Asymmetric Timeliness in Earnings: Insights from Earnings Disaggregation [†]

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Abstract: We revisit the asymmetric timeliness of earnings as proposed by Basu (1997). For a large sample of US firm years from 1970-2019, we show that earnings are asymmetrically timely with respect to bad economic news, and that this is robust to the declining timeliness of good news, different time periods, changes in accounting standards and changes in sample firms. When we disaggregate earnings into its market, industry and firm idiosyncratic sources, it is apparent that asymmetrical timeliness is restricted to the idiosyncratic component. This result supports the argument in Watts (2003), that asymmetric timeliness is primarily a response to information asymmetry issues in contracts that rely on accounting information.

Keywords: Capital markets; Conservatism; Asymmetric Timeliness; Earnings-return relation; Negative returns; Market; Industry; Profitability; Firm-specific estimates.

JEL classification D82, G14, M41, N20

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1. Introduction

This paper revisits the extent to which accounting earnings demonstrate asymmetric timeliness (AT), namely the degree to which economic losses are recognized in earnings more quickly than economic gains (i.e., conditional conservatism). Basu (1997, p. 2) interprets AT as "capturing accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements." Consistent with the asymmetrical verification argument (Watts 2003), the Financial Accounting Standards Board (FASB) has previously explained the rationale for AT as an attribute of accounting in the following manner: "[a]s a reaction to uncertainty, more stringent requirements have been imposed for recognizing revenues and gains that for recognizing expenses and losses" (FASB, 1984, SFAC 5, paragraph 81). However, over time, it would appear that the desirability of AT (i.e., conditional conservatism) has been downgraded, and with the increasing importance attached in Conceptual Frameworks to the "value relevance" criterion (Zeff 1999; Dichev 2020), a corresponding emphasis on "neutrality" has occurred.[1] This gives rise to our first research question, namely the extent to which AT has continued to exist over time.

Although prior studies examine temporal changes in various earnings quality measures (Srivastava 2014) and value relevance (Barth et al. 2019), there is little recent analysis of the extent to which earnings have continued to asymmetrically reflect the timely recognition of economic gains and losses in the manner documented by Basu (1997). The only exception is Givoly and Hayn (2000). They use a constant sample of firms listed from 1968 to 1998 and document that AT has increased over this period, which is in contrast to the de-emphasis of conditional conservatism in Conceptual Frameworks.

[1] See the discussion in SFAC 8 as updated in 2018 (FASB 2018, pg. 18). We discuss this contrast briefly in section 2.

Despite the prevalence of a "decision usefulness" perspective as the overriding objective of accounting standards, we argue that AT is likely to continue to be evident in recent years for several reasons. From the perspective of standard setting, we note significant changes in accounting standards, most obviously the elimination of the pooling method for acquisitions, and the requirement to apply impairment testing to recognized goodwill (FASB 2001a, b) that continue to give rise to the asymmetric verification.[2] Similarly, Lawrence et al. (2013) document that accounting rules requires managers to engage in conservative accounting practices.

In addition to the asymmetric timely recognition, there is also evidence that the correlation between earnings and contemporaneous stock returns has generally declined, and of specific interest to us is that a number of studies utilizing a Basu (1997) type regression (e.g., Banker et al. 2016, Jackson et al. 2017, Martin and Roychowdhury 2015) report a negative coefficient associated with positive returns in recent years. We conjecture that any decline in the association between earnings and positive economic news will partly reflect the increasing incidence of loss firms that are nevertheless able to generate positive stock returns, where traditional accounting is unable to adequately capture the underlying business economics (Govindarajan et al. 2018). In contrast, we expect that AT is relatively robust to changes in sample firms and time periods, consistent with an underlying demand for AT as a response to information asymmetry in contracting.

Finally, we argue that if AT is primarily a response to information asymmetry/verification issues, then it should be primarily evident in the component of earnings that is hardest for external users to verify. Using the framework outlined by Jackson et al. (2018), we break earnings into three components. These are earnings derived from common market information, industry information, and firm idiosyncratic sources. Jackson et al. (2018)

[2] Another example are changes to SFAS 141that facilitated recognition of in-process R and D (FASB 2007).

show that earnings derived from common market-wide and industry-wide information have significantly greater persistence than the idiosyncratic component of earnings, and so we expect that issues reflecting information asymmetry and verification concerns apply predominantly to the idiosyncratic component of earnings.

Our results support each of our predictions. First, we replicate the results reported by Basu (1997) and then show that across a significantly longer time period, AT continues to be evident. However, we also show that the main effect of returns becomes weaker over time. For the period covered by Basu (i.e., up to 1990), we document a positive association between earnings and contemporaneous returns. However, through the 1990s and into the 2000s this association loses significance and flips sign. We show that this decline reflects an increasing number of loss reporting firms who experience positive contemporaneous stock returns. The results call into question the extent to which accounting standards facilitate the timely recognition of economic success, possibly due to changing business models where economic value is created by investments that are more likely to be immediately expensed (Lev 2000).

Despite the decline in the contemporaneous relation between earnings and stock returns, AT is remarkably persistent. We more closely examine AT by decade, as well as examining cohort effects. We then interact these two attributes (i.e., results by decade grouped by cohort). In addition, we consider industry effects, using the 11 GICS sectors. Across all subsample analysis we consistently document the persistence of AT as an attribute of accounting. We therefore conclude that AT is a deeply embedded attribute of financial reporting, regardless of changes to the Conceptual Framework, new accounting standards, and changes in economic activity.

However, demonstrating the highly persistent nature of AT does not, of itself, explain what AT is so persistent. To that end, we disaggregate earnings into economy-wide, industry- and firm-specific components of earnings (Jackson et al. 2018). The results are striking, in that

AT is almost exclusively attributable to the idiosyncratic component of earnings. The market and industry components of earnings demonstrate little, if any evidence of AT. This result is consistent with the expectation that the idiosyncratic component of earnings is more difficult to verify than market and industry wide information, and that the economic demand for AT will be focussed on the components of earnings that is less easily verified. Conversely, we also show that the decrease in the association between earnings and returns is driven by the idiosyncratic component of earnings. Hence, we conclude that earnings components that are more easily verified (i.e., earnings that reflects market-wide and industry characteristics) also are more likely to reflect economic news on a timely basis. However, the idiosyncratic component of earnings is far more likely to demonstrate significant AT, consistent with AT being a response to difficulties in verification that are reflected in information asymmetry between contracting parties.

Our primary conclusions are robust to a number of additional tests. For example, the original Basu (1997) estimation is restricted to NYSE and AMEX firms. However, since 1990 the proportion of NASDAQ listed firms has grown significantly. Regardless of whether we restrict our tests to firms listed on the NYSE and AMEX, or extend the sample to include firms listed on NASDAQ, or all other firms in the Compustat universe, we observe qualitatively similar results. We also acknowledge there have been many criticisms of the AT measure advocated by Basu (1997) (e.g., Beaver and Ryan 2005; Pae et al. 2005; Givoly et al. 2007; Dietrich et al. 2007) However, given the widespread use of the Basu (1997) measure in the literature, we focus on the original specification without explicit adjustments for such criticisms. We therefore re-examine each of our research questions using an alternative approach suggested by Basu, which considers the relation between consecutive earnings changes. All of our primary results are robust to the use of this alternative approach.

Our paper makes several significant contributions. First, we demonstrate that AT is a remarkably robust attribute of financial reporting, despite changes in business models, accounting standards, and the identification of desirable attributes of accounting via updated Conceptual Frameworks. Second, we shed further light on our understanding of the declining contemporaneous association between periodic earnings and stock returns, showing that this reflects a decrease in the extent to which positive economic news is reflected in contemporaneous earnings. Finally, and most importantly, we demonstrate that AT is largely, if not exclusively, associated with the idiosyncratic component of earnings, which we argue is the component of earnings most likely subject to verification concerns, relative to earnings components that reflect market-wide and industry-specific effects. Prior studies show that greater co-movements in earnings are related to reduced opportunities for bias (Jackson et al 2017) and increased information transfers between firms (Jackson et al. 2020), and that by appreciating the differences in persistence in sources of information leads to more accurate forecasts of future performance (Jackson et al. 2018) and the ability to earn abnormal hedge returns (Han et al. 2020). This result supports the argument proposed in Watts (2003) that AT is a response to information asymmetry concerns that arise from difficulties in verifying positive economic news.

The remainder of the study is organized as follows. Section 2 discusses the two potential sources of changes in asymmetric timeliness that we propose. Section 3 briefly describes the research design and sample. Our results are presented in Section 4, with the conclusion provided in Section 5.

2. Background and research questions

2.1. Asymmetric timeliness as an attribute of accounting

The existence of conservatism in accounting has long been recognized (Basu 2009). Looking back fifty years, conservatism was described as reflecting a "preference for errors to be understated rather than overstated" (APB, 1970). More recently, there has been widespread recognition that conservatism reflects a continuum (Ball and Shivakumar 2015). For example, at one extreme, unconditional conservatism would imply the immediate expensing of outlays, rather than the recognition of an asset, regardless of whether a future economic benefit was expected or not.[3] However, for the most part accounting does not require unconditional conservatism.[4] On the other hand, conditional conservatism can be viewed as the extent to which the verification requirements for recognition of bad economic news are lower than the requirements for recognition of good news (Ball 2001; Watts 2003). Although some information can be easily verified (e.g., shocks to operating cash flow), other information such as expected future benefits reflected in goodwill are much more uncertain. Where such uncertainty exists, and the timely recognition of uncertain bad news is more useful than equally timely recognition of uncertain gains, the result is a demand for asymmetrical timeliness in the way accounting reflects bad economic news relative to good news (AT). The most common method for capturing the extent of AT is a piecewise linear regression of earnings on returns, as outlined by Basu (1997).[5]

There are several reasons why accounting is expected to reflect AT.[6] Most obviously, information asymmetry about uncertain outcomes can result in overinvestment by management and/or excessive compensation (Watts 2003), and there is evidence that AT can improve investment efficiency (Garcia et al. 2016; Laux and Ray 2020). We characterize such economic demand for AT as being largely independent of specific institutional and legal features, such

[3] In this respect, errors would *never* be overstated.
[4] An example of unconditional conservatism is where much of what constitutes research and development expenditure has to be expensed as incurred, regardless of managers' confidence that future benefits will occur.
[5] We discuss some of the criticisms of this approach below and in section 5.
[6] As the demand for AT is discussed extensively in some of the references we note, as well as elsewhere, we only consider this point very briefly.

as the definition and enforcement of legal rights. However, such features also likely have some impact on the extent to which AT is evident (Bushman and Piotroski, 2006). Further, the conceptual underpinnings of accounting standards, as well as specific standards themselves, can also have an impact on the extent to which accounting reflects AT, with additional considerations such as the legal liability of auditors for mis-stated accounting results.

