Do Fair Values Predict Future Financial Performance?

Mark Evans*
Leslie Hodder
Patrick Hopkins

Kelley School of Business
Indiana University
Bloomington, IN 47405

Preliminary – Do not quote without authors’ permission.

Draft: June 30, 2010

* Corresponding author (evansme@indiana.edu)

We thank Ernst and Young for their generous research support. We sincerely appreciate the comments of Tom Linsmeier, Laureen Maines, Wayne Thomas, brownbag presentation participants at Indiana University, and workshop participants at Washington University in St. Louis. We also gratefully acknowledge the funding provided by the PricewaterhouseCoopers Corporate Governance Grant and the summer support provided by the Kelley School of Business. Professor Hodder and Professor Hopkins thank Ernst and Young and the Deloitte Foundation, respectively, for their financial support.
Do Fair Values Predict Future Financial Performance?

ABSTRACT

For a sample of commercial banks during 1994–2008, we find that accumulated fair value adjustments for investment securities are positively associated with realized income from investment securities in the following period, suggesting that fair values have predictive ability for future realized income. We also find that our measure of predictive ability appears to be a reasonable proxy for reliability because it varies with traditional proxies for the reliability of reported fair values of investment securities. Furthermore, we provide evidence that the relative ability of fair values to predict reported income is a factor that strengthens the relationship between fair values and the market value of equity for commercial banks. Our results also indicate that market-wide credit risk affects the pricing of fair value information in banks’ market value of equity, suggesting that the value relevance of fair value information is partially dependent on market- or industry-wide factors. Finally, in contrast to prior research, we find that both amortized cost and fair value play important roles in predictive ability and value relevance.
Do Fair Values Predict Future Financial Performance?

1. INTRODUCTION

We investigate whether fair value information is associated with future financial performance for a sample of commercial banks. Although prior research documents the relevance of reported fair values for the market values of share prices (e.g., Barth 1994), this literature largely ignores whether the predictive ability of fair value is a factor affecting value relevance. Recent congressional testimony and public statements by representatives from the banking industry (e.g., the American Bankers Association and the International Banking Federation) suggest that periodic revaluations of financial instruments are misleading because these revaluations are neither relevant nor reliable (Leone 2008). Specifically, revaluations are considered (1) irrelevant because they will not necessarily be realized and (2) unreliable because they may not reflect “real” economic events or because they may be measured with error. While one could easily dismiss these statements by banking representatives as mere opportunistically timed hyperbole, they actually reveal a deficiency in extant research: accounting studies, to date, have not provided convincing evidence on the predictive ability of fair value information for future income. We propose, contrary to the foregoing assertions, that the forward-looking information included in fair value estimates will yield balance sheet measures that are predictive of future realized financial performance.

Our analysis addresses four related issues. First, we test whether unrealized holding gains and losses on commercial banks’ investment securities are positively associated with banks’ future accounting income realized from investment securities (throughout the paper, we refer to this as “predictive ability” of fair values). Second, we test whether the predictive ability of fair values is associated with typical proxies for the reliability of investment securities’ fair
values (e.g., the proportion of treasury securities held as investments). Third, we examine the association between predictive ability and value relevance. As part of this analysis, we document that traditional value relevance parameters are unstable across time, and we identify factors associated with periodic and cross-sectional variation in value relevance. Specifically, we test whether proxies for the economic cycle (i.e., fluctuations in market-wide credit risk) affect the relation between banks’ fair value information and the market value of equity. Finally, we test whether the relative predictive ability of fair values affects the association between the fair value of banks’ investment securities and the market value of banks’ equity.

Our predictions about the relationship between fair value measures and future financial performance are motivated by Statement of Financial Accounting Concepts (SFAC) No. 2, “Qualitative Characteristics of Accounting Information” (FASB 1980), which states that relevant accounting information should have predictive value. Consistent with the observations made by Barth (2000, 19), we propose that reliably measured fair values should also provide information relevant to predicting future earnings. For example, investment securities’ fair values should be related to the future income realized from those securities because fair values capture expected opportunity costs and benefits of holding the specific cash flow rights in a particular owned investment security. Thus, for a given level of market interest rates, the difference between fair values and amortized costs captures the expected values of the difference between the instruments’ expected contractual yields and the market-expected yields for instruments of similar duration and credit quality.

Our analysis of the relation between investment securities’ fair values and future-period accounting income from investment securities provides a relatively clean and direct setting in which to assess the reliability of reported fair values for marketable securities. In particular, we
are able to exploit the specificity of reporting categories in bank financial statements to relate fair value balance sheet measures (i.e., investment securities) to the income statement accounts in which future income realization will be recorded (i.e., income from investment securities). In comparison, prior attempts to test the association between fair value measures and income statement outcomes were much coarser, linking balance sheet measures to highly aggregated and/or netted heterogeneous income-statement measures, like net income (e.g., Aboody, Barth and Kasznik 1999). As noted by Sloan (1999), inferences about reliability in such indirect tests can be muddled by problems with omitted variables and the indeterminate functional form of the relationship between specific balance sheet items and the aggregated income number.

Consistent with Ryan’s (1999) recommendation, we also investigate the determinants of value relevance. Value relevance implies that balance sheet items are perceived to have predictive ability for future realizations. However, research has failed to establish a direct link between predictive ability and value relevance. We use a relative-predictive-ability framework to construct a proxy for fair value reliability, and then link our reliability proxy (i.e., predictive ability) to the pricing of banks’ fair value information. We also structure our tests to determine whether economy-wide factors (i.e., market-wide credit risk) affect the relation between banks’ fair value information and the market value of equity across time.

We conduct our tests on a sample of 8,453 commercial bank-year observations over the period 1994 through 2008 and obtain results that are consistent with our predictions. In both within-sample and out-of-sample tests, we find that banks’ accumulated fair value adjustments for investment securities are positively associated with reported income from investment securities in the following period, suggesting that unrealized gains and losses on investment securities measured at fair value have predictive ability for subsequent realized earnings. We
also find that predictive ability appears to be a reasonable proxy for fair value reliability because it varies with traditional proxies for investment-measurement reliability (e.g., relative proportion of investments in treasury securities). Our analysis of value relevance indicates that fair values in more recent time periods are relevant beyond amortized cost measures, consistent with Barth’s (1994) findings on pre-1990 fair value disclosures. Specifically, the strong value relevance of fair values persists even after fair values are recognized (i.e., after 1994), when managers presumably have greater incentive to manipulate reported values. Consistent with predictions, we find that the relative ability of fair values to predict reported income is associated with value relevance. However, we also find that market-wide credit risk attenuates the pricing of fair value information in banks’ market value of equity, suggesting that the value relevance of fair value information is partially dependent on market- or industry-wide factors incremental to predictive ability.

Our research concerning the predictive ability of fair values (for earnings) is indirectly related to the extensive literature in accounting addressing the persistence and predictability of earnings. Our paper differs from the persistence and predictability literature in three ways. First, while prior research relates the persistence or predictability of an income measure to firm value, we relate the predictive ability of unrealized gains and losses to firm value and value relevance. Specifically, we don’t show that fair values are persistent or predictable but, rather, that fair values are useful in the prediction of accounting earnings realizations and that this usefulness is a determinant of fair value’s value relevance. Second, persistence typically

---

1 Persistence, typically defined as the “sustainability” of earnings, and predictability, the ability of earnings to predict itself, are considered desirable attributes of financial reporting (Francis, LaFond, Olsson, and Schipper [2004], Lipe [1990]). Value relevance in levels and changes is expected to be increasing in the persistence and predictability of earnings. Persistence is typically measured as the slope coefficient from a regression of current year earnings on prior year earnings, while predictability is measured as the variance of the residual in a time-series earnings regression.
captures the sustainability of a single financial reporting item (i.e., earnings) over time. Our work captures the predictive ability of fair values (one item) for next period’s accounting income (a different item). Third, most of the literature in this area discusses (and measures) persistence in terms of time-series, firm-specific analysis. For a given firm, current period’s earnings is informative about next period’s earnings. Our predictions are cross-sectional—banks with higher unrealized net gains this year realize more accounting income next year than banks with lower unrealized net gains this year.

One important implication of our findings is that both amortized cost and fair value play important roles in predictive ability and value relevance. This is in contrast to claims that “[f]air value accounting and historical cost accounting are competing and mutually exclusive ways of conveying information” (Nissim and Penman 2008, 12). This is also in contrast to Barth’s (1994) finding that the value-relevance of investment securities’ amortized costs are subsumed by measures of securities fair values. Instead, we find that the value relevance of fair value is stronger when it has high predictive value for next period’s realized earnings, and that the value relevance of amortized cost increases when fair values have lower value relevance. These findings support Ryan’s (2008, 8) suggestion that disclosed amortized cost information can be incrementally useful in the presence of recognized fair values, and the FASB’s preliminary decision that entities must report in the balance sheet “[a]mortized cost and the amount needed to adjust amortized cost to arrive at fair value” (FASB 2009, 6).

We organize the paper as follows: In Section II, we discuss the extant research literature, and in Section III, we describe our empirical specification and planned tests. In Section IV, we describe our sample and provide high-level descriptive statistics. In Section V, we discuss our research findings and we provide concluding remarks in Section VI.
II. BACKGROUND AND RELATED LITERATURE

Numerous studies investigate the relevance of investment security fair value information for equity securities prices and contemporaneous equity securities returns (e.g., Barth 1994, Nelson 1996, Eccher et al 1996). These studies generally show that pre-SFAS 115 disclosures of fair value levels are robustly related to equity prices, but that changes in fair values are often not reliably associated with equity returns. As noted by Bernard (1993, 42-43), these types of accounting-based stock-price tests are often based on implicit assumptions about the correlation among underlying fundamentals: he suggests researchers may be better served by directly investigating the relations among the fundamentals (e.g., the relation between current accounting information and future accounting performance). Implicit—but never tested—in most market-based tests of fair value information is the assumption that priced future income and cash flow realizations will likely include current-period unrealized fair value changes.

