THE INFORMATION CONTENT OF CASH FLOW HEDGES UNDER ASU 2017-12

AN EX-POST STUDY ON FINANCIAL REPORTING USEFULNESS

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Master Thesis

Stockholm School of Economics

2025

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Abstract

This study explores the impact of Accounting Standard Update (ASU) 2017-12, *Targeted Improvements to Accounting for Hedging Activities*, on the information content of cash flow hedges. Specifically, it examines the association between unrealized gains/losses on derivatives designated as cash flow hedges and future firm performance in pre- and post-adoption settings, as well as the extent to which this relationship is incorporated into stock prices. Utilizing panel data on U.S. non-financial firms from 2011 to 2022, the findings reveal that unrealized gains/losses on cash flow hedges are inversely related to future earnings both before and after the implementation of ASU 2017-12, and that the economic magnitude of this association has remained stable. However, the empirical results further suggest that this predictive relationship is not accurately reflected in stock prices under the revised hedge accounting framework. Instead, the forward-looking signals conveyed by firms' cash flow hedge gains/losses appear to be priced in only after they materialize and become observable in reported earnings. This indicates that investors' ability to interpret cash flow hedge information has weakened following the adoption of the new standard, which may reflect a decline in disclosure quality. Hence, further updates may be necessary to enhance the decision-usefulness of hedge accounting under U.S. GAAP.

Keywords:

Hedge accounting, cash flow hedges, derivatives, accounting regulation, market pricing

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Acknowledgements:

I would like to express my sincere gratitude to my supervisor, Milda Tylaite, for her valuable guidance and feedback throughout the course of this study.

Master Thesis
Master Program in Accounting, Valuation and Financial Management
Stockholm School of Economics
Tom Sjölund, 2025

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1. INTRODUCTION

Prior research suggests that unrealized gains and losses on cash flow hedges (CFHOCI) are inversely related to future firm performance (Campbell, 2015). This association rests on the notion that an unrealized gain (loss) on a cash flow hedge indicates that the price of the underlying item has moved in a direction that will negatively (positively) affect earnings after the hedge matures. However, users' ability to interpret the future earnings implications conveyed by CFHOCI hinges on the prevailing accounting standards. Under SFAS 133, retail investors and financial analysts failed to anticipate the relationship between CFHOCI and future earnings, resulting in persistent mispricing (Campbell et al., 2015). This inefficiency was only mitigated with the adoption of SFAS 161 in 2008, which introduced enhanced disclosure requirements and improved users' understanding of firms' hedging activities (Campbell et al., 2021). Since then, the Financial Accounting Standards Board (FASB) has issued several new standards to further refine hedge accounting. Among these, Accounting Standard Update (ASU) 2017-12, *Targeted Improvements to Accounting for Hedging Activities*, introduced significant changes, many of which specifically targeted cash flow hedges. The primary objective of this amendment was to improve the financial reporting of hedging relationships to better reflect the economic substance of an entity's risk management activities, while making hedge accounting more achievable by easing qualification requirements and reducing compliance costs. Key changes introduced by the update include simplified hedge effectiveness assessments, the elimination of separate measurement and disclosure of hedge ineffectiveness, and an expansion of the types of relationships that can qualify for hedge accounting treatment (FASB, 2017).

Early empirical findings indicate that ASU 2017-12 has been successful in facilitating the adoption of hedge accounting, as reflected by a significant increase in the number of derivatives designated as cash flow hedges (Ali et al., 2025). However, concerns have been raised regarding its impact from a user perspective. Research indicates that the update unexpectedly led to a decline in disclosure compliance (Troyer et al., 2023) and that the separate measurement and reporting of hedge ineffectiveness required by prior standards conveyed risk-relevant information to investors (Chen et al., 2020). These early findings suggest that while ASU 2017-12 has simplified hedge accounting for preparers, its effectiveness for financial statement users remains ambiguous. Despite these concerns regarding the revised accounting framework and its explicit focus on cash flow hedges, no prior study has examined whether it has altered the informativeness of cash flow hedges or their predictive value with respect to future firm performance. This study aims to address this gap by investigating whether and how ASU 2017-12 has influenced the information content of cash flow hedges. Specifically, it examines whether the negative association between unrealized gains/losses on cash flow hedges and future earnings persists under ASU 2017-12, and whether investors correctly incorporate this relationship into stock prices. By exploring these issues, this study contributes to the broader literature on hedge accounting and financial reporting usefulness, providing insights into the effectiveness of ASU 2017-12 and its implications for financial statement users.

The methodology employed throughout this study is largely consistent with that of Campbell et al. (2021) and is applied to a sample of U.S. non-financial firms over the 2011–2022 period. To examine the association between CFHOCI and future firm performance, the two-year forward-looking change in profit before taxes is regressed on the cash flow hedge reserve for year *t*, alongside control variables. The sample is divided into pre- and post-adoption periods, with separate regressions conducted for each sub-period to explicitly test if the relationship holds in each setting. Additionally, a difference-in-differences approach is applied to the full sample to assess the incremental effect of ASU 2017-12 on the economic magnitude of this association. Furthermore, to evaluate whether the information conveyed by CFHOCI is timely and accurately reflected in stock prices, this study applies the same trading strategy test as Campbell et al. (2021). The strategy entails taking long (short) positions in the decile of firms with the highest unrealized losses (gains) on cash flow hedges. If the informational value of CFHOCI is fully incorporated into stock prices, the strategy should yield no abnormal return. In addition to the trading strategy test, a difference-in-differences model is applied to the full sample to capture the expected variation in future stock returns across all deciles, and whether ASU 2017-12 has significantly altered this relationship. Thus, unlike Campbell et al. (2021), which focuses solely on the extreme deciles, this study extends the analysis across the full cross-section of firms. All returns are adjusted for the Fama and French (1993) five factors and the Carhart (1997) momentum factor to control for common risk.

The empirical results suggest that the inverse association between CFHOCI and future firm performance persists under ASU 2017-12, and that the economic magnitude of this relationship remains unchanged. Moreover, consistent with Campbell et al. (2021), this study finds no significant association between CFHOCI and future stock returns prior to ASU 2017-12. However, this relationship appears to have become increasingly negative in the post-adoption period, although the strength of the result varies across empirical approaches. The trading strategy test suggests that, while future stock returns tend to be lower (higher) for firms with high cash flow hedge gains (losses), a simple long-short strategy limited to the top and bottom deciles does not yield a significant abnormal return. When the analysis is extended to the full cross-section of firms, however, the results reveal a significant negative association between CFHOCI and future stock returns, and suggest that this relationship has strengthened significantly following the implementation of ASU 2017-12. These findings imply that the predictive value of CFHOCI is not immediately reflected in stock prices at the time of disclosure, indicating that investors' ability to accurately interpret cash flow hedge information may have weakened. This view is further supported by additional tests on the timing of stock price adjustments, which reveal that investors do not price in the forward-looking signals conveyed by CFHOCI until they materialize and become observable in reported performance. Cross-sectional tests suggest that this inefficiency is more pronounced among firms that substantially expanded their use of cash flow hedges following the simplified qualification criteria under ASU 2017-12, indicating that the results from the main analysis may be partially attributable to a decline in disclosure quality resulting from limited hedge accounting experience among newly eligible firms. Overall, the empirical findings provide support for the notion that investors do not fully anticipate the future earnings implications of CFHOCI. Thus, further refinements may be necessary to facilitate investor interpretation and enhance the decision-usefulness of hedge accounting under U.S. GAAP.

This study responds to calls for research on the effectiveness of ASU 2017-12 (Campbell et al., 2019) and contributes to the academic literature on financial reporting usefulness and accounting anomalies. Moreover, it provides important insights for standard setters. The empirical findings are relevant not only for the FASB in evaluating the effects of the revised hedge accounting framework with respect to decision-usefulness, but also for the IASB in its forthcoming post-implementation review of hedge accounting under IFRS 9.

The remainder of this study is structured as follows. Section 2 provides a theoretical and regulatory background to hedging and hedge accounting, followed by a review of relevant empirical studies. Section 3 outlines the methodology used to address the research question, while section 4 presents the empirical results from the study and discusses the findings in detail. Finally, section 5 summarizes the study's results, acknowledges its limitations, and offers suggestions for future research.

2. BACKGROUND AND PREVIOUS LITERATURE

2.1. Theoretical Foundations of Derivatives and Hedging

A derivative is a financial instrument whose value is derived from the price of an underlying variable. While this underlying variable is most commonly a traded asset, such as a stock, bond, or commodity, it can also be linked to non-traditional factors, including interest rates, exchange rates, or even weather conditions. Financial derivatives are generally classified into four broad categories: forwards, futures, options, and swaps. Forwards and futures are contracts to buy or sell an asset at a predetermined price on a future date, with futures typically being exchange-traded. Options give the holder the right, but not the obligation, to buy or sell an asset at a specified price before a certain date. Swaps, on the other hand, involve exchanging cash flows or liabilities between two parties, commonly used to hedge interest rate or currency risks (Hull, 2022). Although derivatives can have a variety of applications, they are predominantly used for two main purposes: hedging and speculation. Hedging, often used interchangeably with risk management, refers to the use of derivatives to reduce exposure to specific risks through offsetting positions. In this capacity, derivatives serve as essential tools for managing risk associated with economic factors such as currency fluctuations, commodity price changes, and interest rate shifts. In contrast, speculation entails taking derivative positions without offsetting exposures, effectively betting on market movements. Thus, unlike hedging, speculation increases market risk exposure rather than mitigating it (Hairston and Brooks, 2019). While speculation is primarily associated with financial firms, non-financial firms predominantly use derivatives for hedging purposes (Hughen, 2010).

Corporate risk management theories suggest that firms' incentives to engage in hedging are fundamentally driven by market imperfections. In a perfect market, corporate hedging is irrelevant to firm value (Modigliani and Miller, 1958), leaving firms with no economic incentive to hedge. However, in the presence of market frictions, hedging can enhance firm value by mitigating volatility that might otherwise result in significant costs (Guay and Kothari, 2003). Financial distress theory posits that hedging reduces default risk by stabilizing cash flow variability, thereby lowering the expected costs of financial distress (Smith and Stulz, 1985). Building on this framework, Bessembinder (1991) theorizes that by decreasing the likelihood of default, hedging curtails underinvestment problems caused by debt overhang. This scenario arises when equity holders are disincentivized from pursuing positive-NPV projects due to heightened financial distress risk, as it diminishes the number of future states in which they retain a residual claim (Myers, 1977). Bessembinder (1991) further argues that hedging improves firms' ability to secure favorable contracting terms with creditors, effectively increasing debt capacity. As a result, hedging firms are better positioned to undertake value-enhancing investments. Beyond distress-related motivations, the tax convexity hypothesis proposed by Smith and Stulz (1985) suggests that firms also have tax-based incentives to hedge under progressive tax regimes. By reducing significant fluctuations in taxable income, hedging minimizes exposure to higher marginal tax rates, thereby lowering expected tax liabilities.

2.1.1. Evolution of Derivative Accounting Rules

The last few decades have seen remarkable growth in derivative use among firms (Campbell et al., 2019). In response, the Financial Accounting Standards Board (FASB) has issued multiple Statements on Financial Accounting Standards (SFAS) addressing the accounting treatment of these instruments. Early guidance originated from SFAS 52, *Foreign Currency Translation*, and SFAS 80, *Accounting for Futures Contracts*, both issued in the early 1980s. These standards required entities to recognize gains and losses on exchange rate derivatives and futures contracts in earnings in the period of the change, unless the contract qualified as a hedge, in which case the fair value change of the derivative was deferred until the hedged item affected earnings (FASB, 1981; FASB, 1984). A key criticism of these standards was their limited scope, as they did not address all types of derivative contracts, such as interest rate swaps and options. This resulted in reporting inconsistencies, as derivatives covered by SFAS 52 or SFAS 80 were recognized on the statement of financial position, while those outside the scope were not. Additionally, neither SFAS 52 nor SFAS 80 required derivatives to be recognized at fair value, instead mandating recognition at historical cost. As derivatives rarely involve large initial cash exchanges, this approach led to minimal impact on the statement of financial position and failed to accurately reflect their economic value (Campbell et al., 2019).

To address the limitations of SFAS 52 and SFAS 80, the FASB issued SFAS 133, *Accounting for Derivative Instruments and Hedging Activities*, in 1998. SFAS 133 standardized derivative accounting and remains the foundation for the current reporting framework. Unlike its predecessors, SFAS 133 required all derivatives to be recognized on the statement of financial position at fair value, thereby replacing the cost-based approach established by prior standards. Under SFAS 133, the accounting treatment of subsequent fair value changes depends on whether a derivative is classified as either trading or hedging instrument and whether it qualifies for hedge accounting. If a derivative is designated as a hedging instrument and meets all qualification requirements, an entity may choose to apply hedge accounting. In such cases, the recognition of fair value changes in the derivative—the hedging instrument—are deferred until the accounting period in which the hedged item affects the income statement. Alternatively, an entity can account for a derivative not held for trading as an economic hedge, which requires immediate recognition of subsequent fair value changes (FASB, 1998). However, under this approach, the offsetting gain or loss from the hedged risk may not be recognized in the income statement in the same period, potentially increasing the volatility in accounting earnings. The overarching purpose of hedge accounting is to mitigate such accounting mismatches, thereby aligning financial reporting with the economic substance of the firm's risk management activities (Campbell et al., 2019).

SFAS 133 defines three types of hedges, applicable only when hedge accounting is applied, each with distinct accounting treatments. Fair value hedges aim to mitigate exposure to changes in the fair value of an asset or liability. Cash flow hedges protect against variability in cash flows associated with an asset, liability, or a highly probable future transaction. Finally, net investment hedges mitigate currency exposure in foreign operations (FASB, 1998). Among these, fair value hedges and cash flow hedges are the most common (Campbell et al., 2019). For fair value hedges, gains and losses on the hedging instrument are recognized in earnings, with the effective portion adjusting the carrying amount of the hedged item. In contrast, for cash flow hedges under SFAS 133, only the ineffective portion is recognized in earnings, while the effective portion is accumulated in the cash flow hedge reserve under other comprehensive income and subsequently recycled to the income statement when the hedged transaction is realized (FASB, 1998). However, subsequent amendments have altered the treatment of hedge ineffectiveness for cash flow hedges, as discussed later in this section.

Although SFAS 133 expanded the recognition of derivatives, it was criticized for its insufficient disclosure requirements, limiting investors' ability to understand how firms' risk management activities affect the entity's financial position, performance, and cash flows (Hairston and Brooks, 2019). Additionally, derivative gains and losses, apart from those recorded in the cash flow hedge reserve, were often aggregated with other items under non-operating income without additional disclosures, making it difficult for users to distinguish the financial statement impact of derivatives from other components (Pierce, 2020). In response, the FASB issued SFAS 161, *Disclosures about Derivative Instruments and Hedging Activities*, in 2008 to enhance transparency regarding derivative use and hedging practices. While SFAS 161 did not alter the accounting treatment of derivatives, it mandated comprehensive qualitative disclosures on firms' derivative strategies and quantitative disclosures on fair value gains and losses. Specifically, SFAS 161 required entities to disclose the objective of their derivative use and the underlying risk exposure it aimed to address. Additionally, it mandated that the fair values of derivatives and corresponding gains and losses be presented in tabular format, categorized by risk type and accounting designation (hedge accounting or non-hedge accounting), to more clearly illustrate the link between an entity's risk management activities and their financial statement effects during the reporting period (FASB, 2008). In 2009, FASB issued ASC 815, *Derivatives and Hedging*, during its creation of the codification system, consolidating SFAS 133 and SFAS 161 under one issued guidance (FASB, 2009).[1]

Despite the disclosure enhancements introduced by SFAS 161, stringent documentation and effectiveness requirements made it difficult for firms to qualify for hedge accounting. As a result, firms that used derivatives for hedging purposes but did not meet the criteria for hedge accounting designation experienced increased earnings volatility, which did not accurately reflect their economic risk exposure (Pierce, 2020). Many firms therefore opted to discontinue hedging activities altogether when they were unable to qualify for hedge accounting (Hughen, 2010). These concerns ultimately prompted the FASB to issue ASU 2017-12, *Targeted Improvements to Accounting for Hedging Activities*, which became effective for fiscal years beginning after December 15, 2018. The primary objective of this update was to better align firms' risk management activities with the financial reporting of hedging relationships, while making hedge accounting more accessible by reducing its complexity and compliance costs (FASB, 2017).

