

Do investors pay sufficient attention to banks' unrealized gains and losses on available-for-sale securities?

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Abstract Unrealized gains and losses on available-for-sale securities (AFSGL) are included in Other Comprehensive Income (OCI) and directly affect shareholders' equity but are not included in net income. We investigate whether investors incorporate the information conveyed by unrealized AFSGL in stock prices in a timely manner. We conduct our investigation on a sample of banks because unrealized AFSGL are a material component of OCI in the banking industry. First, we document an annual difference of 5% in future abnormal returns between banks in the top and bottom quintiles of past unrealized AFSGL. We find that investors are slow to react to the information about unrealized AFSGL. Second, we document that a zero-cost trading strategy that relies on public information regarding unrealized AFSGL generates a sizeable monthly alpha that ranges between 1.8% and 1.9%. Third, we document that financial analysts are slow to react to unrealized AFSGL. Finally, we show that unlike for banks, investors do not exhibit a delayed reaction to unrealized AFSGL in an industry where comprehensive income is a more prominent performance measure and that the 2011 change in the presentation format option for unrealized AFSGL did not eliminate price predictability. Taken together, our study shows that investors fail to fully incorporate information about unrealized AFSGL, which creates stock price predictability.

Keywords: Other comprehensive income, investor attention, banks, available-for-sale securities.

1 Introduction

Investors' associations and standard setters alike have expressed concern about the lack of investor attention to other comprehensive income (OCI) (Hoogervorst, 2014; CFA Institute, 2015). OCI includes items that are excluded from net income but included in comprehensive income, which is defined as "all changes in equity of an entity that result from recognized transactions and other economic events of the period other than transactions with owners in their capacity as owners."¹ Although unrealized gains and losses in OCI bypass the income statement, they directly affect equity, i.e., they do not affect earnings reported each quarter, but alter shareholders' equity. OCI is material for banks because banks hold a large fraction of their investments as "available-for-sale" (AFS) securities (e.g., Laux and Leuz, 2010).

An important feature of AFS securities is that unrealized AFSGL are recorded in the statement of comprehensive income as OCI. These gains and losses are recognized in earnings when they are realized (i.e., when a bank sells its securities), a process known as "recycling," that allows managers to strategically time the recognition of gains and losses in the income statement (Dong and Zhang, 2017). Information about unrealized AFSGL is publicly available – it is reported in annual and quarterly reports – and is potentially important for investors to assess bank performance because these gains and losses can significantly affect shareholders' equity. However, the exclusion of AFSGL from widely followed earnings figures may affect investors' attention. An important line of research suggests that investors may overlook some relevant information, especially when that information is perceived as less important or is too complex to process.² In this study, we assess the extent to which investors correctly process information

¹ ASC Topic 220 – Comprehensive Income.

² For instance, Klubanoff et al. (1998) document that investors assign more or less weight to country-specific news depending on their prominence in the media. Huberman and Regev (2001), using the stock price effect of a New

about unrealized AFSGGL communicated through OCI. It is possible that the information about AFS securities contained in OCI, i.e., the level of *unrealized* gains and losses, is rapidly processed and priced by investors. Conversely, if investors do not fully impound this information in stock prices in a timely manner, there may be a price drift on average, i.e., return predictability based on this information. Our study asks whether there is such a return predictability for banks, a sector in which accounting for investment securities through OCI is material.

There are several reasons why unrealized AFSGGL in the banking industry may be overlooked by investors. First, a common view regarding OCI items is that they are transitory and noisy in nature and therefore, unlike earnings or cash flows, have low persistence and limited relevance for firm valuation (e.g., Jones and Smith, 2011). Second, disclosures of OCI in financial statements are sometimes complex to analyze. For instance, until 2011, under both US GAAP and IFRS, entities could disclose OCI as part of the statement of changes in shareholders' equity along with distributions and contributions from shareholders, which could potentially increase the complexity of analyzing OCI (Maines and McDaniel, 2000). Since 2012, firms are required to disclose OCI in a separate statement, but sometimes provide little additional detail in the notes to the financial statements. Third, there is currently only limited available granular information provided by data aggregators, which limits investors' ability to conduct financial analysis on AFS securities (CFA Institute, 2015). Fourth, conceptually, OCI seems to lack a well-defined basis; its creation appears to be rather ad hoc (Rees and Shane, 2012; Black, 2016). There is no clear conceptual distinction between items booked in the income statement and items

York Times article about the development of a new cancer-curing drug that was already made public in a scientific journal, corroborate the argument that the prominence of news affects investors' attention to relevant information. In the context of earnings announcements, Hirshleifer et al. (2009) and Frederickson and Zolotoy (2016) document that having several contemporaneous earnings announcements distracts investors and leads to lower reaction to earnings announcements. In the larger context of information disclosure, Hirshleifer and Teoh (2003) show analytically how investor inattention can drive financial reporting choices (e.g., *pro forma* earnings disclosure or segment reporting).

booked in OCI, or which items should be recycled in earnings. Fifth, managers, investors and analysts have a tendency to focus on earnings, thus potentially creating a “functional fixation” on earnings (e.g., Hand, 1990; Elliott et al., 2011; Lansford et al., 2013). An illustration of such a fixation is provided by the discussions surrounding the introduction of the AFS category for investments in the US (SFAS 115) that was initially proposed by the FASB to limit the selective sales of investment securities.³ Opponents argued that because unrealized AFSGL would bypass the income statement, the proposed rules did not address the underlying issue of incentives for selective sales of securities. This deficiency is especially critical given investors’ fixation on earnings (Dong and Zhang, 2017).

Despite the potentially inaccurate view that OCI items have little relevance for investment decisions, they are an integral part of performance reporting because they provide relevant information about the amount, uncertainty, and timing of future cash flows of the portfolio of investment securities held by a bank (CFA Institute, 2015). As explained by Hoogervorst (2014), the chairman of the IASB, ignoring OCI items can significantly bias the perception of firm performance because “[U]nrealised income does not only consist of gains, but also of losses. Downplaying the significance of unrealised losses can be very hazardous.” An important reason why OCI items are relevant for investors is that managers generally are not neutral in their use of OCI items. For investment securities classified as AFS, unrealized gains and losses are booked in OCI and do not affect current earnings; AFSGL are recycled in earnings when they are later realized. For this reason, managers have an incentive to “sell the winners and keep the losers”, i.e., to realize unrealized gains more often, avoid booking unrealized losses, and provide only

³ Prior to SFAS 115 (now ASC Topic 320), investment securities were measured at historical cost and gains or losses recognized when securities were sold.

limited disclosures about unrealized losses.⁴ Past studies document that OCI losses are more frequent than OCI gains, presumably because unrealized gains on AFS securities are realized more often than unrealized losses in order to increase earnings (Mulford et al., 2013). Indeed, Dong and Zhang (2017) document that banks sell AFS securities to smooth earnings and meet or beat analysts' earnings forecasts, arguably because investors pay less attention to unrealized AFSGL (see also Fabrizi et al., 2015; Barth et al., 2016).

In this study, we investigate whether unrealized AFSGL are fully and rapidly incorporated into stock prices.⁵ We conduct our analysis on a sample of 5,452 bank-year observations drawn from the Compustat Bank Fundamentals Annual universe over the period 2001 to 2014. We document that if banks' earnings per share (EPS) were adjusted for net unrealized losses (gains) on AFS securities, EPS would decrease (increase) on average by 31 cents (21 cents). In addition, we confirm that unrealized AFSGL help predict future performance, by showing that unrealized AFSGL in one period explain *earnings change* in the next period. The predictive ability of unrealized AFSGL is economically large; a one quintile increase in unrealized AFSGL predicts a 6.3 percent increase in the next year's change in EPS.

Importantly, we document that investors fail to rapidly impound the information in unrealized AFSGL in stock prices. We find a difference in annual abnormal returns of 5% between banks in the top and bottom quintiles of the distribution of reported unrealized AFSGL in the previous fiscal year. The difference persists after controlling for realized earnings and other priced risk-factors such as size and book-to-market. We also double sort bank-year observations

⁴ Nonetheless, unrealized losses on AFS securities, if deemed other-than-temporary, must be recognized in earnings. In practice, the process of determining whether a loss is 'other-than-temporary' is subjective (Badertscher et al., 2014).

⁵ Under US GAAP, there are currently four items measured in OCI: (1) pension related re-measurements, (2) foreign currency translation adjustments, (3) unrealized AFSGL, and (4) effective portion of cash flow and net investment hedges. Under IFRS, OCI also includes (optional) revaluations of property, plant and equipment and intangible assets.

based on their level of unrealized AFSGL and earnings and find that this predictable price change cannot be explained by post-earnings announcement drift. We find that investors are slow to react to the information in unrealized AFSGL and do not respond to the information about past unrealized AFSGL for at least one month after the information becomes public. However, we find a significant response four months after the information becomes public and this response doubles 10 months after the information was first released. Next, to exploit this apparent inefficiency, we employ a zero-cost (i.e., long-short) investment strategy based on public information about unrealized AFSGL. Each year, we rank banks in descending order of unrealized AFSGL and buy (sell) the top (bottom) quintile of banks. This strategy generates a monthly alpha ranging between 1.8% and 1.9%, which persists after controlling for several known priced risk-factors such as market return, size, book-to-market, and momentum.

Next, we investigate whether and how sell-side financial analysts, who are sophisticated market participants that process and disseminate financial information to other market participants, use the information in unrealized AFSGL in their stock recommendations and earnings forecasts. First, we document that the probability of a stock recommendation revision is not related to unrealized AFSGL, which suggests that analysts do not change their perception of the fundamental value of a stock based on the level of unrealized AFSGL. Second, we find that financial analysts are more likely to revise their earnings forecasts downwards for banks that report unrealized losses on AFS securities, which suggests that they accurately assess the impact of unrealized AFSGL on future earnings. However, we find a stronger relation between unrealized AFSGL and the likelihood of earnings forecast revisions between six and nine months after the fiscal year-end than between three and six months after the fiscal year-end. This result

suggests that like investors, analysts are also slow to incorporate the information contained in unrealized AFSGL in their earnings forecasts.

In order to benchmark our findings and corroborate our interpretation, which is based on lack of investor attention, we also investigate unrealized AFSGL in another industry where, unlike the banking industry, investors are less likely to be fixated on net income. We use a sample of 750 observations from the investment industry of firm-years with non-zero unrealized AFSGL. We reason that if lack of investor attention drives our findings, then investors in investment firms that hold significant financial assets classified as AFS should pay closer attention to OCI items because comprehensive income affects book value per share, an important valuation indicator for investment firms. We find that the positive association between unrealized AFSGL and stock prices vanishes after one week, which suggests that unrealized AFSGL are impounded into stock prices within one week after earnings announcement. Thus, unlike for banks, we do not find evidence that investors fail to rapidly process the information related to unrealized AFSGL for investment firms. This result is consistent with the argument that investors pay closer attention to comprehensive income when it is a more prominent measure of performance.

We also test whether the lack of attention that leads to stock price predictability disappears after 2011, when the presentation option for unrealized AFSGL in the statement of changes in shareholders' equity was eliminated (ASU, 2011). The presentation of unrealized AFSGL in a separate statement has arguably increased the prominence of this information for banks that chose this presentation format prior to 2012 but may not have affected investors' fixation on earnings. We do not find evidence that investors' attention to unrealized AFSGL increased after 2011,

which suggests that the more prominent reporting of unrealized AFSGL did not increase investors' attention to this information.