While not directly related to fair value measurement issues, prior research has established the relevance of past performance-related fundamentals for forecasting future performance-related fundamentals. For example, Finger (1994) provides evidence in support of the predictive ability of past earnings for predicting future earnings and Dechow, Kothari and Watts (1998) provide evidence confirming the relevance of past earnings for predicting future cash flows. These studies generally confirm that past performance measures are associated with future performance measures. Other studies (e.g., Francis, LaFond, Olsson, and Schipper 2004; Lipe 1990) investigate statistical properties related to the association of earnings from one period to the next (e.g., persistence and/or predictability of earnings). However, few studies investigate the predictive ability of alternative balance-sheet-based measurement bases for accounting measures of future performance.
One such study is Aboody, Barth and Kasznik (1999), which provides evidence that voluntary, upward revaluations of fixed assets by UK firms are positively related to changes in future operating income and cash from operations. Their evidence appears to corroborate previously untested future-financial-performance explanations underlying the prior revaluation-related stock-market-relevance results for fixed asset revaluations reported by Easton, Eddey and Harris (1993) and Barth and Clinch (1998). Other studies investigating the future-income-prediction relevance of balance sheet information include Park, Park and Ro (1999), which investigates intent-based held-to-maturity (HTM) and available-for-sale (AFS) reporting categories for banks’ investment securities and finds that investments that managers choose to classify as AFS are associated with banks’ future net income. Park, et al. (1999) posit that this relation exists because AFS securities are likely to be sold. They do not explore the relation between revaluations and future realized interest income, and because they focus on net income, their results are subject to alternative explanations (Ryan, 1999). In an unpublished manuscript, Petroni and Wahlen (1997) report that supplemental regulatory-report disclosures of a subset of bond-investment fair values (i.e., bonds rate at Moody’s BAA or higher) are positively associated with future reported interest income on those investments for a sample of property and casualty insurance companies during 1988 through 1992.

In contrast to Park, Park and Ro (1999), Campbell (2009) investigates fair value measurement of reported derivatives and documents a negative relationship between unrealized cash-flow-hedge gains/losses and firms’ future reported gross margins. Campbell (2009) speculates that the negative relationship is driven by an omitted, correlated risk factor comprising residual unhedged risk. Similarly, Louis (2003) reports supplemental tests demonstrating a negative association between companies’ foreign-currency translation adjustments (i.e., a
component of other comprehensive income) and future foreign net income.\(^2\) Thus, the evidence on the predictive ability of fair-value valuation adjustments is mixed and incomplete.

The foregoing studies are largely focused on discretionary revaluations, intent-based classifications or second-order associations between reported balance-sheet information and subsequent income realization. In contrast, we focus our analysis on the predictive value of periodic, mandated revaluations of financial instruments to fair value. In recent years, bank managers and bank regulators claim that periodic revaluations of financial instruments will lead to less predictive validity for future financial performance (e.g., reported income) because these revaluations are neither relevant nor reliable (Leone 2008). These assertions appear to be consistent with the high levels of volatility in fair-value-based income metrics (Hodder, Hopkins and Wahlen 2006) and the possibility that fair values have unacceptably high levels of intentional (e.g., management-incentive motivated) and unintentional (e.g., model-uncertainty-based) measurement error (Barth and Landsman 1995). The higher volatility of fair-value-based accounting measures and the potential measurement-related difficulties caused the U.S. Securities and Exchange Commission (SEC) to raise doubts about the ability of fair value accounting information to reliably predict future financial performance (SEC 2008).

**III. HYPOTHESES AND EMPIRICAL SPECIFICATION**

We propose that reliably measured fair values should provide relevant information for predicting future financial performance (Barth 2000). We make this prediction because the difference between fair value and amortized cost for assets theoretically reflects the expected present value of the difference between the contractual yield on the assets and the market yield.

---

\(^2\) Louis (2003) did not investigate fair values, *per se*. The foreign translation adjustment is primarily calculated by converting subsidiaries’ foreign-currency denominated *book-basis* financial statement information into the reporting currency via balance-sheet-date spot rates and weighted average rates for the reporting period.
on assets with a similar horizon and equivalent collection risk. For investment securities, unrealized gains (losses) will be recognized in future periods either as higher (lower) interest income or realized holding gains (losses), and the difference between fair value and amortized cost will be useful in predicting these future earnings realizations. Specifically, if unrealized gains and losses are reliably measured, then firms with relatively larger amounts of unrealized gains (losses) should realize future income that outperforms (underperforms) their peers. This leads to our first hypothesis:

H1: The difference between fair value and amortized cost for investment securities is positively associated with relative future earnings realizations from those securities.

Given our focus on the fair value of investment securities, our measure of earnings is next period’s recognized accounting income from investment securities (i.e., investment interest income and realized investment holding gains/losses). Limiting earnings to securities income line items provides a stronger test of association between current unrealized gains and losses and future earnings realizations. The association between unrealized gains and losses and net income or net interest income is confounded by costs as well as revenues that are unrelated to investment securities (Beaver and Venkatachalam, 2003, Park, Park and Ro, 1999).

We test Hypothesis 1 by regressing future securities income realizations on beginning-of-period unrealized securities gains and losses as shown in equation (1).

\[
INCOME_{i,t+1} = \alpha + \beta_1 DIFF\_SECS_{i,t} + \beta_2 INCOME_{i,t} + \beta_3 HI\_ASSETS_{i,t} + \varepsilon_{i,t}
\] (1)

---

3 Interest income excludes dividends from marketable equity securities classified as available for sale under SFAS 115. However, such securities comprise a very small percentage of banks’ investment securities. Specifically, the annual average proportion of equity securities ranged from 0.14 to 0.30 percent of the available for sale portfolio over our sample period (FDIC Uniform Bank Performance Report at www.fdic.gov).
In our analyses, INCOME will be separately analyzed for two investment-income-related proxies: SEC_INC and SEC_INT. SEC_INC is the sum of securities interest income and realized gains or losses recognized for accounting purposes in each accounting period, deflated by total securities cost. SEC_INT is securities interest income (i.e., excluding realized gains or losses) for accounting purposes in each accounting period, deflated by total securities cost. DIFF_SECS is the difference between fair value and amortized cost for investment securities, deflated by total securities cost. DIFF_SECS includes unrealized gains and losses on AFS securities and HTM securities. A coefficient on DIFF_SECS that differs from zero is consistent with fair values of investment securities providing predictive ability for future accounting income, incremental to control variables.

We include prior period realizations of our two INCOME proxies to control for the predictive ability of accounting income measured on an amortized cost basis (i.e., INCOME_t does not include unrealized gains and losses on investment securities). Including prior realizations of INCOME effectively controls for firm effects that give rise to systematically different yields, such as investment policies or risk preferences. We expect the coefficient on prior realizations of INCOME to be positive. We control for relative firm size by including HI_ASSETS, an indicator variable equal to one if the book value of assets (ASSETS) is above the median in any year and zero otherwise.\footnote{As a robustness procedure, we also include the log of assets as a control for size. All resulting statistics (untabulated) from this alternative specification yield similar inferences and significance levels as those reported for our primary tests.} We expect a positive coefficient on HI_ASSETS consistent with the existence of investing efficiencies and market power at large financial institutions.
**Out-of-Sample Predictive Ability**

The preceding section describes tests designed to evaluate the relation between unrealized fair value gains and losses (on investment securities) and future securities-related income. In this section we describe two sets of tests designed to evaluate whether unrealized gains and losses help to predict future performance on an out-of-sample basis. In our first set of out-of-sample tests, we estimate the following regressions over 10-year windows (up to and including year \( t - 1 \)) and apply coefficient estimates to year \( t \) values to predict SEC\_INC in year \( t + 1 \). (For example, we estimate regressions over the years 1994-2003, and apply these coefficients to 2004 values in order to predict SEC\_INC in 2005.)

**Fair Value Model:**
\[
SEC\_INC_{i,t+1} = \alpha + \beta_1 SEC\_INC_{i,t} + \beta_2 DIFF\_SECS_{i,t} + \epsilon_{i,t+1}
\]

**Base Model:**
\[
SEC\_INC_{i,t+1} = \gamma + \delta_1 SEC\_INC_{i,t} + \epsilon_{i,t+1}
\]

where \( j = 1994 – 1997 \). We then apply these regression coefficients to actual values in the following year to obtain expected values of SEC\_INC for each of four years (2005 – 2008).\(^5\)

**Fair Value Model:**
\[E[SEC\_INC_{i,t+1}] = \tilde{\alpha} + \tilde{\beta}_1 SEC\_INC_{i,t} + \tilde{\beta}_2 DIFF\_SECS_{i,t}\]

**Base Model:**
\[E[SEC\_INC_{i,t+1}] = \tilde{\gamma} + \tilde{\delta}_1 SEC\_INC_{i,t}\]

The absolute value of the forecast errors (\( |SEC\_INC_{i,t+1} - E[SEC\_INC_{i,t+1}]| \)) from the fair value model are then compared to those from the base model. We hypothesize that the mean and median absolute forecast error from the fair value model is lower than the mean and median absolute forecast error from the base model.