ASU 2017-12 introduced several key changes, including the simplification of hedge effectiveness assessments, the elimination of separate measurement and reporting of hedge ineffectiveness, and an expansion of the types of relationships that can qualify for hedge accounting (FASB, 2017). Hedge effectiveness assessments serve to demonstrate that changes in the fair value of the hedging instrument offset those of the hedged item. While perfect offsetting is not a prerequisite to qualify for hedge accounting, the hedge must be *highly effective*. Additionally, it must reflect an economic relationship, meaning that the fair values of the hedging instrument and the hedged item respond to the same underlying economic risk. Thus, statistical correlation alone is insufficient to establish hedge effectiveness. Under prior standards, preparers were required to quantitatively assess hedge effectiveness at each reporting period (FASB, 1998). While a hedging

[1] The pre-codification accounting standards related to derivates are used throughout this study.

relationship still must be highly effective to qualify for hedge accounting under ASU 2017-12, the update permits subsequent hedge effectiveness tests to be conducted qualitatively, thereby reducing the compliance burden associated with these assessments. Further simplifying hedge accounting, ASU 2017-12 removed the requirement to separately disclose and recognize hedge ineffectiveness for cash flow hedges in earnings. Instead, the full fair value change of the hedging instrument is recorded in other comprehensive income and accumulated in the cash flow hedge reserve. The FASB justified this change by arguing that the separate reporting of hedge ineffectiveness added unnecessary complexity for preparers and was difficult for financial statement users to interpret. Lastly, ASU 2017-12 introduced greater flexibility by allowing firms to hedge contractually specified components related to future purchases or sales of non-financial assets. Under previous guidance, entities seeking to hedge future cash flow variability were required to hedge all changes in the transaction price or, alternatively, changes in foreign exchange rates, limiting their ability to target specific risk components (FASB, 2017). In contrast, under ASU 2017-12, an airline with a jet fuel purchase contract linked to crude oil costs can hedge only the crude oil component rather than the total transaction price, which typically includes additional charges such as transportation (IATA, 2020).

2.2. Prior Research and Empirical Findings

2.2.1. Determinants of Hedging and Hedge Accounting

The question of why firms engage in hedging has been the subject of extensive empirical investigation. Gilje and Taillard (2017) provide empirical support for the financial distress theory proposed by Smith and Stulz (1985) through a quasi-natural experiment, comparing Canadian oil producers—whose ability to hedge was impaired by a sudden increase in basis risk—to their unaffected U.S. counterparts. Their findings reveal that Canadian firms responded by significantly reducing both debt and new investments, particularly those that were highly levered prior to the basis risk shock. These results further indicate that hedging alleviates underinvestment constraints and enhances debt capacity, consistent with Bessembinder (1991). Extending this line of research, Alam and Gupta (2017) analyze non-financial firms across varying macroeconomic environments and find that the benefits of hedging are particularly pronounced during periods of financial crises, when bankruptcy risk is elevated. However, some empirical studies indicate that tax incentives may be an even more important determinant of hedging. Graham and Rogers (2002) suggest that, for U.S. firms, the primary benefit of hedging lies in increasing debt capacity to take advantage of tax shields, rather than reducing expected distress costs. Contrasting evidence is provided by Judge (2006), who identifies bankruptcy costs as critical determinants of hedging behavior for U.K. firms. Judge (2006) argues that cross-country differences in bankruptcy codes influence the expected costs of financial distress, and consequently, firms' incentives to hedge. While the U.K. bankruptcy code prioritizes creditor repayment, the U.S. code focuses on maintaining the firm as a going concern. These regulatory differences have implications for the expected financial distress costs, thereby shaping firms' risk management strategies differently.

In addition to the decision of whether or not to hedge, firms also face the choice of applying hedge accounting. Hughen (2010) investigates the determinants of hedge accounting usage by examining U.S. firms that issue restatements due to failure to meet the hedge accounting criteria under SFAS 133. The findings suggest that firms' decisions to apply hedge accounting depend on whether they prioritize economic earnings, reflecting real economic performance, or accounting earnings. Firms that fail to qualify for hedge accounting may continue to hedge for economic reasons, but face increased earnings volatility due to accounting mismatches between the hedging instrument and the underlying hedged item. Specifically, Hughen (2010) finds that firms focused on meeting earnings targets are more inclined to discontinue hedging altogether if they fail to qualify for hedge accounting. This behavior implies that some firms are willing to accept greater exposure to market risk in exchange for greater stability in accounting earnings, highlighting how reporting considerations can alter real economic decisions. Similarly, Richie et al. (2006) examine whether U.S. firms that hedged foreign currency exposure prior to the implementation of SFAS 133 maintained or changed their hedging strategies following this regulatory change. While firms that had previously engaged in hedging were generally able to maintain effective risk management strategies under SFAS 133, they experienced increased volatility in accounting earnings, similar to the findings of Hughen (2010). This suggests that, while hedge accounting is not a prerequisite for successful risk management, its absence can produce undesirable accounting outcomes.

Prior literature further suggests that the complexity of accounting regulations is a key determinant of hedge accounting usage. Pierce (2020) examines this issue among U.S. non-financial firms following the introduction of SFAS 161, finding that while hedge accounting reduces volatility in reported earnings, the compliance costs associated with its application may deter firms from adopting it. These findings support the regulatory intent behind ASU 2017-12—to simplify hedge accounting and make it more accessible. In a related study within an IFRS context, Glaum and Klöcker (2011) investigate how the requirements under IAS 39 shape risk management practices. They find that larger firms, firms with extensive derivative usage, and those with prior IFRS experience are more likely to adopt hedge accounting. This suggests that smaller firms and first-time adopters may face greater challenges due to regulatory complexity and resource constraints.

2.2.2. Consequences of Hedging and Hedge Accounting

One key dimension through which hedge accounting may enhance the usefulness of financial reporting is its effect on earnings predictability, as smoother earnings are associated with reduced forecast errors and allow investors to better assess firms' growth opportunities (Dichev and Tang, 2009). Panaretou et al. (2013) study U.K. firms and find that hedge accounting improves predictability by stabilizing reported earnings, while derivatives that do not qualify have adverse effects on forecast accuracy. The authors therefore argue that, by raising the threshold for hedge accounting eligibility, stringent qualification requirements may inadvertently impair earnings predictability. Extending these insights to a U.S. GAAP context, Ranasinghe et al. (2022) examine the impact of derivative use on analyst forecast accuracy under the strict criteria introduced by SFAS 133. Consistent with Panaretou et al. (2013), they find that derivatives not eligible for hedge accounting increase earnings volatility and impair forecast accuracy. Chang et al. (2016) further explore this relationship by distinguishing between economic and reporting complexity. While economic complexity stems from the difficulty of understanding different types of derivatives and risk exposures, reporting complexity reflects the challenges analysts face when interpreting derivative disclosures. The findings reveal that analysts' earnings forecasts are less accurate and more dispersed for derivative users, with reporting complexity under SFAS 133 being the primary driver of this effect. However, the results further indicate that the enhanced disclosure requirements introduced by SFAS 161 improved forecast accuracy, which underscores the pivotal role of disclosure quality in enabling market participants to understand the earnings implications of hedging.

Related literature has explored the capital market implications of hedging and hedge accounting. Beneda (2016) investigates this relationship in the U.S. oil and gas industry, finding that firms electing to apply hedge accounting exhibit a stronger association between net income and firm value compared to non-users. The study concludes that hedge accounting enhances the informativeness of earnings by aligning firms' income volatility more closely with their economic risk exposures, thereby reducing information asymmetries. In a similar vein, Dinh and Seitz (2020) examine the value relevance of hedge accounting under IAS 39, comparing actual reported earnings to hypothetical "as-if" earnings, which represent net income assuming hedge accounting is discontinued. Their findings indicate that hedge accounting increases the value relevance of financial reporting, as the relationship between reported earnings and market value is stronger than for the "as-if" earnings. Building on the broader theme of capital market effects, further research has examined how hedging influences investor risk assessments. Gay et al. (2010) find that firms using derivatives experience significant reductions in the cost of equity relative to non-users, primarily driven by declines in market beta and size-related risk. Similarly, Chen and King (2013) show that hedging is associated with lower debt financing costs, as firms employing risk-management strategies are perceived as less risky by creditors, leading to more favorable borrowing terms.

Prior literature further suggests that the application of hedge accounting may have firm-level implications by influencing real economic decisions. Nguyen (2018) finds that derivative use under SFAS 133 is positively associated with capital expenditures, attributing this association to the mandatory hedge effectiveness assessments and disclosures required for hedge accounting adoption, which increase transparency and incentivize firms to engage in more effective risk management. Allini et al. (2024)

examine firms applying IFRS 9 and report similar findings, showing that hedge accounting adopters tend to undertake more capital investments than non-users. Disatnik et al. (2014) offer a complementary perspective by focusing specifically on U.S. entities using cash flow hedges, finding that these firms are less reliant on holding excess cash for future investment opportunities and instead increase their bank lines of credit. This relationship is mediated by the reduction in cash flow variability, which lowers the risk of breaching cash flow-based covenants. The empirical findings from Nguyen (2018), Allini et al. (2024), and Disatnik et al. (2014) align with Bessembinder's (1991) theory that hedging can mitigate underinvestment. However, these studies further indicate that the accounting treatment of derivatives may exert direct economic implications, as the ability to apply hedge accounting appears to influence firms' investment decisions.

2.2.3. Information Content of Cash Flow Hedges

Much of the empirical literature discussed thus far highlights how hedge accounting may improve earnings predictability and the information content of financial statements. This becomes particularly relevant in the context of cash flow hedges, where unrealized gains and losses accumulated in other comprehensive income (CFHOCI) may carry predictive information about future firm performance. Examining U.S. non-financial firms from 2001 to 2006, Campbell (2015) finds an inverse association between CFHOCI and future profitability, measured as the two-year change in gross profit. The underlying rationale for this relationship is that an unrealized gain on a cash flow hedge indicates that the price of the hedged item, such as a commodity, has moved in a way that will ultimately have a negative impact on firm performance after the hedge matures. Conversely, an unrealized loss on the hedging instrument signals an expected increase in future earnings. Campbell (2015) shows that most cash flow hedges expire within one year. Hence, the firm becomes fully exposed to the price movement of the hedged item in the subsequent year, which explains why the association between CFHOCI and future profitability unfolds over a two-year horizon. Campbell (2015) further argues that while firms typically hedge future transactions on a rolling basis, this only protects against future price fluctuations, not past ones. As a result, once the initial hedge expires, the firm will experience the economic impact of past price changes regardless of whether it enters into a new derivative contract. Consistent with Campbell's (2015) results, Bratten et al. (2016) find that the inverse association between CFHOCI and future earnings holds for financial firms. Moreover, Makar et al. (2013) analyze U.S. non-financial firms from 2001 to 2006 and similarly find that cash flow hedge gains/losses are negatively associated with future cash flows.

Furthermore, both Campbell (2015) and Makar et al. (2013) find a negative association between CFHOCI and future stock returns, implying that investors do not anticipate the performance implications of CFHOCI and instead revise their expectations only after the hedge expires and the firm becomes fully exposed to the underlying price change. The results further suggest that a net-zero investment strategy involving short (long) positions in firms with high (low) CFHOCI yields abnormal returns. Expanding on these results in a subsequent study, Campbell et al. (2015) find that financial analysts fail to accurately factor in CFHOCI in their earnings forecasts, with adjustments occurring only after the hedges expire—mirroring the behavior of retail investors. Both Campbell (2015) and Makar et al. (2013) attribute this inefficiency to the accounting guidance under SFAS 133, although they emphasize different aspects of the standard. Makar et al. (2013) argue that the mispricing arises because the offsetting effects of cash flow hedges are deferred until the hedged transaction is realized, making it difficult for users to interpret unrealized gains and losses on derivatives and assess the net economic impact of the hedge. In contrast, Campbell (2015) contends that the mispricing stems from insufficient disclosures under SFAS 133, which fail to provide investors with adequate information to assess the forward-looking earnings implications of CFHOCI. In a more recent study, Campbell et al. (2021) provide evidence supporting this argument, showing that the enhanced disclosure requirements introduced by SFAS 161 improved financial statement users' understanding of firms' hedging activities and helped mitigate the mispricing of cash flow hedges.

In addition to providing incremental information to investors, Zou (2022) offers a novel perspective by examining how CFHOCI convey information to competitors. Focusing on the U.S. airline industry, the study finds that competitors are less likely to enter markets where incumbents report high unrealized gains on cash flow hedges. Zou (2022) argues that CFHOCI from fuel hedging acts as a forward-looking signal of future operating costs, with positive CFHOCI indicating that the incumbent has effectively hedged against rising fuel prices. As a result, competitors interpret this as evidence of reduced future operating costs for the incumbents and anticipate lower future profitability for new entrants, thereby deterring market entry. This interpretation may appear to contradict Campbell's (2015) findings. However, Zou (2022) finds that the negative association between CFHOCI and future operating costs weakens significantly when considering two-year-ahead operating costs instead of one-year-ahead costs. Thus, Zou's (2022) findings similarly suggest that profitability will decline after the hedge expires, consistent with Campbell (2015).

2.2.4. Effects of ASU 2017-12

Although research on the effects of ASU 2017-12 remains limited, early empirical findings offer valuable insights into its potential implications for both preparers and users of financial statements. Ali et al. (2025) examine the impact of ASU 2017-12 using a difference-in-differences approach, comparing firms that adopted the standard early with those that did not. The findings indicate that the number of derivatives designated as cash flow hedges significantly increased for early adopters, implying that the new standard successfully met its objective of making hedge accounting more accessible. However, the evidence does not support that ASU 2017-12 led to increased usage of fair value hedges. The authors argue that the relaxation of hedge effectiveness testing requirements and other reliefs targeting cash flow hedges were the most influential aspects of the reform, which explains why its effects were primarily limited to this type of hedge.

Furthermore, Troyer et al. (2023) investigate the effects of ASU 2017-12 from a disclosure compliance perspective. While the update simplified hedge accounting from the preparers' point of view, the authors argue that it may have inadvertently removed disclosures relevant for financial statement users. Using a hand-collected sample of S&P 500 firms, the authors construct disclosure compliance scores for periods before and after the adoption of ASU 2017-12. Notably, the results reveal a significant decline in disclosure compliance post-adoption and that firms applied the updated standard less completely and transparently. This outcome contradicts expectations, as simplified reporting requirements were anticipated to enhance compliance. The findings further suggest that the decline in compliance is less pronounced among early adopters, which Troyer et al. (2023) attribute to the notion that these firms are likely to have more prior knowledge of hedge accounting and provide higher-quality disclosures.

Chen et al. (2020) examine whether the separate measurement and disclosure of hedge ineffectiveness, which is no longer mandated following ASU 2017-12, is risk relevant for investors. Their findings suggest that firms reporting higher absolute ineffectiveness exhibit greater financial risk, elevated default probabilities, and an increased cost of equity—implying that such disclosures are indeed risk-relevant for investors. Moreover, substantial hedge ineffectiveness is associated with strong negative stock price reactions around 10-K filing dates, further supporting the notion that investors value and respond to this information. Hence, Chen et al. (2020) argue that separate reporting of hedge ineffectiveness provides meaningful insights into the effectiveness of a firm's risk management activities and should not have been eliminated. The findings challenge the FASB's justification for removing these disclosures—that they were difficult for users to understand—suggesting instead that investors found the information decision-useful.

2.2.5. Contribution

The previous literature presented in this section underscores the critical role of accounting regulation in shaping both firms' risk management decisions and investors' interpretations of hedging. This study contributes to prior research by examining the implications of ASU 2017-12 for the information content of cash flow hedges. Specifically, it builds on the findings of Campbell et al. (2021) by assessing whether the inverse association between unrealized gains/losses on cash flow hedges and future firm performance persist under the new accounting framework, and whether this relationship is reflected in stock prices.

A key motivation behind ASU 2017-12 was to make hedge accounting more accessible and reduce the burden of qualifying for its application. Early evidence suggests that these reforms have been successful in achieving this objective, resulting in a substantial increase in cash flow hedge designation (Ali et al., 2025). Moreover, many of the reforms introduced by ASU 2017-12 specifically targeted cash flow hedges, altering both accounting treatment and disclosure requirements. Yet, no prior study has examined whether these regulatory changes have influenced the predictive value and market pricing of cash flow hedges. By exploring the ramifications of ASU 2017-12, this study responds to calls for further research on its effectiveness (Campbell et al., 2019).

Furthermore, this study provides insights for the FASB in assessing the extent to which the revised hedge accounting framework enhances or impairs the usefulness of financial reporting. Additionally, the findings may be relevant for the IASB in its forthcoming post-implementation review of hedge accounting under IFRS 9. One key distinction between U.S. GAAP and IFRS following ASU 2017-12 is the treatment of hedge ineffectiveness for cash flow hedges—while IFRS 9 continues to require separate measurement and disclosure, U.S. GAAP no longer does. If the removal of hedge ineffectiveness reporting has reduced compliance burden without impairing the informational value of cash flow hedges, the IASB may consider similar revisions to further simplify hedge accounting. Finally, the study is also relevant from a user perspective, evaluating whether unrealized hedge gains/losses continue to serve as meaningful indicators of future firm performance.

2.2.6. Hypotheses

The potential effects of ASU 2017-12 on the information content of cash flow hedges are multifaceted. The significant increase in hedge accounting designation following the regulatory update (Ali et al., 2025) suggests that qualification barriers under prior standards may have prevented certain economic risks from being reflected in the cash flow hedge reserve, thereby failing to capture their future earnings effects. Given that ASU 2017-12 has made hedge accounting more accessible, firms' CFHOCI under this framework could provide a more accurate representation of the firm's economic risk exposure and serve as a better predictor of future earnings. This would be consistent with the extensive literature suggesting that hedge accounting improves the informativeness and predictive value of financial reporting (e.g., Panaretou et al., 2013; Beneda, 2016; Chang et al., 2016; Dinh and Seitz, 2020; Ranasinghe et al., 2022). At the same time, the expansion of items eligible for hedge accounting treatment may have further enhanced the relationship between CFHOCI and future earnings. By allowing firms to hedge contractually specified components of future purchases or sales of non-financial assets, rather than the entire transaction price, CFHOCI may provide a more precise reflection of firms' risk exposures, thereby enhancing its predictive value for future earnings.

