430.

Verrecchia, R. E. (1990). Information quality and discretionary disclosure. *Journal of Accounting and Economics*, *12*(4), 365-380.

Whipple, B. C. (2015). The great unknown: Why exclude "other" items from non-GAAP earnings calculations in the post-reg G world?. Working Paper, University of Georgia.

Xu, Z. (2020). Economic policy uncertainty, cost of capital, and corporate innovation. *Journal of Banking & Finance*, *111*, 105698.