There are many obvious examples of accounting standards that reflect AT, yet standard setters seem increasingly reluctant to explicitly acknowledge the existence of AT as a significant attribute of accounting. Zeff (1999) summarizes the development of early conceptual frameworks and related reports addressing desirable attributes of accounting, noting that there was typically a link between the reliability attribute and both verifiability and conservatism. However, over time it is apparent that conservatism, or "prudence", has been increasingly downplayed. For example, the most recent amendments to Statement of Financial Accounting Concepts No. 8 (FASB 2018, BC3.27-3.28) argues that prudence (conservatism) has no role to play as a fundamental (or enhancing) qualitative characteristic of financial information. In the basis for conclusions, the FASB argues that as the reliability attribute is replaced by faithful representation, prudence (or conservatism) is therefore excluded because adding either would be "inconsistent with neutrality" (Basis for Conclusions 3.27). The International Accounting Standards Board has similarly wrestled with the role of conservatism (or prudence) as a desirable attribute of accounting information (Barker and McGeachin 2015).

Regardless of the conceptual underpinnings, accounting standards impose a significant amount of AT. Lawrence et al. (2013) argue that increased requirements to write down the fair value of assets further entrenched the extent to which accounting is expected to exhibit AT. They point to the release of SFAS 121, *Accounting for the Impairment of Long Lived Assets and for Long Lived Assets to be Disposed Of* (FASB 1995) as a substantive formalization of procedures that reflect AT. In addition, fundamental changes to accounting rules governing

business combinations, goodwill and intangible assets went into effect from June 30, 2001, via SFAS 141, *Business Combinations* (FASB 2001a) and SFAS 142, *Goodwill and Other Intangible Assets* (FASB 2001b).[7] SFAS 141 eliminated the pooling method, thereby requiring recognition of goodwill where the purchase price exceeded the value of identifiable net assets. SFAS 142 required that resulting goodwill be impairment tested rather than systematically amortized, a practice which, at face value, would appear to increase the extent to which AT occurs (Cedergren et al. 2015; Li and Sloan 2017). Similar effects arise from the recognition of identifiable intangible assets as part of the acquisition cost, given that such assets cannot be revalued upwards but are subject to impairment testing. Further changes to SFAS 141 from January 2009 (FASB 2007) resulted in purchased in-process R and D being impairment tested until such time as the associated R and D activities are either completed or abandoned (FASB 2007). Once again, at face value this would appear to impose increased AT for firms impacted by the revised standard.

However, while it would seem likely that AT is a persistent characteristic of accounting, we also note that a number of recent studies find that the correlation between contemporaneous annual returns and earnings has declined (Banker et al. 2016; Jackson et al. 2017; Martin and Roychowdhury 2015).[8] More specifically, the coefficient in a Basu (1997) type regression is negative once the period examined is extended well beyond that considered by Basu (i.e., 1990). Although our primary focus is on the incremental association between earnings and negative economic news (i.e., the interaction between economic news and a dummy variable identifying negative economic news), we also recognize that the overall association between negative economic news and earnings is the sum of the economic news and interaction effects.

[7] Li and Sloan (2017) find opposite results, arguing that SFAS142 resulted in relatively inflated goodwill balances and untimely impairments. They also find that investors do not fully anticipate the untimely nature of goodwill impairments following the introduction of SFAS142.

[8] We avoid using the term "value relevance" of earnings, as much of the value relevance literature focuses on the role of both earnings and book value in explaining variation in stock price (Barth et al. 2019).

We argue that the declining association between earnings and positive economic news (i.e., positive stock returns) reflects a significant increase over time in the number of firms reporting accounting losses. For example, in the sample utilised in this study, the correlation between the proportion of loss firms and the (log) number of observations per year is 0.9915. Additionally, the original sample in Basu (1997) was drawn from only NYSE and AMEX listed stocks. However, it is well known that the proportion of firms making losses on the NASDAQ is greater than that on either the NYSE or AMEX. Carvajal et al. (2017) report that in 2012, the proportion of loss-making firms on the NYSE was 19.3% compared with 36.2% on the NASDAQ. Given this increasing influence of loss firms in the market, it is likely this will influence the coefficient estimates from extended samples.

Of course, if the increased number of loss firms also report negative returns, this should not affect the coefficient on *Ret* in a Basu (1997) model. The effects would be observed on the *D*Ret* coefficient. To explain the flipping of sign on *Ret* would require an increase in the incidence of loss firms generating contemporaneous positive returns. Following Figure 2 in Basu (1997, p. 12), an increase in the proportion of firms in quadrant IV (negative earnings with positive returns) would force the regression line downwards. Govindarajan et al. (2018) provide an explanation for why some firms may earn losses but generate positive returns. Taking the case of digital companies, they argue that their building blocks are research and development, brands, organizational strategy, peer and supplier networks, customer and social relationships, computerized data and software, and human capital. The economic purpose of these intangible investments is no different from that of an industrial company's factories and buildings. However, for the digital company, investments in these key operations are not capitalized as an asset, but are typically expensed when incurred. Hence, the more a digital company invests in building for its future, the higher its reported losses. As a result, investors are forced to disregard the earnings in their investment decisions.

Based on the discussion above, we first consider the following two research questions:

RQ1: Is AT a persistent attribute of earnings?

RQ2: Does any declining overall association between economic news and earnings reflect the increased frequency of reported losses?

2.2. Earnings Disaggregation and Asymmetric Timeliness

We have already noted that AT is expected to reflect differing verification standards for good versus bad economic news (Watts 2003a, b). Verification issues presumably increase with the level of uncertainty attached to an accounting treatment (Guay and Verrecchia 2006). However, not all component of earnings have equally uncertain validity. For example, cash flows contain easy-to-verify information which is incorporated into financial statements in a timely fashion, but accruals make up the difficult-to-verify information that drives the level of asymmetric gain and loss recognition (Ball et al. 2013). The differential persistence of cash flows and accruals (Sloan 1996) is consistent with this interpretation. Not surprisingly, Basu (1997) shows that AT in earnings is primarily evident in the accrual component of earnings, with far less evidence of AT being observable in measures of cash flow.

However, the accruals/cash flow dichotomy is not the only way of disaggregating earnings into component that are more or less certain than each other, and where verification issues are more or less likely to arise. To the extent that revenues and/or expenses are attributable to market-wide or industry effects, external users have access to macroeconomic factors, as well as industry reports, which in turn reduce uncertainty around earnings expectations at the firm level (Hutton et al. 2012). However, to the extent that revenues and expenses are idiosyncratic, external users face difficulties in forming robust expectations. As an example, the value of acquired research and development is likely difficult to estimate based on the R and D performance of industry competitors (Aboody and Lev 2000). Idiosyncratic

revenues and costs more likely reflect managerial decisions, and these cannot be directly observed by external users, while Jackson et al. (2018) and Han et al. (2020) both show that idiosyncratic earnings is less persistent than market and industry earnings. Hence, we expect that the demand for asymmetric verification standards is likely to be higher for the idiosyncratic component of earnings.[9] Evidence that the majority of total accruals are derived from firm idiosyncratic sources (Chu et al. 2020) adds to our expectation that AT will be more evident in the idiosyncratic component of earnings.

To the extent that accounting demonstrates unconditional conservatism, this likely reflects pre-determined effects of accounting standards, with relatively little discretion. Hence, we would expect such conservatism to be closely associated with market-wide and industry-specific effects. Conditional conservatism (AT), on the other hand, while being impacted by market and industry-wide information is more likely to be influenced by firm idiosyncratic information which forces the asymmetric recognition of losses relative to gains. Coupled with the general continual growth in the economy, such write downs (e.g., impairment adjustments) are less likely to be based on market or industry commonalities. As such, we expect that AT is far more evident in the idiosyncratic component of earnings. We also expect that the decline in the association between earnings and positive economic news is primarily concentrated in the idiosyncratic component of earnings. This gives rise to the following research questions:

RQ3: Is AT primarily evident in the idiosyncratic component of firm earnings?

RQ4: Is the declining association between earnings and economic news primarily evident in the idiosyncratic component of earnings.

3. Research Design and Sample

[9] Piotroski and Roulstone (2004) show that analysts primarily influence the incorporation of market-wide and industry information into stock prices.

3.1 Measuring asymmetric timeliness

The model we rely on to estimate earnings AT is given by Basu's (1997) reverse regression:

$$X_{it}/P_{it-1} = \alpha_0 + \alpha_1 D_{it} + \beta_0 Ret_{it} + \beta_1 D_{it} * Ret_{it} + \varepsilon, \quad (1)$$

where *X/P* is the opening price-deflated earnings (Compustat *IB* scaled by lagged *PRCC_F* * *CSHO*); *D* is a dummy variable for if a firm generates negative returns; and *Ret* is the raw buy-hold returns. When earnings are disaggregated into market, industry, and idiosyncratic components, we re-estimate equation (1) with the components of earnings, scaled by opening-price, replacing *X/P*. The good news timeliness measure is β_0, with the measure of incremental timeliness for bad news over good news (AT), provided by β_1. To control for heteroskedasticity, we use White (1980) *t*-statistics.

We recognize that there have been a number of criticisms of the AT measure of Basu (1997). The negative correlation between the market-to-book ratio and Basu's measure has been seen by some as a challenge to the validity of the AT coefficient (Beaver and Ryan 2005; Pae et al. 2005; Givoly et al. 2007; Roychowdhury and Watts 2007). Dietrich et al. (2007) show that even in a data series devoid of any AT, there can still be evidence consistent with some degree of conditional conservatism, while Givoly et al. (2007) show that aggregated measures of earnings and returns unduly influences the magnitude of the AT measure. Further, it has been shown that scale is negatively related to deflated mean earnings and the variance of stock returns (Patoutakis and Thomas 2011, 2016), and an omitted variable bias and truncated sample bias exists (Can-Rodriguez and Nunez-Nickel 2015). Nevertheless, Ball et al. (2013) make the point that the piecewise linear regression of earnings on returns is arguably the most intuitive method for capturing the extent of AT. Moreover, we are not focussed on testing cross-sectional variation in AT, but rather in demonstrating that it is relatively constant over time, and is primarily attributable to the idiosyncratic component of earnings. We do not regard the

extant criticism of the Basu (1997) approach as offering an alternative explanation for our prediction that AT is primarily, if not exclusively observed in idiosyncratic earnings. Hence, in our primary analysis we follow the method outlined by Basu, although we discuss a number of robustness tests in section 5.

3.2 Disaggregated earnings

Jackson et al. (2018) propose a model which uses firm-specific sensitivities to market, industry and idiosyncratic economic shocks to disaggregate a firm's profitability into market, industry and idiosyncratic components. The rationale behind the disaggregation model is founded in approaches advocated in financial statement analysis which calls for understanding of the market conditions, industry competitive environments, and firm-specific responses to understanding the implications for firm performance. In applying their disaggregation methodology to a forecasting setting, they show that utilising the differential persistence in the components leads to more accurate out-of-sample forecasts of future profitability than other forecasting techniques.