In contrast, the elimination of hedge ineffectiveness reporting may have had adverse effects on the information content of cash flow hedges. Since the ineffective portion of a hedge stems from hedge misalignment rather than genuine risk exposure, the aggregation of effective and ineffective hedges could dilute the association between CFHOCI and future firm performance. Moreover, the removal of hedge ineffectiveness disclosures has likely complicated investor interpretation. Without these disclosures, investors can no longer distinguish the effective portion of a hedge, which serves as a genuine signal of future operating costs (e.g., commodity price increases), from the ineffective portion, which represents accounting noise resulting from imperfect hedges. As such, the future economic impact conveyed by CFHOCI is partially obscured. Similarly, the decline in disclosure compliance under ASU 2017-12 (Troyer et al., 2023) may have hindered investors' ability to accurately interpret cash flow hedge information. This decline was particularly pronounced among firms with limited prior experience in hedge accounting. As the revised standard aimed to make hedge accounting more accessible, it may have encouraged broader adoption by less experienced firms, whose lower-quality disclosures further impair investor understanding. This would align with prior studies that emphasize the importance of high-quality disclosures in enabling investors to interpret the future earnings implications of hedging derivatives (Chang et al., 2016; Campbell et al., 2021).

In sum, while there are indications that ASU 2017-12 has influenced the information content of cash flow hedges, competing tensions make it difficult to predict whether the overall effect is a net positive or a net negative. Given this uncertainty and the scarce literature on the effects of the regulatory update, this study takes a conservative approach and formulates its hypotheses under the assumption that the results from Campbell et al. (2021) persist under the revised standard:

H1: *The negative association between unrealized gains/losses on cash flow hedges and future earnings continues to hold following ASU 2017-12, and the economic magnitude of this relationship has not changed.*

H2*: The negative association between unrealized gains/losses on cash flow hedges and future stock returns has not re-emerged following ASU 2017-12.*

3. METHODOLOGY

The following section describes the methodology employed to examine the effects of ASU 2017-12 on the information content of cash flow hedges. The research design is largely consistent with that of Campbell et al. (2021), though refined in certain areas, as discussed throughout this section. Section 3.1 describes the data collection process and distribution of the sample across industries and time. Section 3.2 outlines the empirical frameworks used in the main analyses to examine the relationship between CFHOCI and, respectively, future firm performance and future stock returns. Finally, Section 3.3 presents summary statistics for the pre- and post-adoption samples.

3.1. Data and Sample Selection

The sample period of this study spans from 2011 to 2022. The starting year is chosen to ensure that the information content of cash flow hedges under SFAS 161, which became effective in 2008, is analyzed within a more stable economic environment following the disruptions of the global financial crisis. Consequently, the years 2008–2010 are excluded as a precautionary measure. The sample period ends in 2022, as this is the last year for which the two-year forward-looking change in future earnings can be estimated. Notably, the pre-ASU 2017-12 period in this study aligns with the post-SFAS 161 period used by Campbell et al. (2021), which facilitates direct comparisons.

Company fundamentals are obtained from Compustat, while monthly return data is retrieved from CRSP. Firms are considered eligible for inclusion if they report non-zero values for cash flow hedge reserves, captured by the Compustat variable AOCIDERGL, as this indicates that the firm holds derivatives designated as cash flow hedges. Financial firms, identified based on SIC codes 6000-6999, are excluded due to fundamental differences in financial reporting requirements. Additionally, firms reporting under IFRS are excluded based on the Compustat variable ACCTSTD. Neither Campbell (2015) nor Campbell et al. (2021) removed IFRS-reporting firms from their respective samples. Nevertheless, given that hedge accounting under U.S. GAAP and IFRS diverges in key aspects, particularly following ASU 2017-12, excluding IFRS firms ensures a more consistent application of hedge accounting standards within the sample.

Furthermore, observations lacking the necessary data for variable computation are excluded, resulting in a sample of 8,853 firm-year observations. To reduce the influence of outliers, all variables are truncated at the 1st and 99th percentiles by year, consistent with Campbell (2015) and Campbell et al. (2021). After truncation, the final sample for analyzing the association between CFHOCI and future firm performance consists of 7,967 firm-year observations representing 1,370 unique firms. For the analysis of the relationship between CFHOCI and stock returns, observations where future returns overlap the pre- and post-ASU 2017-12 periods are removed. This ensures that returns in each period correspond to distinct hedge accounting frameworks, allowing for a clearer assessment of whether and how market pricing of cash flow hedges has evolved following the regulatory changes. The final sample used for the stock return tests consists of 6,628 observations. Panel A of Table 1 provides a summary of the sample selection procedure.

Panel B of Table 1 presents the sample distribution by fiscal year. The sample is fairly evenly distributed across the research period, although observations from 2022 appear slightly underrepresented. This is likely because some firms are yet to publish their annual reports for fiscal year 2024 at the time of this study, or because the data has not yet been made available in Compustat. Furthermore, Panel C of Table 1 provides a breakdown of the sample based on the Fama-French 48 industry classification (Fama and French, 1997). The industries with the largest representation generally align with those in Campbell et al. (2021), and the distribution remains relatively stable across the pre- and post-periods. Among the most represented industries, the proportions of Business Services and Chemicals are slightly higher in the post-period, whereas the shares of Electronic Equipment, Transportation, and Petroleum and Natural Gas have declined. The latter two primarily hedge exposures to jet fuel and crude oil prices, which fell to exceptionally low levels during the COVID-19 pandemic (Zou, 2024). In response, firms in these industries may have unwound a significant portion of their hedging positions to reduce derivative losses, potentially contributing to their reduced representation in the post-period.

Table 1. Sample selection and composition.

Panel A: Sample selection	
Number of observations in Compustat with non-missing, nonzero levels of AOCIDERGL from 2011 to 2024	21,809
Financial firms (SIC codes 6000-6999)	(5,386)
Firms reporting under IFRS	(2,361)
Missing necessary variables for firm performance test	(5,209)
Number of observations before truncation	**8,853**
Truncate variables at 1% and 99% by year	(886)
Number of observations for firm performance test	**7,967**
Observations where future stock returns overlap the pre- and post-ASU 2017-12 periods	(1,339)
Number of observations for stock return tests	**6,628**

Panel B: Distribution by year

Year	N	%
2011	716	9%
2012	697	9%
2013	686	9%
2014	663	8%
2015	683	9%
2016	679	9%
2017	657	8%
2018	676	8%
2019	685	9%
2020	666	8%
2021	662	8%
2022	497	6%
	7,967	100%

Panel C: Industry classification				
	Pre-ASU 2017-12		Post-ASU 2017-12	
Industry	N	%	N	%
Business Services	625	11,2%	300	12,5%
Electronic Equipment	390	7,0%	127	5,3%
Utilities	356	6,4%	140	5,8%
Machinery	338	6,1%	156	6,5%
Chemicals	242	4,3%	138	5,8%
Retail	238	4,3%	106	4,4%
Transportation	232	4,2%	78	3,3%
Wholesale	204	3,7%	95	4,0%
Petroleum and Natural Gas	172	3,1%	53	2,2%
Food Products	168	3,0%	70	2,9%
Medical Equipment	167	3,0%	72	3,0%
Consumer Goods	167	3,0%	63	2,6%
Automobiles and Trucks	162	2,9%	80	3,3%
Computers	161	2,9%	63	2,6%
Pharmaceutical Products	155	2,8%	92	3,8%
Restaurants, Hotels, Motels	134	2,4%	54	2,3%
Measuring and Control Equipment	132	2,4%	59	2,5%
Communication	129	2,3%	33	1,4%
Construction Materials	125	2,2%	71	3,0%
Electrical Equipment	119	2,1%	43	1,8%
Apparel	114	2,0%	48	2,0%
Steel Works Etc	104	1,9%	53	2,2%
Aircraft	93	1,7%	35	1,5%
Business Supplies	84	1,5%	48	2,0%
Shipping Containers	77	1,4%	30	1,3%
Healthcare	75	1,3%	32	1,3%
Construction	66	1,2%	29	1,2%
Other	64	1,1%	20	0,8%
Entertainment	59	1,1%	26	1,1%
Personal Services	56	1,0%	38	1,6%
Industries with < 1%	364	6.5%	143	6.0%

3.2. Empirical Models

3.2.1. Determinants of Cash Flow Hedge Reserves

As an extension of this study's primary research questions, the model in Eq. (1) is employed to assess whether firm characteristics that risk management theories and empirical research identify as determinants of hedging behavior also explain variations in the absolute level of CFHOCI. Here, the absolute value of CFHOCI serves as a proxy for hedging intensity, capturing the magnitude of fair value gains/losses on all derivatives designated as cash flow hedges. As such, this analysis provides insight into the underlying economic drivers of hedge accounting and contextualizes differences in CFHOCI across firms and over time, strengthening the foundation for subsequent tests examining the information content of cash flow hedges. The model is as follows:

$$\begin{aligned}\left|CFHOCI_{i,t}\right| = \alpha_0 &+ \beta_1 SIZE_{i,t} + \beta_2 LEVERAGE_{i,t} + \beta_3 SIZE_{i,t} \times LEVERAGE_{i,t} \\ &+ \beta_4 GROWTH_{i,t} + \beta_5 GROWTH_{i,t} \times LEVERAGE_{i,t} \\ &+ \beta_6 MULTINATIONAL_{i,t} + \beta_7 CAPEX_{i,t} + \beta_8 QUICK\_RATIO_{i,t} \\ &+ \beta_9 TAX\_CONVEXITY_{i,t} + FE_{INDUSTRY-YEAR} + \varepsilon_{i,t}\end{aligned} \tag{1}$$

where the dependent variable is the absolute value of accumulated unrealized gains/losses on cash flow hedges scaled by net sales. The model includes industry and year fixed effects to account for differences in |*CFHOCI*| across industries and over time due to macroeconomic factors.

SIZE is measured as the natural logarithm of total assets. The coefficient is expected to be positive ($\beta_1 > 0$), as prior studies indicate that larger firms are more likely to engage in hedging and adopt hedge accounting (Graham and Rogers, 2002; Glaum and Klöcker, 2011; Pierce, 2020). *LEVERAGE* is a proxy for financial risk, measured as total liabilities divided by total assets. Numerous prior studies argue that hedging reduces the risk of financial distress (Smith and Stulz, 1985; Graham and Rogers, 2002; Judge, 2006; Alam and Gupta, 2017; Gilje and Taillard, 2017) and increases debt capacity (Bessembinder, 1991; Disatnik et al., 2014). Accordingly, *LEVERAGE* is expected to be positively associated with |*CFHOCI*| ($\beta_2 > 0$). The interaction term *SIZE*×*LEVERAGE* is included to examine whether the relationship between leverage and hedging intensity depends on firm size. Since smaller, highly levered firms are typically more exposed to financial distress, the coefficient is expected to be negative ($\beta_3 < 0$).

GROWTH is measured as market value of assets divided by book value of assets. Prior research suggests that hedging can alleviate underinvestment problems (Bessembinder, 1991; Gilje and Taillard, 2017). This implies that growth firms with valuable investment opportunities may have stronger incentives to hedge, resulting in a positive coefficient

($\beta_4 > 0$). The interaction term *GROWTH×LEVERAGE* captures how the relationship between growth and hedging intensity varies with the level of financial leverage. Growth firms that are highly levered may face tighter financial constraints, making it more difficult to access external capital to fund valuable investment opportunities. As a result, these firms may be especially inclined to hedge, given that hedging reduces financial risk and lower the cost of capital (Bessembinder, 1991; Gay et al., 2010; Chen and King, 2014). Therefore, the coefficient on the interaction term is expected to be positive ($\beta_5 > 0$). However, Pierce (2020) finds that growth firms are less willing to bear the costs associated with hedge accounting. Thus, while these firms are generally expected to have greater incentives to hedge, it may not be reflected by higher cash flow hedge reserves.

MULTINATIONAL is a binary variable equal to 1 if the firm reports non-zero foreign exchange income or loss. As multinational firms are exposed to foreign exchange risk, they are expected to benefit from cash flow hedging. Hence, the coefficient is expected to be positive ($\beta_6 > 0$). *CAPEX* proxies for current investment activity, defined as capital expenditures scaled by total assets. The coefficient is expected to be positive ($\beta_7 > 0$), as prior studies find a positive association between derivative usage and the level of capital investment, particularly when hedge accounting is applied (Disatnik, 2014; Nguyen, 2018; Allini et al., 2024). *QUICK_RATIO* serves as a proxy for liquidity, measured as current assets minus inventory divided by current liabilities. Firms with poor liquidity may be more inclined to reduce cash flow volatility by engaging in cash flow hedging. Moreover, Disatnik et al. (2014) find that firms using cash flow hedges are less dependent on holding excess cash for future investments. However, Graham and Rogers (2002), who also use the quick ratio to measure liquidity, find no significant relationship. Given these mixed empirical findings, no prediction is made regarding the sign of the coefficient.

Finally, *TAX_CONVEXITY* is estimated as net-operating loss carryforwards scaled by total assets, consistent with prior studies (e.g., Nance et al., 1993; Geczy et al., 1997). Firms with net-operating loss carryforwards may use them to reduce future taxable income, but the present value of these carryforwards declines over time. This reduces their effectiveness as a tax shield and effectively creates convexity in the firm's tax function (Geczy, et al., 1997). The coefficient is expected to be positive, as firms with convex tax schedules may have stronger incentives to hedge in order to smooth taxable income and avoid higher marginal tax rates (Smith and Stulz, 1985).

To explore whether the magnitude of firms' cash flow hedge reserves differs in the period following the implementation of ASU 2017-12, the following model is used:

$$\left|CFHOCI_{i,t}\right| = \alpha_0 + \beta_1 POST_{i,t} + \sum \beta_j CONTROLS_j + FE_{INDUSTRY} + \varepsilon_{i,t} \tag{2}$$

where *POST* is an indicator variable set to 1 for time periods after ASU 2017-12 came into effect. The explanatory variables from Eq. (1) serves as controls in Eq. (2). The model includes industry fixed effects but omits year fixed effects, as the objective is to capture time-series variation.

3.2.2. Cash Flow Hedges and Future Firm Performance

To test whether unrealized gains/losses on cash flow hedges are inversely related to future firm performance, this study employs an adjusted version of Campbell's (2015) model. While the independent variables remain unchanged, the dependent variable is modified to the two-year change in earnings before taxes (EBT) rather than gross profit. This adjustment is motivated by the fact that interest rate derivatives designated as cash flow hedges do not affect gross profit. Campbell (2015) accommodates for this by manually classifying firms based on whether they primarily hedge interest rates, commodities, or currencies using hand-collected data from 10-K filings. Consistent with expectations, Campbell (2015) finds no significant association between CFHOCI and future gross profit for firms exclusively hedging interest rates. By employing EBT instead of gross profit, this study reduces reliance on manual data collection while extending prior research by testing whether the relationship holds for an alternative profit measure, which has not been examined by either Campbell (2015) or Campbell et al. (2021). The empirical model is specified as follows:

$$\Delta EBT_{i,t\ to\ t+2} = \alpha_0 + \beta_1 CFHOCI_{i,t} + \sum \beta_j CONTROLS_j + FE_{INDUSTRY-YEAR} + \varepsilon_{i,t} \tag{3}$$

where *EBT* is earnings before taxes scaled by net sales, and *ΔEBT* denotes its change from year *t* to year *t+2*. Consistent with Campbell (2015), this study controls for firm size, leverage, growth, and industry-year fixed effects. The model is estimated separately for the pre- and post-ASU 2017-12 periods to explicitly test whether the predictive relationship between cash flow hedges and future firm performance holds in both periods, following the approach of Campbell et al. (2021), who similarly applied their model to pre- and post-SFAS 161 sub-samples. If unrealized gains/losses on cash flow hedges are negatively associated with future performance, the coefficient for *CFHOCI* is expected to be negative in each sub-sample ($\beta_1 < 0$).

To examine whether the economic magnitude of the relationship between CFHOCI and future profitability has changed significantly after the adoption of ASU 2017-12, the following difference-in-difference model is applied to the full sample:

$$\Delta EBT_{i,t\ to\ t+2} = \alpha_0 + \beta_1 CFHOCI_{i,t} + \beta_2 CFHOCI_{i,t} \times POST_{i,t} + \sum \beta_j CONTROLS_j + FE_{INDUSTRY-YEAR} + \varepsilon_{i,t} \tag{4}$$

The coefficient on *CFHOCI×POST* captures the incremental impact of the regulatory update on the predictive value of cash flow hedges. The study's first hypothesis posits that the relationship between CFHOCI and future firm performance remains unchanged in economic magnitude following ASU 2017-12. Accordingly, the coefficient on the interaction term is expected to be statistically insignificant and close to zero ($\beta_2 = 0$).