---

\(^5\) Year indicators from the estimation equations are averaged for purposes of prediction.
In our second set of out-of-sample tests, we posit that the relative magnitude of unrealized gains (losses) observed in the investment portfolio will help to predict relative overperformance (underperformance) of firms’ investments in the future. Therefore, we partition banks into High and Low performing groups based on future securities income (SEC_INC_{t+1}). We also partition banks into High and Low levels of unrealized gains and losses based on currently observable DIFF_SECS_{t} and High and Low levels of current securities income based on currently observable SEC_INC_{t}. If the positive association between unrealized securities gains and losses and future securities income holds out-of-sample, we should observe more banks with High (Low) levels of DIFF_SECS_{t} exhibiting High (Low) levels of future SEC_INC_{t+1}.

In this second set of tests, we also evaluate the out-of-sample predictive ability of SEC_INC_{t} for comparison and control purposes. We predict that higher SEC_INC_{t} will predict higher SEC_INC_{t+1}, and that DIFF_SECS_{t} will show incremental predictive ability for SEC_INC_{t+1} after controlling for the outcome proportions predicted by SEC_INC_{t}.

Reliability

Concern about the reliability is a major impediment to more-widespread use of, and reliance on, fair value measurements in accounting reports. In contrast to value-relevance tests, which are joint tests of relevance and reliability, we view our predictive ability test in Equation (1) primarily as a test of fair value reliability. Value relevance tests alone are susceptible to a host of problems related to correlated-omitted variables and failure to specify the functional form for fundamentals-to-value (Sloan 1999). In contrast, unrealized gains and losses on investment securities should be reflected in future accounting income, either through realization or the recognition of interest income. Thus, a finding that unrealized gains and losses are not associated
with future accounting income suggests that fair values are not measured with sufficient reliability for the predictive relationship to be detected.  

We further explore the issue of measurement reliability by examining how the relation between unrealized gains and losses measured at fair value vary across instrument type. Specifically, Barth (1994) posits that portfolios with greater proportions of treasury securities exhibit more reliable fair value measurements because treasury prices are relatively transparent to market participants. Ryan (1999) posits that measurement errors will be less severe when portfolios have shorter duration. When prices are unobservable, fair value estimates for longer-term securities frequently involve assumptions about the exercise of embedded options. In addition, any errors in estimates of risk-adjusted discount rates compound over longer terms.

If predictive ability reflects an element of reliability, and if reliability varies with characteristics of the investment portfolio, then the relation between fair values and future accounting income should also vary with characteristics of the investment portfolio. Hypothesis 2 summarizes our prediction about the relation between reliability and predictive ability.

**H2: The predictive ability of fair values is increasing in the reliability of fair value measurements**

We test Hypothesis 2 by comparing the mean absolute prediction error across high and low reliability portfolios as shown in Equation (2).

\[ APE_{j,t} = ACTUAL_{j,t} - [a_j + B_{1j} DIFF SECS_{j,t} + \sum B_{1995-2007,j,t}] \]  

where \( j = HI\_TREAS = 1, HI\_TREAS = 0, SHORTER = 1 \) and \( SHORTER = 0 \)

---

\( ^6 \) We view the tension in our test as depending primarily on the reliability of fair value measures. Our findings also potentially depend on the horizon over which unrealized gains and losses are realized and the extent to which banks’ restructure their portfolios. We find that a strong association between unrealized gains and losses and future accounting income exists in a one-year horizon.
APE is the absolute value of the prediction error. The subscript \( j \) represents four portfolio partitions based on our reliability proxies.\(^7\) Following Barth (1994), we use the relative proportion of U.S. Treasury Securities as a proxy for reliability associated with greater price transparency. We set HI\_TREAS equal to one if the ratio of U.S. treasury securities to total assets (i.e., TREAS) is above the median in each year, and zero otherwise and compare the mean APE across these partitions. Following the suggestion of Ryan (1999), we also include a reliability proxy based on the duration of securities holdings. Specifically, we set SHORTER equal to one if the ratio of securities with a remaining maturing of one year or less to total assets (i.e., SHORT) is above the median in each year, and zero otherwise and we compare the mean APE across these partitions.

The parameters, \( a \) and \( B_1 \), are estimated from a model that expresses future securities accounting income as a function of current unrealized gains and losses in the investment portfolio.

\[
SEC\_INC_{t,t+1} = \alpha + \beta_1 DIFF\_SECS_{t,t} + \sum \beta_{1995-2007} + \varepsilon_{t,t}
\]

Variable definitions in Equation (3) are the same as those used in equation (1). If fair values of HI\_TREAS = 1 and SHORTER = 1 portfolios are more reliable, on average, we expect the mean absolute prediction error (MAPE) for HI\_TREAS = 1 to be less than the MAPE for HI\_TREAS = 0 and the MAPE for SHORT = 1 to be less than the MAPE for SHORT = 0.

---

\(^7\) Recent disclosures required by Statement of Financial Accounting Standard (SFAS) No. 157, *Fair Value Measurement* (FASB 2006) provide information about the estimation process inherent in fair value measurement (Song et al. 2009). Although SFAS 157 disclosures potentially provide the best measures of estimation uncertainty, these disclosures are unavailable for the majority of periods we examine. Therefore, we construct measures of reliability using characteristic-based proxies.
Value-Relevance: Stock Price Tests

One motivation of this study is to identify factors that determine the value-relevance of fair values for stock prices. Barth (1994) finds that value relevance parameters are affected by proxies for reliability. Specifically, unrealized gains and losses are more strongly associated with stock prices for banks with high proportions of U.S. Treasury securities. Ryan (1999) also hypothesizes that the value relevance relation may vary with duration of the investment portfolio. Correspondingly, we hypothesize that the value relevance of fair values for equity prices may vary with another proxy for reliability: the predictive ability of fair values for future income. Our prediction is formally stated as Hypothesis 3.

H3: The value relevance of fair values for equity prices is attenuated by low levels of predictive ability.

Although prior research has documented that fair value measurements are incrementally value relevant to amortized cost, there is little evidence documenting whether value relevance parameters are stable across time. Critics of fair value accounting express concern that fair values may be less relevant and/or less reliable during periods of economic turmoil, such as that witnessed during the credit crisis that began in 2007. These concerns suggest that value relevance parameters may vary with the economic cycle, even after controlling for predictive ability. We provide preliminary evidence on this relation by evaluating the extent to which value relevance varies with proxies for market-wide credit risk. Our prediction is formally stated as Hypothesis 4.

---

8 In contrast, Carroll, Linsmeier, and Petroni [2003] show that, for a sample of closed-end mutual funds, fair values are value-relevant across all types of securities – including those deemed less reliable. They interpret this result by suggesting that the “value-relevance of investment securities fair value data is not hindered significantly by reliability concerns” (p. 6).
H4: The value relevance of fair values for equity prices is attenuated by high levels of market-wide credit risk.

We test Hypotheses 3 and 4 using a valuation model that relates stock price to the book values of assets and liabilities (e.g., Barth, 1994).

\[ MVE_{t,t} = \alpha + \beta_1 BVE_{EXCL,t,t} + \beta_2 SECS\_COST_{t,t} + \beta_3 DIFF\_SECS_{t,t} + \beta_4 PRED\_ERROR_{t,t} + \]
\[ + \beta_5 (DIFF\_SECS_{t,t} \times PRED\_ERROR_{t,t}) + \beta_6 (SECS\_COST_{t,t} \times PRED\_ERROR_{t,t}) + \beta_7 SPREAD_{t,t} + \]
\[ \beta_8 (DIFF\_SECS_{t,t} \times SPREAD_{t,t}) + \beta_9 (SECS\_COST_{t,t} \times SPREAD_{t,t}) + CONTROLS + \sum \beta_{1995-2007} + \]
\[ \epsilon_{i,t} \]  

The dependent variable is the market value of equity at March 31, Year_{t+1} (MVE).\(^9\) BVE_{EXCL} is the book value of equity excluding investment securities, SECS\_COST is the amortized cost of investment securities, and DIFF\_SECS is the difference between fair value and amortized cost of investment securities. We predict positive coefficients on each of these variables, consistent with Barth (1994). PRED\_ERROR is the percentile-ranked absolute prediction error from a regression of DIFF\_SECS_{t} on SEC\_INC_{t+1} and year indicator variables, and is calculated using equation (3). We interact PRED\_ERROR with DIFF\_SECS and SECS\_COST to allow each to vary with the predictive ability of DIFF\_SECS. We predict a negative coefficient for \( \beta_5 \) because higher prediction errors are expected to attenuate the value relevance of DIFF\_SECS. We posit that the value relevance of SECS\_COST may increase as the predictive ability of DIFF\_SECS decreases. Therefore, we predict that \( \beta_6 \) is positive. Because we are primarily concerned with the effect of PRED\_ERROR on the value relevance parameters

\(^9\) All variables in the regression, except for ratios and indicator variables, are deflated by the book value of assets at December 31 of year.
for DIFF_SECS and SECS_COST, we do not predict a sign for $\beta_4$ which represents the main effect of PRED_ERROR on MVE.