Han et al. (2020) then take the earnings disaggregation technique and extend it to examine whether the market, on average, appreciates the different persistence of the components of earnings in their pricing decisions. In developing their hypotheses and interpreting results, Han et al. (2020) interpret the idiosyncratic component of earnings as primarily reflecting the level of success in the application of a firm's strategy. They demonstrate that the market does not appear to efficiently incorporate the implications of the components of earnings, and applying a hedge portfolio based on the idiosyncratic portion of earnings is able to generate economically significant abnormal returns that are not attributable to known risk factors.

We closely follow the approach in Jackson et al. (2018) to disaggregate earnings into its market, industry and idiosyncratic components. Appendix 1 describes the estimation procedure for the estimation of the disaggregated components of earnings.

3.3 Sample and data

The initial sample of firms used for the tests consist of all firm-year observations from 1970 to 2019 with returns data on the CRSP monthly files, and the necessary accounting data on COMPUSTAT. Consistent with the procedure to quantify the market, industry and idiosyncratic components of earnings, we require up to 20 quarters of historical data to estimate the requisite earnings betas. Due to this requirement and data limitations prior to the 1970s, our sample begins in 1970. Although the data requirements for estimating earnings betas results in a substantial loss of observations, we demonstrate that we are able to qualitatively replicate the findings in Panel A of Table 1 in Basu (1997) with both the limited sample and a larger sample that includes firms with insufficient data to estimate the components of earnings. Our sample is also limited due to removing observations with either absolute market or industry earnings betas greater than 5 due to noise in the estimation process (Jackson et al. 2018). Our full sample consists of 216,536 firm-year observations, with tests requiring the earnings disaggregation limited to a reduced sample of 76,086 firm-year observations.

Consistent with Basu (1997), all accounting variables, measured on a per share basis, are deflated by the opening stock price to control for heteroskedasticity. Jackson et al. (2018) use return on net operating assets as their measure of profitability, while Han et al. (2020) use return on assets. We follow Han et al. (2020) in estimating the components using return on assets, but then multiply this by average assets and divide by the number of shares to express as a per share measure, followed by the opening-price deflation. We winsorize observations in the extreme 1% of the distribution per year. Buy-and-hold annual returns are calculated to end

three months after the fiscal year-end to ensure that the market response to the previous year's earnings is excluded.

4. Results

4.1. Descriptive Statistics

We provide descriptive statistics for our sample in Table 1. For the full sample, price deflated earnings per share (*EPS*) have a mean (median) of 0.0283 (0.0554). Buy-and-hold returns (*Ret*) have a mean (median) of 0.1074 (0.0527), with 44.12% of those returns negative (*D*).

- - - INSERT TABLE 1 ABOUT HERE - - -

We also provide descriptive statistics for the disaggregation of earnings into their market (*MktEPS*), industry (*IndEPS*) and idiosyncratic (*IdiosEPS*) components. At the median, all components of earnings are positive, however, the mean *IdiosEPS* is negative (-0.0038). The idiosyncratic component of earnings also shows greater variation, with a standard deviation of 0.1873, compared with the market (0.1104) and industry (0.1008) components. We then provide an estimate of the amount of each component's news contained in total earnings by taking the absolute value of the component scaled by the sum of the absolute values of the three components, in the same manner as Jackson et al. (2018). Consistent with Jackson et al. (2018) we show that earnings are dominated by the idiosyncratic component (0.5012), but with significant variation in the components, ranging from 0.00 to above 0.99 for each of the three components.

4.2 Basu (1997) Replication and Extension

We first replicate the results from Basu (1997) Table 1 Panel A, using the sample period ending in 1990. The first columns report the results from estimating equation (1) on a sample of only AMEX and NYSE firms as in Basu (1997). The final columns include all firms in the COMPUSTAT/CRSP universe.

Compared with Basu (1997), our results presented in Table 2 on the AMEX and NYSE sample using price-scaled total earnings (*EPS*) report similar adjusted R^2s (10.09% in Basu compared with 12.1%) and the coefficients on *D*Ret* (0.216 in Basu compared with 0.170) and *Ret* (0.059 in Basu compared with 0.043) are broadly comparable. When we extend the sample to the merged Compustat/CRSP universe, results become stronger – with the adjusted R^2s and the coefficients on *D*RET* increasing (15.1%, 0.250), but a reduction in *Ret* (0.0.30).

- - - INSERT TABLE 2 ABOUT HERE - - -

Extending the sample to 2019, as presented in Panel C, ultimately reveals a negative coefficient on *Ret* as shown in other more recent studies (Banker et al. 2016; Jackson et al. 2017; Martin and Roychowdhury 2015). When the sampling is kept consistent with Basu (1997) (i.e., including only AMEX and NYSE firms) the results reveal a flatter coefficient on *Ret* (0.015, *t*-stat 7.21), a reduction in adjusted R^2 (9.0%), and an increase in the coefficient on *D*Ret* (0.197). When the sample is extended to include all firms, the coefficient on *Ret* turns negative (-0.015).[10] The flattening of the regression line in later years is consistent with a greater proportion of firms reporting losses in later periods, and with firms on NASDAQ more likely to report a loss than NYSE and AMEX firms (Carvajal et al. 2017).

[10] In untabulated analysis we confirm that the negative sign on *Ret* exists when extending the sample to AMEX/NYSE and NASDAQ firms.

For completeness, we provide the estimation of equation (1) over the period 1991 to 2019 in Panel B. The reduction in coefficient on *Ret* is clearly evident in the later sub-period with a negative sign on *Ret* in the AMEX/NYSE (full) sample of -0.006 (-0.031). We also observe the increase in coefficient on *D*Ret* in the latter period for the AMEX/NYSE (full) sample to 0.205 (0.280). Given the largely consistent results from using (i) AMEX/NYSE firms only; (ii) AMEX/NYSE and NASDAQ firms; or (iii) the entire Compustat/CRSP merged universe, we continue our analysis on the full sample.

- - - INSERT TABLE 2 ABOUT HERE - - -

We then estimate the Basu (1997) model by financial year using the full sample of firms, and present the annual coefficients on *Ret* and *D*Ret* in Figure 1. While there is considerable volatility in the annual coefficient estimates, there is a clear general downward trend over the 50 years in the sample in the coefficient on *Ret* (trend -0.002, *t*-stat -6.77), and an increasing trend on *D*Ret* (0.005, *t*-stat 5.95).

- - - INSERT FIGURE 1 ABOUT HERE - - -

To further explore the trends in AT, we consider two potential explanations. First, we explore whether the changes in AT reflect changes in the composition of types of firms in the sample. To do this, we consider cohort effects, as any trend in coefficients may be attributable to differing types of firms (i.e., business models), such as new economy firms (Core, Guay and Van Buskirk 2003) or digital age firms (Govindarahan et al. 2018). To proxy for these cohort effects, we first take a constant sample where firms have been in our sample prior to 1990 and

after 2000, and then by the decade in which the firm first appears in our sample. We present the results in Table 3.

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Our results indicate that AT is a constant and robust attribute of accounting that exists across a variety of listing cohorts. The constant sample, presented in Panel A shows a significant AT coefficient (*D*Ret* 0.231, *t*-stat 42.04), but an insignificant coefficient on the contemporaneous association between good economic news and earnings (*Ret* 0.004, *t*-stat 1.59). As we move through the listing decades, the coefficient on *D*Ret* increases from 0.184 in the 1970s up to 0.376 in the 2010s. Correspondingly, the coefficient on *Ret* decreases, with only firms listed in the 1970s having a positive coefficient. In sum, AT has remained present through the listing cohorts, and has actually become stronger.

We then consider whether there are time period effects that impact on asymmetric timeliness. To do so, we split our sample based on the decade of the observation, and present results in Table 4. If we take the rhetoric of the standard setters at face value, we would expect to observe a reduction in AT as FASB has argued that conservatism has no role to play as a fundamental qualitative characteristic of financial information and is inconsistent with neutrality (FASB 2018).

- - - INSERT TABLE 4 ABOUT HERE - - -

Contrary to the reluctance of standard setters to explicitly acknowledge AT as a significant attribute of accounting, our results indicate that asymmetric timeliness has actually strengthened over time. Every decade since the 1970s, the timeliness of bad economic news

being reflected in accounting earnings has increased, from 0.094 up to 0.375 in the 2010s. There does not, however, appear to be any structural break in the results (either from Table 4 or Figure 1) that would point to any specific event that has strengthened the appearance of asymmetric timeliness, but instead has been a gradual trend. This is consistent with a continuing stream of accounting standards over time that reflect AT, such as SFAS121 in 1995, SFAS141 and SFAS142 released in 2001, and further refinements to SFAS141 in 2009.

We then consider the interaction between cohort effects and time periods. To do so, we split our sample into subsamples based on the decade the firm first appears in our sample, and then by decade of observation. The results are presented in Table 5, and indicate that the strengthening of AT over time is consistent across all listing cohorts. For all cohorts, AT in earnings has strengthened over time.

- - - INSERT TABLE 5 ABOUT HERE - - -

4.3 Incidence of Loss Firms

Over our sample period, there has been a large increase in the number of firms listed (trend 29.989, *t*-stat 3.27) and the proportion of those firms reporting losses (trend 0.005, *t*-stat 8.42). Indeed, in untabulated analysis, the correlation over the 50 years between the number of firms in the sample and the proportion of loss-making firms per year is 0.605. The magnitude of the influence of losses, however, is not homogenous across listing exchange. As shown in Panel A of Figure 2, there has been more substantial increases in the proportion of loss firms over time in non-AMEX/NYSE/NASDAQ listed firms (which we label as 'over the counter'), followed by NASDAQ firms. Over the pooled sample, this corresponds to an average proportion of losses for over the counter firms of 39.0%, followed by NASDAQ (28.3%), with AMEX/NYSE listed firms reporting losses in 13.3% of the pooled observations.

- - - INSERT FIGURE 2 ABOUT HERE - - -

However, the implications for our analysis are also a function of the relative importance of each listing type. Given that over the counter firms comprise a relatively low proportion of the sample, the large increase in incidence of loss firms does not have a significant influence on the sample composition, especially since 2000 as demonstrated in Panel B of Figure 2. Rather, it is the increasing incidence of loss-making NASDAQ firms, and to a lesser degree loss-making AMEX/NYSE firms, that influences the composition of the sample.

To better understand the full extent of what is driving the change in sign of the *Ret* coefficient, we further consider what type of loss-making firms there are. We track the proportion of firms per decade in each quadrant of earnings-returns as in Basu (1997) Figure 2. The four quadrants represent observations with positive returns and positive earnings (Quadrant I), negative returns and positive earnings (Quadrant II), negative returns and negative earnings (Quadrant III), and positive returns and negative earnings (Quadrant IV). Given the asymmetric timeliness coefficient, *D*Ret*, remains positive, the change of sign on *Ret* necessarily implies influential observations within Quadrant IV to force the *Ret* coefficient line downwards. In Figure 3, we demonstrate that the proportion of firms in both Quadrant III and Quadrant IV has steadily increased from under 5% in the 1970s to 18.0% and 11.2%, respectively, in the 2010s.