3.2.3. Cash Flow Hedges and Future Stock Returns

Trading Strategy Test

Campbell (2015) found that a net-zero investment strategy—going long (short) in firms with the highest unrealized losses (gains) on cash flow hedges—yielded abnormal returns under SFAS 133, while Campbell et al. (2021) documented that enhanced disclosure requirements under SFAS 161 mitigated this mispricing. To examine whether the revised reporting requirements under ASU 2017-12 provide investors with sufficient information to accurately interpret cash flow hedge information, this study exploits the same trading strategy approach. Consistent with Campbell (2015), firms are ranked into deciles based on their unrealized gains/losses on cash flow hedges scaled by market value of equity in year *t*. Firms with the highest unrealized losses are allocated to decile 1, while those with the highest unrealized gains are assigned to decile 10. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. Monthly excess returns are then adjusted for systematic risk factors. Specifically, this study controls for the five Fama-French (1993) factors and the momentum factor from Carhart (1997). The model's estimation period begins in the fourth month of year *t+1*, the month in which the 10-K for year *t* is filed and investors can observe the firm's CFHOCI, and ends in the third month of year *t+3*, the month before the 10-K for year *t+2* is released. No firms in the final sample were delisted during this period and hence, no adjustments for delisting returns were necessary. The full model is presented below:

$$EXRET_{i,t} = \alpha_0 + \beta_1 MKT\_RF_t + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 RMW_t + \beta_5 CMA_t + \beta_6 MOM_t + \varepsilon_{i,t} \tag{5}$$

where the intercept coefficient for each decile reflects the average monthly abnormal return after controlling for common risk factors. *EXRET* denotes the monthly excess return, calculated as the monthly return less the risk-free rate factor from Fama and French (1993). The systematic risk factors *MKT_RF*, *SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). The study's second hypothesis posits that the mispricing of cash flow hedge information initially observed by Campbell (2015) has not re-emerged following ASU 2017-12. Accordingly, the difference in future abnormal returns between the lowest and highest deciles is expected to be statistically insignificant and close to zero (α_1 - α_{10} = 0), indicating that the predictive value of CFHOCI with respect to future earnings is timely and accurately reflected in stock prices.

Difference-in-Differences Analysis

A potential limitation with the trading strategy test from Campbell (2015) is that it focuses solely on the extreme deciles. By emphasizing only the difference in abnormal returns between the top and bottom deciles, this approach may overlook patterns present across the full distribution of firms. To address this limitation, this study also employs a difference-in-differences model to capture variations in future stock returns across all cash flow hedge deciles, rather than just the spread between the highest and lowest deciles. This broadened perspective extends the analysis by examining the entire cross-section of firms, providing a more comprehensive view of the association between cash flow hedge gains/losses and future stock returns. The model is specified as follows:

$$\begin{aligned} EXRET_{i,t} = \alpha_0 + \beta_1 MKT\_RF_t + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 RMW_t + \beta_5 CMA_t + \beta_6 MOM_t \\ + \beta_7 CFHOCI\_DECILE_{i,t} + \beta_8 POST_i + \beta_9 CFHOCI\_DECILE_{i.t} \times POST_i + \varepsilon_{i,t} \end{aligned} \tag{6}$$

where *CFHOCI_DECILE* denotes the firm's assigned decile. The coefficient for *CFHOCI_DECILE* captures the cross-sectional relationship between CFHOCI and risk-adjusted returns in the pre-ASU 2017-12 period, reflecting the average difference in monthly abnormal returns across deciles before the regulatory update. Furthermore, the interaction term *POST*×*CFHOCI_DECILE* captures whether the market pricing of cash flow hedges has changed significantly after the implementation of ASU 2017-12. The study's second hypothesis asserts that investors fully incorporate the future earnings implications conveyed by CFHOCI and that no mispricing has re-emerged post-ASU 2017-12. Thus, the coefficient for the interaction term is expected to be statistically insignificant and close to zero (β_9 = 0).

3.3. Descriptive Statistics

Table 2 presents descriptive statistics for the pre- and post-ASU 2017 samples. Earnings before taxes are, on average, lower in the post-period, whereas the mean two-year change in future *EBT* is higher. This pattern may indicate a recovery from a temporary decline in earnings, likely driven by the COVID-19 crisis. While the mean *CFHOCI* does not differ substantially across the two periods, dispersion is higher in the post-period, which may reflect greater volatility in the prices of the underlying hedged items or greater variation in hedging behavior across firms. Moreover, *CFHOCI* is slightly negatively skewed in both periods, suggesting that unrealized hedge losses are particularly high for some firms. For the remaining variables, no major differences are observed between the two periods, although firms in the post-period appear to be larger and slightly more levered, while liquidity and capital expenditures are somewhat lower. Overall, the descriptive statistics suggest that the two samples are broadly comparable.

Table 2. Descriptive statistics.

Panel A: Pre-ASU 2017-12

	N	Mean	SD	25%	Median	75%
EBT	5,572	0.0861	0.1213	0.0342	0.0820	0.1359
ΔEBT	5,572	-0.0108	0.1153	-0.0338	-0.0002	0.0276
CFHOCI	5,572	-0.0016	0.0064	-0.0020	-0.0003	0.0003
SIZE	5,572	8.3285	1.5744	7.2950	8.3069	9.3883
LEVERAGE	5,572	0.6043	0.1947	0.4742	0.6046	0.7211
GROWTH	5,572	1.8032	0.9148	1.1944	1.5320	2.0996
MULTINATIONAL	5,572	0.4746	0.4994	0	0	1
CAPEX	5,572	0.0476	0.0429	0.0192	0.0356	0.0613
QUICK_RATIO	5,572	1.4672	0.9913	0.8543	1.2160	1.7503
TAX_CONVEXITY	5,572	0.1034	0.2273	0.0000	0.0201	0.0947

Panel B: Post-ASU 2017-12

	N	Mean	SD	25%	Median	75%
EBT	2,395	0.0694	0.1462	0.0190	0.0761	0.1356
ΔEBT	2,395	0.0160	0.1298	-0.0322	0.0083	0.0512
CFHOCI	2,395	-0.0014	0.0077	-0.0027	-0.0003	0.0009
SIZE	2,395	8.7514	1.4918	7.6171	8.7287	9.8034
LEVERAGE	2,395	0.6416	0.1847	0.5211	0.6430	0.7500
GROWTH	2,395	2.0294	1.3043	1.2109	1.5960	2.3828
MULTINATIONAL	2,395	0.4929	0.5000	0	0	1
CAPEX	2,395	0.0350	0.0300	0.0146	0.0262	0.0452
QUICK_RATIO	2,395	1.3070	0.8100	0.7895	1.1153	1.5621
TAX_CONVEXITY	2,395	0.1032	0.2253	0.0000	0.0185	0.0930

This table reports summary statistics for the key variables used in the empirical analyses. The sample period spans from 2011 to 2022. The pre-ASU 2017-12 period includes firm-year observations with fiscal years beginning before December 15, 2018, while the post-ASU 2017-12 period includes those with fiscal years beginning after this date. Variable definitions are provided in Table 13 in the Appendix.

Figure 1 visualizes the mean values of *CFHOCI* for each decile portfolio in the pre- and post-ASU 2017-12 periods. The magnitude of *CFHOCI* is generally larger in the post-setting, both in positive and negative terms. This may reflect increased usage of cash flow hedges under the revised standard, or greater fluctuations in the prices of the underlying hedged items. The top and bottom deciles exhibit particularly sizeable hedge gains/losses, though there is a reasonable amount of variation in both periods. Furthermore, Figure 2 presents the mean values of ΔEBT relative to the full sample mean in each respective period, grouped by cash flow hedge decile. Firms with the highest unrealized losses on cash flow hedges (deciles 1, 2, and 3) outperform the average earnings growth for the full sample in both periods, with decile 1 standing out as having the strongest growth in future earnings, particularly in the post-ASU 2017-12 period. Conversely, those with the highest unrealized gains on cash flow hedges (deciles 8, 9, and 10) exhibit more negative earnings growth in both the pre- and post-settings. Overall, the pattern in Figure 2 is suggestive of a negative association between CFHOCI and future firm performance.

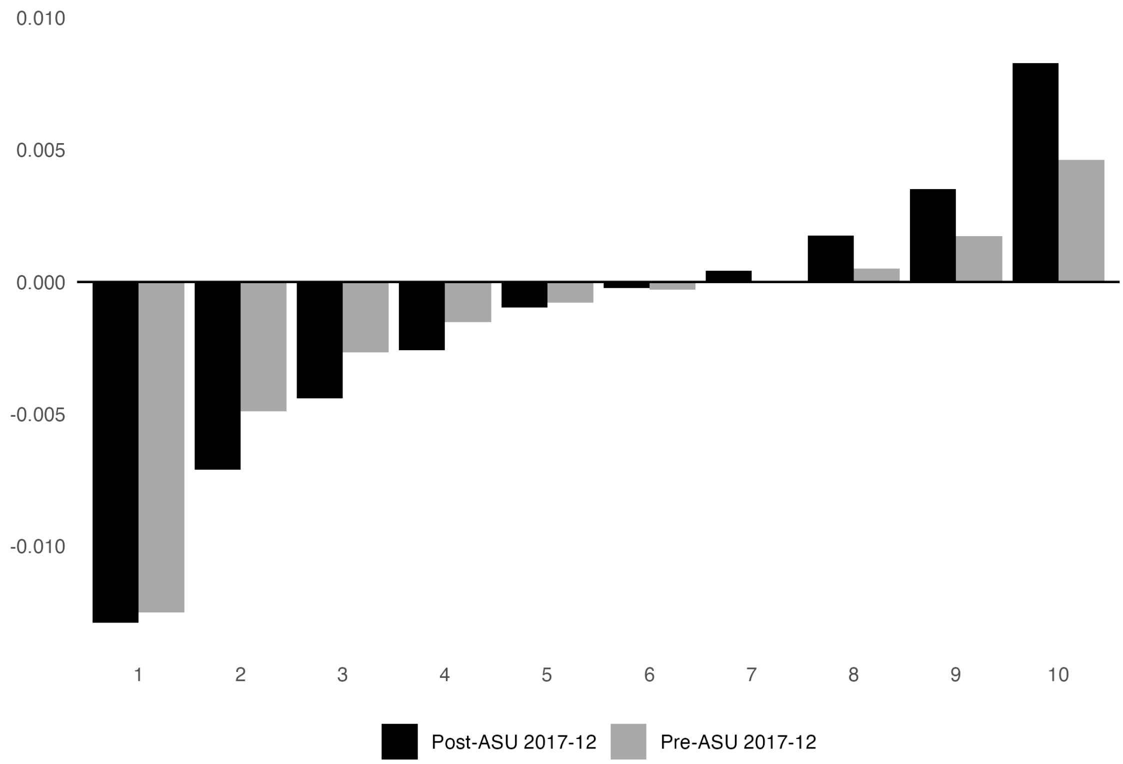

Figure 1. Mean *CFHOCI* by decile ranking (Pre- and Post-ASU 2017-12).

This figure presents the mean values of *CFHOCI* for each decile in the pre- and post-ASU 2017-12 periods. *CFHOCI* is defined as unrealized gains/losses on cash flow hedges accumulated in other comprehensive income scaled by net sales. The sample period spans from 2011 to 2022. The pre-ASU 2017-12 period includes firm-year observations with fiscal years beginning before December 15, 2018, while the post-ASU 2017-12 period includes those with fiscal years beginning after this date.

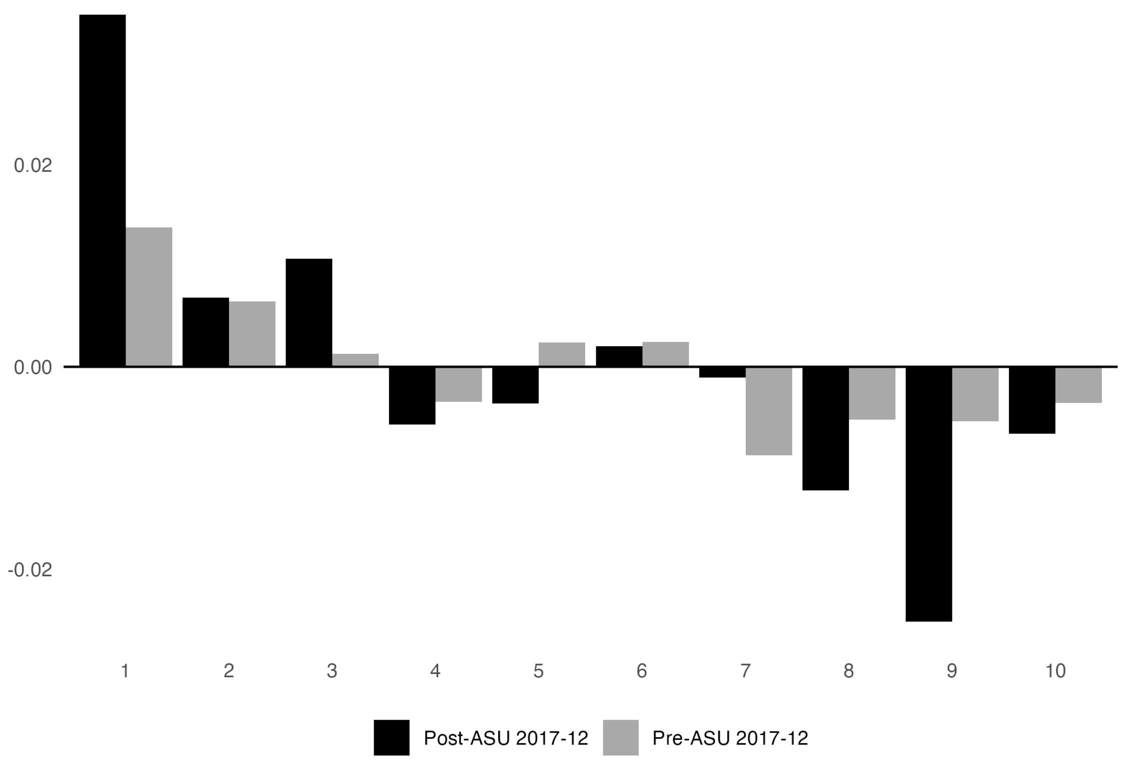

Figure 2. Mean 2-year change in future earnings (Δ*EBT*) by decile ranking relative to full sample mean (Pre- and Post-ASU 2017-12).

This figure presents the deviations between the mean values of Δ*EBT* for each CFHOCI decile and the full sample mean in each respective period. *EBT* is defined as earnings before taxes scaled by net sales. Δ*EBT* denotes the change in *EBT* from year *t* to year *t+2*. The sample period spans from 2011 to 2022. The pre-ASU 2017-12 period includes firm-year observations with fiscal years beginning before December 15, 2018, while the post-ASU 2017-12 period includes those with fiscal years beginning after this date.

4. Results and Analysis

4.1. Determinants of Cash Flow Hedge Reserves

The results from the empirical analysis of the firm-level determinants of the absolute value of CFHOCI are presented in Table 3. With few exceptions, the coefficient estimates are consistent with the predictions and statistically significant. *SIZE* and *LEVERAGE* are both positive and significant at the 5% level, aligning with the extensive literature suggesting that the incentives to hedge are greater for firms that are large (Graham and Rogers, 2002; Glaum and Klöcker, 2011) and highly levered (Smith and Stulz, 1985; Bessembinder, 1991; Graham and Rogers, 2002; Judge, 2006; Disatnik et al., 2014; Alam and Gupta, 2017; Gilje and Taillard, 2017). As predicted, the interaction term *SIZE×LEVERAGE* is negative and significant at the 5% level, indicating that the benefits of hedging in terms of reducing financial distress risk are more pronounced for small firms. The estimated coefficient for *GROWTH* is the only one that does not match the predicted sign, with the results suggesting that growth firms tend to have lower absolute CFHOCI. This contradicts prior research, which suggests that hedging is used to mitigate underinvestment problems (Bessembinder, 1991; Gilje and Taillard, 2017). However, as argued by Pierce (2020), growth firms may be less willing to incur the compliance costs of hedge accounting, which would imply that their risk management practices are not captured by the cash flow hedge reserve. The sign of *GROWTH×LEVERAGE* is positive and consistent with the prediction, but it is not significant. Hence, firms with valuable investment opportunities do not appear more inclined to use cash flow hedges, even when highly levered, despite the potential benefits of hedging in terms of reducing the cost of capital (Bessembinder, 1991; Gay et al., 2010; Chen and King, 2014).

As expected, *MULTINATIONAL* is positive and significant at the 5% level, indicating that such firms tend to employ cash flow hedges to a greater extent, likely to reduce FX risk. Furthermore, *CAPEX* is positive marginally significant at the 10% level. This aligns with prior studies reporting a positive association between hedge accounting designation and the level of capital investment (Disatnik, 2014; Nguyen, 2018; Allini et al., 2024). Somewhat unexpectedly, the coefficient for *QUICK_RATIO* is positive and significant at the 5% level. Thus, cash flow hedging appears to be more pronounced among highly liquid firms, despite prior research finding that firms using cash flow hedges are less reliant on holding excess cash for future investments (Disatnik et al., 2014). One potential explanation for this finding is that the causality between hedging and liquidity can go both ways. While firms with poor liquidity may be more incentivized to mitigate cash flow volatility, hedging may itself improve liquidity, resulting in a positive association between the two variables. The coefficient for *TAX_CONVEXITY* is positive, as expected, but statistically insignificant. Accordingly, the results do not support the view that firms with progressive tax schedules have stronger incentives to hedge, which is inconsistent with the theory proposed by Smith and Stulz (1985).