We contribute to the literature related to the implications of financial reporting for banks (e.g., Barth, 1994; Ahmed and Takeda, 1995; Barth et al., 1995; Evans et al., 2014; Barth et al., 2016; Dong and Zhang, 2017). Some studies argue that because OCI is less prominent, managers are able to use OCI items, such as unrealized AFSGL, to smooth earnings (Barth et al., 2016; Dong and Zhang, 2017). Our research complements these studies by documenting that investors are indeed inattentive to unrealized AFSGL. It also complements studies that examine the relevance of OCI (e.g., Dhaliwal et al., 1999; Kanagaretnam et al., 2009; Campbell, 2010; Jones and Smith, 2011; Rees and Shane, 2012; CFA Institute, 2015; Black, 2016) and provides evidence of investor inattention (Hirshleifer and Teoh, 2003) in the banking industry setting. In addition, our study provides information to standard setters on the implications of the set of rules for performance reporting. This evidence is particularly timely as the IASB in 2014 added Performance Reporting to its research agenda, which also includes the role of OCI.⁶ As explained by Hoogervorst (2016): “Maybe [the IASB] could even succeed in finding a better place for elements of income that are currently parked in OCI”. Our study is also relevant to investors for analyzing bank performance as we demonstrate that unrealized AFSGL information is not fully priced. We believe our findings are relevant beyond the banking industry as they illustrate a common issue regarding OCI reporting that also affects other industries such as insurance.

The remainder of this paper is organized as follows. We briefly review the related literature in Section 2, develop our hypotheses in Section 3, describe our data in Section 4, report our main findings in Section 5, discuss additional analyses in Section 6, and conclude in Section 7.

⁶See: <http://www.ifrs.org/Meetings/MeetingDocs/Other%20Meeting/2015/March/AP9-Performance-Reporting-GPF-March-2015.pdf> (accessed April 17, 2016).

2. Background and prior research

2.1. Other comprehensive income: Background

Under US GAAP, there are currently four main items included in OCI: (1) Foreign currency translation adjustments, (2) Unrealized gains and losses on derivatives contracts accounted for as cash flow hedges, (3) Unrealized gains and losses on AFS securities, and (4) Pension-related adjustments. We focus on the third component of OCI, i.e., unrealized AFSGL because this component is material for the banking industry. We note that under SFAS 115, if some unrealized losses on AFS securities are considered other-than-temporary, they must be recycled in earnings prior to being realized (FASB, 1993). Nonetheless, this requirement is open to significant managerial discretion.⁷ In April 2009, the FASB revised SFAS 115 to modify the model for assessing other-than-temporary impairment for investments in debt securities.⁸ The standard differentiates between the credit and the non-credit components of other-than-temporary impairments of debt securities. If management intends to sell the security prior to its recovery, it has to recognize the entire impairment loss. Conversely, if management intends to hold the security until its recovery, only the credit component of the impairment must be recognized in earnings. Empirical evidence suggests that investors react more strongly to the credit component of other than temporary impairment than to the non-credit component (Badertscher et al., 2014).

AFS securities comprise a significant portion of banks' assets. Using a sample of US banks, Laux and Leuz (2010) show that "large" ("small") bank holding companies report on average

⁷ See: <http://www.journalofaccountancy.com/issues/2009/mar/weatheringotti.html>

⁸ http://www.fasb.org/project/other-than-temporary_impairments.shtml

14.6% (17.8%) of their total assets as AFS securities.⁹ According to Papa (2013), “AFS assets typically comprise between 10% and 20% of total assets of a global bank’s balance sheet. For example, HSBC reported AFS assets in its 2012 annual report that are equivalent to 15.8% and 15.4% of total assets at the end of 2012 and 2011, respectively.” Several studies also document that unrealized AFSGGL are related to stock prices and stock returns (e.g., Dhaliwal et al., 1999; Kanagaretnam et al., 2009). We note however, that these studies do not explore whether unrealized AFSGGL are rapidly priced by market participants, which is the focus of our study.

2.2. Related literature

Ahmed and Takeda (1995) investigate the usefulness of OCI items over and above earnings, relying primarily on tests of value relevance (i.e., the association between accounting numbers and equity market values). Using data prior to the mandatory disclosure of OCI items, i.e., relying on “as-if reported OCI numbers”, Dhaliwal et al. (1999) find no evidence that comprehensive income is more strongly associated with stock returns or stock prices, or better able to predict future cash flows or earnings than net income. Interestingly, this study documents that the only component of comprehensive income that improves the association between income and returns is unrealized AFSGGL among financial firms. O’Hanlon and Pope (1999), using UK data, also find little value relevance of OCI numbers. However, Chambers et al. (2007), using “as reported OCI numbers”, find that in the post-SFAS 130 period, OCI items are priced on a dollar for dollar basis, which is consistent with OCI items being viewed as transitory. They further document that two particular OCI items are priced by investors – unrealized AFSGGL and foreign currency translation adjustments. Using Canadian firms cross-listed in the US that report actual

⁹ Large bank holding companies are defined as banks with total assets greater than \$100 billion and small bank holding companies are defined as banks with total assets between \$1 billion and \$100 billion.

data on OCI items to reconcile Canadian GAAP reporting with US GAAP, Kanagaretnam et al. (2009) find evidence that unrealized AFSGL and cash flow hedge components of OCI are significantly associated with stock prices and stock returns, and that the aggregate level of OCI has greater explanatory power for stock prices and stock returns than net income. Kanagaretnam et al. (2009) conclude that mandating OCI for all Canadian firms enhances the usefulness of financial statements. Dong et al. (2014) find that recycled gains and losses on banks' AFS securities are value relevant after controlling for a number of other items in comprehensive income. They also show that recycling helps investors predict banks' future performance because recycled AFSGL are used to smooth earnings.

Other studies investigate the effect of the OCI presentation format. Cahan et al (2000), using a sample of New Zealand firms, document that the format of OCI presentation, i.e., separately or as part of the statement of shareholders' equity, does not affect the relevance of OCI information. However, Hirst and Hopkins (1998) and Maines and McDaniel (2000) reach different conclusions. These two studies rely on experimental settings to investigate the effect of the OCI presentation format on its usefulness. Hirst and Hopkins (1998) explore buy-side analysts' interpretation of unrealized AFSGL. They conclude that a separate statement of comprehensive income improves transparency about firm value and reduces earnings management relative to a presentation of OCI in the statement of changes in shareholders' equity. Maines and McDaniel (2000) also find that nonprofessional investors' judgments of performance are affected by the format of presentation of comprehensive income. A separate format allows nonprofessional investors to better assess the volatility of comprehensive income. Unlike these studies, Chambers et al. (2007), using archival data, find that the inclusion of OCI items in the statement of shareholders' equity improves their usefulness. Bamber et al. (2010) find that

equity-based incentives and concerns over employment explain why most managers preferred to report comprehensive income in the statement of changes in shareholders' equity prior to the elimination of this option in 2011 (ASU, 2011).

Campbell (2010), using archival data, documents that unrealized gains on cash flow hedges are predictive of future decrease in profit margin because they convey information that the firm will be exposed to losses once the hedges expire. Campbell (2010) also documents that investors respond with a delay to the information in cash flow hedges.

Other studies review specific sectors, in particular the banking and the insurance sectors. The CFA Institute stresses the need to increase investor attention toward OCI in the banking sector (CFA Institute, 2015). Using a sample of 44 large international public banks, the study documents that OCI items are material. It also emphasizes the prevalence of a specific pattern, i.e., banks report net OCI losses more frequently than they report net income losses. The report also underscores the need to enhance the presentation and disclosure of OCI items, to improve the conceptual basis for OCI, and to provide additional granular information to data aggregators.

Barth et al. (2016) and Dong and Zhang (2017) also explore the reporting implications of AFS securities in the banking industry. These two studies find that AFS securities are used to smooth income by timing the period in which unrealized AFSGGL are recycled in earnings.¹⁰ We complement these two studies by empirically testing the conjecture that managers use AFS securities to smooth earnings because investors pay limited attention to this OCI item (Dong and Zhang, 2017).

¹⁰ These studies also find that the selective sales of AFS securities are used to manage regulatory capital (Barth et al., 2016) and to meet or beat analysts' earnings forecasts (Dong and Zhang, 2017).

Badertscher et al. (2014) investigate whether investors price other-than-temporary impairments (OTTI), i.e., unrealized losses in accumulated OCI that are reclassified to net income. Using a short window, they find that such impairments convey information incremental to that in reported underlying losses and provide information to investors and/or regulators regarding the perceived quality of assets held by banks.

Fabrizi et al. (2015) investigate whether banks shift risk from shareholders to creditors using fair value accounting for AFS securities and regulatory capital rules. They also find that banks strategically realize gains, by selling AFS securities in order to distribute dividends to shareholders, whereas unrealized losses on AFS securities tend to remain on the balance sheet. Nissim (2013) examines the accuracy of relative valuation methods for valuation of insurance companies. Interestingly, although most analysts exclude OCI from book value multiples, he finds that prediction accuracy improves with the inclusion of accumulated OCI in book value multiples. Our research adds to these studies by investigating the speed with which the information in unrealized AFSGI is impounded into stock prices by investors.¹¹

3. Hypotheses

Dichev et al. (2016) survey approximately 400 CFOs to explore the perceived drivers of earnings quality and the prevalence of earnings misrepresentation. In particular, a CFO interviewed by Dichev et al. (2016) explains how managers can use the timing of revenues and expenses to manage earnings “We were going to get a \$1.50 EPS number, and you could report anywhere from a \$1.45 to a \$1.55. [...] Well, what do we want the number to be within that range? We talk

¹¹ Several studies also investigate the consequences of fair value estimates of banks’ financial assets. Song et al. (2010) find that level 2 and level 3 fair value assets are priced lower than level 1 assets during 2008, and Goh et al. (2015) find that level 3 fair value estimates are priced lower than levels 1 and 2 estimates during 2008-2011 (see also Magnan et al., 2015). The results of these studies suggest that market participants are concerned with the reliability of certain fair value estimates.

about estimates: Do we recognize this in this quarter?... [...] All those sort of things, but mainly involving some sort of estimate and also a question of something where we had discretion of the time period in which we recognized the gain or the loss". This statement indicates that managers may be tempted to manage earnings by strategically recycling unrealized AFSGL in earnings in subsequent periods. Banks with increasing amounts of unrealized gains on AFS securities are likely to use them to increase earnings in subsequent periods. Barth et al. (2016) and Dong and Zhang (2017) present evidence that bank managers smooth earnings using the timing of recycled AFSGL. If bank managers recycle AFSGL, then current unrealized AFSGL should be related to changes in future earnings. Accordingly, we test the following hypothesis:

H1: Current unrealized AFSGL in OCI are related to future earnings changes.

Limited investor attention suggests that investors may overlook some relevant information when they are distracted or when processing costs are high. Hirshleifer et al. (2009) show that limited attention causes market under-reactions to earnings announcements. Extraneous news inhibits reaction to relevant information, for instance when a greater number of firms announce their earnings on the same day. Dellavigna and Pollet (2009) also present evidence of lower reaction and greater post-earnings announcement drift for firms announcing earnings on a Friday when investor attention is presumably lower. Hirshleifer and Teoh (2003) explain how different presentations of information can affect market prices when investors have limited attention and processing capacity. The authors examine theoretically how specific formats of presentation such as *pro forma* earnings, recognition on the income statement, or disclosure in the footnotes can affect investors' perceptions of public information. The exclusion of some unrealized gains and losses from earnings and their inclusion in OCI could lead to similar lack of attention, causing

investors to underreact. Drawing on this line of research, we investigate how the inclusion in OCI of unrealized AFSGL relates to investors' reaction to public information.