- - - INSERT FIGURE 2 ABOUT HERE - - -

Given that firm years with negative earnings and contemporaneous positive returns are unusual, we further explore the characteristics of these firms. Panel A of Table 6 presents

descriptive statistics comparing firm-years in Quadrant IV to all other firm-years (i.e., observations in Quadrants I to III), while Panel B reports how the signs of disaggregated earnings components differ across groups. In panel B, the proportion of observations with each possible combination of positive or negative earnings components is compared. Panels C and D of Table 6 repeat the analysis but restrict the comparison to compares firm-years in Quadrant IV and those in Quadrant III. Unsurprisingly, given all other firms contain profit making firms (Quadrants I and II) as well as loss-making firms (Quadrant III), whereas Quadrant IV only consists of loss-making firms, the mean and median of total earnings is significantly lower for Quadrant IV firms in Panel A, but no different at the mean (difference in median significant at less than a 1% level) compared to Quadrant III firms in Panel C. and Panel D reports a similarly restricted comparison of disaggregated earnings components.[11] When total earnings are disaggregated into their components, the market (MktEPS) component is significantly higher and the idiosyncratic component (IdiosEPS) is significantly lower for Quadrant IV firms compared with all other firms, and Quadrant III firms. The difference in industry earnings (IndEPS) is mixed, with it being lower compared to all other firms, but higher relative to Quadrant III firms. Likewise, Quadrant IV firms tend to be smaller than all other firms, but larger than Quadrant III firms. The proportion of idiosyncratic news, calculated as the ratio of the absolute value of IdiosEPS to the sum of the absolute values of MktEPS, IndEPS and IdiosEPS (Jackson et al. 2018), is no different between Quadrant IV and all other firms, but is less when compared with only Quadrant III firms.

- - - INSERT TABLE 6 ABOUT HERE - - -

[11] Apart from IdiosNews, all results are consistent with using only Quadrant I (positive returns and positive earnings) firms in place of all other firms.

From a valuation perspective, negative earnings realizations are normally associated with a decrease in price. However, for an increase in price to occur there needs to be information contained which suggests expectations of positive future earnings. Govindarajan et al. (2018) suggest that digital companies with significant intangible investments are forced to expense their costs as opposed to industrial firms, with investors being forced to disregard earnings in their investment decisions. To explore whether the issue of intangible assets impacts on the earnings-returns relation, we compare the means and medians of a number of intangible related line items being the amount of intangible assets recognised on the balance sheet (*Intang*, Compustat INTAN), the amount of intangible amortization (*AM*, Compustat AM), the amount of research and development expense (*RDExp*, Compustat XRD), and the amount of capitalized software (*Capsft*, Compustat CAPSFT).[12] Relative to all other firms, Quadrant IV firms have greater amounts of both capitalized and expensed investments in intangible assets relative to assets, and a greater amount in the annual amortization of recognized intangibles. Relative to Quadrant III firms, however, only the amount of capitalized intangible assets and the amortization of those assets is greater in Quadrant IV firms. Overall, however, these results are consistent with the notion that investors do take into account the investment into intangible assets, whether they are capitalized or expensed through conservative accounting policies, in valuing firms.

Panel B of Table 6 provides evidence on where the source of losses comes from. For Quadrant IV firms, 82.3% of observations have negative earnings from idiosyncratic sources, far greater than the 34.1% for all other firms, but consistent with the 83.3% for Quadrant III firms. Across all eight combinations of positive or negative earnings from market, industry and idiosyncratic earnings, cases with positive (negative) idiosyncratic have fewer (greater) percentage of cases. The largest number of observations (1,726, 36.3%) are cases where losses

[12] All variables are scaled by average total assets to control for scale.

are due to the negative idiosyncratic earnings are greater than positive market earnings and positive industry earnings. The positive returns in these cases are consistent with the funding from Han et al. (2020) that investors appear to not understand the implications of idiosyncratic earnings.

In untabulated analysis, we also confirm that the listing exchange is also associated with the quadrants. Quadrant IV firms are more likely to be listed on the NASDAQ (42%) compared to over the counter (32%) and AMEX/NYSE (25%). This compares to Quadrant III firms being listed over the counter (42%) and on NASDAQ (37%) more than on the NYSE/AMEX (21%). In contrast, almost half of profit-making firms (48%) are listed on the AMEX/NYSE, with only 32% (20%) on the NASDAQ (over the counter).

4.4 Earnings Disaggregation

(Watts 2003) argues that the demand for AT in earnings arises from differing verification standards for good versus bad economic news. It is also recognized that verification issues increase with the level of uncertainty (Guay and Verrechia 2006). Following from the model of accounting income recognition in Ball et al. (2013), we utilise the earnings disaggregation technique from Jackson et al. (2018), and assume that idiosyncratic earnings are more difficult to verify, compared to the market and industry components of earnings. Following from this assumption, we would expect AT to be primarily evident in the idiosyncratic component of earnings, with much less (if any) evidence of AT in either the market or industry earnings components.

To test this prediction, we utilise a sample of firms whereby we are able to disaggregate earnings. Due to the data limitations in Jackson et al. (2018) we are left with a reduced sample of 76,086 firm-year observations. To ensure that our conclusions are robust to any potential sample selection issues, we first replicate our main analysis on total earnings with the reduced

sample in Panel A of Table 7. We show, qualitatively, that the results of the reduced sample are consistent with the full sample. Hence, we conclude that our results are generalizable to a larger population.

- - - INSERT TABLE 7 ABOUT HERE - - -

We then re-estimate equation (1), replacing total earnings with *MktEPS* (Panel B), *IndEPS* (Panel C), and *IdiosEPS* (Panel D). We first acknowledge that the explanatory power of our models is reduced based on the components of earnings relative to total earnings, due to noise in the estimation of the earnings components. The other notable aspect from the adjusted R^2's is that there is little explanatory power in the models based on the market and industry components (ranging from 0% to 0.5%), whereas the explanatory power for idiosyncratic earnings is much larger (2.7% to 3.3%).

From Panel B of Table 7, we observe a negative coefficient on *D*Ret* on the market component of earnings, inconsistent with the notion of conservatism. The economic intuition behind this result is that bad economic news is incorporated into the market component of earnings on a less timely basis than good economic news. Within the industry component of earnings, we document a positive coefficient on *D*Ret*, but over the full sample period the magnitude is only 0.018, which is less than a tenth of the magnitude for total earnings. Consistent with the joint assumption that AT reflects demands arising from differing verification standards for good and bad economic news in difficult-to-verify information, and that the idiosyncratic component of earnings is harder to verify, we note that AT is almost exclusively present in this component.

Likewise, we also observe that the negative correlation between good economic news and earnings is confined to the idiosyncratic component of earnings. Across the full sample,

and the 1991 to 2019 sub-sample, we document a positive coefficient on *Ret* for both the market and industry components of earnings. The negative coefficient on *Ret* is only observable in the idiosyncratic component of earnings during the full sample and later sub-sample, with the magnitude of this coefficient larger than the combined coefficients for the market and industry components. During the original sample period of Basu (1997) we observe a positive coefficient on *Ret* in Panel D, while the coefficients on *Ret* in Panels B and C are both insignificant. Again, this is consistent with our prediction that the declining association between earnings and economics news will be primarily evident in the idiosyncratic component of earnings.

To further corroborate this finding, we split our sample based on the decile of *IdiosNews* per year, and re-estimate equation (1) using total earnings. As *IdiosNews* is increasing, the idiosyncratic component of earnings becomes more important to explaining total earnings. To the extent that asymmetric timeliness is primarily evident in the idiosyncratic component of earnings we would expect to see an increase in the magnitude of the *D*Ret* coefficient across deciles, and an increase in the explanatory power of the models. Additionally, to the extent that the declining association between economic news and earnings is primarily evident in the idiosyncratic component of earnings, we would expect to see a decrease in the coefficient on *Ret*.

Our results, presented in Table 8, confirm these expectations. We observe an almost monotonic increase in coefficient on *D*Ret* from 0.117 to 0.339 from the lowest to highest *IdiosNews* deciles, and increase in adjusted R^2 from 7.3% to 13.1%. Likewise, we find that in the lowest deciles of *IdiosNews*, the coefficient on *Ret* is largely insignificant, turning negative in decile 5 and remaining negative to the highest decile.

- - - INSERT TABLE 8 ABOUT HERE - - -

Overall, our results provide strong evidence consistent with the notion that AT is confined to the idiosyncratic component of earnings. The degree of asymmetry in earnings is likely greater in the idiosyncratic component of earnings which reflects managerial decisions, including the realisation of a firm's strategy (Han et al. 2020). On the other hand, earnings attributable to market-wide and industry effects will reduce uncertainty around earnings expectations at the firm level as they can be verified by reference to alternate information sources (Hutton et al. 2012, Jackson et al. 2017).

4.3. Robustness

Given significant criticisms around the Basu (1997) specification (e.g., Beaver and Ryan 2005, Pae et al. 2005, Givoly et al. 2007, Dietrich 2007) we consider alternative specifications to confirm our main analysis. We adopt an alternate specification as suggested by Basu (1997). Specifically, we utilise an earnings autoregressive approach, where we regress changes in earnings (or changes in earnings components) on the lagged change in earnings (or lagged change in earnings components). Results presented in Table 9 for the reduced sample of firms with required data to disaggregate earnings show that our results are robust to this alternate specification. The negative coefficient on $D^{*}\Delta X$ is consistent with AT, and we only observe this result for idiosyncratic component of earnings, with no evidence of AT in the market or industry components. We also replicate (untabulated) all other results with this alternate specification.

Second, we remove all over the counter listings from our sample to avoid concerns that these firms are fundamentally different. In doing so, we limit our sample to only firms listed on NYSE, AMEX and NASDAQ. We find that all results are consistent with the results

reported for the full sample. Given the relatively small portion of firms in our sample that are classified as over the counter (see Figure 2, Panel B), this is not surprising.

Finally, we repeat our analysis separating our sample based on GICS sectors. Across the 11 sectors, we continue to find that AT is a remarkably robust finding across sectors, and over time. It is only within the Utilities sector (GICS sector 55) that there is any evidence of AT in the market component of earnings, but this is under half the magnitude of that in the idiosyncratic component of earnings.

5. Conclusions

Following the widely cited evidence of Basu (1997), this study revisits the extent to which accounting earnings demonstrate AT. Since the end of the sample period used by Basu, there have been very substantial changes in business models and accounting standards, which independently or interactively might impact the extent to which AT is evident. Moreover, accounting standard setters (both in the US and internationally) have seemingly expressed concerns at a conceptual level as to whether AT is a desirable attribute of earnings. Yet despite the expression of such concerns, we also identify a number of accounting standards promulgated in the years following the end of the period examined by Basu (1997) that would be expected to increase (rather than decreases) the extent to which AT would be evident. Overall, the combined effect of changes in business models and accountings standards, as well as significant enforcement and regulatory standards (e.g. SOX) is unclear, and our evidence is initially directed at clarifying the extent to which AT continues to be clearly evident.