Finally, the coefficient on *POST* in column (2) is positive and strongly significant, suggesting that firms, on average, have reported larger unrealized gains/losses on cash flow hedges in the post-ASU 2017-12 period. Figure 3 presents the average absolute value of CFHOCI by fiscal year. The time series indicates that the observed increase is primarily attributable to the years 2020 and 2022, which were market by macroeconomic turbulence and substantial volatility in commodity prices and interest rates. Nevertheless, *|CFHOCI|* increased noticeably already in 2019, the first full year in which ASU 2017-12 was effective. This may suggest that the new standard contributed to an increase in cash flow hedge designation, in line with its objective of making hedge accounting more accessible and consistent with prior empirical evidence (Ali et al., 2025).

Table 3. Multivariate regression of absolute amount of accumulated unrealized cash flow hedge gains/losses on firm characteristics.

Dependent variable: $|CFHOCI_{i,t}|$

	Predict	(1)	(2)
SIZE	(+)	0.001**	0.001**
		(2.144)	(2.120)
LEVERAGE	(+)	0.010**	0.010***
		(2.312)	(2.339)
SIZE×LEVERAGE	(-)	-0.001**	-0.001**
		(-1.902)	(-1.918)
GROWTH	(+)	-0.001**	-0.001***
		(-2.563)	(-2.809)
GROWTH×LEVERAGE	(+)	0.000	0.000
		(1.103)	(1.135)
MULTINATIONAL	(+)	0.001**	0.001**
		(1.798)	(1.758)
CAPEX	(+)	0.011*	0.012*
		(1.413)	(1.496)
QUICK_RATIO	(?)	0.001**	0.001**
		(1.914)	(2.149)
TAX_CONVEXITY	(+)	0.001	0.001
		(1.215)	(1.236)
POST	(?)		0.002***
			(6.427)
Year fixed effects		Yes	No
Industry fixed effects		Yes	Yes
S.E. clustered by		Firm	Firm
R2		0.126	0.114
N		7,967	7,967

This table presents the results of the multivariate regression analysis of the firm-level determinants of absolute unrealized gains/losses on cash flow hedged accumulated in OCI. Column (1) includes industry and year fixed effects. Column (2) includes industry fixed effects but excludes year fixed effects as the objective is to capture time-series variation. T-statistics are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. One-tailed tests are used when a directional prediction is made; otherwise, two-tailed tests are applied. Variable definitions are provided in Table 13 in the Appendix.

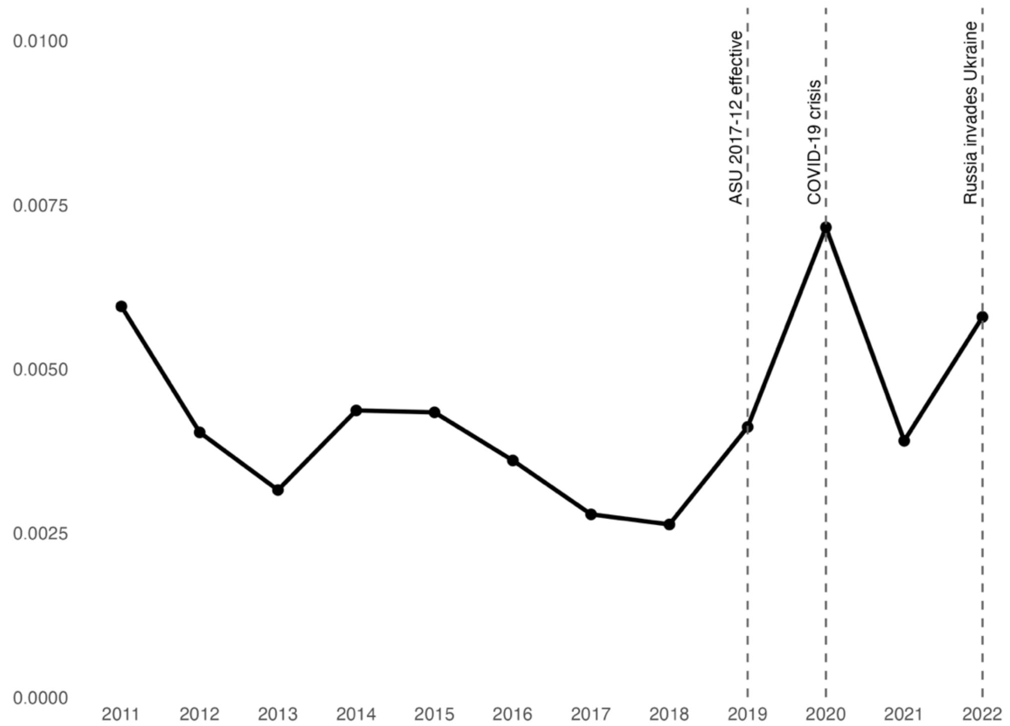

Figure 3. Average absolute value of *CFHOCI* by fiscal year.

This figure presents the average absolute value of *CFHOCI* by fiscal year during the sample period 2011-2022. *CFHOCI* is defined as accumulated unrealized gains/losses on cash flow hedges scaled by net sales.

4.2. Cash Flow Hedges and Future Firm Performance

Table 4 reports the findings from the empirical test of the association between CFHOCI and the two-year forward change in earnings before taxes.[2] The results in column (1) and (2) indicate that CFHOCI is inversely related to future firm performance both before and after the implementation of ASU 2017-12, although the statistical significance is somewhat lower in the post period. Nevertheless, the results of a two-sided t-test suggest that the difference in the estimated *CFHOCI* coefficients between the pre- and post-ASU 2017-12 periods is statistically insignificant (p-value = 0.814). Column (3), which pools all firm-year observations across the entire sample period, indicates a similarly negative and significant association between CFHOCI and future profitability. While the model's explanatory power is relatively low across all specifications, it is comparable to that of Campbell (2015) and exceeds that reported by Campbell et al. (2021). Overall, the empirical results align with prior studies highlighting the informational benefits of hedge accounting (Panaretou et al., 2013; Beneda, 2016; Chang et al., 2016; Dinh and Seitz,

[2] Corresponding results using the one-year forward change in earnings before taxes as the dependent variable are presented in Table 13 in the Appendix. No significant association is observed, consistent with Campbell's (2015) argument that the forward-looking earnings signals conveyed by CFHOCI materialize over a two-year horizon.

2020; Ranasinghe et al., 2022) and the predictive value of cash flow hedges (Makar et al., 2013; Campbell, 2015; Bratten et al., 2016; Campbell et al., 2021).

Furthermore, column (4) presents the results from the DiD analysis designed to capture the incremental effect of ASU 2017-12 on the association between CFHOCI and future firm performance. The coefficient on the interaction term *CFHOCI×POST* is negative but statistically insignificant, indicating that the strength of the inverse relationship may have increased in the post-ASU 2017-12 period, but not to a degree that is statistically distinguishable from the pre-period. Taken together, the results in Table 4 suggest that while the inverse association between CFHOCI and future firm performance persists across both the pre- and post-periods, the economic magnitude of this relationship has not changed following the implementation of ASU 2017-12. Thus, the empirical evidence supports H1, indicating that the predictive value of cash flow hedges with respect to future earnings remains intact under the new reporting framework.

Table 4. Multivariate regression of 2-year change in future earnings on accumulated unrealized cash flow hedge gains/losses.

Dependent variable: $\Delta EBT_{i,t\ to\ t+2}$

		Pre-ASU 2017-12	Post-ASU 2017-12	Full Sample	
	Predict	(1)	(2)	(3)	(4)
CFHOCI	(-)	-0.573**	-0.700*	-0.538**	-0.321*
		(-2.465)	(-1.439)	(-2.236)	(-1.471)
SIZE	(?)	-0.002**	-0.001	-0.002**	-0.002**
		(-1.981)	(-0.518)	(-2.321)	(-2.356)
LEVERAGE	(?)	0.046***	0.054***	0.054***	0.054***
		(5.783)	(3.192)	(7.373)	(7.402)
GROWTH	(?)	0.002	-0.004**	-0.001	-0.001
		(1.437)	(-2.270)	(-1.099)	(-1.102)
CFHOCI×POST	(?)				-0.600
					(-1.058)
Year fixed effects		Yes	Yes	Yes	Yes
Industry fixed effects		Yes	Yes	Yes	Yes
S.E. clustered by		Firm	Firm	Firm	Firm
R2		0.069	0.103	0.064	0.064
N		5,572	2,395	7,967	7,967

This table presents the results from the multivariate regression analysis of future earnings growth (Δ*EBT*) on unrealized gains/losses on cash flow hedges accumulated in OCI (*CFHOCI*). Column (1) reports the results for the pre-ASU 2017-12 period. Column (2) presents the results for the post-ASU 2017-12 period. Column (3) shows the results for the full sample. Column (4) reports the results from the difference-in-differences analysis. All specifications control for size, leverage, growth, and industry-year fixed effects.

The sample period spans from 2011 to 2022. The pre-ASU 2017-12 period includes firm-year observations with fiscal years beginning before December 15, 2018, while the post-ASU 2017-12 period includes those with fiscal years beginning after this date. T-statistics are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. One-tailed tests are used when a directional prediction is made; otherwise, two-tailed tests are applied. Variable definitions are provided in Table 13 in the Appendix.

4.3. Cash Flow Hedges and Future Stock Returns

4.3.1. Trading Strategy Test

Panel A of Table 5 presents the results from the trading strategy test for the pre-ASU 2017-12 period. The monthly risk-adjusted returns for the top and bottom deciles, as reflected in their alpha estimates, are nearly identical. Accordingly, the net-zero investment trading strategy—taking long (short) positions in firms with the largest unrealized losses (gains) on cash flow hedges—does not yield a significant abnormal return. Furthermore, across all decile portfolios, the results show no signs of a negative association between CFHOCI and future stock returns prior to ASU 2017-12. For instance, decile 7 is the only portfolio with a statistically significant positive return, despite ranking among those with the highest unrealized gains on cash flow hedges. These empirical results are consistent with the findings of Campbell et al. (2021), which report no evidence of significant mispricing of cash flow hedges during this time period.

Panel B of Table 5 presents the corresponding results for the post-ASU 2017-12 period. Interestingly, the magnitude of the return differential between the lowest and highest CFHOCI deciles appears to have increased relative to the pre-period, though the difference remains statistically insignificant. Thus, the net-zero investment strategy does not yield a significant abnormal return in the post-implementation period either. However, when considering the full sample, future stock returns seem to become increasingly negative for the higher deciles. In particular, deciles 8 and 9 record the lowest risk-adjusted returns, both of which are statistically significant at the 1% level. This suggests that while a trading strategy focused solely on the extreme deciles may not yield significant abnormal returns, there is some indication that future stock returns tend to be lower for firms with higher CFHOCI. This pattern is noteworthy and raises the possibility that the negative association between CFHOCI and future stock returns may have re-emerged—or at least strengthened—following the adoption of ASU 2017-12.

Table 5. Risk-adjusted returns by cash flow hedge decile.

Dependent variable: *$EXRET_{i,t}$*

Panel A: Pre-ASU 2017-12

	1	2	3	4	5	6	7	8	9	10
Alpha	0.111	0.097	0.062	-0.102	0.056	0.013	0.132*	-0.010	0.008	0.111
	(1.023)	(1.175)	(0.730)	(-1.202)	(0.690)	(0.174)	(1.756)	(-0.116)	(0.088)	(1.153)
Mkt_RF	0.920***	0.942***	0.945***	0.928***	0.920***	0.908***	0.869***	0.921***	0.914***	0.901***
	(21.536)	(25.810)	(29.084)	(30.133)	(30.010)	(29.703)	(28.268)	(33.197)	(29.980)	(26.048)
SMB	0.331***	0.281***	0.276***	0.340***	0.371***	0.379***	0.439***	0.362***	0.349***	0.393***
	(5.019)	(5.386)	(6.022)	(6.857)	(7.316)	(9.184)	(8.580)	(7.161)	(6.871)	(6.850)
HML	0.002	0.006	0.048	0.081	-0.017	0.018	-0.079	-0.044	-0.081	-0.124*
	(0.026)	(0.113)	(1.049)	(1.617)	(-0.363)	(0.373)	(-1.442)	(-0.915)	(-1.407)	(-1.908)
RMW	-0.233***	-0.067	0.116*	0.143**	0.066	0.159**	0.196**	0.054	0.115	0.186*
	(-2.645)	(-0.989)	(1.905)	(2.525)	(0.932)	(2.554)	(3.079)	(0.869)	(1.558)	(1.902)
CMA	0.387***	0.193**	0.155**	0.092	0.198**	0.105	-0.038	0.138*	0.091	0.100
	(3.430)	(2.219)	(1.991)	(1.182)	(2.515)	(1.420)	(-0.435)	(1.941)	(1.149)	(0.972)
MOM	-0.161***	-0.038	-0.002	-0.050	-0.057	-0.022	-0.121***	-0.049	-0.085**	-0.131***
	(-3.122)	(-0.879)	(-0.060)	(-1.417)	(-1.475)	(-0.679)	(-3.360)	(-1.444)	(-2.261)	(-3.138)
R2	0.136	0.167	0.172	0.169	0.183	0.184	0.185	0.199	0.176	0.150
Firms	424	424	424	423	423	423	423	423	423	423
Alpha 1-10	0.000									
p-value	0.998									
Annual return	0.05%									

Panel B: Post-ASU 2017-12

	1	2	3	4	5	6	7	8	9	10
Alpha	0.034	-0.225	-0.237*	0.044	0.032	-0.298**	-0.202	-0.368***	-0.487***	-0.140
	(0.196)	(-1.633)	(-1.896)	(0.365)	(0.301)	(-2.395)	(-1.445)	(-3.099)	(-3.968)	(-0.722)
Mkt_RF	1.006***	0.908***	0.893***	0.881***	0.876***	0.953***	0.955***	0.930***	0.946***	1.018***
	(26.585)	(30.414)	(31.233)	(35.225)	(29.012)	(30.850)	(29.565)	(31.549)	(30.792)	(21.955)
SMB	0.684***	0.523***	0.495***	0.312***	0.401***	0.321***	0.327***	0.495***	0.500***	0.569***
	(8.733)	(8.762)	(7.599)	(5.282)	(6.962)	(5.502)	(5.863)	(9.753)	(8.763)	(9.419)
HML	0.277***	0.202***	0.103*	0.191***	0.135***	0.083	0.028	0.090*	0.255***	0.217***
	(4.234)	(4.882)	(1.971)	(4.755)	(3.187)	(1.555)	(0.534)	(1.689)	(5.147)	(3.675)
RMW	0.157**	0.199***	0.250***	0.210***	0.167***	0.144**	0.096	0.262***	0.237***	0.103
	(2.119)	(3.342)	(4.362)	(3.732)	(2.780)	(2.096)	(1.368)	(4.127)	(4.188)	(1.195)
CMA	0.322***	0.143**	0.224***	0.040	0.067	0.134**	0.138**	0.141**	0.076	0.145*
	(3.777)	(2.112)	(3.155)	(0.692)	(1.104)	(2.160)	(2.002)	(2.034)	(1.042)	(1.889)
MOM	-0.146***	-0.123***	-0.119***	-0.125***	-0.070*	-0.048	-0.103**	-0.075*	-0.094**	-0.123**
	(-3.225)	(-3.174)	(-3.234)	(-3.516)	(-1.817)	(-1.159)	(-2.408)	(-1.781)	(-2.588)	(-2.383)
R2	0.273	0.281	0.285	0.291	0.283	0.287	0.303	0.309	0.326	0.268
Firms	240	240	240	240	240	239	239	239	239	239
Alpha 1-10	0.174									
p-value	0.502									
Annual return	2.11%									

This table presents abnormal returns regressions by CFHOCI decile using monthly stock returns. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. The model is estimated from the fourth month of year *t+1* to the third month of year *t+3*. *EXRET* is the monthly return minus the risk-free rate factor from Fama and French (1993). *MKT_RF*, *SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

4.3.2. Difference-in-Differences Analysis

Table 6 presents the results from the DiD analysis designed to estimate the expected variation in future returns across all deciles, and to assess whether the implementation of ASU 2017-12 has significantly affected this relationship. Consistent with the results reported in Table 5, the coefficient for *CFHOCI_DECILE* is insignificant in the pre-implementation period, indicating no negative association between CFHOCI and future stock returns under previous reporting requirements. In contrast, the coefficient becomes negative and statistically significant at the 5% level in the post-period, suggesting that future returns are, on average, lower for firms with large cash flow hedge gains. The interaction term *CFHOCI_DECILE×POST* in column (4) further indicates that ASU 2017-12 has had a pronounced negative effect on this relationship, with the coefficient also significant at the 5% level. Thus, the DiD analysis and the trading strategy test (Table 5) provide somewhat mixed evidence. Nevertheless, the DiD specification is arguably more informative, as it captures variation across the full cross-section of firms rather than focusing solely on the extremes. This broader design reduces sensitivity to outliers and can enhance statistical power, thereby supporting more reliable inference.