To proxy for market-wide credit risk, we include SPREAD, the excess of Moody’s Baa bond rates over Aaa bond rates. We expect a negative coefficient on SPREAD, as increasing credit risk is associated with recessionary conditions and lower levels of bank equity prices. Consistent with PRED_ERROR, we interact SPREAD with both DIFF_SECS and SECS_COST to allow the coefficients on each to vary with the economic cycle. We expect the coefficient on $\beta_8$ to be negative, consistent with fair values having lower value relevance in periods characterized by greater market uncertainty. If the value relevance of SECS_COST increases as the value relevance of DIFF_SECS decreases, $\beta_9$ should have a positive sign.

We include several control variables. CAPITAL is the regulatory “leverage ratio” equal to Tier 1 regulatory capital divided by average assets. Firms with higher regulatory capital are expected to have higher market values; therefore, we predict a positive coefficient on CAPITAL. HI_ASSETS is an indicator variable set equal to one if the book value of assets is above the median in any year and zero otherwise. We expect a positive coefficient on HI_ASSETS because larger banks typically have higher market values relative to assets, either due to efficiencies of scale or market power. We control for bank-specific loan credit quality with NP_ASSETS which comprises the sum of non-performing loans, performing loans more than 90 days past due, and real estate owned. We expect a negative coefficient on NP_ASSETS (Beaver and Venkatachalam 2003). Finally, we control for market risk with ONE_YEAR_GAP. ONE_YEAR_GAP is the amount of assets repricing in one year or less, minus the amount of liabilities repricing in one year or less. We expect a negative coefficient on ONE_YEAR_GAP.
consistent with the findings of Ahmed and Takeda (1995) that ONE_YEAR_GAP reflects overall bank interest rate risk that is negatively correlated with investment securities fair values.

IV. SAMPLE AND DESCRIPTIVE STATISTICS

We draw our sample from the set of U.S. financial institutions filing Y-9C reports with the Federal Reserve and financial statements with the Securities and Exchange Commission from 1994-2008. The beginning of our sample period corresponds to the mandatory adoption year of SFAS 115 which requires recognition of available for sale securities at fair value. We collect accounting data, including fair value and amortized cost disclosures, and stock market data from the SNL DataSource database. We exclude firms that are trading on the Pink Sheets, have non-calendar year fiscal year-ends, have no available-for-sale securities or securities-related interest income, and have missing data for any relevant variable. In addition, for predictive ability analyses, we require two consecutive years of data for each firm. Our final sample consists of 8,543 firm-year observations from 1994-2007. Untabulated statistics reveal that our sample has an annual maximum of 723 firms (2007) and an annual minimum of 487 firms (1995).

We report descriptive statistics in Table 1, Panel A. We make two observations from Panel A. First, the mean and median yield for securities-related income (SEC_INC) is approximately 5%. When excluding realized gains and losses, the mean and median yield (SEC_INT) is also approximately 5%, suggesting that realized gains and losses net to approximately zero on average over the sample period. Second, the median value of DIFF_SECS is marginally positive, indicating that more than half of the bank-year observations in our sample report fair values greater than amortized cost. We present univariate correlations in Table 1, Panel B. SEC_INC is positively associated with next year’s SEC_INC (Pearson $\rho =$
0.33, Spearman $\rho = 0.60$) and the yield on investment securities excluding realized gains and losses (SEC_INT) is positively associated with next year’s SEC_INT (Pearson $\rho = 0.35$, Spearman $\rho = 0.61$). DIFF_SECS is positively associated with next year’s SEC_INC (Pearson $\rho = 0.09$, Spearman $\rho = 0.07$), but largely insignificantly correlated with next year’s SEC_INT (Pearson $\rho = -0.02$, Spearman $\rho = 0.00$) on a univariate basis. These results provide preliminary evidence that DIFF_SECS has different patterns of correlation with SEC_INT and SEC_INC, suggesting that these two income measures should be analyzed separately. These relations are tested in a multivariate setting in the next section.

V. EMPIRICAL TESTS AND RESULTS

We test our hypothesis regarding the predictive ability of fair values in a multivariate, within-sample analysis (presented in Table 2), and in an out-of-sample analysis (presented in Table 3). Consistent with Hypothesis 1, the regression statistics reported in Table 2 suggest that DIFF_SECS has incremental predictive ability for next year’s securities income (SEC_INC) after controlling for current year’s securities income, size, and year. Specifically, the coefficient on DIFF_SECS is positive and significant at the $p < 0.01$ level ($\beta_1 = 0.134, t = 5.86$). In addition, current year securities income is also positive and significant at the $p < .01$ level ($\beta_2 = 0.149, t = 4.26$). DIFF_SECS also has incremental predictive ability ($\beta_1 = 0.022, t = 2.60$) for next year’s securities-related interest income (i.e., SEC_INT, which excludes realized securities-related gains and losses). These results are consistent with the excess of fair values over amortized cost reflecting the opportunity cost or benefit for the investment assets of the firm. Specifically, on average, firms with higher (lower) net unrealized gains have higher (lower) relative future securities-related income. Importantly, this is true when securities income
comprises either interest income or the combination of interest income and realized gains and losses.

Table 3 presents results for out-of-sample tests of Hypothesis 1. In Panel A, we present pooled results for absolute prediction errors from the “fair value model” and the “base model”, discussed in Section III. Because we estimate the prediction regression over 10-year rolling windows starting in 1994-2003, our results span four years (2005 – 2008), consisting of 2,856 observations. The mean (median) absolute prediction error for the fair value model is 0.016971 (0.013418), lower than the mean (median) absolute prediction error for the base model is 0.017457 (0.014038). The differences in means and medians are significant (i.e., p < .01), indicating that the prediction model including DIFF_SECS has better predictive ability than the model excluding DIFF_SECS. In addition, this difference is significant in three out of four years.

Table 3, Panels B1 through B3 presents our out-of-sample tests in which we determine whether firms with high (low) unrealized gains and losses are more likely to have high (low) securities-related income in the following year. For each year, we place firms into high or low categories based on values of SEC_INC_{t+1}, DIFF_SECS_{t-1} and realized SEC_INC_{t}. We then perform non-parametric analyses to test the relation between year t variables and SEC_INC_{t+1}. Results in Table 3, Panel B1 show that this year’s SEC_INC is better-than-chance at predicting next year’s SEC_INC (χ² statistic = 288.26, p < 0.01). Table 3, Panel B2 shows that DIFF_SECS is also better-than-chance at predicting next year’s SEC_INC (χ² statistic = 118.54, p < 0.01). Both of these results are unconditional, without regard for the level of the other variable.
Table 3, Panel B3 presents our conditional out-of-sample analysis, which tests the predictive ability of DIFF_SECS, given this year’s observed securities related income. Results reveal that 27.99% (shaded boxes in “high” row = 17.92 + 10.07) of observations are correctly classified as better performers based on high values of DIFF_SECS and 27.93% (shaded boxes in low row = 10.58 + 17.35) are correctly classified as worse performers based on low values of DIFF_SECS (Cochran-Mantel-Haenszel $X^2$ statistic = 85.84, $p < 0.01$). These results corroborate our within-sample findings and suggest that investment securities’ fair values improve out-of-sample prediction of reported performance relative to observed securities income alone.

Our next set of analyses tests whether the predictive ability of fair values varies with other proxies for reliability. We follow Barth [1994] and Ryan [1999] and assume firms with relatively higher proportions of U.S. Treasury securities and short-duration debt securities have more reliable fair value estimates. As we previously defined, HI_TREAS has a value of 1 for firms whose proportion of U.S. Treasury securities (i.e., TREAS in Table 1) is greater than the sample-year median, and 0 otherwise. SHORTER has a value of 1 for firms whose proportion of debt securities maturing in less than a year (i.e., SHORT in Table 1) is greater than the sample-year median, and 0 otherwise. We measure predictive ability as the absolute prediction error from a regression of next year’s securities related income (i.e., SEC_INC$_{t+1}$) on current-year DIFF_SECS$_t$ and year indicator variables. We do not include other control variables, such as current year securities income, because we are interested in comparing the predictive ability of fair values as they relate to common proxies for fair value reliability. Implicit in this approach is
the assumption that higher residual prediction error after controlling for fair value is equivalent
to lower predictive ability of fair values. \(^{10}\) Results are presented in Table 4.

Panel A of Table 4 reports regression statistics for each of the subsamples partitioned on
high versus low values for U.S. Treasury securities (i.e., for the higher proportion of treasury
securities, HI_TREAS = 1).\(^{11}\) The results are consistent with Hypothesis 2. First, the \(R^2\) is
higher for the subsample of firms with relatively more U.S. Treasury securities (0.32 vs. 0.22),
suggesting that the explanatory power of fair values for future securities income is increasing in
the relative level of U.S. Treasury securities.\(^{12}\) Second, we calculate firm-year-specific absolute
prediction errors from each regression subsample, and compare the averages. The mean (0.010
vs. 0.012) and median (0.007 vs. 0.008) absolute prediction errors are significantly lower (i.e., \(p
< 0.01\)) for the high treasury subsample, suggesting that fair values are better predictors for next
year’s income when firms have relatively higher level of U.S. Treasury securities.

In Table 4, Panel B, we report regression statistics for each of the subsamples partitioned
on the concentration of investment securities maturing in less than one year (i.e., for the higher
concentration of securities maturing in less than one year, SHORTER = 1). These results are
also consistent with our prediction in Hypothesis 2. First, the \(R^2\) is higher for the subsample of
firms with the higher concentration of total assets invested in securities that mature in less than
one year (0.39 vs. 0.19). Second, the mean (0.009 vs. 0.013) and median (0.006 vs. 0.008)
absolute prediction errors are lower for the shorter duration subsample, both significant at the \(p <
0.01\) level. Taken as a whole, these results provide evidence that predictive ability, our proxy for

\(^{10}\) We include control variables in the predictive ability tests reported in Table 2 because those tests are concerned
with incremental predictive ability.