Our results indicate that despite the rhetoric of standard setters, (and possibly because of their actions), AT has remained a robust attribute of accounting over time, and possibly has increased. We document that this finding is robust to cohort effects, discrete time periods, and different industry groups. Our results are also remarkably robust to using an alternative method

for identifying the existence of AT beyond the widely cited Basu "reverse regression". We therefore conclude that AT is, indeed, a robust attribute of accounting, regardless of conceptual level concerns expressed by standard setters. Just as importantly, our results also provide insight into the documented decline in the contemporaneous association between earnings and stock returns. It is clear that such declines primarily reflect the declining association between earnings and stock returns for firm-years with positive returns (i.e., good economic news), and a rise in the frequency with which firms having positive stock returns report losses. From our perspective, the key point is that the overall decline in the contemporaneous association is not attributable to any declining AT.

Given the persistence of AT, we next consider novel evidence on the underlying demand for AT. Watts (2003) argues that AT reflects a demand for higher verification standards to be applied to good versus bad economic news, and such demand increases with the uncertainty of the economic news (Guay and Verrecchia 2006). Using the earnings disaggregation approach outlined by Jackson et al. (2018), we decompose earnings into three components, namely the market component, the industry component and an idiosyncratic (i.e., firm-specific) component. We argue that, by definition, the idiosyncratic earnings component is harder to verify than either the industry or market-wide earnings components. Hence, we expect that the long-run evidence of AT should be primarily apparent in tests restricted to the idiosyncratic component of earnings. Our results strongly support this expectation, which we interpret as strong evidence that AT arises in response to differential standrds applied to the verification of uncertain good versus bad economic news. The absence of any clear evidence of AT in either the market-wide or components of earnings provides further support for this argument.

Our results suggest at least two areas of further investigation. First, they highlight how an understanding of the different components of earnings can be useful in gaining a greater understanding of well-documented properties of accounting, and especially how identification

of the idiosyncratic component of earnings can provide insight into well accepted beliefs in the accounting literature. For example, prior studies show that greater co-movements in earnings are related to reduced opportunities for bias (Jackson et al 2017) and increased information transfers between firms (Jackson et al. 2020), and that by appreciating the differences in persistence in sources of information leads to more accurate forecasts of future performance (Jackson et al. 2018) and the ability to earn abnormal hedge returns (Han et al. 2020). This study adds to this general theme by demonstrating the importance of firm idiosyncratic information in the interpretation of the conservatism inherent in a firm's reported earnings.

Second, our study suggests further research is warranted into the role of verification issues associated with uncertainty and the extent of AT. Although AT appears a relatively robust and continuing property of accounting, there are likely a number of firm specific and temporal considerations that influence information uncertainty and hence, the demand for AT. Given the evidence we identify of AT being largely, if not totally a reflection of idiosyncratic components of income, we suggest that more powerful tests of causes and consequences of AT are possible.

Appendix 1: Disaggregation of ROA

To disaggregate a firm's ROA, the market-level ROA and industry-level ROA need to be calculated first. Following Jackson et al. (2018), market-level ROA (ROA_t^M) is calculated as the sum of income before extraordinary items (*IB*) divided by the sum of average total assets (*AT*) across all firms included in Compustat for quarter *t*, excluding firm *i*:

$$ROA_t^M = \frac{\sum(IB_t) - IB_{i,t}}{\sum(AT_t) - AT_{i,j,t}}. \quad (A.1)$$

Industry ROA ($ROA_{j,t}^I$) is calculated as the sum of income before extraordinary items (*IB*) divided by the sum of average total assets (*AT*) within industry *j* defined by six-digit GICS codes[13] for quarter *t*, excluding firm *i*:

$$ROA_{j,t}^I = \frac{\sum(IB_{j,t}) - IB_{i,t}}{\sum(AT_{j,t}) - AT_{i,t}}. \quad (A.2)$$

The measures of market-level ROA (ROA_t^M) and industry ROA ($ROA_{j,t}^I$) are then used to estimate the industry and market betas.

First, to measure industry profitability that is orthogonal to market profitability, we regress ROA^I on ROA^M and take the residual (ε) in equation (A.3) as the measure of industry ROA. This step excludes the market effects from the industry component and attributes the common information between the industry and market to the market component. Second, we regress a firm's total ROA on the market ROA and the industry ROA excluding the market effect and take β_1' and β_2' in equation (A.4) to be the estimated industry and market earnings quarterly betas that capture the sensitivity to market and industry earnings:

$$ROA_{j,t}^I = \beta_0 + \beta_1 ROA_t^M + \epsilon, \quad (A.3)$$

$$ROA_{i,j,t} = \beta_0{}' + \beta_1'\hat{\epsilon}_{j,t} + \beta'_2 ROA_t^M + \epsilon'. \quad (A.4)$$

[13] Following previous literature (e.g., Bhojraj et al. 2003; Hui et al. 2016; Jackson et al. 2018; Vorst and Yohn 2018) that test firms in different industries, we use the Global Industry Classification Standard (GICS) codes to define industry.

This two-step process allows us to disaggregate a firm's total ROA into the market, industry, and firm-idiosyncratic components. To calculate estimates of the annual market component of ROA ($MktROA_{i,j,t}$), the industry component of ROA ($IndROA_{i,j,t}$), and the firm-idiosyncratic component of ROA ($IdiosROA_{i,j,t}$), only Quarter 4 betas from equation (A.4) are applied to annual ROA_t^M and $ROA_{j,t}^I$ in the following equations:

$$MktROA_{i,j,t} = \hat{\beta}'_2 \times ROA_t^M, \quad (A.5)$$

$$IndROA_{i,j,t} = \hat{\beta}'_1 \times ROA_{j,t}^I, \quad (A.6)$$

$$IdiosROA_{i,j,t} = ROA_{i,j,t} - MktROA_{i,j,t} - IndROA_{i,j,t}. \quad (A.7)$$

Equations (A.5) to (A.7) use quarter 4 betas from equation (A.4) to calculate the annual estimates of the three earnings components. In order to align macroeconomic and industry events, we only keep firms with a December 31st fiscal year end to calculate the annual estimates of the three earnings components.

References

Aboody, D., Lev, B., 2000. Information asymmetry, R and D, and insider gains. Journal of Finance 55(6), 2747-2766.

Accounting Principles Board. 1970. Basic concepts and accounting principles underlying financial statements of business enterprises, Statement No. 4. AICPA, New York.

Ball, R. 2001. Infrastructure requirements for an economically efficient system of public financial reporting and disclosure. Brookings-Wharton Papers on Financial Services 2001, 127-182.

Ball, R., Kothari, S.P., Nikolaev, V.V., 2013. Econometrics of the Basu asymmetric timeliness coefficient and accounting conservatism. Journal of Accounting Research 51(5), 1071-1097.

Ball, R., Shivakumar, L., 2005. Earnings quality in UK private firms: Comparative loss recognition timeliness. Journal of Accounting and Economics 39(1), 83-128.

Banker, R.D., Basu, S., Byzalov, D., Chen, J.Y.S., 2016. The confounding effect of cost stickiness on conservatism estimates. Journal of Accounting and Economics 61(1), 213-220.

Barker, R., McGeachin, A., 2015. An analysis of concepts and evidence on the question of whether IFRS should be conservative. Abacus 51(2), 169-207.

Barth, M., Li, K., McClure, C.G. 2019. Evolution in value relevance of accounting. Working paper (SSRN abstract 2933197).

Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. Journal of Accounting and Economics 24(1), 3-37.

Basu, S. 2009. Conservatism research: Historical development and future prospects. China Journal of Accounting Research 2(1), 1-20.

Beaver, W.H., Ryan, S.G., 2005. Conditional and unconditional conservatism: Concepts and modeling. Review of Accounting Studies 10(2), 269-309.

Bushman, R., Piotroski, J., 2006. Financial reporting incentives for conservative accounting: The influence of legal and political institutions. Journal of Accounting and Economics 42(1), 107-148.

Cano-Rodriguez, M., Nunez-Nickel, M., 2015. Aggregation bias in estimates of conditional conservatism: Theory and evidence. Journal of Business Finance & Accounting 42(1-2), 51-78.

Carvajal, M., Coulton, J.J., Jackson, A.B., 2017. Earnings benchmark hierarchy. Accounting and Finance 57(1), 87-111.

Cedergren, M.C., Lev, B. and Zarowin, P., 2015. SFAS 142, conditional conservatism, and acquisition profitability and risk. Working Paper, New York University.

Chu, J., Jackson, A.B., Peng, Z., 2020. Accrual disaggregation, aggregate accruals, and returns. Working Paper, University of Cambridge and UNSW Sydney.

Core, J.E., Guay, W.R., Van Buskirk, A., 2003. Market valuations in the new economy: An investigation of what has changed. Journal of Accounting and Economics 34(1-3), 43-67.

Dichev, I. 2020. 50 years of capital markets research in accounting: Advancements so far and opportunities ahead. Working paper. SSRn abstract 3633489.

Dietrich, J.R., Muller, K.A., Riedl, E.J., 2007. Asymmetric timeliness tests of accounting conservatism. Review of Accounting Studies 12(1), 95-124.

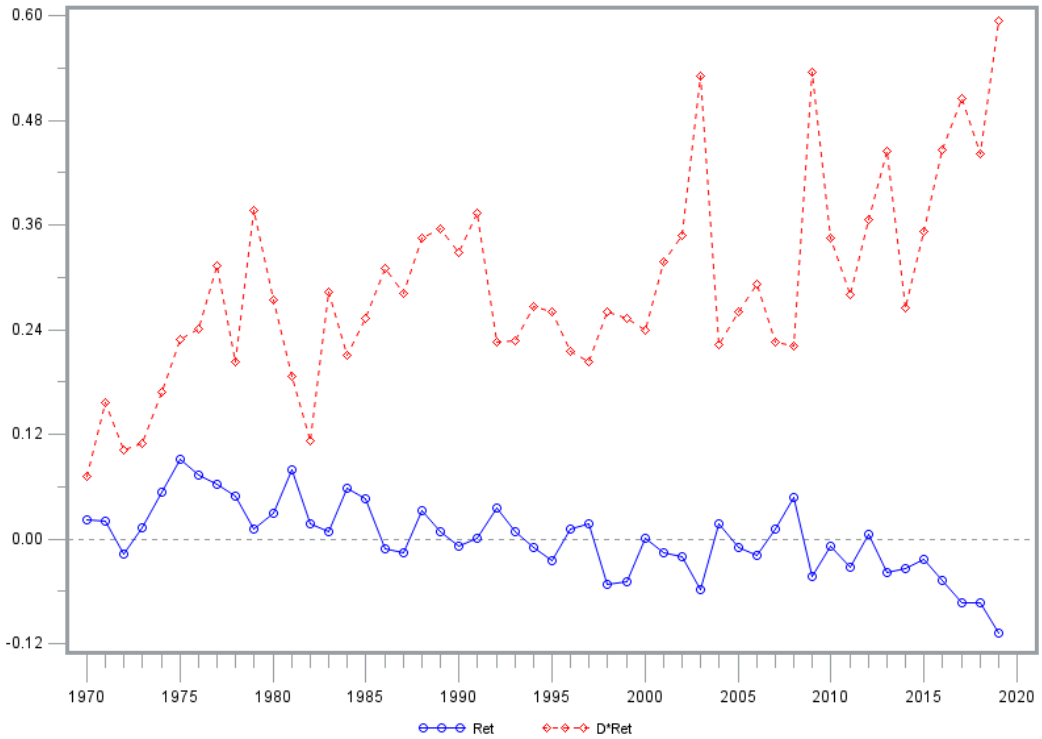
Financial Accounting Standards Board (FASB), 1984. Statement of Financial Accounting Concepts No. 5: Recognition and measurement in financial statements of business enterprises. Norwalk, CT.