The negative relationship between CFHOCI and future stock returns reported in Table 6 is indicative of a delayed market reaction, suggesting that investors do not immediately price in the future earnings implications conveyed by CFHOCI at the time of its disclosure. This implies that the mispricing of cash flow hedges observed under SFAS 133 (Makar et al., 2013; Campbell, 2015) may have re-emerged under ASU 2017-12, which raises questions about the revised hedge accounting framework's effectiveness in providing investors with decision-useful information. The results of Campbell et al. (2021) suggest that market mispricing of cash flow hedges is fundamentally driven by inadequate disclosure quality. Accordingly, one potential explanation for the apparent re-emergence of this inefficiency under ASU 2017-12 is the decline in disclosure compliance following its adoption, as observed by Troyer et al. (2023). Moreover, building on the findings of Chen et al. (2020), the adverse effect may also be partially attributable to the elimination of separate measurement and disclosure of hedge ineffectiveness. This supports the view that aggregating effective and ineffective hedges reduces transparency and impairs investors' ability to distinguish future economic effects from accounting noise arising from hedge misalignment.

Table 6. Multivariate regression of monthly excess returns on Fama-French (1993) and Carhart (1997) factors and CFHOCI deciles.

Dependent variable: *$EXRET_{i,t}$*

	Pre-ASU 2017-12	Post-ASU 2017-12	Full sample	
	(1)	(2)	(3)	(4)
Alpha	0.066	0.051	0.078	0.048
	(1.020)	(0.493)	(1.451)	(0.742)
MKT_RF	0.918***	0.934***	0.930***	0.931***
	(71.021)	(76.125)	(94.044)	(94.142)
SMB	0.353***	0.460***	0.417***	0.417***
	(16.667)	(20.195)	(23.915)	(23.969)
HML	-0.017	0.163***	0.109***	0.113***
	(-0.840)	(8.432)	(7.303)	(7.564)
RMW	0.074***	0.181***	0.150***	0.157***
	(2.712)	(7.440)	(8.097)	(8.214)
CMA	0.138***	0.138***	0.139***	0.136***
	(4.225)	(5.404)	(6.704)	(6.589)
MOM	-0.070***	-0.100***	-0.063***	-0.062***
	(-4.690)	(-6.795)	(-6.352)	(-6.307)
CFHOCI_DECILE	-0.002	-0.041**	-0.017*	0.001
	(-0.228)	(-2.434)	(-1.839)	(0.083)
POST				0.077
				(0.629)
CFHOCI_DECILE×POST				-0.049**
				(-2.422)
S.E. clustered by	Firm	Firm	Firm	Firm
R2	0.169	0.285	0.224	0.224
Firms	4,233	2,395	6,628	6,628

This table presents abnormal return regressions using monthly stock returns in the pre- and post-ASU 2017-12 periods and across the entire sample period. The model is estimated from the fourth month of year *t+1* to the third month of year *t+3*. *CFHOCI_DECILE* denotes each firm's assigned decile based on *CFHOCI*. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. *POST* is an indicator set to 1 for all time periods after ASU 2017-12 became effective. *EXRET* is the monthly return minus the risk-free rate factor from Fama and French (1993). *MKT_RF, SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

4.4. Additional Analyses

4.4.1. COVID-19 Robustness Check

The main results suggest that the magnitude of the inverse association between CFHOCI and future firm performance remains unchanged under ASU 2017-12, consistent with H1. However, the post-ASU 2017-12 period overlaps with the COVID-19 pandemic, during which certain industries were severely affected both in terms of earnings and gains/losses on hedge contracts. In particular, the Entertainment, Transportation, and Petroleum and Natural Gas industries experienced significant disruptions due to widespread restrictions and a sharp decline in crude oil prices. While the disruptive effects of the pandemic were not limited to these industries alone, they were by far the three sectors with the lowest average *EBT* in 2020 across the entire sample. Table 7 presents mean values of *EBT*, *ΔEBT* and *CFHOCI* for these specific industries. The extreme growth in future earnings observed within these sectors is mainly attributable to the unusually low baseline levels of *EBT* in 2020. This may distort the results and obscure the effect of ASU 2017-12. Additionally, Campbell (2015) argues that the association between *CFHOCI* and future earnings relies on the assumption that the underlying price movement generating the hedge gain/loss reflects a persistent rather than a transitory price change. The decline in crude oil prices during the pandemic may be considered transitory, as prices recovered fairly quickly and subsequently increased following the initial shock (Zou, 2024).

Table 7. Mean values of *EBT*, Δ*EBT*, and *CFHOCI* in 2020 for industries significantly affected by the COVID-19 pandemic.

Industry	*EBT*	Δ*EBT*	*CFHOCI*
Entertainment	-0.5827	0.6123	-0.0074
Petroleum and Natural Gas	-0.2453	0.3237	-0.0033
Transportation	-0.0970	0.2493	-0.0084
Full sample	0.0314	0.0534	-0.0046

This table presents mean values of *EBT*, Δ*EBT*, and *CFHOCI* for the year 2020 for firms in the Transportation, Entertainment, and Petroleum and Natural Gas industries. The bottom row reports the corresponding figures for the full sample. *EBT* is defined as earnings before taxes scaled by net sales in year *t*. Δ*EBT* reflects the change in *EBT* from year *t* to year *t+2*. *CFHOCI* represents unrealized/gains losses on cash flow hedges scaled by net sales in year *t*.

To address these concerns and mitigate potential distortions from the COVID-19 crisis, the DiD model used to test H1 is re-estimated after excluding 2020 observations for the Entertainment, Transportation, and Petroleum and Natural Gas industries. As an additional robustness check, the analysis is also repeated with all 2020 observations removed. The results of these supplementary tests are presented in Table 8. Column (1) reports the results from the main analysis, which indicate that the coefficient on the interaction term *CFHOCI*×*POST* is negative. Columns (2) and (3) present the results of the additional analyses. Notably, the coefficient on the interaction term turns positive under these specifications. Thus, while the baseline findings provide a tentative indication that the economic magnitude of the inverse association between CFHOCI and future earnings may have strengthened following ASU 2017-12, the additional tests suggest that the incremental effect is close to zero or even slightly positive. This pattern implies that the coefficient estimate observed in the main analysis may, at least in part, be attributable to pandemic-related effects. In particular, substantial hedge losses due to the steep decline in oil prices, together with extreme growth in future earnings resulting from unusually low baseline levels in 2020, appear to inflate the strength of the inverse relationship in the post-ASU 2017-12 period. Nevertheless, it is important to note that the interaction effect remains statistically insignificant across all specifications. The additional tests therefore provide further support for H1, indicating that the negative association between CFHOCI and future firm performance has not changed in economic magnitude following ASU 2017-12. Hence, the results from the main analysis are robust.

Table 8. Multivariate regression of 2-year change in future earnings on accumulated unrealized cash flow hedge gains/losses – Excluding firm-year observations significantly affected by the COVID-19 pandemic in 2020

Dependent variable: $\Delta EBT_{i,t\ to\ t+2}$

		Full Sample	Excluding industries heavily affected by COVID-19	Excluding entire year of 2020
	Predict	(1)	(2)	(3)
CFHOCI	(-)	-0.321*	-0.452**	-0.445**
		(-1.471)	(-2.023)	(-1.986)
SIZE	(?)	-0.002**	-0.002**	-0.002***
		(-2.356)	(-2.226)	(-2.780)
LEVERAGE	(?)	0.054***	0.051***	0.051***
		(7.402)	(7.247)	(6.941)
GROWTH	(?)	-0.001	-0.001	0.002
		(-1.102)	(-0.640)	(1.548)
CFHOCI×POST	(?)	-0.600	0.099	0.364
		(-1.058)	(0.230)	(0.760)
Year fixed effects		Yes	Yes	Yes
Industry fixed effects		Yes	Yes	Yes
S.E. clustered by		Firm	Firm	Firm
R2		0.064	0.060	0.058
Firms		7,967	7,923	7,301

This table presents the result from the difference-in-differences regression of future earnings growth (ΔEBT) on unrealized gains/losses on cash flow hedges accumulated in OCI (*CFHOCI*). Column (1) reports results for the full sample. Column (2) excludes observations from 2020 in the Entertainment, Transportation, and Petroleum and Natural Gas industries. Column (3) excludes all observations from the year 2020. The model controls for size, leverage, and growth, and industry-year fixed effects. T-statistics are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. One-tailed tests are used when a directional prediction is made; otherwise, two-tailed tests are applied. Variable definitions are provided in Table 13 in the Appendix.

4.4.2. Cross-Sectional Tests

While ASU 2017-12 applies to all entities electing to apply hedge accounting under U.S. GAAP, certain firms may have been disproportionately affected by the regulatory update. To account for this and further explore the market pricing of cash flow hedges, additional tests of H2 are conducted using two distinct sub-samples. The first sub-sample comprises the five industries that reported the largest absolute increases in CFHOCI (scaled by net sales) in the first fiscal year following the adoption of ASU 2017-12:[3] Precious Metals, Communication, Healthcare, Business Services, and Textiles. Given the diversity of these industries, it is unlikely that the observed changes in CFHOCI were driven by a shared exposure to a specific economic shock. Rather, the substantial changes indicate that firms within these industries made significant adjustments to their financial reporting and likely increased their use of cash flow hedges in response to the revised accounting rules. Hence, the results for this sub-sample may better capture the direct effects of the new standard.

The second sub-sample includes industries identified by Campbell et al. (2021) as particularly reliant on hedging: Transportation, Utilities, Aircraft, Petroleum and Natural Gas, and Automobiles and Trucks. The potential impact of ASU 2017-12 on these industries is twofold. On the one hand, firms in these sectors may be particularly sensitive to changes in hedge accounting regulation due to their extensive use of derivatives. On the other hand, the standard's primary objective was to simplify and expand access to hedge accounting. Given the critical role of hedging in these industries, firms may have already undertaken the effort to comply with the more stringent hedge accounting requirements under previous standards. As such, the simplifications introduced by ASU 2017-12 may have had a limited incremental effect on their accounting practices. This is consistent with the fact that none of these industries are among the ones that experienced the largest absolute increases in CFHOCI following the regulatory update. Accordingly, the contrast between the two sub-samples offers a useful setting for examining how the market pricing of cash flow hedges under ASU 2017-12 may vary across sectors.

Table 9 presents the results from the trading strategy test for the sub-sample comprising the five industries that reported the largest absolute increases in CFHOCI in the first fiscal

[3] ASU 2017-12 became effective for fiscal years beginning after December 15, 2018. Accordingly, 2019 represents the first full fiscal year in which the standard was mandatorily applied.

year in which ASU 2017-12 was adopted.[4] Consistent with the results for the full sample, taking a long (short) position in firms with the highest unrealized losses (gains) does not yield a significant abnormal return in the pre-implementation period. In the post-period, the risk-adjusted return for decile 10 is negative and statistically significant at the 5% level, with the trading strategy generating an annualized abnormal return of 9.93%. This is substantially higher than the corresponding return for the full sample. However, the return differential between decile 1 and 10 remains statistically insignificant, as the standard errors of the alpha estimates are relatively large. Thus, the results do not provide strong evidence that the trading strategy yields a positive abnormal return.

Table 10 presents the corresponding results for the sub-sample of industries identified by Campbell et al. (2021) as particularly reliant on cash flow hedges. For this set of firms, the trading strategy earns a negative annual return in the pre-period, although the difference in alpha is far from statistically significant. In the post-period, the portfolio of firms with the highest unrealized losses on cash flow hedges generates a positive and marginally significant abnormal return. The annualized return of the net-zero investment strategy is 7.01%, which is lower than the return observed for the first sub-sample. Nevertheless, the return differential between decile 1 and 10 is once again statistically insignificant, providing no strong support for the effectiveness of the long-short strategy.

Table 9. Risk-adjusted returns by cash flow hedge decile – Industries with the largest absolute increases in CFHOCI in the first fiscal year after adopting ASU 2017-12.

Dependent variable: $EXRET_{i,t}$

	Pre-ASU 2017-12		Post-ASU 2017-12	
	1	10	1	10
Alpha	0.136	-0.115	-0.088	-0.880**
	(0.434)	(-0.381)	(-0.154)	(-2.080)
Mkt_RF	0.838***	0.903***	1.079***	0.915***
	(5.173)	(11.048)	(9.937)	(7.870)
SMB	0.222	0.090	0.864***	0.344**
	(1.511)	(0.826)	(3.733)	(2.458)
HML	-0.161	0.002	-0.004	0.227*
	(-1.216)	(0.017)	(-0.017)	(1.858)
RMW	-0.687**	-0.137	0.208	-0.002
	(-2.595)	(-0.712)	(0.848)	(-0.009)
CMA	0.073	-0.375*	0.363	0.066
	(0.251)	(-1.765)	(1.087)	(0.341)
MOM	-0.349***	-0.033	0.003	-0.175
	(-2.780)	(-0.411)	(0.022)	(-1.410)

[4] For brevity, Table 9 and Table 10 reports the results for only the top and bottom cash flow hedge deciles. Risk-adjusted returns for all deciles are presented in the Appendix.

R2	0.122	0.179	0.230	0.223
Firms	64	63	39	38
Alpha 1-10	0.251		0.792	
p-value	0.564		0.266	
Annual return	3.05%		9.93%	

This table presents abnormal returns regressions by CFHOCI decile using monthly returns for the top five industries with the largest changes in CFHOCI in the first fiscal year where ASU 2017-12 was adopted: Precious Metals, Communication, Healthcare, Business Services, and Textiles. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. The model is estimated from the fourth month of year *t+1* to the third month of year *t+3*. *EXRET* is the monthly return minus the risk-free rate factor from Fama and French (1993). *MKT_RF*, *SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 10. Risk-adjusted returns by cash flow hedge decile – Industries heavily reliant on cash flow hedges.

Dependent variable: $EXRET_{i,t}$

	Pre-ASU 2017-12		Post-ASU 2017-12	
	1	10	1	10
Alpha	-0.225	0.335*	0.606*	0.040
	(-0.764)	(1.696)	(1.814)	(0.091)
Mkt_RF	1.024***	0.787***	0.914***	0.978***
	(13.704)	(8.750)	(11.892)	(9.017)
SMB	0.500***	0.377**	0.502*	0.345**
	(3.177)	(2.292)	(2.015)	(2.295)
HML	0.030	-0.048	0.657***	0.414***
	(0.213)	(-0.292)	(6.645)	(3.171)
RMW	0.009	0.489*	-0.038	0.080
	(0.045)	(1.925)	(-0.258)	(0.480)
CMA	0.421	0.209	0.080	0.237
	(1.565)	(0.765)	(0.460)	(1.273)
MOM	-0.232*	-0.131	-0.192	-0.179
	(-1.776)	(-1.178)	(-1.670)	(-1.609)
R2	0.160	0.126	0.303	0.275
Firms	80	79	39	38
Alpha 1-10	-0.560		0.566	
p-value	0.757		0.306	
Annual return	-6.52%		7.01%	

This table presents abnormal returns regressions by CFHOCI decile using monthly stock returns for the industries that Campbell et al. (2021) classify as derivative intense: Utilities, Aircraft, Transportation, Petroleum and Natural Gas, and Automobiles and Trucks. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. The model is estimated from the fourth month of year *t+1* to the third month of year *t+3*. *EXRET* is the monthly return minus the risk-free rate factor from Fama and French (1993). *MKT_RF*, *SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 11 provides the results from the DiD analysis for each sub-sample. The coefficient on the interaction term *CFHOCI_DECILE×POST* is negative and significant at the 5% level for the group of industries that reported the largest absolute changes in CFHOCI following the implementation of ASU 2017-12, indicating that the association between CFHOCI and future stock returns has become increasingly negative under the new standard. Given that this sub-sample may more directly reflect the implications of the reporting changes introduced by ASU 2017-12, the findings provide further support for the view that the regulatory update may have inadvertently impaired investors' ability to understand the link between CFHOCI and future firm performance. For the sub-sample of industries that have historically been particularly reliant on cash flow hedges, the interaction effect is marginally significant at 10%, and the estimated coefficient (-0.077) is smaller than that observed for the first sub-sample (-0.135). This indicates that investors may be better equipped to interpret the future earnings implications of CFHOCI for firms with a longstanding use of cash flow hedge derivatives.

These results provide some indication that the mispricing of CFHOCI is primarily driven by firms that substantially expanded their use of cash flow hedges after adopting ASU 2017-12, likely enabled by the simplified qualification requirements. It is reasonable to assume that these firms have less experience with hedge accounting compared to those that have traditionally been heavily reliant on cash flow hedges. Hence, the inefficiency may stem from lower disclosure quality due to limited preparer experience, which hinder investors' ability to accurately interpret the future earnings signals conveyed by CFHOCI. This interpretation is consistent with Troyer et al. (2023), who find that the decline in disclosure compliance under ASU 2017-12 is less pronounced among early adopters, as these firms tend to have more prior knowledge of the accounting guidance and provide higher-quality disclosures. Thus, the negative relationship between CFHOCI and future stock returns may not solely reflect shortcomings in the revised disclosure requirements, but could also result from difficulties in applying them among less experienced firms newly adopting or expanding their use of cash flow hedge accounting. In any case, the empirical analysis indicates that further regulatory updates may be necessary to ensure that financial statement users are provided with high-quality information that enables more accurate interpretation of the forward-looking signals contained in CFHOCI.

Table 11. Multivariate regression of excess returns on Fama-French (1993) and Carhart (1997) factors and CFHOCI deciles – Sub-samples of selected industries.