Nonetheless, it is possible that investors understand managers' incentives underlying the recognition of gains and losses in OCI and in earnings, i.e., managers are likely to realize gains on AFS securities more frequently than AFS losses in order to increase earnings, distribute dividends, or smooth regulatory capital. The distinction between unrealized AFSGL included in OCI and unrealized gains and losses on trading securities included in earnings is to some extent arbitrary. Large unexpected unrealized losses (gains) would be a negative (positive) signal because these losses (gains) indicate that investments are performing poorly (well) and that losses (gains) are likely to be recognized in earnings when they are realized later. In addition, investors may "see through" the presentation effect of unrealized AFSGL in OCI vs. in earnings (Rees and Shane, 2012). Unexpected unrealized losses (gains) should therefore rapidly negatively (positively) affect stock returns. However, because of limited investor attention and bounded processing capacity, it is also possible that investors do not fully and rapidly process the information in unrealized AFSGL. Hirshleifer and Teoh (2003) show that if investors have limited attention, the presentation of financial information is likely to affect investors' perceptions. Investors may therefore react with a delay to information about unrealized AFSGL. Therefore, we state our second hypothesis (in alternative form) as follows:

H2: Investors react with a delay to unrealized AFSGL.

We also examine the reaction of other market participants, namely sell-side financial analysts, to unrealized AFSGL. Analysts are important market participants who process and disseminate financial information. We investigate the effect of unrealized AFSGL on stock recommendations, which are widely available and easily understood even by less sophisticated

investors. Kecskes et al. (2016) document that changes in stock recommendations are used by analysts to signal a structural shift in the stock valuation, not to reflect incremental changes in perceived future performance. We posit that if analysts do not pay sufficient attention to unrealized AFSGL, they are unlikely to promptly change their stock recommendations based on reported unrealized AFSGL. Analysts may implicitly give less weight to reported unrealized AFSGL than to other sources of information such as reported earnings. Accordingly, we test the following hypothesis:

H3: Financial analysts incorporate the information in unrealized AFSGL in their stock recommendations with a delay.

We also focus on earnings forecasts because they are the most commonly followed indicators of future firm performance. There are differences between analysts' issuance of stock recommendations and earnings forecasts (e.g., Malmendier and Shanthikumar, 2014). Unrealized AFSGL affect future earnings because banks with large unrealized gains (losses) are likely to recycle gains (losses) and increase (decrease) earnings in future periods. Dichev et al. (2016) present anecdotal evidence reflecting how CFOs perceive financial analysts' ability to detect earnings management. According to one CFO, "[A]nalysts usually do not actively detect poor earnings quality. The good ones do, but the sell side has no incentive to detect earnings quality." It is possible that if, on average, sell-side analysts have difficulty detecting earnings manipulation, they are also unlikely to fully process the information conveyed by unrealized AFSGL. Using analysts' revisions of their forecasts of effective tax rates around tax-law changes, Plumlee (2003) shows that analysts assimilate less complex information to a greater extent than

they do more complex information.¹² Therefore, assuming that analysts have limited attention, we posit that financial analysts also respond to reported unrealized AFSGL with a delay and test the following hypothesis:

H4: Financial analysts incorporate the information in unrealized AFSGL in their earnings forecasts with a delay.

To corroborate that lack of investor attention explains the delay in investors' reaction to unrealized AFSGL, we examine whether specific industries are less exposed to this lack of attention. For firms in certain industries, comprehensive income is a more prominent performance indicator and investors are less likely to disregard information such as the information conveyed in OCI that affects book value per share (net asset value). In addition, to allow meaningful comparison with the banking industry, we need firms that hold a sizable proportion of financial assets classified as AFS securities. We focus on firms included in the three-digit SIC code 679 industry, which are investment firms that hold financial assets and are not classified elsewhere.¹³ We restrict our analysis to firms that report non-zero unrealized AFSGL. Given the specific nature of these investment firms, we posit that investors are likely to pay more attention to reported AFSGL securities because it affects book value per share, which is an important measure of performance. Therefore, we test the following hypothesis:

H5: Investors react in a timely manner to reported unrealized AFSGL of firms in the investment industry (SIC 679).

As indicated earlier, the FASB eliminated the option to report unrealized AFSGL in the statement of changes in shareholders' equity in 2011 (ASU, 2011) and required that it be reported

¹² Empirical evidence also suggests that analysts do not adjust for predictable reporting behaviors affecting earnings such as 14-week quarters instead of 13-week quarters (Johnston et al., 2012).

¹³ This three-digit SIC industry includes real estate investment trusts (REITs), mortgage REITs, private equity firms, and asset managers (e.g., American Capital, KKR Financial Holdings).

in a separate statement starting in 2012, thus making unrealized AFSGL more prominent for banks that were previously reporting it in the statement of changes in shareholders' equity. Reporting information about unrealized AFSGL in a standalone statement is more salient than if the same information was displayed in the statement of changes in shareholders' equity because this statement includes other information about distributions to and contributions from shareholders that are unrelated to a bank's performance (Maines and McDaniel, 2000). If investors pay more attention to unrealized AFSGL following its more prominent reporting in a standalone statement, we expect this information to be more rapidly incorporated in stock prices after 2011. Therefore, we test the following hypothesis.

H6: Investors incorporate the information in reported unrealized AFSGL in a timelier manner after 2011.

We note that it is ex ante unclear whether the more prominent reporting after 2011 is sufficient to increase investors' attention to unrealized AFSGL because it still bypasses the income statement. It is also possible that market participants' fixation on banks' earnings is unaffected by the change in presentation format which, in itself, may not be sufficient to ensure that investors process unrealized AFSGL more rapidly. Therefore, we may not be able to find support for H6.

4. Data and descriptive statistics

We collect annual accounting data from the Compustat Bank Fundamentals Annual universe over the period 2001 to 2014 (10,553 bank-year observations). We focus on annual accounting data for our main analyses because of the greater amount of disclosure of comprehensive income items in annual (audited) reports than in interim (unaudited) reports. We delete observations of

firms with negative equity values (33 observations). Following Jones and Smith (2011), we measure the value of unrealized AFSGL (ΔAFS) as the annual change in the balance of unrealized gains and losses on marketable securities categorized as available-for-sale securities (i.e., the change in the variable “marketable securities adjustment” (Compustat item #238)). Jones and Smith (2011) report that the correlation between this measure of unrealized AFSGL for investment securities and actual values obtained from hand collection exceeds 0.9. Appendix B provides an example of the statement of comprehensive income for a bank and our measure of unrealized AFSGL (ΔAFS). Appendix B also illustrates both the materiality of unrealized AFSGL and the volatility of the amounts reported. We delete observations for which the total value of marketable securities adjustment is unavailable (896 observations). Next, we require each bank-year observation to have stock price data available in CRSP for at least 250 trading days following the disclosure of the annual report. To facilitate sorting of banks based on annual disclosures, we restrict our sample to observations with December fiscal year-ends. The merged Compustat-CRSP dataset includes 5,880 observations. Finally, we require each observation to have non-missing values for book-to-market and earnings per share. Our final sample comprises 5,452 bank-year observations. Table 1 Panel A presents sample descriptive statistics. To limit the effects of extreme values, we winsorize each continuous variable at 1% and 99%.

[Insert Table 1 About Here]

Panel A of Table 1 shows that mean (median) ROA is 0.67% (0.86%) and mean (median) reported ROE is 9.18% (9.36%) over our sample period. ROA above 1% and ROE above 10% are considered strong in the banking sector (Choudhry, 2012). The large spread between ROA and ROE reflects the high leverage in the sector. Mean (median) earnings per share is \$1.07 (\$1.12), mean (median) total assets is \$25.9 billion (\$1.2 billion), mean (median) market value of

equity is \$1.5 billion (\$153 million), and mean market-to-book ratio is 1.58. Table 1 also documents the magnitude of unrealized AFSGL for banks. On average, the absolute value of unrealized AFSGL is material and represents 13.6% of current net income.

In order to study sell-side analysts' reaction to OCI items, we merge each bank-year observation with analyst forecast and analyst recommendation data from I/B/E/S. We drop bank-year observations for which both earnings forecast and stock recommendation data are not available. In Table 1 Panel B, we examine whether the sub-sample of banks covered by equity analysts differs significantly from the full sample. Banks covered by analysts are larger (median total assets \$2.15 billion), exhibit higher market-to-book ratio (median M/B 1.54), and are better performing (median ROE 10.5%) than their non-covered counterparts. They also exhibit a significant, though lower, amount of unrealized AFSGL, with a mean (median) value of 8.3% (8.9%) of current net income vs. 13.6% (9.3%) of current net income for the full sample of banks.

Correlations between the main variables are presented in Panel C of Table 1. ΔAFS_t , the independent variable of interest, exhibits statistically insignificant correlations with the other performance variables for banks, i.e., ROA_t , ROE_t , EPS_t and ΔEPS_t , with correlations ranging between -0.02 and 0.02.

5. Empirical Findings

5.1. Materiality of unrealized AFSGL for reported performance

Table 2 documents the materiality of AFSGL for bank annual net income. In Table 2 Panel A, we estimate earnings per share (EPS) assuming realization in earnings of all unrealized AFSGL. This treatment of AFSGL is equivalent to the treatment of gains and losses on trading securities,

which are included in income regardless of whether they are realized or unrealized. Because gains and losses on AFS securities offset each other, we examine the impact of net unrealized gains and net unrealized losses on EPS separately. The average reported EPS for banks that exhibit net unrealized losses on AFS is \$1.14. If banks realized all their net losses on AFS securities, the average EPS would fall to \$0.83, i.e., a 31 cents per share (27%) decrease in EPS. Similarly, banks with net unrealized gains on AFS securities would see their EPS increase by 21 cents (22%) if they realized all their net gains. In both cases, the impact on EPS of the recognition of net gains and net losses on AFS securities is statistically significant at the 1% level.

[Insert Table 2 About Here]

We note that because these gains and losses are unrealized, from an investor's point of view, adjusting EPS for unrealized AFSGL may be relevant only if these gains and losses are permanent and likely to be recycled soon. By contrast, if these gains and losses are transitory and reverse quickly, then the prevailing accounting treatment that allows them to bypass the P&L is not unreasonable.

Unrealized AFSGL may contain additional information about future performance compared to earnings. In the next section, we test whether unrealized AFSGL help in predicting future earnings change.

5.2. Unrealized AFSGL and future performance

Given that realizing gains and losses on AFS securities can have a significant impact on banks' annual earnings, an important question is whether the amount of unrealized gains and losses in year t is a leading indicator of bank performance in year $t+1$. To answer this question, we

examine the ability of unrealized AFSGL to predict banks' recycling behavior and, therefore, banks' future earnings change, i.e., whether unrealized AFSGL are, in fact, associated with future earnings.