\(^{11}\) High and low treasury subsamples are unequally split – \(N = 4,690\) for the low treasury sample and \(N = 3,763\) for
the high treasury sample. This is because a significant number of firms have U.S. Treasury values equal to 0.

\(^{12}\) Differences in coefficient estimates and R-squared statistics are not tested statistically. We believe that absolute
prediction errors best reflect the predictive ability of fair values for future income.
reliability, is positively associated with other proxies for reliability suggested in prior literature (Barth [1994], Ryan [1999]).

Our next analyses address whether predictive ability is a factor that affects the relationship between banks’ investment securities’ fair values and their equity prices (i.e., “value relevance”). Our proxy for predictive ability is the percentile-ranked absolute prediction error (PRED_ERROR) from a regression of next year’s SEC_INC on the current year’s DIFF_SECS and year indicator variables.\textsuperscript{13} Table 5, Panel A presents descriptive statistics for variables included in our value relevance analyses. Investment securities comprise a significant component of sample firms’ net assets, as evidenced by the distributional statistics for book value of equity minus AFS and HTM securities (i.e., BVE_EXCL). Specifically, the minimum (-0.879) through the third quartile (-0.047) values are negative, indicating that these investment securities are a material component of financial institutions’ tangible net worth.

In Table 5, Panel B, we report the results of estimating separate value relevance regression equations for each year in our sample. For this purpose, we regress MVE on BVE_EXCL, SECS_COST and DIFF_SECS without controls. In this specification, all coefficients are expected to be equal to one (Barth, 1994). Results indicate that coefficient estimates and explanatory power vary considerably over time. For example, the coefficient on SECS_COST ranges from 0.83 to 1.51, while the coefficient on DIFF_SECS ranges from insignificant to 2.63. The coefficient on SECS_COST is significantly smaller than the coefficient on DIFF_SECS (pooled F-stat = 8.46). This result is inconsistent with Barth’s (1994) finding that the value relevance of securities’ amortized cost is subsumed by the presence of fair value and implies that the coefficient on SECS_COST in the presence of securities’ fair value

\textsuperscript{13} Inferences are unchanged when using raw absolute prediction error or percentage absolute prediction error.
(SECS_FAIR_VALUE) is negative over our sample period. This potentially counterintuitive result is consistent with our finding that unrealized gains and losses predict future relative over or under-performance of earnings if investors value relative over (under) performance at an amount that exceeds the reported unrealized gain or loss. For example, investors may extrapolate over or under performance over a horizon longer than securities’ duration. Alternatively, investors may associate relative over performance with superior profit prospects in other areas. Results also reveal that the annual coefficients for SECS_COST and DIFF_SECS are significantly negatively correlated ($\rho = -0.45$, $p < .01$, untabulated), suggesting that weight is shifted between amortized cost and fair values depending on industry- or economy-wide factors that vary by year. Specifically, the more adverse credit spreads, the less value investors place on unrealized gains and losses.

Table 6 includes the analyses in support of our tests of Hypotheses 3 and 4. Pooled regression results reported in Model (I) of Table 6 are consistent with previous research on the value relevance of unrealized gains and losses on investment securities. Specifically, DIFF_SECS provides significant explanatory power for equity prices incremental to SECS_COST. This result is important because most previous research was done before the effective date of SFAS 115. These initial results show that the estimated DIFF_SECS coefficient is significant and positively associated with market value of equity ($\beta_3 = 1.51$, $t = 4.43$) during the period after widespread financial statement recognition of fair values.

---

14 Note that a regression of MVE on SECS_COST and DIFF_SECS is econometrically equivalent to a regression of MVE on SECS_COST and SECS_FAIR_VALUE. If, holding all other variables the same, the latter regression is specified as $MVE = \alpha_2 \text{SECS\_COST} + \alpha_3 \text{SECS\_FAIR\_VALUE}$, then $\alpha_2 = \beta_2 - \beta_3$. Since $\beta_2 < \beta_3$ over our sample period, the coefficient on SECS_COST in the presence of SECS_FAIR_VALUE is negative.

15 Holding fair value constant, higher (lower) SECS_COST implies lower (higher) unrealized gains and lower (higher) relative future performance. Regression results indicate that SECS_COST is associated with lower equity values, holding fair values constant.

16 We test the robustness of our results by re-estimating all value relevance parameters in Table 6 (1) after deleting studentized residuals greater than the absolute value of 2, and (2) using shares outstanding as an alternative deflator. All of our inferences remain unchanged.
Results of Model (II) in Table 6 show that, consistent with Hypothesis 3, the absolute prediction error (PRED_ERROR) moderates the relation between DIFF_SECS and MVE. Specifically, the association between fair values and equity prices is attenuated as percentile-ranked prediction error increases ($\beta_5 = -0.01, t = -2.49$). In contrast, the interaction between SECS_COST and percentile-ranked prediction error is insignificant ($\beta_6 = -0.00, t = -0.45$), suggesting that predictive ability of fair values does not moderate the relation between investment securities’ amortized cost and MVE.

Model (III) in Table 6 includes four control variables—CAPITAL, HI_ASSETS, NP_ASSETS, and ONE_YEAR_GAP—to reflect size, performance, financial health and market risk. This model assesses the robustness of the PRED_ERROR relation in the presence of control variables. Results reveal that coefficients on control variables are significant in expected directions and that the coefficient on the interaction between DIFF_SECS and PRED_ERROR is still negative and significant ($\beta_5 = -0.01, t = -2.69$).

Model (IV) in Table 6 presents the results of the value relevance regression augmented with the corporate-bond spread (i.e., SPREAD), which is the excess of Moody’s Baa bond rates over Aaa bond rates, and is a proxy for economy-wide levels of credit risk (i.e., higher values for SPREAD indicate higher levels of credit risk). As expected, the coefficient on SPREAD is negative and significant ($\beta_7 = -0.08, t = -13.31$), suggesting that average equity prices are lower during times with increased credit risk. In addition, the interaction between SPREAD and DIFF_SECS is negative and significant ($\beta_8 = -3.14, t = -3.39$) and the interaction between SPREAD and SECS_COST is positive and significant ($\beta_9 = 0.09, t = 3.86$). Consistent with negative correlation between fair value and amortized cost value relevance presented in Table 5, these findings suggest that the value relevance of amortized cost measurements (fair value
measurements) increases (decreases) during periods of heightened credit risk. Overall, these findings provide support for Hypothesis 4 by documenting that the value relevance of fair values varies with economic cycles. We note that the coefficient on the interaction between DIFF_SECS and PRED_ERROR remains negative and significant ($\beta_s = -0.02$, $t = -2.23$) in the fully augmented model.

As an analog to the analyses presented in Table 4 and as further robustness test for our reliability proxies, we assess whether proxies for reliability are associated with mean absolute errors from a regression of MVE on DIFF_SECS and year indicators. These tests assess the relative fit of the value relevance model across reliability partitions. Results are presented in Table 7 and reveal that firm-years with a relatively greater proportion of U.S. Treasury securities have significantly lower mean (0.049 vs. 0.053, $p < 0.01$) and median (0.039 vs. 0.041, $p < 0.01$) absolute errors. This is consistent with Barth (1994) and with the value relevance model providing a better fit when securities are comprised of treasury securities. When portfolios are comprised of a greater proportion of short-duration securities, the model errors have lower mean (0.050 vs. 0.053, $p < 0.01$), but equal median (0.040 vs. 0.040) absolute errors. Finally, firm-years with lower predictive ability for income (i.e., higher PRED_ERROR) have higher mean (0.057 vs. 0.046, $p < 0.01$) and median (0.043 vs. 0.037, $p < 0.01$) absolute errors. These results provide further evidence that reliability—as proxied by U.S. Treasury securities, short-duration securities, and predictive ability for income—is a determinant of value relevance.

**VI. DISCUSSION AND CONCLUSION**

Using a sample of 8,453 bank-year observations during 1994–2008, we find that banks’ accumulated fair value adjustments for investment securities are positively associated with reported income from investment securities in the following period, suggesting that unrealized
gains and losses on investment securities measured at fair value have predictive ability for subsequent realized earnings. We also find that predictive ability appears to be a reasonable proxy for fair value reliability because it (1) varies with traditional proxies for the reliability of fair values for reported investments and (2) conditions—in manner consistent with information precision—the relationship between the accumulated fair value adjustments for investment securities and the market value of banks’ equity. Our results also indicate that market-wide credit risk affects the pricing of fair value information in banks’ market value of equity, suggesting that the value relevance of fair value information depends on market- or industry-wide factors.

Our study makes several important contributions. Although prior research indicates that reported fair values are relevant for the market values of companies’ equity, these studies do not systematically explore whether the predictive ability of fair value for income is a factor affecting value relevance. As noted by Bernard (1993, 42-43), interpretation of value-relevance regressions usually includes of a series of (untested) implicit and explicit assumptions about the relations among accounting measures and economic fundamentals for companies. We contribute to the literature on fair value reporting by linking the predictive ability of fair value estimates to the information set priced in companies’ equity.