Financial Accounting Standards Board (FASB), 2001a. Statement of Financial Accounting Standards No. 141: Business combinations. Norwalk, CT.

Financial Accounting Standards Board (FASB), 2001b. Statement of Financial Accounting Standards No. 142: Goodwill and other intangible assets. Norwalk, CT.
Financial Accounting Standards Board (FASB), 2007. Statement of Financial Accounting Standards No. 141R: Business combinations (revised). Norwalk, CT.
Financial Accounting Standards Board (FASB), 2018. Statement of Financial Accounting Concepts no. 8: Conceptual framework for financial reporting. Norwalk, CT.
Freeman, R.N., Tse, S.Y., 1992. A nonlinear model of security price responses to unexpected earnings. Journal of Accounting Research 30(2), 185-209.
Garcia-Lara, J.M., Garcia-Osma, B., Penalva, F., 2016. Accounting conservatism and firm investment efficiency. Journal of Accounting and Economics 61(2), 221-238.
Givoly, D. and Hayn, C., 2000. The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative? Journal of *A*ccounting and Economics, 29(3), 287-320.
Givoly, D., Hayn, C.K., Natarajan, A., 2007. Measuring reporting conservatism. The Accounting Review 82(1), 65-106.
Govindarajan, V., Rajgopal, S., Srivastava, A., 2018. Why financial statements don't work for digital companies. Harvard Business Review, Febuary 2018.
Guay, W., Verrecchia, R., 2006. Discussion of 'An economic framework for conservative accounting'. Journal of Accounting and Economics 42(1), 149-165.
Han, M., Jackson, A.B., Monroe, G.S., 2020. Earnings disaggregation and market efficiency. Working Paper, UNSW Sydney.
Hayn, C., 1995. The information content of losses. Journal of Accounting and Economics 20(2), 125-153.
Hutton, A.P., Lee, L.F., Shu, S.Z., 2012. Do managers always know better? The relative accuracy of management and analyst forecasts. Journal of Accounting Research 50(5), 1217-1244.
Jackson, A.B., Li, C., Morris, R.D., 2020. Earnings co-movements and the informativeness of earnings. ABACUS 56(3), 295-319.
Jackson, A.B., Plumlee, M.A., Rountree, B.R., 2018. Decomposing the market, industry, and firm components of profitability: Implications for forecasts of profitability. Review of Accounting Studies 23(3), 1071-1095.
Jackson, A.B., Rountree, B.R., Sivaramakrishnan, K., 2017. Earnings co-movements and earnings manipulation. Review of Accounting Studies 22(3), 1340-1365.
Lev, B. 2018. The deteriorating usefulness of financial report information and how to reverse it. Accounting and Business Research 48(5), 465-593.
Laux, V., Ray, K. 2020. Effects of accounting conservatism on investment efficiency and innovation. Journal of accounting and Economics 70 (forthcoming).
Lawrence, A., Sloan, R. and Sun, Y., 2013. Non-discretionary conservatism: Evidence and implications. Journal of Accounting and Economics, 56(2-3), 112-133.
Li, K.K. and Sloan, R.G., 2017. Has goodwill accounting gone bad? Review of Accounting Studies, 22(2), 964-1003.
Martin, X., Roychowdhury, S., 2015. Do financial market developments influence accounting practices? Credit default swaps and borrowers reporting conservatism. Journal of Accounting and Economics 59(1), 80-104.
Patatoukas, P.N., Thomas, J.K., 2011. More evidence of bias in the differential timeliness measure of conditional conservatism. The Accounting Review 86(5): 1765-1793.
Patatoukas, P.N., Thomas, J.K., 2016. Placebo tests of conditional conservatism. The Accounting Review 91(2), 625-648.
Pae, J., Thronton, D.B., Welker, M., 2005. The link between earnings conservatism and the price-to-book ratio. Contemporary Accounting Research, 22(3), 693-717.

Piotroski, J., Roulstone, D., 2004. The influence of analysts, institutional investors, and insiders on the incorporation of market, industry and firm-specific information into stock prices. The Accounting Review 79(4), 1119-1151.
Roychowdhury, S., Watts, R.L. 2007. Asymmetric timeliness of earnings, market-to-book and conservatism in financial reporting. Journal of Accounting and Economics 44(1-2), 2-31.
Sloan, R.G., 1996. Do stock prices fully reflect information in accruals and cash flows about future earnings? The Accounting Review 71(3), 289-315.
Srivastava, A. 2014. Why have measures of earnings quality changes over time? Journal of Accounting and Economics 57(2), 196-217.
Watts, R. 2003. Conservatism in accounting Part 1: Explanations and implications. Accounting Horizons 17(3), 207-221.
White, H. 1980. Heteroskedasticity consistent covariance matrix estimator and a direct test of heteroskedasticity. Econometrica 48(4), 817-838.
Zeff, S. 1999. The evolution of the conceptual framework for business enterprises in the United States. Accounting Historians Journal 26(2), 89-131.

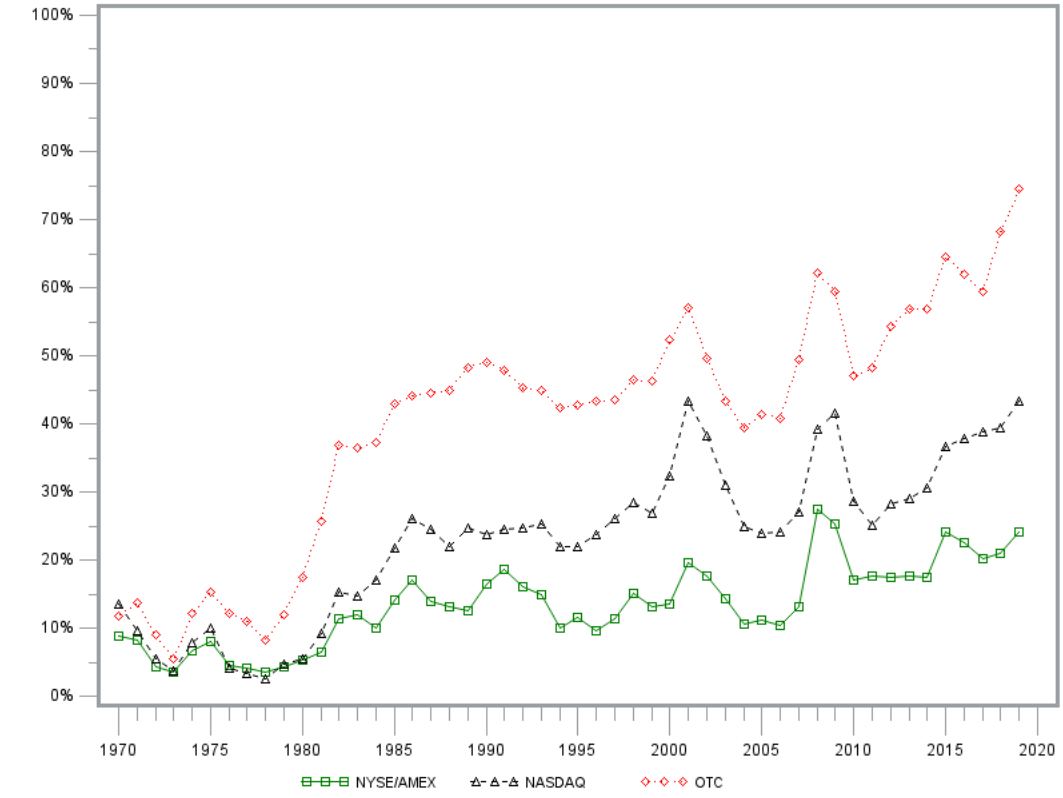
Figure 1: Annual Coefficient Estimates



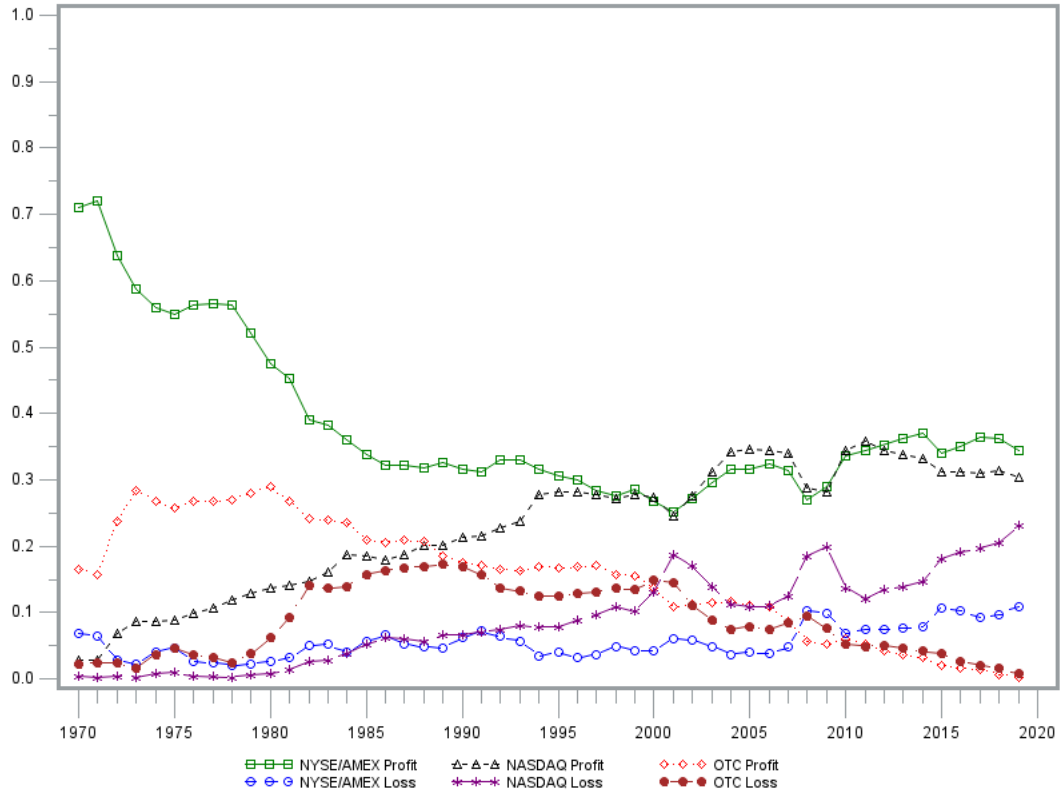
This figure presents the annual coefficient estimates from equation (1) over the period 1970 to 2019.