Each year, we sort banks into five quintiles based on the value of ΔAFS , the annual change in the value of marketable securities scaled by lagged total assets. We use quintiles of ΔAFS in model (1) to be consistent with our trading strategy, which consists of forming portfolios based on quintiles of ΔAFS . Using quintiles also facilitates economic interpretation of the results.¹⁴ We denote ΔAFS_rank as the rank of the quintiles (i.e., $\Delta AFS_rank = 1$ for the lowest quintile; $\Delta AFS_rank = 5$ for the highest quintile), and estimate the following model:

$$\Delta EPS_{i,t+1} = \alpha + \beta \Delta AFS_Rank_{i,t} + \gamma Controls_{i,t} + \varepsilon_{i,t} \quad (1)$$

where $\Delta EPS_{i,t+1}$ is the change in EPS from year t to year $t+1$, and the control variables include bank size (log of *Market value of equity*), and *Market-to-Book ratio*. We also include year fixed effects.

[Insert Table 3 About Here]

Since realizing losses on AFS securities has a direct impact on earnings, we examine whether unrealized AFSGL in year t helps predict earnings change in year $t+1$. Table 3 reports estimation results of Model (1). On average, a one quintile increase in the value of unrealized gains or losses in year t translates to a 6.3 percentage point increase in the annual change of EPS in the following year. In specification (6), we replace ΔAFS_rank with ΔAFS_dummy2 to ΔAFS_dummy5 , where ΔAFS_dummyk equals 1 for quintile k ($k = 2, \dots, 5$), and 0 otherwise. We report the parameter estimate for ΔAFS_dummy5 , which represents the difference between the

¹⁴ We find consistent results when we use a continuous measure ΔAFS divided by lagged total assets, instead of quintiles of ΔAFS in model (1).

coefficients for the highest and lowest quintiles. Moving from the lowest to the highest quintile of ΔAFS entails a 29.5 percentage point increase in the annual change in EPS in the following year. This result is robust to the inclusion of control variables as well as year fixed effects.

Overall, the value of unrealized gains and losses in year t has predictive ability for bank performance in year $t+1$. One explanation for this finding is that unrealized gains and losses are not purely transitory in nature.

5.3. Investors' delayed response to unrealized gains and losses on AFS securities

We next explore whether investors impound the information in unrealized AFSGGL in stock prices in a timely manner. In particular, we assess whether investors incorporate the impact of these gains and losses on future bank performance. To do so, we investigate investor responses to unrealized AFSGGL by studying stock price changes after the arrival of AFS-related information. We compute buy-and-hold abnormal return (*BHAR*) as the excess return over the daily CRSP value-weighted return. Formally, the excess return for bank i from day k to day K of year t is:

$$BHAR_{i,t}[k, K] = \prod_{s=k}^K (1 + R_{i,s}) - \prod_{s=k}^K (1 + R_{m,s}) \quad (2)$$

where $R_{i,s}$ is bank i return and $R_{m,s}$ is the return on the CRSP value-weighted index on day s .

The essence of our results is displayed in Figure 1. We present *BHAR* computed from 1 to 250 trading days (approximately one year) following the end of fiscal year t . We present *BHAR* over the entire fiscal year (January to December) in order to study investors' reaction around the earnings announcement, which takes place within 60 days of the fiscal year end (approximately 50 trading days). We show the average buy-and-hold abnormal return for banks in the bottom quintile of unrealized AFSGGL ($\Delta AFS_rank = 1$) and for banks in the top quintile ($\Delta AFS_rank = 5$). In Figure 1, we see that the stock price reaction is visually similar for the two groups in the

first 50 days, i.e., until the earnings announcement. After 50 days however, there is a predictable price drift between banks in the top quintile vs. banks in the bottom quintile of unrealized AFSGL in the *previous* fiscal year. The negative price drift is more marked for banks that previously reported unrealized losses on AFS securities towards the end of the fiscal year than for banks that previously reported unrealized gains. Overall, we report a difference of approximately 5% after 250 days in the buy-and-hold abnormal return between the two quintiles.

[Insert Figure 1 About Here]

It is important to document that the identified price change associated with reported unrealized AFSGL is not associated with post-earnings announcement drift. Because unrealized AFSGL may be correlated with earnings change, post-earnings announcement drift may explain the pattern presented in Figure 1. To rule out this possibility, we double sort bank-year observations into quintiles based on the level of earnings change and the level of unrealized AFSGL and present BHAR over 250 days after fiscal year-end in Figure 2 for the following four portfolios: (1) banks in the top quintile of AFSGL and top quintile of earnings change, (2) banks in the top quintile of AFSGL and bottom quintile of earnings change, (3) banks in the bottom quintile of AFSGL and top quintile of earnings change, and (4) banks in the bottom quintile of AFSGL and bottom quintile of earnings change

Figure 2 shows negative BHAR for firms in the bottom quintile of unrealized AFSGL and in the bottom *or* the top quintile of earnings change (portfolios (3) and (4)). Conversely, BHAR for firms in the top quintile of unrealized AFSGL are significantly higher, regardless of whether they are in the bottom *or* the top quintile of earnings change (portfolios (1) and (2)). In addition, the correlation matrix (see Table 1 Panel C) shows an (insignificant) correlation of 0.02 between unrealized AFSGL and contemporaneous earnings change, which suggests that earnings are

unlikely to explain the different patterns of BHAR for banks in the bottom quintile and banks in the top quintile of unrealized AFSGL.¹⁵ Overall, price drift following information about unrealized AFSGL and post-earnings announcement drift (Earnings momentum) appear to be distinct. Nonetheless, we systematically control for earnings momentum in the regression analyses presented below.

[Insert Figure 2 About Here]

We confirm the visual inspection presented in Figure 1 and Figure 2 by conducting several multivariate tests. Specifically, we test whether returns differ between each quintile of ΔAFS_rank across various time horizons. Importantly, unlike in Figure 1 and Figure 2, we start measuring *BHAR* two months (42 trading days) after fiscal year-end to ensure that financial reports are publicly available. We do not start computing *BHAR* at the earnings announcement date because some banks disclose earnings along with OCI that contains unrealized AFSGL whereas other banks do not. This ensures that unrealized AFSGL are publicly available for all banks, i.e., after the disclosure of 10-K reports. To further investigate investors' reaction to unrealized AFSGL, we conduct regression analysis of *BHAR* computed over three different time windows: (1) 21 trading days (one month) following the disclosure of unrealized AFSGL (*BHAR*[42,63]); (2) 84 trading days (four months) following the disclosure of unrealized AFSGL (*BHAR*[42,126]); and (3) 210 trading days (10 months) following the disclosure of unrealized AFSGL (*BHAR*[42,250]). We estimate the association between reported unrealized AFSGL in fiscal year t and cumulative abnormal returns computed in fiscal year $t+1$ after controlling for a number of factors. More specifically, we estimate the following OLS model:

$$BHAR_{i,t+1}[k, K] = \alpha + \beta \Delta AFS_Rank_{i,t} + \gamma Controls_{i,t} + \varepsilon_{i,t} \quad (3)$$

¹⁵ However, in Table 3, we document that unrealized AFSGL predict *future* bank performance.

The coefficient of interest, β , captures the effect of reported unrealized AFSGL in fiscal year t on abnormal returns over the three different time windows in fiscal year $t+1$. We expect that if investors are slow to react to the information in unrealized AFSGL, the association between ΔAFS_t and $BHAR_{t+1}$ will be stronger for $BHAR_{t+1}$ estimated over a longer time window after the release of OCI information. We control for *Market-to-Book* ratio and bank size (measured as log of *Market value of equity*). Importantly, we also control for the arrival of earnings-related information in year $t+1$, by including ΔEPS_t , the change in annual earnings for fiscal year t . This information is known to investors in the first two months of year $t+1$ and is an important driver of stock price (e.g., Bernard et al., 1997). Finally, we include year fixed effects. Estimation results are presented in Table 4.

[Insert Table 4 About Here]

In Table 4 Panel A, we consider ΔAFS_rank as a continuous variable and study the average abnormal return for a one-quintile increase in ΔAFS . Table 4 Panel A shows no reliable association between one-month cumulative abnormal return and reported unrealized AFSGL (coefficient β is statistically insignificant). The coefficient is positive and significant when we use four-month abnormal return (coefficient estimates range between 0.30 and 0.33, significant at 5%, two-sided tests). For $BHAR$ computed over 10 months, the coefficient is approximately 2.5 times larger¹⁶ than that for $BHAR$ computed over the four-month period (the coefficient estimates range between 0.77 and 0.92 for $BHAR$ computed over 10 months and are significant at less than 1%, two-sided tests).

In Table 4 Panel B, we report estimation of Model (4) using ΔAFS_dummy in place of ΔAFS_rank . This formulation facilitates interpretation of the economic magnitude of the relation

¹⁶ The change in magnitude ranges between 2.4 (= 0.770 / 0.316) and 2.8 (= 0.916 / 0.329).

between past unrealized AFSGL and current stock returns. We report the coefficient on the highest quintile that represents the difference in return between the top and the bottom quintile of ΔAFS . On average, after four months, in the specification without controls, the top-to-bottom quintile difference in return is one percentage point and this difference is not statistically significant. After 10 months, this difference is 3.75 percentage points and is statistically significant at the 1% level (two-sided test). We find similar results after including control variables and year fixed effects.

Overall, these findings together with the price drift exhibited in Figures 1 and 2 are consistent with investors failing to immediately incorporate the information in unrealized AFSGL. The findings are consistent with $H2$, which hypothesizes that investors are slow to incorporate the information in unrealized AFSGL in stock prices.

5.4. Trading strategy

One potential limitation of the analysis presented above is that the value of the portfolio of AFS securities may be correlated with the bank's stock price, for example if the bank holds companies located nearby that are affected by local shocks (Bloomfield et al., 2006). Thus, the correlation between unrealized AFSGL and banks' future stock price could be spurious. To address this potential concern, we assess whether investors understand the implications of reported AFSGL for banks' stock prices. A common way to assess whether investors are inattentive to some information is to design a zero-cost (i.e., long-short) trading strategy that relies on public information such as reported unrealized AFSGL. If this strategy yields positive returns, it would suggest that investors do not fully process the information content of reported unrealized AFSGL when it becomes available.

Our portfolio of banks is based on the five quintiles of ΔAFS . Each year, we purchase the quintile of banks with the highest level of reported unrealized gains on AFS securities and short-sell the quintile of banks with the highest level of reported unrealized losses on AFS securities. To make sure we use only information available to investors at that time, we form the portfolio 42 trading days after the end of the fiscal year. We hold the portfolio for 210 trading days and compute the resulting equally-weighted monthly returns. We also compute risk-adjusted returns using the CAPM, the Fama-French three-factor model, and the Carhart four-factor model specified below:

$$(R_{OCI,t} - R_{f,t}) = \alpha + \beta(R_{m,t} - R_{f,t}) + \varepsilon_t$$

$$(R_{OCI,t} - R_{f,t}) = \alpha + \beta(R_{m,t} - R_{f,t}) + \gamma SMB_t + \delta HML_t + \varepsilon_t$$

$$(R_{OCI,t} - R_{f,t}) = \alpha + \beta(R_{m,t} - R_{f,t}) + \gamma SMB_t + \delta HML_t + \eta MOM_t + \varepsilon_t \quad (4)$$

where $R_{OCI,t}$ is the return on the investment strategy for month t , $R_{f,t}$ is the monthly treasury bill return (one month maturity), $R_{m,t}$ is the monthly CRSP value-weighted index return, and SMB , HML , and MOM are the size, book-to-market, and momentum factors from Kenneth French's website. The main coefficient of interest is α , which measures the fraction of the portfolio returns unexplained by documented risk factors. A positive α implies that a trading strategy based on public information would potentially generate profits. The estimation results are presented in Table 5.

