

Hedge Accounting and Banks' Interest Rate Risk Management*

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Abstract

We study how reducing frictions in derivative hedging affects banks' interest rate risk management, using the relaxation of hedge accounting requirements under ASU 2017-12. We find that banks significantly increased their use of interest rate derivatives following the adoption of the standard. By comparing more treated banks that use hedge accounting more with those that use less, we find that more treated banks widen their asset-liability duration gap by holding longer-term assets, particularly long-term loans. Meanwhile, deposits in these banks became more capable of hedging interest rate risk, as indicated by reduced sensitivity of interest expense to interest rate changes and inflows of uninsured deposits. These changes in deposits, combined with increased derivative use, mitigate the increase in interest rate risk from the longer asset maturity, leaving banks' overall interest rate risk exposure unchanged. Our further analyses suggest that banks' responses to ASU 2017-12 are not only driven by increased interest rate risk hedging, but also by incentives to increase interest income and manage liquidity risk, resulting in nuanced changes in banks' risk exposures. Overall, banks take advantage of ASU 2017-12 to improve profitability and adjust risk management strategies, rather than to reduce their already-low interest rate risk exposure.

Keywords: Bank, interest rate risk, derivatives, hedge accounting, ASU 2017-12, asset allocation, deposit franchise.

JEL Classification: G21, G32, M41, M48.

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1. Introduction

Interest rate risk is inherent to banks' business model of funding long-term lending with short-term deposits. The maturity transformation function enables banks to earn a term premium, the difference between long-term and short-term interest rates. However, the maturity gap also exposes banks to the risk of rising interest rates, which negatively affect asset values relative to liabilities and increase the risk of insolvency and self-fulfilling depositor runs (Chen et al., 2025; Egan et al., 2017; Drechsler et al., 2023; Haddad et al., 2023; Jiang et al., 2024). Therefore, interest rate risk management is central to banks' asset allocation decisions, depositors' decisions, and risk exposures in general. Failures to effectively manage interest rate risk contributed to the savings and loan (S&L) crisis of the 1980s and the regional bank crisis of 2023. Despite the importance of this topic, our understanding of how banks manage their interest rate risk remains limited. In particular, we know relatively little about the role of interest rate derivatives.

Interest rate derivatives are designed to hedge interest rate risk exposures, yet they are only used by a small proportion of banks and cover only a fraction of their assets (Drechsler et al., 2021; Granja et al., 2024). Furthermore, it is unclear how derivative use influences banks' interest rate risk exposure, as prior studies have documented negative (Purnanandam, 2007), insignificant (Drechsler et al., 2021; McPhail et al., 2024), and positive effects (Begenau et al., 2025). What frictions limit banks' use of derivatives? Would mitigating these frictions increase derivative usage? Would it affect banks' asset allocation and depositors' decisions? How would it affect banks' overall interest rate risk and other risk exposures? Answering these important understudied questions can advance our understanding of banks' interest rate risk management.

To shed light on these questions, we examine the impact of relaxing hedge accounting rules, a key friction that banks face when hedging interest rate risk with derivatives. While derivative

holdings are generally reported at fair value, the fair value changes of those designated for hedge accounting treatment are offset by the fair value changes of the hedged items, thereby mitigating the volatility in financial reporting. Given banks' incentives to report less volatile financial performance (e.g., Kanagaretnam et al., 2003; Kilic et al., 2013; Liu and Ryan, 2006), their willingness to use derivatives for hedging depends importantly on the ease of obtaining hedge accounting designation under existing accounting rules.

Before 2017, obtaining hedge accounting designations involved significant reporting and compliance costs under SFAS 133. To prevent opportunistic derivative uses, SFAS 133 imposed strict and complicated requirements for hedge accounting designation (Leone 2007, 2008; Makar et al., 2013; Campbell, 2015; Chang et al., 2016; Khan et al., 2018). In 2017, the FASB issued the Accounting Standards Update (ASU) 2017-12 to reduce operational and accounting frictions that historically constrained banks' use of hedge accounting.