Figure 2: Incidence of Loss Firms

Panel A: Proportion of Loss Firms by Listing

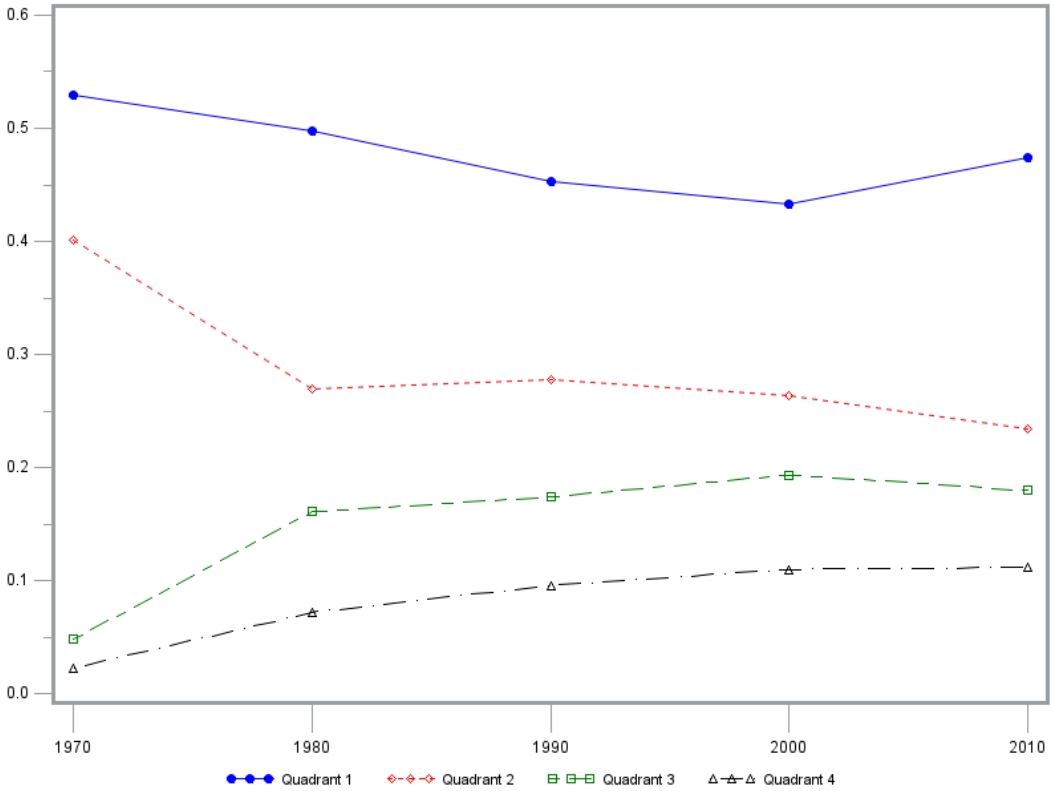


Panel B: Sample Composition by Listing and Profitability



This figure presents the proportion of firms in the sample by listing exchange per year reporting a loss (Panel A), and the proportion of firms per year in the sample based on listing exchange based on whether they report a profit or a loss (Panel B).

Figure 4: Quadrants by Decade



This figure presents the proportion of firms in each quadrant by decade; where Quadrant 1 are firms with positive earnings and positive returns, Quadrant 2 are firms with positive earnings and negative returns, Quadrant 3 are firms with negative earnings and negative returns, and Quadrant 4 are firms with negative earnings and positive returns.

Table 1: Descriptive Statistics

	Mean	Std Dev	Minimum	Q1	Median	Q3	Maximum
EPS	0.0283	0.1516	-0.6483	0.0010	0.0554	0.0999	0.3338
MktEPS	0.0258	0.1104	-0.2923	-0.0137	0.0085	0.0489	0.5060
IndEPS	0.0295	0.1008	-0.2643	-0.0066	0.0085	0.0495	0.4598
IdiosEPS	-0.0038	0.1873	-0.8233	-0.0472	0.0292	0.0796	0.4547
Ret	0.1074	0.4769	-0.7526	-0.1967	0.0527	0.3248	1.8814
D	0.4412	0.4965	0.0000	0.0000	0.0000	1.0000	1.0000
*D*Ret*	-0.1162	0.1843	-0.7212	-0.1868	0.0000	0.0000	0.0000
MktNews	0.2599	0.1987	0.0000	0.0993	0.2205	0.3756	0.9923
IndNews	0.2389	0.2045	0.0000	0.0692	0.1869	0.3605	0.9954
IdiosNews	0.5012	0.2436	0.0000	0.3192	0.5026	0.6935	0.9995
Comove	0.2620	0.2162	0.0000	0.0854	0.2050	0.3917	0.9940

This table provides the descriptive statistics for the full sample (N = 216,536, N=76,086 when applying the requirements for estimating the earnings disaggregation from Jackson et al. (2018)) over the period 1970 to 2019. *EPS* is the earnings per share scaled by price per share at the beginning of the fiscal year; *MktEPS* is the market component of EPS; *IndEPS* is the industry component of EPS; *IdiosEPS* is the firm idiosyncratic component of EPS; *Ret* is the firm's return from nine months before fiscal year-end to three months after the fiscal year end; *D* is a dummy variable where returns are negative; *MktNews* is the proportion of market news contained in earnings defined as the absolute value of *MktEPS* scaled by the sum of the absolute values of *MktEPS*, *IndEPS* and *IdiosEPS*; *IndNews* is the proportion of industry news contained in earnings; *IdiosNews* is the proportion of idiosyncratic news contained in earnings; and *Comove* (N = 102,872) is the comovement of earnings taken as the R^2 from the model to determine the market and industry earnings betas.

Table 2: Basu (1997) Replication and Extension

AMEX and NYSE					All Firms				
Panel A: 1970-1990									
Intercept	d	Ret	d*ret	Adj. R^2	Intercept	d	Ret	d*ret	Adj. R^2
0.089		0.088		0.094	0.062		0.108		0.104
(141.62)		(50.93)			(114.93)		(76.32)		
0.111	-0.003	0.043	0.170	0.121	0.102	-0.008	0.030	0.250	0.151
(109.49)	(-1.72)	(18.00)	(23.62)		(111.59)	(-4.76)	(15.18)	(48.40)	
				N = 37,287					N = 75,647
Panel B: 1991-2019									
0.031		0.050		0.035	-0.002		0.059		0.038
(58.77)		(26.72)			(-5.39)		(51.44)		
0.058	-0.003	-0.006	0.205	0.085	0.048	-0.011	-0.031	0.280	0.118
(64.25)	(-1.84)	(-2.38)	(33.02)		(72.11)	(-9.62)	(-18.41)	(79.72)	
				N = 52,767					N = 140,889
Panel C: 1970-2019									
0.055		0.065		0.053	0.020		0.073		0.053
(132.38)		(47.31)			(62.42)		(77.79)		
0.079	-0.000	0.015	0.197	0.090	0.069	-0.009	-0.015	0.284	0.123
(109.30)	(-0.02)	(7.21)	(40.47)		(121.11)	(-9.53)	(-11.11)	(95.76)	
				N = 90,054					N = 216,536

This table estimates equation (1) over the period 1970 to 2019, where *D* is a dummy variable where returns are negative; *Ret* is the firm's return from nine months before fiscal year-end to three months after the fiscal year end; and *EPS* is the earnings per share scaled by price per share at the beginning of the fiscal year. *T*-statistics are provided in parentheses based on White standard errors.

Table 3: Cohort Effects

Panel A: Constant Sample					*Panel D: First Observation 1990s*				
Intercept	d	Ret	d*ret	Adj. R^2	Intercept	d	Ret	d*ret	Adj. R^2
0.043		0.064		0.052	-0.004		0.051		0.034
(86.59)		(40.62)			(-6.73)		(30.82)		
0.073	-0.002	0.004	0.231	0.105	0.049	-0.013	-0.036	0.270	0.116
(88.36)	(-1.59)	(1.59)	(42.04)		(45.42)	(-7.04)	(-14.64)	(51.99)	
				N = 65,442					N = 54,705
Panel B: First Observation 1970s					*Panel E: First Observation 2000s*				
0.069		0.085		0.074	-0.023		0.048		0.023
(148.17)		(59.93)			(-22.17)		(16.59)		
0.092	-0.002	0.037	0.184	0.100	0.041	-0.023	-0.062	0.293	0.111
(116.31)	(-1.65)	(18.01)	(34.26)		(22.49)	(-7.93)	(-13.62)	(35.61)	
				N = 82,886					N = 24,500
Panel C: First Observation 1980s					*Panel F: First Observation 2010s*				
-0.002		0.081		0.069	-0.046		0.092		0.050
(-2.91)		(45.75)			(-25.68)		(16.90)		
0.044	-0.009	0.002	0.246	0.137	0.017	-0.006	-0.068	0.376	0.135
(34.76)	(-4.19)	(0.78)	(39.73)		(5.81)	(-1.22)	(-8.12)	(24.11)	
				N = 45,686					N = 8,759

This table estimates equation (1) over the period 1970 to 2019, based on a constant sample of firms first appearing in the sample before 1990 and persisting till after 2000 (Panel A), and on the decade the firm first appears in the sample. All variables are as defined in Table 1. *T*-statistics are provided in parentheses based on White standard errors.

Table 4: Time Period

Panel A: 1970s					*Panel D: 2000s*				
Intercept	d	Ret	d*ret	Adj. R^2	Intercept	d	Ret	d*ret	Adj. R^2
0.112		0.105		0.118	-0.008		0.048		0.028
(169.87)		(56.01)			(-11.95)		(25.18)		
0.131	-0.012	0.067	0.094	0.128	0.050	-0.011	-0.046	0.289	0.118
(100.73)	(-5.97)	(22.11)	(15.36)		(40.70)	(-5.45)	(-15.87)	(52.35)	
				N = 29,889					N = 49,985
Panel B: 1980s					*Panel E: 2010s*				
0.031		0.109		0.113	-0.008		0.101		0.066
(40.79)		(59.88)			(-10.56)		(36.73)		
0.078	-0.014	0.025	0.261	0.168	0.043	-0.005	-0.036	0.375	0.156
(63.56)	(-6.48)	(10.19)	(37.77)		(37.42)	(-2.47)	(-9.63)	(45.70)	
				N = 41,334					N = 39,885
Panel C: 1990s									
0.007		0.057		0.043					
(11.61)		(37.33)							
0.053	-0.012	-0.017	0.247	0.109					
(51.81)	(-6.78)	(-8.05)	(46.85)						
				N = 55,246					

This table estimates equation (1) over the period 1970 to 2019, by decade of the observation. All variables are as defined in Table 1. *T*-statistics are provided in parentheses based on White standard errors.