The results presented in Panel A of Table 5 indicate that our trading strategy yields an alpha ranging between 1.8% and 1.9% per month (significant at less than 1%). This is equivalent to an economically sizeable annual alpha of between 21.6% and 22.8%, absent any transaction costs.

In Table 5 Panel B, we explore whether EPS momentum subsumes the AFS effect. To do so, we double sort banks based on the level of unrealized AFSGL (into five quintiles) and whether EPS has increased or decreased from the previous year (EPS increase or EPS decrease). We find a positive monthly alpha ranging between 1.5% and 2% within each EPS bin, similar in magnitude to what we report in Panel A of Table 5. Overall, these findings support hypothesis *H2*.

[Insert Table 5 About Here]

5.5. Analysts' response to unrealized gains and losses on AFS securities

We examine whether analysts change their stock recommendations in response to the level of unrealized AFSGL (*H3*). Analysts routinely issue EPS forecasts to reflect new information about a firm's earnings. However, they revise their stock recommendations relatively infrequently, and revisions generally reflect structural changes in the perception of a firm's valuation. *H3* states that analysts react with a delay to the information content of unrealized AFSGL when changing their opinions about a stock because they attach less weight to OCI than they do to earnings, although OCI, and in particular unrealized AFSGL, are material.

To test *H3*, we estimate the likelihood that financial analysts adjust their stock recommendations downwards (*RDOWN*) in fiscal year $t+1$ after the release of information about unrealized AFSGL for fiscal year t . If analysts exhibit superior abilities over other market participants to process the information in unrealized AFSGL, then they should incorporate the valuation implications of ΔAFS and revise their recommendations accordingly once the information is available at the beginning of the fiscal year. Therefore, we examine the probability of a recommendation downgrade at three different time horizons: between three and six months

following the fiscal year-end (*Period1*), between six and nine months following the fiscal year-end (*Period2*), and between nine and 12 months following the fiscal year-end (*Period3*). We estimate the relation between the likelihood of a negative change in stock recommendation and unrealized AFSGL over these different time horizons using the following linear probability model:

$$\Pr(RDOWN_{i,t+1} = 1) = \alpha + \beta\Delta AFS_{i,t} + \sum_{p=2}^3 \gamma_p Period_p + \sum_{p=2}^3 \delta_p (\Delta AFS_{i,t} \times Period_p) + \zeta Controls_{i,t} + \sum_{p=2}^3 \mu_p (Controls_{i,t} \times Period_p) + \varepsilon_{i,t} \quad (5)$$

where the dependent variable $RDOWN_{t+1} = 1$ each time the stock recommendation on bank i is revised downwards by an analyst, and 0 otherwise. The coefficient on ΔAFS (β) represents the likelihood of a decrease in stock recommendation in the first period (three to six months) of year $t+1$. If analysts are slow to incorporate the information in AFSGL in their stock recommendation revisions, then β will not reliably differ from zero, i.e., the likelihood of a stock recommendation downgrade in year $t+1$ is unrelated to unrealized AFSGL for fiscal year t . This test is estimated at the individual analyst level. We focus on changes in recommendations (upgrades or downgrades) for a sample of 13,877 recommendation revisions.

Our main coefficients of interest are the coefficients δ_p that capture the differential relation between the likelihood of a recommendation downgrade and ΔAFS in periods 2 and 3 (i.e., between 6 and 9 months and between 9 and 12 months) and period 1 (i.e., between 3 and 6 months) of fiscal year $t+1$. If analysts react with a delay to reported unrealized AFSGL, the coefficients δ_p will be negative, i.e., the probability of a recommendation downgrade increases if $RDOWN_{t+1}$ is measured between six and nine months, and between nine and 12 months after fiscal year-end. If analysts are slow to react to ΔAFS_t , they are more likely to react after a longer

time period following release of the information. We also control for the effects of earnings growth, market-to-book, and bank size (log of market value).

Table 6 Panel A shows that recommendation downgrades are not statistically associated with ΔAFS , for any period of fiscal year $t+1$. Sell-side analysts do not adjust their recommendations based on the level of unrealized AFSGL at any time of fiscal year $t+1$ although this information is material for banks and helps predict future earnings change. In other words, we do not find empirical support for *H3*. One explanation for this result is that financial analysts' stock recommendation revisions are sticky; they revise recommendations only when they perceive structural changes in firm value. Unrealized AFSGL are unlikely to lead analysts to perceive structural changes in firm value.

Unrealized AFSGL are important for future earnings because firms with more unrealized gains (losses) on AFS securities are likely to recycle these gains (losses) in later periods, which will increase (decrease) earnings (see Table 3). This suggests that, even if analysts disregard the information in forming stock recommendations, they are likely to adjust their earnings forecasts based on the level of reported unrealized AFSGL. *H4* posits that, like other market participants, financial analysts are slow to process the information in unrealized AFSGL. To test *H4*, we estimate the likelihood that financial analysts adjust their earnings forecasts downwards in fiscal year $t+1$ after the release of information about unrealized AFSGL for fiscal year t .¹⁷ If analysts exhibit superior abilities over other market participants to process the information in unrealized AFSGL, then they should understand the implications of unrealized AFSGL and adjust their forecasts earlier in the fiscal year. Similarly, we examine the probability of a downward EPS forecast revision at three different time horizons: between three and six months following the

¹⁷ We do not report the effect of ΔAFS on upward revisions of EPS forecasts because the analysis yields similar findings (with coefficients exhibiting the opposite sign).

fiscal year-end (*Period1*), between six and nine months following the fiscal year-end (*Period2*), and between nine and 12 months following the fiscal year-end (*Period3*). We estimate the following linear probability model:

$$\Pr(DFEPS_{i,t+1} = 1) = \alpha + \beta\Delta AFS_{i,t} + \sum_{p=2}^3 \gamma_p Period_p + \sum_{p=2}^3 \delta_p (\Delta AFS_{i,t} \times Period_p) + \zeta Controls_{i,t} + \sum_{p=2}^3 \mu_p (Controls_{i,t} \times Period_p) + \varepsilon_{i,t} \quad (6)$$

where the dependent variable $DFEPS_{t+1} = 1$ each time the earnings forecast for bank i for year $t+1$ is revised downwards by an analyst. The other variables are as previously defined. This test is performed at the individual analyst level. We focus on changes in EPS forecasts for a sample of 77,773 observations (because analysts revise EPS forecasts more frequently than they revise recommendations, we have more observations for this test than for the test on the revision of recommendations).

Analysts have a tendency to systematically decrease earnings forecasts as the date of earnings announcement approaches because managers guide analyst forecasts downwards so that they can more easily meet or beat analyst forecasts (Richardson et al., 2004). Therefore we include time period dummies and interactions between time period dummies and the following control variables: earnings growth, market-to-book, and size (log of market value), to control for this behavior and the associated incentives of analysts. We present the estimation results of equation (6) in Panel B of Table 6.

[Insert Table 6 About Here]

Panel B of Table 6 shows that analysts are less (more) likely to revise earnings forecasts downwards for banks that report unrealized gains (losses) on AFS securities in the first three months of fiscal year $t+1$, after controlling for the change in EPS (the coefficient on ΔAFS is

negative and significant at less than 5%). This suggests that analysts correctly interpret the direction of the information in unrealized AFSGL. Nonetheless, we find evidence that analysts do not rapidly incorporate the information in unrealized AFSGL because the negative association between reported unrealized AFSGL in fiscal year t and the likelihood of negative earnings forecast revision in year $t+1$ is stronger if the revision is measured between nine and twelve months after fiscal year-end than if it is measured between three and six months after fiscal year end. The coefficient on the interaction between ΔAFS and the period dummy 3 is negative, i.e., between nine and twelve months after fiscal year-end (significant at less than 5%). This suggests that analysts are more likely to incorporate the information in unrealized AFSGL in their earnings forecasts in the latter half of year $t+1$, which is consistent with *H4*.

Overall, we find evidence that analysts respond to the information in unrealized AFSGL in their earnings forecasts, albeit slowly, but not in their stock recommendations.

6. Additional analyses: Investors' attention to unrealized AFSGL in another industry and the effect of the change in presentation format of OCI in 2011

6.1. Investors' response to unrealized AFSGL in the investment industry (SIC 679)

We argue that our documented findings can be explained by a lack of investors' attention to OCI for banks, and in particular to unrealized AFSGL. If this interpretation is correct then industries in which investors monitor OCI more closely than earnings should not exhibit a similar pattern. In other words, investors should respond more rapidly to the information in unrealized AFSGL. Therefore, we benchmark our results with investors' response to reported unrealized AFSGL for a sample of investment firms for which, unlike banks, comprehensive income (that affects book value per share) is more likely to be perceived as an important indicator of performance. We

focus on firms included in the SIC 679 industry, which are firms that hold financial assets and are not classified elsewhere. This industry includes real estate investment trusts (REITs), mortgage REITs, private equity firms, and asset managers (e.g., American Capital, KKR Financial Holdings). We restrict our analysis to firms that report non-zero unrealized AFSGL. According to *H5*, investors react in a timelier manner to reported unrealized AFSGL of these investment firms. We estimate model (3) on a sample of 750 firm-year observations from this industry. We compute cumulative abnormal returns in fiscal year $t+1$ after the release of information about unrealized AFSGL for fiscal year t . We then compute buy and hold abnormal return from the date of earnings announcement to various time horizons. If book value per share is perceived as a more important measure of performance for these firms, we expect that investors do not delay their response to reported unrealized AFSGL in this industry. We present estimation results in Table 7.

[Insert Table 7 About Here]

Table 7 shows that market participants react positively in the short-run (one week) to greater levels of unrealized AFSGL (significant at less than 5% in specification (1) and less than 10% in specification (7), two-sided tests). The relation between stock prices and ΔAFS vanishes one month after the release of the information. We also find that investors do not react to earnings change, which is consistent with the argument that earnings is not the primary measure of performance in this industry. Overall, we find empirical support for *H5*, which is consistent with our explanation that it is indeed investor lack of attention to unrealized AFSGL that drives the documented price drift for banks.¹⁸

¹⁸ In untabulated tests, we also verify that we are unable to replicate the alpha documented for our sample of banks on this sample of investment firms.