We also contribute to the literature related to fair-value relevance and reliability. Prior reliability-related research is either designed as a joint test of relevance and reliability via standard value-relevance regressions, or includes highly aggregated and/or netted heterogeneous outcome measures, like net income (e.g., Aboody, Barth and Kasznik 1999). As noted by Sloan (1999), inferences about reliability in such indirect tests suffer from problems with omitted variables and the indeterminate functional form of the relationship between the balance sheet and
the aggregated subsequent realized income number. We are able to exploit the specificity of reporting categories in bank financial statements to relate fair-value balance-sheet measures (i.e., investment securities) to the income statement accounts in which future income realization are recorded (i.e., income from investment securities).

Consistent with Bhat (2008), Goh et al. (2009) and Song et al. (2009), our study also examines contextual disclosures that reflect meaningful attributes of recognized fair values. Specifically, our study provides a direct test of the potentially complementary role of amortized-cost and other information that is disclosed concurrently with recognized fair value information for some items measured at fair value. Our results suggest that fair values are value relevant incremental to amortized cost measures and—in contrast to Barth’s (1994) findings—that amortized cost is incrementally value relevant to reported fair values. We find that the value relevance of fair value is stronger when it has high predictive value, while the value relevance of amortized cost increases when fair values have lower value relevance. These findings support Ryan’s (2008, 8) suggestion that disclosed amortized cost information can be incrementally useful in the presence of recognized fair values.

Despite the observation that disclosed amortized cost information can be incrementally useful in the presence of recognized fair values, these disclosures are rarely observed in general purpose financial statements when financial statement elements are recognized at fair value. Instead, we observe the converse; for example, SFAS107, Disclosures about Fair Values of Financial Instruments (FASB 1991) requires fair value disclosures for certain financial instruments recognized at cost in the financial statements, but it does not require historical or amortized cost disclosures for financial instruments recognized at fair value in the financial statements. Our findings support the FASB’s recent proposal that entities must report in the
balance sheet “[a]mortized cost and the amount needed to adjust amortized cost to arrive at fair value” (FASB 2009, 6), because this information is useful.

Our results on effects of market-wide credit risk on the pricing of fair value information suggest that researchers should use caution in the design and interpretation of value-relevance parameters estimated during shorter sample periods (e.g., one or two years). In particular, samples drawn during periods of temporary market disruption may not generalize to other time periods. For example, Song et al. (2009) and Goh et al. (2009) examine fair value disclosures required under SFAS 157, but place significant inferential weight on value-relevance coefficients estimated from market data during beginning stages of the credit crisis.

In summary, we provide evidence to improve our understanding of the value of reporting fair value information in the context of our existing mixed-attribute reporting model (Gigler, Kanodia and Venugopalan 2007) and, in so doing, we also refine a conjecture made by Barth (2006). In particular, she states, “[w]ith more estimates of the future incorporated into today’s measures of assets and liabilities, income will be less predictable” (Barth 2006, 272). Under certain conditions, this statement is true for all-inclusive summary income numbers, such as comprehensive income (Hodder et al. 2006). However, given sufficient income-statement disaggregation, fair value adjustments (to amortized costs) should provide information that improves the ability to predict individual income line items of companies’ financial statements (e.g., realized interest income and holding gains and losses).
References


### TABLE 1
Descriptive Statistics


<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Min</th>
<th>Q1</th>
<th>Median</th>
<th>Q3</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEC_INC(_{t+1})</td>
<td>0.055</td>
<td>-0.246</td>
<td>0.042</td>
<td>0.053</td>
<td>0.065</td>
<td>0.824</td>
</tr>
<tr>
<td>SEC_INC(_t)</td>
<td>0.051</td>
<td>-0.191</td>
<td>0.041</td>
<td>0.051</td>
<td>0.060</td>
<td>0.429</td>
</tr>
<tr>
<td>SEC_INT(_{t+1})</td>
<td>0.055</td>
<td>0.004</td>
<td>0.042</td>
<td>0.053</td>
<td>0.063</td>
<td>0.824</td>
</tr>
<tr>
<td>SEC_INT(_t)</td>
<td>0.050</td>
<td>0.001</td>
<td>0.040</td>
<td>0.050</td>
<td>0.059</td>
<td>0.437</td>
</tr>
<tr>
<td>DIFF_SECS(_t)</td>
<td>0.002</td>
<td>-0.136</td>
<td>-0.008</td>
<td>0.002</td>
<td>0.012</td>
<td>0.627</td>
</tr>
<tr>
<td>SHORT(_t)</td>
<td>0.026</td>
<td>0.000</td>
<td>0.004</td>
<td>0.014</td>
<td>0.035</td>
<td>0.515</td>
</tr>
<tr>
<td>TREASt(_t)</td>
<td>0.021</td>
<td>0.000</td>
<td>0.000</td>
<td>0.002</td>
<td>0.021</td>
<td>0.541</td>
</tr>
<tr>
<td>ASSETSt(_t)</td>
<td>9.170</td>
<td>0.011</td>
<td>0.263</td>
<td>0.558</td>
<td>1.601</td>
<td>2187.631</td>
</tr>
</tbody>
</table>

**Panel B: Pearson (upper triangle) and Spearman (lower triangle) Correlations**

<table>
<thead>
<tr>
<th></th>
<th>DIFF_SECS(_t)</th>
<th>SEC_INC(_{t+1})</th>
<th>SEC_INC(_t)</th>
<th>SEC_INT(_{t+1})</th>
<th>SEC_INT(_t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF_SECS(_t)</td>
<td>1.00</td>
<td>0.09***</td>
<td>0.15***</td>
<td>-0.02*</td>
<td>0.05***</td>
</tr>
<tr>
<td>SEC_INC(_{t+1})</td>
<td>0.07***</td>
<td>1.00</td>
<td>0.33***</td>
<td>0.87***</td>
<td>0.33***</td>
</tr>
<tr>
<td>SEC_INC(_t)</td>
<td>0.17***</td>
<td>0.60***</td>
<td>1.00</td>
<td>0.31***</td>
<td>0.87***</td>
</tr>
<tr>
<td>SEC_INT(_{t+1})</td>
<td>0.00</td>
<td>0.94***</td>
<td>0.58***</td>
<td>1.00</td>
<td>0.35***</td>
</tr>
<tr>
<td>SEC_INT(_t)</td>
<td>0.12***</td>
<td>0.59***</td>
<td>0.95***</td>
<td>0.61***</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Notes:**
The sample includes 8,453 bank-year observations, averaging 604 banks per year, for the years 1994 - 2007. Panel A reports pooled distributional statistics, Panel B reports the Pearson (upper triangle) and Spearman (lower triangle) correlations coefficients. *** = p-value less than 0.01 and * = p-value less than 0.10. Variable definitions follow:

SEC\_INC\(_t\) = Total securities yield recognized under GAAP. Computed as the sum of interest income and realized gains and losses divided by the cost of securities at time \( t \). To place lead and lag variables on the same scale, lead values of SEC\_INC\(_t\) (SEC\_INC\(_{t+1}\)) are also deflated by the cost of securities at December 31, Year\(_t\).

SEC\_INT\(_t\) = Total interest yield recognized under GAAP. Computed as the sum of interest income divided by the cost of securities at time \( t \). To place lead and lag variables on the same scale, lead values of SEC\_INT\(_t\) (SEC\_INT\(_{t+1}\)) are also deflated by the cost of securities at December 31, Year\(_t\).

DIFF\_SECS\(_t\) = Difference between the fair value and book value of total securities, deflated by the cost of securities at December 31, Year\(_t\).

SHORT\(_t\) = Total securities maturing in less than one year, deflated by assets at December 31, Year\(_t\).

TREASt\(_t\) = Total U.S. treasury securities, deflated by assets at December 31, Year\(_t\).

ASSETSt\(_t\) = Book value of assets, in billions.
### TABLE 2

Model (I): \[ SEC\_INC_{i,t+1} = \alpha + \beta_1 \text{DIFF\_SECS}_{i,t} + \beta_2 \text{SEC\_INC}_{i,t} + \beta_3 \text{HI\_ASSETS}_{i,t} + \epsilon_{i,t} \]

Model (II): \[ SEC\_INT_{i,t+1} = \alpha + \beta_1 \text{DIFF\_SECS}_{i,t} + \beta_2 \text{SEC\_INT}_{i,t} + \beta_3 \text{HI\_ASSETS}_{i,t} + \epsilon_{i,t} \]

<table>
<thead>
<tr>
<th>Par.</th>
<th>Pred.</th>
<th>Sign</th>
<th>Model (I)</th>
<th></th>
<th>Model (II)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>(\alpha)</td>
<td></td>
<td>0.060</td>
<td>24.99</td>
<td>**</td>
<td>0.055</td>
</tr>
<tr>
<td>DIFF_SECS</td>
<td>(\beta_1)</td>
<td>+</td>
<td>0.134</td>
<td>5.86</td>
<td>***</td>
<td>0.022</td>
</tr>
<tr>
<td>SEC_INC</td>
<td>(\beta_2)</td>
<td>+</td>
<td>0.149</td>
<td>4.26</td>
<td>***</td>
<td></td>
</tr>
<tr>
<td>SEC_INT</td>
<td>(\beta_3)</td>
<td>+</td>
<td>0.140</td>
<td>3.45</td>
<td>***</td>
<td>0.140</td>
</tr>
<tr>
<td>HI_ASSETS</td>
<td>(\beta_4)</td>
<td>+</td>
<td>0.001</td>
<td>1.93</td>
<td>**</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(R^2 = 0.25)</td>
<td></td>
<td>(R^2 = 0.25)</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
Model (I) reports regression results for the predictive ability of fair values for future securities income (SEC\_INC) after controlling for current-year realizations of securities income and bank size (HI\_ASSETS). Model (II) reports regression results for the predictive ability of fair values for future securities interest yield (SEC\_INT) after controlling for current-year realizations of interest yield and bank size (HI\_ASSETS). HI\_ASSETS = 1 if ASSETS is greater than the sample-year median, and 0 otherwise. Year fixed effects are included but not tabulated. Year effects for Model I (II) are significant in 8 (12) years out of 14. T-statistics are based on standard errors are adjusted for clustering by firm. *** = p-value less than 0.01 and ** = p-value less than 0.05. Variables are defined in Table 1.
### TABLE 3
Out of Sample Predictive Ability of Past Securities Income and Past Securities Fair Values for Future Securities Income