Dependent variable: $EXRET_{i,t}$

	Industries with largest changes in CFHOCI after adopting ASU 2017-12		Industries heavily reliant on cash flow hedges	
	(1)	(2)	(3)	(4)
Alpha	0.158	0.010	0.054	-0.083
	(0.999)	(0.058)	(0.479)	(-0.554)
MKT_RF	0.910***	0.911***	0.855***	0.855***
	(37.928)	(37.968)	(33.923)	(34.043)
SMB	0.287***	0.289***	0.270***	0.269***
	(6.573)	(6.625)	(6.220)	(6.215)
HML	-0.020	-0.012	0.247***	0.248***
	(-0.552)	(-0.343)	(6.793)	(6.932)
RMW	-0.075	-0.061	0.093*	0.092*
	(-1.488)	(-1.181)	(1.889)	(1.776)
CMA	0.086*	0.080	0.285***	0.282***
	(1.674)	(1.552)	(5.951)	(5.874)
MOM	-0.049*	-0.048*	-0.094***	-0.094**
	(-1.932)	(-1.894)	(-3.605)	(-3.587)
CFHOCI_DECILE	-0.016	0.034	-0.009	0.018
	(-0.601)	(1.199)	(-0.424)	(0.767)
POST		0.378		0.406
		(1.089)		(1.346)
CFHOCI_DECILE×POST		-0.135**		-0.077*
		(-2.466)		(-1.695)
S.E. clustered by	Firm	Firm	Firm	Firm
R2	0.197	0.198	0.200	0.201
Firms	1,022	1,022	1,182	1,182

This table presents abnormal return regressions across the entire sample period for two sub-samples. Column (1) and (2) presents the results for the top five industries with the largest absolute changes in CFHOCI in the first fiscal year where ASU 2017-12 was adopted: Precious Metals, Communication, Healthcare, Business Services, and Textiles. Column (3) and (4) presents the results for the industries Campbell et al. (2021) classify as derivative intense: Utilities, Aircraft, Transportation, Petroleum and Natural Gas, and Automobiles and Trucks. The model is estimated from the fourth month of year *t+1* to the third month of year *t+3*. *CFHOCI_DECILE* denotes each firm's assigned decile based on CFHOCI.

Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. *POST* is an indicator set to 1 for all time periods after ASU 2017-12 became effective. *EXRET* is the monthly return minus the risk-free rate factor from Fama-French (1993). *MKT_RF*, *SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

4.4.3. Timing of the Stock Price Adjustment

In the main analysis, abnormal returns were estimated using a two-year window, consistent with Campbell et al. (2021). Specifically, the model's estimation period begins in the fourth month of year *t+1*, the month in which the 10-K for year *t* is filed and investors can observe the firm's CFHOCI, and ends in the third month of year *t+3*. One potential limitation with this approach is that it does not allow for a clear identification of *when* investors revise their expectations. To further explore the timing of stock price adjustments in response to CFHOCI, the two-year return window used in the main analysis is divided into two distinct sub-periods. The first period spans the 12 months immediately after CFHOCI is reported; from the fourth month of year *t+1* to the third month of year *t+2*. A negative association between CFHOCI and risk-adjusted returns during this period would suggest that investors price in the future earnings implications of CFHOCI already before they are reflected in actual performance. The second period covers the subsequent twelve months; from the fourth month of year *t+2* to the third month of year *t+3*. By this stage, the hedge has typically matured, and the firm is fully exposed to the underlying risk that initially gave rise to the unrealized hedge gain/loss. If firms that reported large unrealized hedge gains (losses) in year *t* experience significantly negative (positive) abnormal returns during this sub-period, it would indicate that investors fail to recognize the predictive value of CFHOCI at the time of disclosure, and instead adjust their expectations only after the underlying earnings effects start to materialize. Table 17 in the Appendix presents an illustrative example that captures when the stock price adjustment is expected to occur depending on the efficiency of the market.

Figure 4 presents the monthly abnormal return estimates by cash flow hedge decile during the first sub-period. Based on this graph, there appears to be no clear relationship between CFHOCI and stock returns for either the pre- or post-ASU 2017-12 samples. Almost all estimates are statistically insignificant, with the sole exception being decile 6 in the post-period. As such, stock prices do not appear to incorporate the informational value of CFHOCI within the first 12 months following its disclosure.

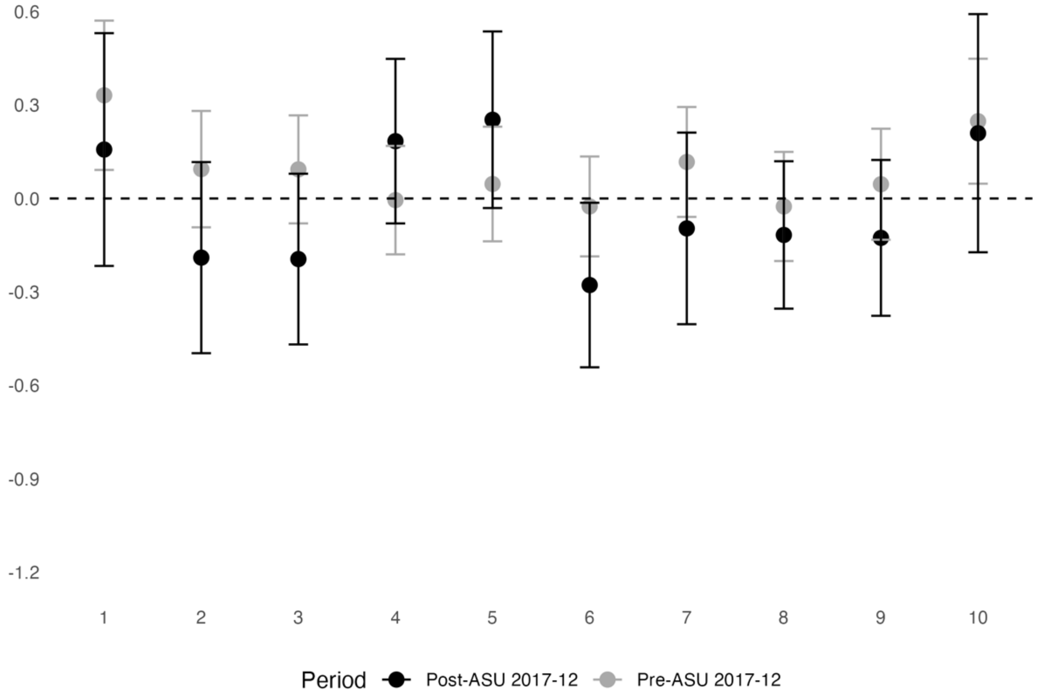

Figure 4. Monthly abnormal return estimates by CFHOCI decile: Before hedge expires.

This figure presents monthly abnormal return estimates from the fourth month of year *t+1* to the third month of year *t+2* across CFHOCI deciles in the pre- and post-ASU 2017-12 periods. The estimates are plotted with 90% confidence intervals based on standard errors clustered at the firm level.

Figure 5 displays the relationship between CFHOCI and stock returns during the second sub-period—that is, after the hedge expires. For the post-ASU 2017-12 sample, the alpha estimates for deciles 8, 9, and 10 are all negative and statistically significant, indicating that risk-adjusted returns tend to be more negative for firms that reported large unrealized hedge gains in year *t*. This pattern indicates that investors are ultimately surprised when earnings decline, suggesting that their ability to accurately interpret the relationship between CFHOCI and future firm performance has weakened following the implementation of ASU 2017-12. Taken together, Figures 4 and 5 appear to suggest that investors begin to revise their expectations only when the earnings implications of CFHOCI start to materialize in year *t+2*, despite the fact that this information was disclosed as early as year *t*.

Finally, it is noteworthy that none of the lower CFHOCI deciles earn significantly positive abnormal returns. Thus, investors appear to price in the positive earnings implications of hedge losses in a timely manner, but not the negative signals from hedge gains. One possible explanation is that firms place greater emphasis on clarifying the positive outlook associated with hedge losses, while being less explicit about the downside of hedge gains. Alternatively, this asymmetry could reflect the well-documented human tendency to respond more strongly to negative information (Taylor, 1991; Baumeister et al., 2001).

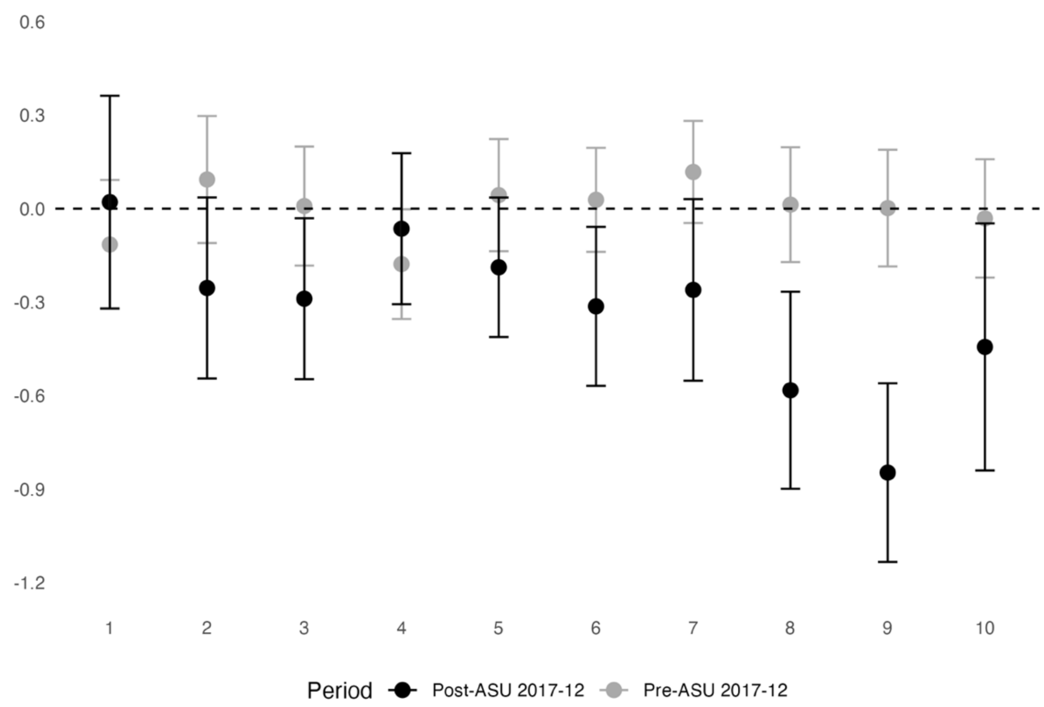

Figure 5. Monthly abnormal return estimates by CFHOCI decile: After hedge expires.

This figure presents monthly abnormal return estimates from the fourth month of year *t+2* to the third month of year *t+3* across CFHOCI deciles in the pre- and post-ASU 2017-12 periods. The estimates are plotted with 90% confidence intervals based on standard errors clustered at the firm level.

Given that Figure 5 conveys the idea that investors are surprised when the earnings effects conveyed by CFHOCI begin to materialize operationally, the empirical tests from main analysis are reperformed to formally examine whether this delayed market reaction is more pronounced in the post-ASU 2017-12 period. That is, the model is re-estimated from the fourth month of year *t+2* to the third month of year *t+3*. These results are presented in Table 12. The coefficient on *CFHOCI_DECILE* is statistically insignificant in the pre-period (column 1), but turns negative and significant at the 1% level in the post-period (column 2), suggesting that stock returns during this sub-period tend to be more negative for firms that reported large unrealized hedge gains in year *t*. Furthermore, the coefficient on the interaction term *CFHOCI_DECILE×POST* in column (4) is also negative and strongly significant at 1%, providing further support for the view that the delayed market reaction is more pronounced following the implementation of ASU 2017-12. These results reinforce the interpretation of Figures 4 and 5, namely that investors' ability to accurately assess the future earnings implications of CFHOCI at the time of its disclosure appears to have been impaired in the post-adoption period. Rather than incorporating this information immediately, stock prices appear to adjust only after the hedge matures and the associated earnings effects begin to manifest in reported performance.

Table 12. Multivariate regression of monthly excess returns on Fama-French (1993) and Carhart (1997) factors and CFHOCI deciles – After hedge expires.

Dependent variable: *EXRET*$_{i,t}$

	Pre-ASU 2017-12	Post-ASU 2017-12	Full sample	
	(1)	(2)	(3)	(4)
Alpha	-0.063	0.021	-0.012	-0.052
	(-0.832)	(0.163)	(-0.188)	(-0.695)
MKT_RF	0.926***	0.950***	0.942***	0.943***
	(67.528)	(73.740)	(23.956)	(91.481)
SMB	0.364***	0.494***	0.085***	0.436***
	(16.316)	(20.220)	(23.956)	(23.828)
HML	-0.002	0.129***	0.148***	0.094***
	(-0.109)	(6.172)	(5.475)	(6.145)
RMW	0.099***	0.183***	0.148***	0.159***
	(3.295)	(6.991)	(7.376)	(7.776)
CMA	0.120***	0.218***	0.194***	0.186***
	(3.422)	(7.598)	(8.572)	(8.167)
MOM	-0.076***	-0.111***	-0.063***	-0.060***
	(-4.756)	(-6.500)	(-5.830)	(-5.545)
CFHOCI_DECILE	0.116	-0.058***	-0.014	0.102
	(0.932)	(-2.619)	(-1.225)	(1.140)
POST				0.102
				(0.674)
CFHOCI_DECILE×POST				-0.080***
				(-3.093)
S.E. clustered by	Firm	Firm	Firm	Firm
R2	0.185	0.283	0.229	0.229
Firms	4,233	2,395	6,628	6,628

This table presents abnormal return regressions using monthly stock returns in the pre- and post-ASU 2017-12 periods and across the entire sample period. The model is estimated from the fourth month of year *t+2* to the third month of year *t+3*. *CFHOCI_DECILE* denotes each firm's assigned decile based on CFHOCI. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. *POST* is an indicator set to 1 for all time periods after ASU 2017-12 became effective. *EXRET* is the monthly return minus the risk-free rate factor from Fama and French (1993). *MKT_RF, SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

5. Conclusion

This study offers several important insights into the effectiveness of ASU 2017-12 from a decision-usefulness perspective. While the predictive value of unrealized gains/losses on cash flow hedges with respect to future firm performance appears to persist under the revised hedge accounting framework, investors' ability to interpret this relationship seems to have weakened. Rather than incorporating the forward-looking information contained in hedge gains/losses at the time of disclosure, investors appear to revise their expectations only once the underlying economic effects become observable in reported earnings. This finding is indicative of a potential decline in disclosure quality under ASU 2017-12, which may hinder financial statement users from understanding what hedge gains/losses signal about future firm performance. The empirical analysis further suggests that the mispricing of cash flow hedges is greater among firms that substantially expanded their use of such instruments after adopting ASU 2017-12, indicating that the apparent decline in disclosure quality may be concentrated within specific firms or industries, thereby contributing to heterogeneity in how cash flow hedges are priced across sectors.

With respect to disclosures under ASU 2017-12, this study identifies three potential factors that may contribute to the mispricing of cash flow hedges. First, the removal of separate measurement and disclosure of hedge ineffectiveness limits investors' ability to distinguish between changes in economic risk exposures (the effective portion of the hedge) and accounting noise (the ineffective portion). As a result, the aggregation of effective and ineffective hedges may obscure the forward-looking information contained in the cash flow hedge reserve, making it more difficult for investors to understand its implications for future earnings. However, given that the ineffective portion of most hedges is typically small in magnitude, this is unlikely to be the sole driver of the observed mispricing. Second, the pricing inefficiency may be attributable to a broader decline in disclosure compliance under the revised framework, as documented by Troyer et al. (2023). While ASU 2017-12 was intended to simplify hedge accounting and reduce compliance costs, the findings of this study suggest that it may have inadvertently undermined disclosure quality, thereby impairing investors' ability to interpret cash flow hedge information. Finally, the substantial increase in derivatives designated as cash flow hedges following the implementation of the simplified qualification criteria indicates that ASU 2017-12 has likely prompted firms with little or no prior experience to adopt hedge accounting. As disclosure quality tends to be lower among such firms, this may help explain why the mispricing appears to be more pronounced among those that expanded their use of cash flow hedge accounting after adopting the new standard.

No prior study has examined the information content of cash flow hedges under ASU 2017-12 and its implications for market pricing. By filling this gap, this study responds to calls for research on the effectiveness of the new standard (Campbell et al., 2019), while also contributing to the broader literature on financial reporting usefulness and accounting anomalies. From a regulator perspective, the empirical results provide critical insights for the FASB in evaluating the effectiveness of ASU 2017-12 in conveying decision-useful information to capital providers. The analyses are also relevant for the IASB in its forthcoming post-implementation review of hedge accounting under IFRS 9. While both ASU 2017-12 and IFRS 9 aimed to simplify hedge accounting, the former went one step further and removed the separate measurement and disclosure of hedge ineffectiveness. Given that the findings indicate that this change may have inadvertently impaired investors' ability to interpret the future earnings implications of CFHOCI, the IASB may wish to exercise caution before adopting similar simplifications.

This study is subject to certain limitations that should be acknowledged. While common risk factors are accounted for when examining the market pricing of cash flow hedges, it remains possible that the observed negative association between CFHOCI and future stock returns is driven by an unobserved risk factor not captured by the model. Furthermore, the post-implementation period used to assess the effects of ASU 2017-12 coincides with a period of tumultuous macroeconomic conditions, including the COVID-19 pandemic, elevated inflation, and Russia's full-scale invasion of Ukraine. Although the analyses controls for industry-year fixed effects and relies on risk-adjusted returns, it is difficult to fully rule out the possibility that heightened market volatility during this time may have influenced the results. Finally, the post-adoption sample used in this study is smaller than that of Campbell et al. (2021). This may have contributed to the relatively high variation within each decile in the trading strategy tests, potentially explaining the lack of statistically significant alpha differences between the top and bottom deciles.