6.2. Change in the presentation format options for unrealized AFSGL information of 2011

Beginning in 2012, the FASB eliminated the option for firms to present unrealized AFSGL in the statement of shareholders' equity (ASU, 2011) and required that OCI be presented in a separate statement. This change in presentation format increases the prominence of unrealized AFSGL, at least for those banks that were not previously using this option, and thus could lead investors to process the information more rapidly. To investigate the effect of the change in the presentation format on investors' speed of processing unrealized AFSGL (H6), we estimate the following modified model (3) that includes an interaction with the dummy variable *After*, which equals 1 after 2011, and zero otherwise:

$$BHAR_{i,t+1}[k, K] = \alpha + \beta After + \gamma \Delta AFS_{Rank_{i,t}} + \delta After \times \Delta AFS_{Rank_{i,t}} + \zeta Controls_{i,t} + \eta Controls_{i,t} \times After + \varepsilon_{i,t} \quad (7)$$

In model (7), γ measures investors' reaction to unrealized AFSGL prior to 2012 and δ is the change in investors' reaction to reported unrealized AFSGL from before to after the presentation format change. All control variables are interacted with the dummy variable *After*. Consistent with previous analyses, we estimate model (7) for BHAR computed over the following time windows: (1) 21 trading days (one month) following the disclosure of unrealized AFSGL (*BHAR*[42,63]); (2) 84 trading days (four months) following the disclosure of unrealized AFSGL (*BHAR*[42,126]); and (3) 210 trading days (10 months) following the disclosure of unrealized AFSGL (*BHAR*[42,250]). The main coefficient of interest is δ . If the speed at which investors incorporate the information in unrealized AFSGL in prices increases following the increased prominence of unrealized AFSGL in the new presentation format, we expect δ to be negative, particularly for BHAR computed over longer time windows (i.e., *BHAR*[42,126] and *BHAR*[42,250]). We present the estimation results in Table 8.

[Insert Table 8 About Here]

Table 8 shows that the change in presentation format for OCI in 2012 did not, on average, alter the speed at which investors incorporate unrealized AFSGL in stock prices. γ is positive and significant for *BHAR*[42,250], consistent with a predictable price drift based on reported unrealized AFSGL before elimination of the reporting format option for OCI. However, the coefficient δ is not significantly different from zero for any of the three time windows used to compute *BHAR*. This result indicates that the change in presentation format is insufficient to ensure that investors pay sufficient attention to unrealized AFSGL.

We note that these results should be interpreted with care because we do not identify whether some of the banks had chosen to present unrealized AFSGL in a separate statement prior to 2012. It is possible that for banks that chose the statement of changes in shareholders' equity presentation format prior to 2012 and then changed to the separate statement format that more prominently displays unrealized AFSGL in 2012, investors reacted in a timelier manner to unrealized AFSGL. Our results nonetheless indicate that the potential effect of the more prominent presentation of unrealized AFSGL is not sufficiently strong to eliminate evidence of a lack of investors' attention to banks' unrealized AFSGL on average after 2011.

7. Conclusion

We investigate whether investors pay sufficient attention to the information content of unrealized AFSGL. Investors may overlook the information in unrealized AFSGL because of lack of clear conceptual basis for OCI, limited firm disclosures, limited information provided by data aggregators, and market participants' fixation on earnings. Using a sample of US banks for which investments in AFS securities are material, we examine investors' reaction to reported unrealized

AFSGL. We find that investors are slow to react to the information content of unrealized AFSGL and that a profitable trading strategy can be devised to exploit investors' delayed response to public OCI information. We show that this effect is distinct from post-earnings announcement drift. We document that investors do not respond to unrealized gains and losses on AFS securities one month after the release of OCI information. We find a gradually increasing investor response over periods ranging from four months to 10 months. We also show that it is possible to exploit investors' delayed response to unrealized AFSGL to generate excess returns. Our trading strategy yields a monthly alpha ranging between 1.8% and 1.9%, after controlling for the Fama-French three factors and momentum factor. We provide further empirical evidence that financial analysts do not revise their stock recommendations based on unrealized AFSGL and that they are slow to react to reported unrealized gains and losses on AFS securities in their earnings forecasts. To benchmark our findings we explore another industry for which, relative to the banking industry, comprehensive income is a more prominent measure of performance and find no evidence that investors lack attention to unrealized AFSGL. We also find no evidence that the 2011 elimination of the option to report unrealized AFSGL in the statement of changes in shareholders' equity increased the speed at which investors incorporate unrealized AFSGL in prices.

Our results are directly relevant to the literature examining the implications of financial reporting of financial institutions such as banks and insurance companies and more generally to the literature on the informativeness of OCI. Past studies have investigated the relevance of OCI or OCI items (Barth, 1994; Kanagaretnam et al., 2009; Jones and Smith, 2011; Rees and Shane, 2012). We extend these studies by exploring whether investors process the information in a material OCI item for banks in a timely manner. We believe our study is also of interest to standard setters considering how firms should report performance. We find evidence that the

current standards with regard to reporting of the performance of some investments are associated with a delayed response from investors. We argue that the delayed response may be due to a lack of attention resulting from OCI being relatively less prominent than earnings. Our study is also of interest to investors in banks as we demonstrate the existence of a profitable trading strategy based on public information about OCI.

Appendix A: List of variables

Variable	Definition	Source	Code
ROA_t	Net income in year t scaled by total assets at the end of year t-1	Compustat	NI; AT
ROE_t	Net income in year t scaled by common equity at the end of year t-1	Compustat	NI; SEQ
EPS_t	Earnings per share in year t	Compustat	NI, CSHPRI
ΔEPS_t	Percentage change in earnings per share from year t-1 to year t	Compustat	NI; CSHPRI
$Market\ Value_t$	Average market value of equity in December of year t computed as (price \times # common shares)	C/R/S/P	PRC; SHROUT
$Market\text{-}to\text{-}Book_t$	Ratio of market value of equity at the end of year t to book value of equity at the end of year t	Compustat	PRC; SHROUT; SEQ
ΔAFS_t	Value of unrealized gains and losses on available for sale (AFS) securities reported in OCI measured as the annual change in the Compustat variable “marketable securities adjustment” in year t (Jones and Smith, 2011), scaled by total assets at the end of year t-1	Compustat	MSA, AT
$ \Delta AFS _t$ (% of net income)	Absolute annual change in the value of marketable securities in year t scaled by net income in year t	Compustat	MSA, NI
ΔAFS_rank_t	Five quintiles of ΔAFS in year t	Compustat	MSA, AT
$Total\ Assets_t$	Book value of assets at the end of year t	Compustat	AT
$BHAR[x,X]$	Buy-and-hold abnormal return of bank i over the daily C/R/S/P value-weighted return from day x to day X of year t+1	C/R/S/P	RET, VWRETD
$RDOWN_{t+1}$	Dummy variable taking on value 1 when an analyst is issuing a recommendation downgrade in year t+1 on a stock; 0 otherwise	I/B/E/S	IRECCD
$DFEPS_{t+1}$	Dummy variable taking on value 1 when an analyst is revising his or her EPS forecasts downwards in year t+1; 0 otherwise	I/B/E/S	VALUE

Appendix B: Excerpt from Bank of America 2012 Financial Statements

Bank of America Corporation and Subsidiaries

Consolidated Statement of Comprehensive Income

(Dollars in millions)

	2012	2011	2010
Net income (loss)	\$ 4,188	\$ 1,446	\$ (2,238)
Other comprehensive income, net-of-tax:			
Net change in available-for-sale debt and marketable equity securities	1,802	(4,270)	5,872
Net change in derivatives	916	(549)	(701)
Employee benefit plan adjustments	(65)	(444)	145
Net change in foreign currency translation adjustments	(13)	(108)	237
Other comprehensive income (loss)	2,640	(5,371)	5,553
Comprehensive income (loss)	\$ 6,828	\$ (3,925)	\$ 3,315

Source: Bank of America, Form 10-K, 2012 (p. 157)

Appendix B reproduces the statement of comprehensive income for Bank of America for fiscal year 2010 to 2012. Our variable unrealized AFSG (ΔAFS) for Bank of America is 1,802 for 2012, (4,270) for 2011 and 5,872 for 2010 (before scaling by total assets).

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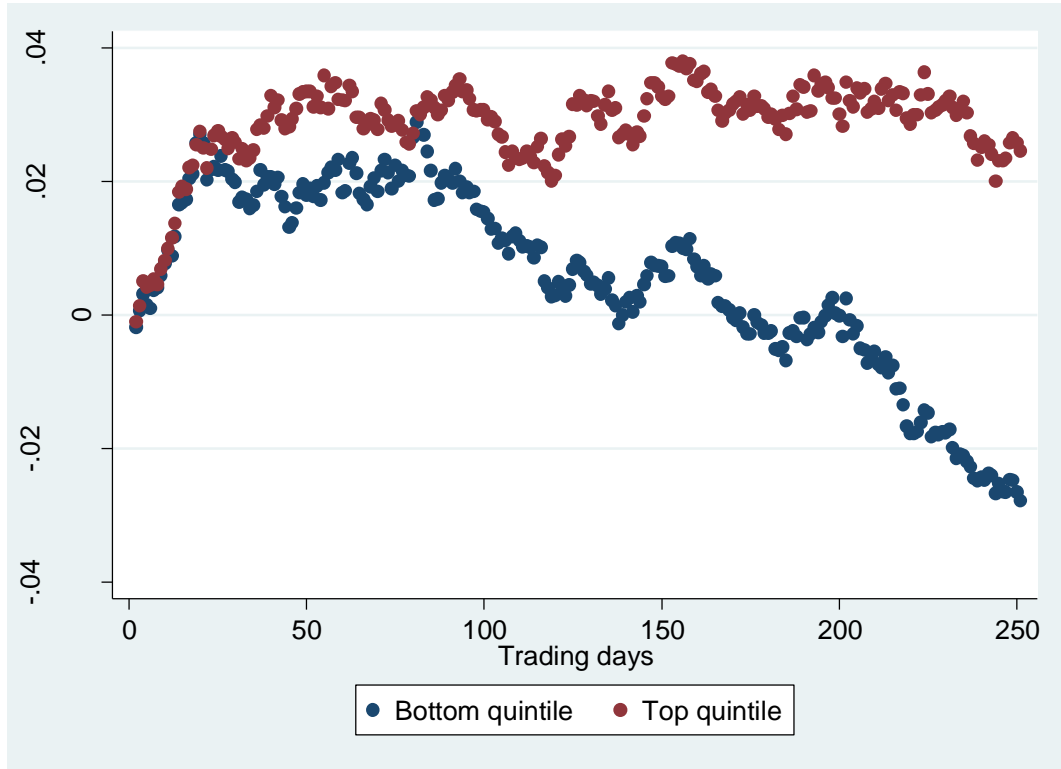


Figure 1: Future abnormal returns based on reported unrealized gains and losses on Available-for-sales (AFS) securities.

This figure presents buy and hold abnormal returns computed over 250 days in fiscal year $t+1$ starting after the end of fiscal year t for banks in the top quintile of unrealized AFSGL in year t (red) and banks in the bottom quintile of unrealized AFSGL in year t (blue).