**Panel A: Out-of-Sample Predictive Ability of Past Securities Fair Value for Future Securities Income**

*Fair Value Model:* \( SEC\_INC_{i,t+1} = \sum \alpha_j + \beta_1 SEC\_INC_{i,t} + \beta_2 DIFF\_SECS_{i,t} + \epsilon_{i,t+1} \)

*Base Model:* \( SEC\_INC_{i,t+1} = \sum \gamma_j + \delta_1 SEC\_INC_{i,t} \)

<table>
<thead>
<tr>
<th></th>
<th>Absolute Forecast Error</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td></td>
</tr>
<tr>
<td>Fair Value Model</td>
<td>0.01697</td>
<td>0.01342</td>
<td></td>
</tr>
<tr>
<td>Base Model</td>
<td>0.01746</td>
<td>0.01404</td>
<td></td>
</tr>
<tr>
<td>Average Difference</td>
<td>-0.00049***</td>
<td>-0.00062+++</td>
<td></td>
</tr>
</tbody>
</table>

**Panel B1: Unconditional Out-of-Sample Predictive Ability of Past Securities Income for Future Securities Income**

<table>
<thead>
<tr>
<th>(Current) SEC_INC_t</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Future) SEC_INC_t+1</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>29.59</td>
</tr>
<tr>
<td>High</td>
<td>20.38</td>
</tr>
</tbody>
</table>

\( \chi^2 = 288.26 \) ***


<table>
<thead>
<tr>
<th>(Current) DIFF_SECS_t</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Future) SEC_INC_t+1</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>27.93</td>
</tr>
<tr>
<td>High</td>
<td>22.04</td>
</tr>
</tbody>
</table>

\( \chi^2 = 118.54 \) ***

**Panel B3: Predictive Ability of Past Fair Values Conditional on Predictive Ability of Past Income**

<table>
<thead>
<tr>
<th>(Current) SEC_INC_t / DIFF_SECS_t</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Future) SEC_INC_t+1</td>
<td></td>
</tr>
<tr>
<td>Low/High</td>
<td>Low/High</td>
</tr>
<tr>
<td>Low/High</td>
<td>9.81</td>
</tr>
<tr>
<td>High/High</td>
<td>17.92</td>
</tr>
</tbody>
</table>

\( CMH \) \( \chi^2 = 85.84 \) ***

35
Notes:
The table presents results for out-of-sample predictive ability. Panel A includes absolute prediction errors for 2,856 firm-year observations for the years 2005 to 2008, obtained using regression estimates from rolling 10-year windows, starting in 1994. The absolute prediction error equals $(SEC_{INC_{i,t+1}} - E[SEC_{INC_{i,t+1}}])$, using the fair value model and the base model to form expectations. Year indicator variables are averaged for purposes of prediction. Means (medians) are tested using t-tests (Wilcoxon signed rank tests).

The cells in Panels B1 though B3 report the proportion of 8,453 bank-year observations falling into each classification category. The statistics in Panels B1 and B2 reject the null hypothesis of no association compared to cell frequencies that would occur by chance. Panel B3 reports results for DIFF_SECS after controlling for the effects of observed past realizations SEC_INC. Based on frequencies that would occur given observed SEC_INC, the $(CMH) \chi^2$ (Cochran-Mantel-Haenszel) statistic rejects the null hypothesis of no association between FV_DIFF and SEC_INC_{i,t+1} controlling for SEC_INC_{i,t}. Variables are defined in Table 1. *** = p-value less than 0.01.
TABLE 4

Model: \( SEC\_INC_{i,t+1} = \alpha + \beta_1 \text{DIFF\_SECS}_{i,t} + \epsilon_{i,t} \)

Panel A: Analysis of Sample Split on High versus Low Proportion of Treasury Securities

<table>
<thead>
<tr>
<th>Proportion of US Treasuries in Investments (TREAS)</th>
<th>HI_TREAS = 1</th>
<th>HI_TREAS = 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF_SECS estimate ( \beta_1 )</td>
<td>0.149</td>
<td>0.169</td>
</tr>
<tr>
<td>Model R(^2)</td>
<td>0.320</td>
<td>0.220</td>
</tr>
</tbody>
</table>

Absolute Prediction Error:
- Mean: 0.010 vs. 0.012 **
- Median: 0.007 vs. 0.008 +++

Panel B: Analysis of Sample Split on Short Duration for Investment Securities

<table>
<thead>
<tr>
<th>Proportion of Investment Securities maturing in less than one year (SHORT)</th>
<th>SHORTER = 1</th>
<th>SHORTER = 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF_SECS estimate ( \beta_1 )</td>
<td>0.171</td>
<td>0.153</td>
</tr>
<tr>
<td>Model R(^2)</td>
<td>0.390</td>
<td>0.190</td>
</tr>
</tbody>
</table>

Absolute Prediction Error:
- Mean: 0.009 vs. 0.013 **
- Median: 0.006 vs. 0.008 +++

Notes:
The table presents summary regression results for the predictive ability of fair values (DIFF\_SECS) for total securities yield (SEC\_INC), controlling for year fixed effects. To assess whether proxies for reliability moderate the relation between fair value measures and predictive ability, Panel A partitions, into two subsamples, the 8,453 bank-year observations by the median amount of treasury securities (TREAS): HI\_TREAS = 1 for higher proportion of treasury securities, and HI\_TREAS = 0 otherwise. Panel B partitions, into two subsamples, the same observations by the median amount of treasury securities maturing in less than one year (SHORT): SHORTER = 1 for a higher proportion of investment securities maturing within one year, and SHORTER = 0 otherwise. *** = p-value less than 0.01 for parametric comparison of means and +++ = p-value less than 0.01 for nonparametric comparison of medians.
### TABLE 5


<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>Q1</th>
<th>Median</th>
<th>Q3</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVE&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.168</td>
<td>0.006</td>
<td>0.116</td>
<td>0.154</td>
<td>0.203</td>
<td>1.000</td>
</tr>
<tr>
<td>BVE&lt;sub&gt;_EXCL&lt;/sub&gt;&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-0.127</td>
<td>-0.879</td>
<td>-0.194</td>
<td>-0.119</td>
<td>-0.047</td>
<td>0.795</td>
</tr>
<tr>
<td>SECS_COST&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.224</td>
<td>0.001</td>
<td>0.144</td>
<td>0.212</td>
<td>0.287</td>
<td>0.940</td>
</tr>
<tr>
<td>DIFF_SECS&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.000</td>
<td>-0.049</td>
<td>-0.001</td>
<td>0.000</td>
<td>0.002</td>
<td>0.115</td>
</tr>
<tr>
<td>CAPITAL&lt;sub&gt;t&lt;/sub&gt;</td>
<td>9.612</td>
<td>0.090</td>
<td>7.790</td>
<td>8.810</td>
<td>10.150</td>
<td>162.340</td>
</tr>
<tr>
<td>NP_ASSETS&lt;sub&gt;t&lt;/sub&gt;</td>
<td>0.007</td>
<td>0.000</td>
<td>0.002</td>
<td>0.005</td>
<td>0.008</td>
<td>0.147</td>
</tr>
<tr>
<td>ONE_YEAR_GAP&lt;sub&gt;t&lt;/sub&gt;</td>
<td>-3.667</td>
<td>-718.840</td>
<td>-17.640</td>
<td>-2.460</td>
<td>10.810</td>
<td>92.490</td>
</tr>
<tr>
<td>SPREAD</td>
<td>0.856</td>
<td>0.580</td>
<td>0.660</td>
<td>0.820</td>
<td>0.970</td>
<td>1.380</td>
</tr>
</tbody>
</table>