A fruitful avenue for future research is to replicate this study in an IFRS context. Although U.S. GAAP and IFRS share many similarities, they differ in important aspects, particularly following ASU 2017-12. Neither this study nor prior work by Campbell (2015) or Campbell et al. (2021) examines the information content of cash flow hedges under IFRS. Accordingly, future research focusing explicitly on the decision-usefulness of cash flow hedges under IFRS 9 could offer valuable insights for the IASB and contribute to the broader understanding of hedge accounting across reporting regimes.

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7. Appendix

Table 13. Definitions of variables.

Variable	Definition
EBT	Earnings before taxes scaled by net sales
Δ*EBT*	Change in *EBT* from year *t* to *t+2*
CFHOCI	Unrealized gains/losses on cash flow hedges accumulated in other comprehensive income scaled by net sales
SIZE	Natural logarithm of total assets
LEVERAGE	Total liabilities divided by total assets
GROWTH	Market value of assets divided by book value of assets
MULTINATIONAL	Indicator equal to 1 if firm reports non-zero foreign exchange income/loss
CAPEX	Capital expenditures divided by total assets
QUICK_RATIO	Current assets less inventory divided by current liabilities
TAX_CONVEXITY	Net-operating loss carry forward scaled by total assets
EXRET	Monthly stock return minus risk-free rate factor from Fama and French (1993)

Table 14. Multivariate regression of **1-year** change in future earnings on accumulated unrealized cash flow hedge gains/losses.[5]

Dependent variable: $\Delta EBT_{i,t\ to\ t+1}$

		Pre-ASU 2017-12	Post-ASU 2017-12	Full Sample	
	Predict	(1)	(2)	(3)	(4)
CFHOCI	(?)	-0.299	-0.354	-0.310	-0.276
		(-1.245)	(-0.795)	(-1.383)	(-1.148)
SIZE	(?)	-0.001**	-0.003*	-0.002***	-0.002***
		(-2.182)	(-1.738)	(-2.876)	(-2.883)
LEVERAGE	(?)	0.040***	0.042***	0.041***	0.041***
		(7.484)	(2.933)	(7.707)	(7.718)
GROWTH	(?)	0.003***	-0.001	0.001	0.001
		(3.021)	(-0.524)	(1.540)	(1.539)
CFHOCI×POST	(?)				-0.094
					(-0.195)
Year fixed effects		Yes	Yes	Yes	Yes
Industry fixed effects		Yes	Yes	Yes	Yes
S.E. clustered by		Firm	Firm	Firm	Firm
R2		0.033	0.084	0.053	0.053
N		5,469	2,357	7,826	7,967

This table presents the results from the multivariate regression analysis of future earnings growth (Δ*EBT*) on unrealized gains/losses on cash flow hedges accumulated in OCI (*CFHOCI*). Here, the 1-year change in future earnings before taxes is used as the dependent variable instead of the 2-year change. Column (1) reports the results for the pre-ASU 2017-12 period. Column (2) presents the results for the post-ASU 2017-12 period. Column (3) shows the results for the full sample. Column (4) reports the results from the difference-in-differences analysis. All specifications controls for size, leverage, growth, and industry-year fixed effects. The sample period spans from 2011 to 2022. The pre-ASU 2017-12 period includes firm-year observations with fiscal years beginning before December 15, 2018, while the post-ASU 2017-12 period includes those with fiscal years beginning after this date. T-statistics are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. One-tailed tests are used when a directional prediction is made; otherwise, two-tailed tests are applied. Variable definitions are provided in Table 13 in the Appendix

[5] The sample size is slightly reduced compared to the main test, as some firms lack data for the year immediately following the estimation year, which is required to calculate the 1-year change in future earnings.

Table 15. Risk-adjusted returns by cash flow hedge decile – Sub-sample of industries with the largest absolute increases in CFHOCI in the first fiscal year after adopting ASU 2017-12.

Dependent variable: $EXRET_{i,t}$

Panel A: Pre-ASU 2017-12

	1	2	3	4	5	6	7	8	9	10
Alpha	0.136	0.376	0.232	-0.030	-0.055	0.288	0.291	0.427*	0.449**	-0.115
	(0.434)	(1.644)	(1.089)	(-0.139)	(-0.221)	(1.446)	(1.594)	(1.830)	(2.496)	(-0.381)
Mkt_RF	0.838***	0.757***	0.891***	0.811***	0.961***	0.859***	0.759***	0.875***	0.957***	0.903***
	(5.173)	(8.418)	(11.250)	(9.185)	(12.161)	(14.283)	(7.803)	(13.043)	(12.899)	(11.048)
SMB	0.222	0.229*	0.283**	0.324***	0.439***	0.103	0.290	0.138	0.028	0.090
	(1.511)	(1.689)	(2.293)	(2.704)	(2.810)	(1.069)	(1.644)	(0.928)	(0.255)	(0.826)
HML	-0.161	-0.078	-0.000	-0.177	-0.175	0.005	-0.249	-0.287*	-0.083	0.002
	(-1.216)	(-0.642)	(-0.001)	(-1.606)	(-1.444)	(0.032)	(-1.635)	(-1.777)	(-0.749)	(0.017)
RMW	-0.687**	-0.016	0.028	0.031	-0.087	-0.061	0.011	-0.327**	-0.012	-0.137
	(-2.595)	(-0.127)	(0.218)	(0.232)	(-0.516)	(-0.454)	(0.057)	(-2.084)	(-0.090)	(-0.712)
CMA	0.073	-0.096	-0.087	0.061	0.025	-0.014	-0.292	0.157	-0.423**	-0.375*
	(0.251)	(-0.459)	(-0.419)	(0.324)	(0.122)	(-0.077)	(-1.138)	(0.628)	(-2.571)	(-1.765)
MOM	-0.349***	-0.123	0.130*	-0.028	-0.025	0.014	-0.096	-0.106	-0.082	-0.033
	(-2.780)	(-1.674)	(1.743)	(-0.333)	(-0.279)	(0.206)	(-0.846)	(-1.152)	(-0.914)	(-0.411)
R2	0.122	0.118	0.155	0.148	0.177	0.176	0.148	0.158	0.204	0.179
Firms	64	64	64	64	64	64	64	64	63	63
Alpha 1-10	0.251									
p-value	0.564									
Annual return	3.05%									

Panel B: Post-ASU 2017-12

	1	2	3	4	5	6	7	8	9	10
Alpha	-0.088	-0.072	-0.426	-0.305	0.407	-0.176	-0.350	0.452	-0.561**	-0.880**
	(-0.154)	(-0.177)	(-1.677)	(-0.891)	(1.494)	(-0.489)	(-0.896)	(1.362)	(-2.588)	(-2.080)
Mkt_RF	1.079***	0.923***	0.860***	0.942***	0.884***	0.928***	0.928***	0.923***	0.890***	0.915***
	(9.937)	(15.174)	(11.269)	(15.445)	(11.051)	(10.348)	(10.107)	(12.140)	(13.502)	(7.870)
SMB	0.864***	0.431***	0.041	-0.030	0.388**	0.158	0.353**	0.470***	0.451***	0.344**
	(3.733)	(3.315)	(0.265)	(-0.202)	(2.329)	(1.304)	(2.705)	(3.100)	(2.758)	(2.458)
HML	-0.004	0.207**	0.032	0.060	0.072	0.097	-0.415**	-0.236	0.004	0.227*
	(-0.017)	(2.249)	(0.222)	(0.629)	(0.602)	(0.778)	(-2.548)	(-1.654)	(0.044)	(1.858)
RMW	0.208	-0.028	0.045	-0.124	-0.039	0.010	-0.217	-0.425**	0.017	-0.002
	(0.848)	(-0.171)	(0.313)	(-0.765)	(-0.197)	(0.059)	(-1.085)	(-2.360)	(0.098)	(-0.009)
CMA	0.363	0.168	0.165	0.059	0.023	-0.108	0.592***	0.087	0.463***	0.066
	(1.087)	(1.100)	(0.733)	(0.531)	(0.142)	(-0.576)	(3.425)	(0.546)	(5.154)	(0.341)
MOM	0.003	0.032	-0.240*	-0.253**	-0.004	-0.045	-0.267*	0.064	-0.300***	-0.175
	(0.022)	(0.274)	(-1.957)	(-2.489)	(-0.043)	(-0.544)	(-1.797)	(0.631)	(-3.062)	(-1.410)
R2	0.230	0.229	0.277	0.316	0.259	0.255	0.265	0.270	0.349	0.223
Firms	39	39	39	39	38	38	38	38	38	38
Alpha 1-10	0.792									
p-value	0.266									
Annual return	9.93%									

This table presents abnormal returns regressions by CFHOCI decile using monthly stock returns for the top five industries with the largest changes in CFHOCI in the first fiscal year where ASU 2017-12 was adopted: Precious Metals, Communication, Healthcare, Business Services, and Textiles. Panel A (B) presents the result for the pre- (post-) ASU 2017-12 period. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. The model is estimated from the fourth month of year *t+1* to the third month of year *t+3*. *EXRET* is the monthly return minus the risk-free rate factor from Fama and French (1993). *MKT_RF*, *SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels.

Table 16. Risk-adjusted returns by cash flow hedge decile – Sub-sample of industries heavily reliant on cash flow hedges.

Dependent variable: $EXRET_{i,t}$

Panel A: Pre-ASU 2017-12

	1	2	3	4	5	6	7	8	9	10
Alpha	-0.225	0.203	0.037	-0.077	-0.389*	0.065	-0.166	-0.086	0.199	0.335*
	(-0.764)	(1.159)	(0.236)	(-0.429)	(-1.695)	(0.363)	(-0.902)	(-0.474)	(0.951)	(1.696)
Mkt_RF	1.024***	0.854***	0.826***	0.854***	0.897***	0.845***	0.844***	0.834***	0.897***	0.787***
	(13.704)	(10.812)	(11.813)	(10.254)	(10.890)	(10.853)	(10.961)	(14.435)	(11.148)	(8.750)
SMB	0.500***	0.127	0.053	0.020	0.047	0.287**	0.390***	0.524***	0.248**	0.377**
	(3.177)	(1.148)	(0.585)	(0.215)	(0.425)	(2.515)	(4.270)	(5.475)	(2.549)	(2.292)
HML	0.030	-0.259*	-0.153	-0.060	0.190	0.111	0.024	0.178	0.246	-0.048
	(0.213)	(-1.779)	(-1.415)	(-0.634)	(1.443)	(0.879)	(0.330)	(1.654)	(1.634)	(-0.292)
RMW	0.009	-0.151	0.196	0.048	0.264	0.127	0.305**	0.090	-0.035	0.489*
	(0.045)	(-0.799)	(1.401)	(0.327)	(1.649)	(0.626)	(2.514)	(0.707)	(-0.171)	(1.925)
CMA	0.421	0.895***	0.440**	0.458**	0.219	0.515**	0.108	0.044	0.194	0.209
	(1.565)	(3.545)	(2.370)	(2.334)	(1.030)	(2.547)	(0.631)	(0.265)	(0.996)	(0.765)
MOM	-0.232*	-0.020	0.008	-0.029	-0.154	-0.173	-0.128	-0.288***	-0.034	-0.131
	(-1.776)	(-0.180)	(0.075)	(-0.231)	(-1.494)	(-1.499)	(-1.574)	(-3.060)	(-0.240)	(-1.178)
R2	0.160	0.155	0.127	0.143	0.158	0.172	0.185	0.229	0.159	0.126
Firms	80	80	80	80	80	80	79	79	79	79
Alpha 1-10	-0.560									
p-value	0.757									
Annual return	-6.52%									

Panel B: Post-ASU 2017-12

	1	2	3	4	5	6	7	8	9	10
Alpha	0.606*	0.422	-0.358	0.234	0.153	-0.191	0.237	-0.781**	-0.365	0.040
	(1.814)	(0.956)	(-1.351)	(0.643)	(0.512)	(-0.823)	(0.878)	(-2.703)	(-0.822)	(0.091)
Mkt_RF	0.914***	0.841***	0.730***	0.781***	0.775***	0.750***	0.795***	0.920***	1.100***	0.978***
	(11.892)	(13.950)	(8.804)	(15.083)	(11.191)	(14.043)	(12.351)	(14.780)	(11.978)	(9.017)
SMB	0.502*	0.124	0.277	0.059	0.064	0.186	-0.079	0.536***	0.466***	0.345**
	(2.015)	(0.957)	(1.352)	(0.465)	(0.533)	(1.325)	(-0.725)	(4.204)	(3.564)	(2.295)
HML	0.657***	0.486***	0.177**	0.399***	0.343***	0.214	0.489***	0.193*	0.395**	0.414***
	(6.645)	(5.078)	(2.680)	(3.247)	(3.742)	(1.611)	(2.930)	(1.871)	(2.540)	(3.171)
RMW	-0.038	-0.103	0.289	-0.014	-0.067	0.205**	-0.527**	0.392**	0.139	0.080
	(-0.258)	(-0.716)	(1.486)	(-0.080)	(-0.434)	(2.266)	(-2.077)	(2.444)	(1.080)	(0.480)
CMA	0.080	0.108	0.339**	0.211	0.309**	0.247*	0.485***	0.208	-0.069	0.237
	(0.460)	(0.899)	(2.514)	(1.388)	(2.271)	(1.924)	(2.821)	(1.421)	(-0.335)	(1.273)
MOM	-0.192	-0.029	-0.123	-0.121	-0.305***	0.053	-0.238***	-0.225*	-0.085	-0.179
	(-1.670)	(-0.300)	(-1.662)	(-1.423)	(-3.507)	(0.654)	(-2.835)	(-1.749)	(-1.069)	(-1.609)
R2	0.303	0.230	0.228	0.263	0.279	0.271	0.235	0.351	0.379	0.275
Firms	39	39	39	39	39	39	38	38	38	38
Alpha 1-10	0.566									
p-value	0.306									
Annual return	7.01%									

This table presents abnormal returns regressions by CFHOCI decile using monthly stock returns for the industries that Campbell et al. (2021) classify as derivative intense: Utilities, Aircraft, Transportation, Petroleum and Natural Gas, and Automobiles and Trucks. Panel A (B) presents the result for the pre- (post-) ASU 2017-12 period. Within each decile, monthly returns are truncated at the 1st and 99th percentiles to mitigate the influence of extreme observations. The model is estimated from the fourth month of year *t+1* to the third month of year *t+3*. *EXRET* is the monthly return minus the risk-free rate factor from Fama and French (1993). *MKT_RF*, *SMB*, *HML*, *RMW*, *CMA*, *MOM* are defined as in Fama and French (1993) and Carhart (1997). T-statistics based on two-tailed tests are presented within parenthesis. Standard errors are clustered by firm to control for heteroscedasticity and serial correlation. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 17. Illustrative example explaining the association between unrealized gains/losses on cash flow hedges and 1) future earnings and 2) future stock returns.

Illustrative example: In late 2022, an airline enters into a 1-year forward contract to lock in the current jet fuel price of $100 per barrel and hedge against future price increases. The forward qualifies for hedge accounting and is designated as a cash flow hedge. By the end of 2022, the price of jet fuel has risen to $120 per barrel.

	2022	2023	2024
Event	Hedge at $100; prices rise to $120	Hedge matures	Firm is fully exposed to the price increase
Earnings implications	+$20 in CFHOCI; hedge gain signals future cost pressure	CFHOCI recycled to earnings, offsets higher jet fuel cost	Earnings decline due to higher jet fuel cost ($120)
Efficient market	Investors incorporate CFHOCI signal; immediate stock price adjustment	No further price adjustment; future earnings implications are already priced in	No further price adjustment; future earnings implications are already priced in
Stock price	⇓	⇒	⇒
Inefficient market	Investors misinterpret CFHOCI; no stock price adjustment	Investors misinterpret CFHOCI; no stock price adjustment	Investors are surprised when earnings decline; stock price drops
Stock price	⇒	⇒	⇓

Statement on the Usage of AI

AI has been used to a limited extent throughout this study. ChatGPT, the only AI tool employed, was used for two specific purposes: occasional language assistance and troubleshooting specific code segments within the R scripts used for data analysis. In terms of language assistance, ChatGPT was used to identify typos or grammatical errors in pre-written paragraphs. Regarding coding, it was helpful in spotting minor mistakes when a script failed to run as intended. As such, AI did not generate any original content and had no material influence on the final output. Given this limited use, the potential risks associated with AI are considered negligible. Nevertheless, AI tools can make mistakes, and so the coding process was carried out with great caution, following a step-by-step approach with regular sanity checks to minimize the risk of potential errors. For example, when calculating the two-year forward-looking change in EBT, the code initially failed to run. ChatGPT suggested a minor adjustment, which turned out to be slightly incorrect, as it did not account for cases where a firm had data for, say, 2011 and 2013 but not 2012. However, this issue was quickly identified through one of many sanity checks (a code that counted the number of observations for each year where two-year-ahead data was available), which made it easy to detect and correct the error. Overall, while AI did not have any significant impact on the final version of the study, it arguably improved the readability of the thesis and contributed to a more efficient research process.