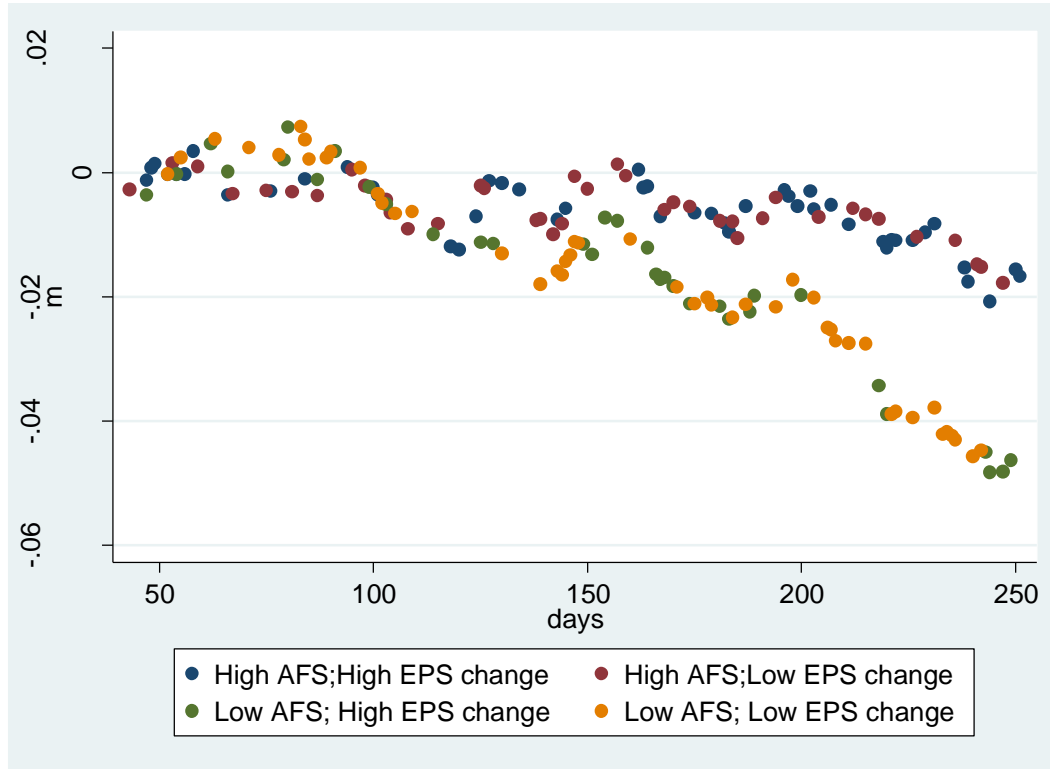


Figure 2: Future abnormal returns based on reported unrealized gains and losses on Available-for-sales (AFS) securities and change in Earnings Per Share (EPS).

This figure presents buy and hold abnormal returns computed over 250 days in fiscal year $t+1$ starting after the end of fiscal year t for banks in four different portfolios: (i) top quintile of unrealized AFSGL and top quintile of change in EPS (blue); (ii) top quintile of unrealized AFSGL and bottom quintile of change in EPS (red); (iii) bottom quintile of unrealized AFSGL and top quintile of change in EPS (green); (iv) bottom quintile of unrealized AFSGL and bottom quintile of change in EPS (yellow).

Table 1: Summary statistics

Panel A: Summary statistics for the full sample

	Mean	Std. Dev.	p25	p50	p75	N
<i>ROA</i>	0.67%	0.01	0.46%	0.86%	1.22%	5,452
<i>ROE</i>	9.18%	1.38	4.47%	9.36%	13.99%	5,452
<i>ΔEPS</i>	-22.75%	2.25	-31.77%	0.31%	18.02%	5,452
<i>EPS</i> (\$)	1.07	1.57	0.48	1.12	1.82	5,452
<i>Assets</i> (\$ million)	25,878	133,226	558	1,218	3,752	5,452
<i>Market value of equity</i> (\$ million)	1,497	5,797	56	153	554	5,452
<i>Market-to-Book</i>	1.58	1.08	0.88	1.43	2.08	5,452
<i> ΔAFS </i> (% of net income)	13.55%	3.35	1.96%	9.28%	23.17%	5,452

Panel B: Summary statistics for the sample of banks covered by sell-side financial analysts

	Mean	Std. Dev.	p25	p50	p75	N
<i>ROA</i>	0.77%	0.01	0.53%	0.95%	1.29%	3,734
<i>ROE</i>	11.20%	1.62	5.41%	10.50%	14.95%	3,734
<i>ΔEPS</i>	-20.93%	2.16	-30.08%	0.71%	17.49%	3,734
<i>EPS</i> (\$)	1.23	1.56	0.60	1.25	1.94	3,734
<i>Assets</i> (\$ million)	34,717	153,815	1,009	2,149	6,465	3,734
<i>Market value of equity</i> (\$ million)	2,003	6,474	116	300	950	3,734
<i>Market-to-Book</i>	1.70	1.12	0.97	1.54	2.21	3,734
<i> ΔAFS </i> (% of net income)	8.30%	3.90	2.05%	8.91%	21.24%	3,734

Panel C: Correlation matrix between main variables

	<i>ROA</i>	<i>ROE</i>	<i>EPS</i> (\$)	[<i>AT</i>]	[<i>MV</i>]	[<i>MTB</i>]	Δ <i>AFS</i>	Δ <i>EPS</i>
<i>ROA</i>	1							
<i>ROE</i>	0.11 ***	1						
<i>EPS</i> (\$)	0.77 ***	0.09 ***	1					
<i>Assets</i> (\$ million) [<i>AT</i>]	-0.01	0.01	0.08 ***	1				
<i>Market value of equity</i> (\$ million) [<i>MV</i>]	0.09 ***	0.01	0.19 ***	0.59 ***	1			
<i>Market-to-Book</i> [<i>MTB</i>]	0.43 ***	0.01	0.34 ***	-0.12 ***	0.11 ***	1		
Δ <i>AFS</i>	-0.02	-0.01	-0.02	0.00	-0.01	-0.05 ***	1	
Δ <i>EPS</i>	0.22 ***	-0.03 **	0.22 ***	-0.01	0.00	0.11 ***	0.02	1

This table presents summary statistics of banks reported performance. The sample includes US banks over the period 2001 to 2014. In Panel A, we provide summary statistics for the full sample of banks. In Panel B, we provide summary statistics for the sample of banks that are covered by at least one equity analyst in year t . In Panel C, we present the correlation matrix between all variables. *ROA* is net income for fiscal year t divided by total assets for fiscal year t . *ROE* is net income for fiscal year t divided common equity for fiscal year $t-1$. *EPS* is earnings per share (in \$) and Δ *EPS* is the *EPS* annual percentage growth from year $t-1$ to year t . *Assets* is total assets. *Market value of equity* is the monthly average market value measured in December of fiscal year t . *Market-to-Book* is the ratio of market equity for fiscal year t to book value of equity for fiscal year t . $|\Delta$ *AFS*| is the annual change in the value of available for sale (*AFS*) securities (in absolute value) divided by net income for fiscal year t . ***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels.

Table 2: The materiality of unrealized gains and losses on Available-for-Sale securities

	Mean	Std. Dev.	N
EPS retreated for net unrealized losses on AFS securities	0.83	1.91	2,578
EPS as reported	1.14	1.84	2,578
<i>Difference with reported EPS</i>	-0.31	***	
EPS retreated for net unrealized gains on AFS securities	1.20	2.50	2,769
EPS as reported	0.98	2.08	2,769
<i>Difference with reported EPS</i>	0.21	***	

This table presents summary statistics of the materiality of realized and unrealized gains and losses on Available-for-Sale (AFS) securities. The sample includes US banks over the period 2001 to 2014. We compute the effect on EPS of realizing unrealized gains or losses on AFS securities. *Difference with reported EPS* is the difference between reported EPS and EPS retreated for net unrealized gains or losses on AFS securities. We test the significance of this difference using Student's t-test and indicate significance level.

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test.

Table 3: Unrealized gains and losses on Available-for-Sale securities and future bank performance

	Dependent variable: annual change in EPS from year t to year $t+1$ (ΔEPS_{t+1})					
	(1)	(2)	(3)	(4)	(5)	(6)
ΔAFS_rank	0.063*** (0.024)	0.058** (0.023)	0.061** (0.024)	0.057** (0.023)	0.061*** (0.023)	
<i>Top vs. Bottom quantile</i>						0.296*** (0.104)
<i>Market-to-Book</i>		0.251*** (0.040)		0.213*** (0.038)	0.118*** (0.038)	0.119*** (0.038)
<i>Market Value (log)</i>			0.109*** (0.024)	0.062*** (0.023)	0.054** (0.022)	0.054** (0.022)
Constant	-0.440*** (0.081)	-0.809*** (0.112)	-0.008 (0.107)	-0.508*** (0.140)	-0.121 (0.185)	-0.070 (0.181)
Year fixed effects					x	x
R-squared	0.001	0.015	0.008	0.017	0.040	0.040
Observations	4,763	4,763	4,763	4,763	4,763	4,763

This table presents cross-sectional regression of banks' operating performance in year $t+1$ on unrealized gains and losses on AFS securities in year t and control variables in year t . The sample includes US banks over the period 2001 to 2014. The dependent variable is the annual growth in EPS from year t to year $t+1$ (ΔEPS). The main independent variable is ΔAFS_rank , the fifth quantiles of ΔAFS ($\Delta AFS_rank = 1$ for the lowest quintile of unrealized gains and losses on AFS securities; $\Delta AFS_rank = 5$ for the highest quintile of unrealized gains and losses on AFS securities). In both panels, specification (7) introduces ΔAFS_rank as dummy variables (one dummy for each quintile, $\Delta AFS_rank = 1$ omitted). We report parameter estimate of the highest quintile. All control variables are defined in Appendix A. Coefficient estimates on *Total Assets* and *Market Value* are expressed in basis points. Standard errors are adjusted for heteroskedasticity and clustered by banks; they are presented below coefficient estimates.

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test.

Table 4: Investors' reaction to unrealized gains and losses on Available-for-Sale securities

Panel A: Average effect of a one-quintile increase of unrealized gains and losses on AFS securities

	Dependent variable: Buy-and-hold abnormal return (in %) over different windows in t+1:								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>
<i>ΔAFS_rank</i>	0.096 (0.077)	0.329* (0.176)	0.916*** (0.265)	0.096 (0.075)	0.300** (0.152)	0.802*** (0.235)	0.098 (0.075)	0.316** (0.152)	0.775*** (0.235)
<i>ΔEPS</i>							0.083 (0.082)	0.420*** (0.148)	0.756*** (0.222)
<i>Market-to-Book</i>							-0.257** (0.115)	-0.650*** (0.243)	-0.351 (0.404)
<i>Market Value(log)</i>							0.228*** (0.069)	-0.172 (0.138)	0.634*** (0.238)
Year fixed effects				x	x	x	x	x	x
R-squared	0.000	0.001	0.002	0.073	0.247	0.300	0.076	0.251	0.305
Observations	5,452	5,452	5,452	5,452	5,452	5,452	5,452	5,452	5,452

Table 4 (continued)

Panel B: Top-to-bottom quintile difference in the value of unrealized gains and losses on AFS securities

	Dependent variable: Buy-and-hold abnormal (in %) return over different windows in t+1:								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>
<i>Top vs. Bottom quintile</i> ($\Delta AFS_rank = 5$ vs. $\Delta AFS_rank = 1$)	0.058 (0.340)	1.066 (0.749)	3.751*** (1.157)	0.106 (0.328)	0.956 (0.645)	3.413*** (1.039)	0.130 (0.329)	1.000 (0.648)	3.347*** (1.044)
ΔEPS							0.084 (0.082)	0.419*** (0.148)	0.757*** (0.222)
<i>Market-to-Book</i>							-0.262** (0.115)	-0.638*** (0.243)	-0.342 (0.405)
<i>Market Value (log)</i>							0.224*** (0.069)	-0.176 (0.139)	0.635*** (0.239)
Year fixed effects				x	x	x	x	x	x
R-squared	0.002	0.001	0.002	0.074	0.248	0.301	0.077	0.252	0.305
Observations	5,452	5,452	5,452	5,452	5,452	5,452	5,452	5,452	5,452

This table presents cross-sectional OLS regressions examining the effect of reported unrealized gains and losses on Available-for-Sale (AFS) securities in fiscal year t on future abnormal returns computed for three different time windows in fiscal year $t+1$. The sample includes US banks over the period 2001 to 2014. The dependent variable is the buy-and-hold abnormal return of bank i over the daily C/R/S/P value-weighted return from day x to day X in fiscal year $t+1$. Abnormal return are computed from 42 trading days (two months) after fiscal year-end to various time horizons: one month ($BHAR[42;63]$), four months ($BHAR[42;126]$) and 10 months ($BHAR[42;250]$). In Panel A, the main independent variable is ΔAFS_rank , the fifth quantiles of ΔAFS ($\Delta AFS_rank = 1$ for the lowest quintile of unrealized gains and losses on AFS securities in year t ; $\Delta AFS_rank = 5$ for the highest quintile of unrealized gains and losses on AFS securities in year t). In Panel B, the main independent variable is ΔAFS_rank introduced as dummy variables (one dummy for each quintile, $\Delta AFS_rank = 1$ omitted). We report parameter estimate of the highest quintile. All control variables are defined in Appendix A. Coefficient estimates on *Total Assets* and *Market Value* are expressed in basis points. Standard errors are adjusted for heteroskedasticity and clustered by banks. They are displayed below the coefficient estimate.