#### Panel B: Annual Value Relevance Parameters

<table>
<thead>
<tr>
<th>Year</th>
<th>Intercept</th>
<th>BVE&lt;sub&gt;_EXCL&lt;/sub&gt;&lt;sub&gt;t&lt;/sub&gt;</th>
<th>SECS_COST&lt;sub&gt;t&lt;/sub&gt;</th>
<th>DIFF_SECS&lt;sub&gt;t&lt;/sub&gt;</th>
<th>Adj R&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>0.01</td>
<td>1.25***</td>
<td>1.28***</td>
<td>0.77**</td>
<td>0.34</td>
</tr>
<tr>
<td>1995</td>
<td>0.05***</td>
<td>1.09***</td>
<td>1.06***</td>
<td>1.56***</td>
<td>0.26</td>
</tr>
<tr>
<td>1996</td>
<td>0.05***</td>
<td>1.26***</td>
<td>1.24***</td>
<td>1.17**</td>
<td>0.26</td>
</tr>
<tr>
<td>1997</td>
<td>0.09***</td>
<td>1.53***</td>
<td>1.51***</td>
<td>1.35</td>
<td>0.14</td>
</tr>
<tr>
<td>1998</td>
<td>0.11***</td>
<td>0.89***</td>
<td>0.83***</td>
<td>2.08**</td>
<td>0.10</td>
</tr>
<tr>
<td>1999</td>
<td>0.07***</td>
<td>0.79***</td>
<td>0.83***</td>
<td>2.63***</td>
<td>0.13</td>
</tr>
<tr>
<td>2000</td>
<td>0.04***</td>
<td>1.06***</td>
<td>1.06***</td>
<td>2.38***</td>
<td>0.26</td>
</tr>
<tr>
<td>2001</td>
<td>0.03**</td>
<td>1.21***</td>
<td>1.24***</td>
<td>1.93***</td>
<td>0.15</td>
</tr>
<tr>
<td>2002</td>
<td>0.04***</td>
<td>1.03***</td>
<td>1.04***</td>
<td>2.46***</td>
<td>0.23</td>
</tr>
<tr>
<td>2003</td>
<td>0.07***</td>
<td>1.17***</td>
<td>1.20***</td>
<td>1.24*</td>
<td>0.37</td>
</tr>
<tr>
<td>2004</td>
<td>0.07***</td>
<td>1.23***</td>
<td>1.22***</td>
<td>1.51***</td>
<td>0.45</td>
</tr>
<tr>
<td>2005</td>
<td>0.07***</td>
<td>1.33***</td>
<td>1.27***</td>
<td>1.22**</td>
<td>0.64</td>
</tr>
<tr>
<td>2006</td>
<td>0.08***</td>
<td>1.11***</td>
<td>1.04***</td>
<td>0.55**</td>
<td>0.64</td>
</tr>
<tr>
<td>2007</td>
<td>0.02***</td>
<td>0.96***</td>
<td>1.01***</td>
<td>0.84</td>
<td>0.69</td>
</tr>
</tbody>
</table>

**Notes:**
Except for SPREAD, the sample includes 8,453 bank-year observations, averaging 604 banks per year, for the years 1994 - 2007. SPREAD is an economy-wide variable calculated for each year in our sample (i.e., there are 14 observations). Panel A reports pooled distributional statistics, Panel B reports statistics for annual regressions of MVE on BVE<sub>_EXCL</sub><sub>t</sub>, SECS_COST<sub>t</sub>, and DIFF_SECS<sub>t</sub>. *** = p-value less than 0.01 and ** = p-value less than 0.05. Variable definitions follow:

\[
\text{MVE}_{t} = \text{Market value of equity at March 31, year } t+1, \text{ deflated by the book value of assets at December 31, Year } t
\]
BVE_EXCL_t = Book value of equity excluding investment securities, deflated by the book value of assets at December 31, Year_t.
SECS_COST_t = Cost of investment securities, deflated by the book value of assets at December 31, Year_t.
DIFF_SECS_t = Difference between the fair value and book value of total securities, deflated by the book value of assets at December 31, Year_t.
CAPITAL_t = Tier 1 capital divided by average assets
NP_ASSETS_t = The sum of non-performing assets, loans delinquent 90 days or more, and REO deflated by the book value of assets at December 31, Year_t.
ONE_YEAR_GAP_t = The excess of assets over liabilities and certain preferred stock expected to reprice in one year or less divided by book value of assets at December 31, Year_t.
SPREAD_t = Excess of Moody’s Aaa bond rates over Baa bond rates for year t.
TABLE 6
Value Relevance Regressions Conditioned on Percentile Ranked Absolute Prediction Error

\[ MVE_{it} = \alpha + \beta_1 BVE_{EXCL_{it}} + \beta_2 SECS_{COST_{it}} + \beta_3 DIFF\_SECS_{it} + \beta_4 PRED\_ERROR_{it} + \beta_5 (DIFF\_SECS_{it} \times PRED\_ERROR_{it}) + \beta_6 (SECS\_COST_{it} \times PRED\_ERROR_{it}) + \beta_7 TED_{it} + \beta_8 (DIFF\_SECS_{it} \times TED_{it}) + \beta_9 (SECS\_COST_{it} \times TED_{it}) + CONTROLS + \epsilon_{it} \]  

(4)

<table>
<thead>
<tr>
<th>Pred.</th>
<th>(I)</th>
<th>(II)</th>
<th>(III)</th>
<th>(IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Par.</td>
<td>Sign</td>
<td>Coeff</td>
<td>t-stat</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td>0.03</td>
<td>5.22 ***</td>
</tr>
<tr>
<td>BVE_EXCL_{it}</td>
<td>$\beta_1$</td>
<td>+</td>
<td>1.13</td>
<td>34.68 ***</td>
</tr>
<tr>
<td>SECS_COST_{it}</td>
<td>$\beta_2$</td>
<td>+</td>
<td>1.13</td>
<td>34.01 ***</td>
</tr>
<tr>
<td>DIFF_SECS_{it}</td>
<td>$\beta_3$</td>
<td>+</td>
<td>1.51</td>
<td>4.43 ***</td>
</tr>
<tr>
<td>PRED_ERROR_{it}</td>
<td>$\beta_4$</td>
<td>?</td>
<td>0.00</td>
<td>0.89</td>
</tr>
<tr>
<td>DIFF_SECS_{it} *</td>
<td>$\beta_5$</td>
<td>-</td>
<td>-0.01</td>
<td>-2.49 ***</td>
</tr>
<tr>
<td>PRED_ERROR_{it}</td>
<td></td>
<td></td>
<td>0.00</td>
<td>-0.45</td>
</tr>
<tr>
<td>SECS_COST_{it} *</td>
<td>$\beta_6$</td>
<td>+</td>
<td>0.00</td>
<td>-0.45</td>
</tr>
<tr>
<td>SPREAD_{it}</td>
<td>$\beta_7$</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIFF_SECS_{it} *</td>
<td>$\beta_8$</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPREAD_{it}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECS_COST_{it} *</td>
<td>$\beta_9$</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPREAD_{it}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPITAL_{it}</td>
<td>$\beta_{10}$</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HI_ASSETS_{it}</td>
<td>$\beta_{11}$</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NP_ASSETS_{it}</td>
<td>$\beta_{12}$</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ONE_YEAR_GAP_{it}</td>
<td>$\beta_{13}$</td>
<td>+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 = 0.47 \] \hspace{2cm} \[ R^2 = 0.47 \] \hspace{2cm} \[ R^2 = 0.51 \] \hspace{2cm} \[ R^2 = 0.44 \]
Notes:
The sample includes 8,453 bank-year observations. PRED_ERROR is the ranked prediction error from a first stage regression of SEC_INC on DIFF_SECS with fixed year effects. HI_ASSETS = 1 if ASSETS is greater than the sample-year median, and 0 otherwise. Remaining variable definitions are in Panel A of Table 5. T-stats are based on standard errors clustered by firm. Fixed year effects included in models (I) through (III) are significant in 10 of 13 years. *** = p-value less than 0.01 and ** = p-value less than 0.05.
TABLE 7

Model: \[ MVE_{i,t+1} = \alpha + \beta_1 \text{DIFF} \_\text{SECS}_{i,t} + \epsilon_{i,t} \]

Panel A: Analysis of Sample Split on High versus Low Proportion of Treasury Securities

<table>
<thead>
<tr>
<th>Proportion of US Treasuries in Investments (TREAS)</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF_SECS estimate ( \beta_i )</td>
<td>1.524</td>
<td>1.697</td>
</tr>
<tr>
<td>Model R(^2)</td>
<td>0.164</td>
<td>0.127</td>
</tr>
</tbody>
</table>

Absolute MVE Prediction Error:
- Mean: 0.049, 0.053 ***
- Median: 0.039, 0.041 +++

Panel B: Analysis of Sample Split on Short Duration for Investment Securities

<table>
<thead>
<tr>
<th>Duration of Investment Securities (SHORT)</th>
<th>Shorter</th>
<th>Longer</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF_SECS estimate ( \beta_i )</td>
<td>1.298</td>
<td>2.047</td>
</tr>
<tr>
<td>Model R(^2)</td>
<td>0.140</td>
<td>0.140</td>
</tr>
</tbody>
</table>

Absolute MVE Prediction Error:
- Mean: 0.050, 0.053 ***
- Median: 0.040, 0.040

Panel C: Analysis of Sample Split on Prediction Error from Regression of SEC\_INC on DIFF\_SECS

<table>
<thead>
<tr>
<th>Level of ( PRED_ERROR_i ),</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIFF_SECS estimate ( \beta_i )</td>
<td>1.251</td>
<td>2.390</td>
</tr>
<tr>
<td>Model R(^2)</td>
<td>0.132</td>
<td>0.163</td>
</tr>
</tbody>
</table>

Absolute MVE Prediction Error:
- Mean: 0.057, 0.046 ***
- Median: 0.043, 0.037 +++
Notes:
The table presents summary regression results for the predictive ability of fair values (DIFF_SECS) for market value of equity (MVE), controlling for year fixed effects. To assess whether proxies for reliability moderate the relation between fair value measures and the market value of equity, Panel A partitions, into two subsamples, the 8,453 bank-year observations by the median amount of treasury securities (TREAS): High and Low. Panel B partitions, into two subsamples, the same observations by the median amount of treasury securities maturing in less than one year (SHORT): Shorter and Longer. Panel C partitions, into two subsamples, the same observations by the median rank prediction error from a first stage regression of SEC_INC on DIFF_SECS (PRED_ERROR): High and Low. *** = p-value less than 0.01 for parametric comparison of means and +++ = p-value less than 0.01 for nonparametric comparison of medians.