Table 5: Cohort Effects Across Time Periods

		Decade				
Cohort		1970s	1980s	1990s	2000s	2010s
	Ret	0.067***	0.038***	0.016***	-0.036***	0.031***
1970s	*d*Ret*	0.094***	0.266***	0.259***	0.244***	0.249***
	N	29,899	24,605	14,486	8,265	5,601
	Ret		0.010**	0.005	-0.017**	-0.009
1980s	*d*Ret*		0.222***	0.245***	0.275***	0.354***
	N		16,729	17,328	7,531	4,068
	Ret			-0.035***	-0.040***	-0.018***
1990s	*d*Ret*			0.229***	0.295***	0.381***
	N			23,432	21,020	10,211
	Ret				-0.063***	-0.038***
2000s	*d*Ret*				0.268***	0.355***
	N				11,169	11,301
	Ret					-0.070***
2010s	*d*Ret*					0.378***
	N					8,704

This table presents the coefficient estimates from equation (1) over the period 1970 to 2019, based on the decade the firm first appears in the sample, and the decade of the observation. All variables are as defined in Table 1. *T*-statistics are provided in parentheses based on White standard errors

Table 6: Negative Earnings and Positive Returns Firms

Panel A: Descriptive Statistics, All Firms

	QI-III (N = 197,591)		QIV (N = 18,945)		Difference	
	Mean	Median	Mean	Median	Mean	Median
EPS	0.0463	0.0618	-0.1596	-0.0937	-0.2059***	-0.1555***
MktEPS	0.0242	0.0081	0.0504	0.0197	0.0262***	0.0116***
IndEPS	0.0300	0.0088	0.0227	0.0045	-0.0073***	-0.0043***
IdiosEPS	0.0086	0.0336	-0.1900	-0.1176	-0.1986***	-0.1512***
Size	5.6793	5.5598	4.7550	4.5560	-0.9243***	-1.0038***
IdiosNews	0.4994	0.4962	0.5288	0.5423	0.0294***	0.0461***
Intang	0.0839	0.0070	0.0983	0.0083	0.0144***	0.0013***
AM	0.0030	0.0000	0.0056	0.0000	0.0026***	0.0000***
RDExp	0.0280	0.0000	0.0808	0.0043	0.0528***	0.0043***
Capsft	0.0006	0.0000	0.0008	0.0000	0.0002***	0.0000*
Comove	0.2635	0.2067	0.2483	0.1878	-0.0152	-0.0189***

Panel B: Source of Earnings, All Firms

MktEPS	-	-	-	-	+	+	+	+
IndEPS	-	-	+	+	-	-	+	+
IdiosEPS	-	+	-	+	-	+	-	+
QI-III	529	9,353	3,470	14,258	4,108	11,141	16,212	12,265
	(0.7%)	(13.1%)	(4.9%)	(20.0%)	(5.8%)	(15.6%)	(22.7%)	(17.2%)
QIV	335	484	791	184	1,053	177	1,726	0
	(7.1%)	(10.2%)	(16.7%)	(3.9%)	(22.2%)	(3.7%)	(36.3%)	(0.0%)

Panel C: Descriptive Statistics, Loss Firms

	QIII (N = 34,563)		QIV (N = 18,945)		Difference	
	Mean	Median	Mean	Median	Mean	Median
EPS	-0.1677	-0.1058	-0.1596	-0.0937	0.0081***	0.0121***
MktEPS	0.0436	0.0150	0.0504	0.0197	0.0068**	0.0047*
IndEPS	0.0170	0.0016	0.0227	0.0045	0.0057**	0.0029***
IdiosEPS	-0.1835	-0.1163	-0.1900	-0.1176	-0.0065	-0.0013
Size	4.4350	4.1957	4.7550	4.5560	0.3200***	0.3603***
IdiosNews	0.5434	0.5532	0.5288	0.5423	-0.0146***	-0.0109***
Intang	0.0938	0.0046	0.0983	0.0083	0.0045***	0.0037***
AM	0.0058	0.0000	0.0056	0.0000	-0.0002	0.0000***
RDExp	0.0747	0.0000	0.0808	0.0043	0.0061***	0.0043***
Capsft	0.0007	0.0000	0.0008	0.0000	0.0001	0.0000*
Comove	0.2624	0.2027	0.2483	0.1878	-0.0141***	-0.0149***

Panel D: Source of Earnings, Loss Firms

MktEPS	-	-	-	-	+	+	+
IndEPS	-	-	+	+	-	-	+
IdiosEPS	-	+	-	+	-	+	-
QIII	529	606	1,106	231	1,727	283	2,231
	(7.9%)	(9.0%)	(16.5%)	(3.4%)	(25.7%)	(4.2%)	(33.2%)
QIV	335	484	791	184	1,053	177	1,726
	(7.1%)	(10.2%)	(16.7%)	(3.9%)	(22.2%)	(3.7%)	(36.3%)

This table presents descriptive statistics comparing Quadrant IV (negative earnings and positive returns) observations with all other observations (Panels A and B), and Quadrant III (negative earnings and negative returns) observations. *Size* is the natural log of average total assets; *Intang* is the total intangible assets recognized scaled by average total assets; *AM* is the intangible asset amortizations scaled by average total assets; *RDExp* is the research and development expense scaled by average total assets; *Capsft* is the capitalized software scaled by average total assets; and all other variables as previously defined.

Table 7: Earnings Disaggregation

1970 - 1990 (N = 16,192)					1991-2019 (N = 59,894)					1970-2019 (N = 76,086)				
Panel A: EPS														
Intercept	d	Ret	d*ret	Adj. R^2	Intercept	d	Ret	d*ret	Adj. R^2	Intercept	d	Ret	d*ret	Adj. R^2
0.091		0.089		0.092	0.031		0.042		0.028	0.044		0.050		0.035
(92.38)		(29.02)			(65.59)		(25.59)			(101.00)		(33.10)		
0.116	0.007	0.028	0.287	0.154	0.060	-0.007	-0.015	0.197	0.082	0.074	-0.005	-0.012	0.223	0.095
(88.46)	(2.39)	(7.97)	(19.81)		(74.38)	(-5.22)	(-6.22)	(37.01)		(101.21)	(-4.33)	(-5.41)	(44.60)	
Panel B: MktEPS														
0.055		-0.023		0.003	0.018		0.009		0.002	0.025		0.005		0.000
(38.50)		(-5.57)			(48.16)		(8.69)			(60.89)		(4.10)		
0.046	0.004	-0.004	-0.063	0.004	0.012	0.001	0.020	-0.037	0.005	0.020	0.004	0.015	-0.026	0.002
(20.11)	(1.04)	(-0.72)	(-3.63)		(18.25)	(0.81)	(11.40)	(-10.79)		(27.67)	(3.27)	(8.37)	(-6.89)	
Panel C: IndEPS														
0.057		0.014		0.001	0.020		0.012		0.004	0.028		0.013		0.003
(51.72)		(4.17)			(53.98)		(11.23)			(74.37)		(12.09)		
0.063	0.001	0.001	0.057	0.003	0.018	0.001	0.014	-0.001	0.004	0.029	0.002	0.010	0.018	0.003
(32.42)	(0.33)	(0.30)	(4.38)		(28.28)	(1.34)	(7.87)	(-0.35)		(43.21)	(1.69)	(5.77)	(5.17)	
Panel D: IdiosEPS														
-0.023		0.086		0.017	-0.004		0.018		0.002	-0.008		0.029		0.004
(-11.05)		(13.70)			(-6.14)		(7.78)			(-10.91)		(13.03)		
0.005	-0.004	0.022	0.262	0.028	0.029	-0.011	-0.049	0.222	0.033	0.025	-0.013	-0.037	0.215	0.027
(1.48)	(-0.57)	(2.49)	(9.88)		(23.05)	(-4.99)	(-13.75)	(30.42)		(20.24)	(-6.06)	(-11.23)	(29.67)	

This table estimates equation (1) over the period 1970 to 2019. All variables are as previously defined. *T*-statistics are provided in parentheses based on White standard errors.

Table 8: Idiosyncratic News Deciles

	Intercept	d	Ret	d*ret	Adj. R^2	N
Low	0.078	-0.007	0.008	0.117	0.073	7,586
	(44.61)	(-2.48)	(1.62)	(9.69)		
2	0.078	-0.004	0.010	0.121	0.079	7,611
	(44.12)	(-1.44)	(2.18)	(10.71)		
3	0.077	-0.006	0.005	0.136	0.084	7,615
	(41.38)	(-1.89)	(1.00)	(11.84)		
4	0.072	-0.006	0.002	0.143	0.086	7,613
	(40.95)	(-1.75)	(0.48)	(12.08)		
5	0.063	-0.004	-0.013	0.193	0.080	7,603
	(28.31)	(-1.07)	(-2.16)	(13.56)		
6	0.059	-0.007	-0.028	0.237	0.081	7,623
	(21.99)	(-1.63)	(-3.79)	(15.48)		
7	0.067	-0.005	-0.020	0.309	0.128	7,618
	(24.76)	(-1.10)	(-2.53)	(17.54)		
8	0.079	-0.006	-0.031	0.325	0.114	7,612
	(27.61)	(-1.42)	(-3.60)	(17.54)		
9	0.084	-0.005	-0.027	0.303	0.110	7,614
	(30.96)	(-1.16)	(-3.08)	(16.07)		
High	0.082	0.002	-0.018	0.339	0.131	7,591
	(33.79)	(0.40)	(-2.30)	(16.91)		

This table estimates equation (1) over the period 1970 to 2019, split on the decile ranking of observations by year based on the magnitude of the amount of idiosyncratic information contained in earnings (*IdiosNews*). All variables are as defined in Table 1. *T*-statistics are provided in parentheses based on White standard errors

Table 9: Alternate Specification

	Intercept	d	ΔX	d*ΔX	Adj. R^2
ΔEPS	-0.014	-0.011	-0.128	-0.493	0.149
	(-18.57)	(-8.39)	(-8.40)	(-17.51)	
ΔMktEPS	0.008	-0.009	-0.166	0.087	0.014
	(9.34)	(-7.23)	(-8.47)	(3.10)	
ΔIndEPS	0.006	-0.007	-0.230	0.159	0.022
	(9.86)	(-7.99)	(-13.17)	(6.87)	
ΔIdiosEPS	-0.010	-0.014	-0.072	-0.254	0.044
	(-8.15)	(-7.09)	(-4.70)	(-9.76)	
					N = 53,055

This table estimates an alternate specification of equation (1) over the period 1970 to 2019, where *D* is a dummy variable where earnings changes are negative; *ΔX* is the change in earnings (or earnings component); and all other variables are as previously defined. *T*-statistics are provided in parentheses.