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test.

**Table 5: Return on a High vs. Low portfolio strategy based on unrealized gains and losses
on Available-for-Sale securities**

Panel A: Excess return on a High vs. Low unrealized AFSGL strategy

	Excess return on a High vs. Low ΔAFS		
Alpha	0.019*** (0.005)	0.019*** (0.005)	0.018*** (0.005)
<i>MKT</i>	-0.286*** (0.102)	-0.318*** (0.110)	-0.252** (0.124)
<i>SMB</i>		0.186 (0.195)	0.149 (0.198)
<i>HML</i>		-0.141 (0.207)	-0.082 (0.213)
<i>MOM</i>			0.120 (0.102)
R-squared (%)	5.7	6.6	7.5
Observations	133	133	133

Table 5 (continued)

Panel B: Excess return (market model) on a High vs. Low unrealized AFSGL strategy portfolio strategy after double sorting on unrealized AFSGL and EPS momentum

	Excess return on a High vs. Low ΔAFS		
	Top quintile	Bottom quintile	Top vs. Bottom quintile
<i>Sorted by EPS momentum</i>			
EPS decrease	0.023**	0.003	0.020***
t-stat	(0.011)	(0.011)	(0.007)
EPS increase	0.046***	0.032***	0.015***
t-stat	(0.009)	(0.010)	(0.004)
EPS increase vs. EPS decrease	0.024***	0.029***	
t-stat	(0.004)	(0.005)	

This table presents risk-adjusted return of a portfolio strategy that purchases the highest quintile of banks that have reported unrealized gains on AFS securities and sell the lowest quintile of banks that have reported unrealized losses on AFS securities (Panel A). Panel B presents market excess returns of the high vs. low unrealized AFSGL strategy after double sorting banks in quintile of unrealized AFSGL and change in earnings (increase vs. decrease). Portfolios are formed 42 trading days after the end of the fiscal year and the position is held for 210 trading days. We report the coefficients of OLS regressions of portfolios monthly return in excess of the Treasury bill rate on monthly factors. *MKT* = monthly C/R/S/P value-weighted index return minus the Treasury rate; *SMB* = monthly return from the Fama and French (1993) factor-mimicking portfolio for size; *HML* = monthly return from the Fama-French factor-mimicking portfolio for book-to-market; *MOM* = monthly return from the Carhart (1997) factor-mimicking portfolio for momentum; *Alpha* = monthly abnormal return (α).

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are presented in parenthesis below each coefficient.

Table 6: Analyst response to unrealized gains and losses on Available-for-Sale securitiesPanel A: Likelihood of a recommendation downgrade in year $t+1$

	Dependent variable: Probability of a recommendation downgrade		
	(1)	(2)	(3)
ΔAFS	2.250 (3.400)	2.250 (3.400)	1.189 (3.404)
$\Delta AFS * Period2$	-4.305 (4.952)	-4.305 (4.952)	-3.228 (4.952)
$\Delta AFS * Period3$	-1.866 (4.891)	-1.871 (4.891)	-0.819 (4.891)
$Period2$	-0.117*** (0.029)	-0.117*** (0.029)	-0.122*** (0.030)
$Period3$	-0.087*** (0.030)	-0.087*** (0.030)	-0.092*** (0.030)
Controls for ΔEPS (and interaction with periods)	x		x
Control for Market-to-Book (and interaction with periods)		x	x
Control for Size (and interaction with periods)		x	x
Year fixed effects (and interaction with periods)	x	x	x
R-squared	0.013	0.013	0.016
Observations	13,877	13,877	13,877

Table 6 (continued)Panel B: Likelihood of a decrease in analysts' EPS forecast in year $t+1$

	Dependent variable: Probability of a decrease in EPS forecast		
	(1)	(2)	(3)
ΔAFS	-3.498** (1.509)	-3.511** (1.509)	-3.488** (1.509)
$\Delta AFS * Period2$	-2.039 (2.132)	-2.071 (2.133)	-2.071 (2.133)
$\Delta AFS * Period3$	-4.183** (2.128)	-4.182** (2.129)	-4.244** (2.129)
$Period2$	0.167*** (0.021)	0.166*** (0.021)	0.166*** (0.021)
$Period3$	0.180*** (0.020)	0.178*** (0.020)	0.178*** (0.020)
Controls for ΔEPS (and interaction with periods)	x		x
Control for Market-to-Book (and interactions with periods)		x	x
Control for Size (and interaction with periods)		x	x
Year fixed effects (and interaction with periods)	x	x	x
R-squared	0.061	0.060	0.061
Observations	77,773	77,773	77,773

This table examines the effect of reported unrealized gains and losses on available-for-sale securities in fiscal year t and (1) the likelihood of a stock downgrade in fiscal year $t+1$ (Panel A); (2) the likelihood of a decrease in analysts' EPS forecast in fiscal year $t+1$ (Panel B);. The sample includes all forecasts and recommendation changes made by equity analysts on US banks over the period 2001 to 2014. We define *Period1* to be the period between three and six months following the fiscal year end, *Period2* to be the period between six and nine months following the fiscal year end, and *Period3* to be the period between nine and 12 months following the fiscal year-end. In Panel A (Panel B), we regress the probability of a decrease in EPS forecast (a recommendation downgrade) on the level of unrealized gains and losses on Available-for-Sale securities (ΔAFS), dummy variable for each period (*Period1* omitted) and the interaction between each dummy period and ΔAFS . Each time we include a control variable or year fixed effects, it is interacted with the period dummies. For brevity, we do not report coefficients on control variables.

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test. Standard errors are presented in parenthesis below each coefficient.

Table 7: Investors' reaction to unrealized gains and losses on Available-for-Sale securities: sample of investment firms (SIC 679)

	Dependent variable: Buy-and-hold abnormal return (in %) over different windows :								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>One week</i>	<i>One month</i>	<i>Three months</i>	<i>One week</i>	<i>One month</i>	<i>Three months</i>	<i>One week</i>	<i>One month</i>	<i>Three months</i>
ΔAFS_rank	0.003** (0.001)	0.000 (0.002)	-0.001 (0.003)	0.003* (0.001)	-0.001 (0.002)	0.000 (0.004)	0.002* (0.001)	-0.001 (0.002)	-0.000 (0.004)
ΔEPS							0.001 (0.001)	0.001 (0.002)	0.003 (0.002)
<i>Market-to-Book</i>							-0.003** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
<i>Market Value (log)</i>							-0.000 (0.002)	-0.002 (0.002)	-0.007 (0.004)
Year fixed effects				x	x	x	x	x	x
R-squared	0.007	0.000	0.000	0.027	0.030	0.118	0.043	0.052	0.129
Observations	750	750	751	750	750	751	750	750	751

This table presents cross-sectional OLS regressions examining the effect of reported unrealized gains and losses on Available-for-Sale (AFS) securities in fiscal year t on future abnormal returns computed for three different time windows in fiscal year $t+1$. The sample includes investment firms from the SIC 679 industry that report non-zero unrealized AFSGGL in year t over the period 2001 to 2014. The dependent variable is the buy-and-hold abnormal return of firm i over the daily CRSP value-weighted return from day x to day X in fiscal year $t+1$. Abnormal return are computed from the earnings announcement date to 5 trading days (one week, $BHAR[0;5]$) after the earnings announcement, one month ($BHAR[0;21]$) after the earnings announcement, and three months ($BHAR[0;63]$) after the earnings announcement. The main independent variable is ΔAFS_rank , the fifth quantiles of ΔAFS ($\Delta AFS_rank = 1$ for the lowest quintile of unrealized gains and losses on AFS securities in year t ; $\Delta AFS_rank = 5$ for the highest quintile of unrealized gains and losses on AFS securities in year t). We report parameter estimate of the highest quintile. All control variables are defined in Appendix A. Coefficient estimate on *Market Value* are expressed in basis points. Standard errors are adjusted for heteroskedasticity and clustered by firm. They are displayed below the coefficient estimate.

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test.

Table 8: Elimination of the option to report unrealized AFSGL in the change in shareholders' equity in 2011 and investors' reaction to unrealized gains and losses on Available-for-Sale securities

	Dependent variable: Buy-and-hold abnormal return (in %) over different windows :					
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>	<i>One month</i>	<i>Four months</i>	<i>Ten months</i>
ΔAFS_rank	0.100 (0.086)	0.264 (0.196)	1.067*** (0.300)	0.098 (0.085)	0.239 (0.195)	0.873*** (0.297)
<i>After</i>	2.281*** (0.659)	3.772*** (1.340)	11.099*** (2.134)	2.412** (1.102)	3.889* (2.355)	15.290*** (3.764)
$\Delta AFS_rank \times After$	0.003 (0.200)	0.384 (0.400)	-0.694 (0.621)	0.003 (0.200)	0.520 (0.396)	-0.387 (0.612)
Controls (interacted)				x	x	x
R-squared	0.013	0.012	0.017	0.016	0.022	0.048
Observations	5,452	5,452	5,452	5,452	5,452	5,452

This table presents cross-sectional OLS regressions examining the effect of the elimination of the option to report OCI as part of the statement of changes in shareholders' equity on the association between reported unrealized gains and losses on Available-for-Sale (AFS) securities in fiscal year t and future abnormal returns computed for three different time windows in fiscal year $t+1$. The sample includes US banks over the period 2001 to 2014. The dependent variable is the buy-and-hold abnormal return of bank i over the daily C/R/S/P value-weighted return from day x to day X in fiscal year $t+1$. Abnormal return are computed from 42 trading days (two months) after fiscal year-end to various time horizons: one month ($BHAR[42;63]$), four months ($BHAR[42;126]$) and 10 months ($BHAR[42;250]$). In Panel A, the main independent variable is ΔAFS_rank , the fifth quantiles of ΔAFS ($\Delta AFS_rank = 1$ for the lowest quintile of unrealized gains and losses on AFS securities in year t ; $\Delta AFS_rank = 5$ for the highest quintile of unrealized gains and losses on AFS securities in year t). All control variables are defined in Appendix A. Standard errors are adjusted for heteroskedasticity and clustered by banks. They are displayed below the coefficient estimate.

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a two-tailed test.