First, ASU 2017-12 permits partial-term fair value hedges of fixed-rate assets, eliminating systematic earnings volatility arising solely from maturity mismatches between swaps and the underlying loans or securities. Second, the last-of-layer method allows banks to designate a prepayment-insensitive portion of a closed loan portfolio as the hedged item, enabling portfolio hedging of long-duration assets without repeated de-designation and redesignation. Third, the update expands eligible benchmark rates—including the SIFMA Municipal Swap Rate—broadening hedging feasibility for municipal exposures. Fourth, it increases flexibility in specifying and documenting hedge effectiveness at inception and permits qualitative assessments in subsequent reporting periods. Finally, it extends the deadline for completing prospective effectiveness tests, reducing implementation costs and enhancing the practicality of maintaining

hedge relationships. The ASU was mandated in 2019, with early adoption allowed after August 2017.⁶

How ASU 2017-12 affects banks' derivative hedging is unclear *ex ante*. Recent literature suggests that banks hedge interest rate risk primarily through deposit franchise, which stems from their market power over retail deposits and allows them to borrow at low and sticky deposit rates, effectively turning deposits into long-term fixed-rate debt (Egan et al., 2017; Drechsler et al., 2017, 2021; McPhail et al., 2024). Therefore, a stronger deposit franchise supports longer asset duration, allowing banks to invest in longer-term assets that can be both more profitable and riskier. If the deposit franchise can support the asset duration required for banks' optimal asset allocation, ASU 2017-12 may not change their derivative hedging behavior.

It is possible, however, that the deposit franchise is insufficient to support banks' optimal asset allocation, which requires a longer asset duration. Even if the deposit franchise appears sufficient in normal times, it can significantly decline in crises. Depositors' fear of bank insolvency and other depositors' withdrawals in response to sharp interest rate rises can trigger a self-fulfilling run, eroding the deposit franchise precisely when it is most valuable (Drechsler et al., 2023; Haddad et al., 2023; Jiang et al., 2024). These limitations necessitate the use of derivatives, which can support a longer asset duration without heavily relying on sticky deposits. Therefore, the reliefs provided by ASU 2017-12 may increase banks' derivative use and change their asset allocation.

We investigate these possibilities using manually collected interest rate risk derivative hedging positions from the annual and quarterly reports of public banks with assets above \$5 billion from 2013 to 2023. We find that ASU 2017-12 significantly increases the notional amount

⁶ Importantly, the bank-specific provisions of ASU 2017-12 are distinct from, and incremental to, reliefs targeting non-financial firms. For example, Ali, Bens, and Cassar (2025) primarily focus on the standard's expansion of component hedging for nonfinancial forecasted transactions and its operational simplifications for foreign exchange risk management—provisions that facilitate input prices and FX hedging central to industrial firms.

of interest rate derivatives designated for hedge accounting treatment, consistent with the intended purpose of the accounting rule change. In contrast, economic hedges, which are derivatives not designated as accounting hedges, did not significantly change. Therefore, as it becomes easier to classify derivatives as accounting hedges, banks increase their use of derivatives for hedging interest rate risk. These results suggest that banks trade off the benefits of derivatives hedging against their implementation costs when making hedging decisions.

After documenting the increase in derivative hedging following ASU 2017-12, we investigate how this exogenous change affects a series of outcomes related to banks' interest rate risk management. For these analyses, we use a time-varying continuous treatment variable to compare banks that use more hedge accounting and those that use less, following Ali et al. (2025). This measure allows us to flexibly capture the extent to which a bank is exposed to the new standard and the change in exposure over time. We also entropy balance banks with above- and below-median levels of hedge accounting usage on control variables to minimize biases that could arise from differences in observable characteristics between more and less treated banks (McMullin and Schonberger 2020; 2022).

We begin by examining the impact of ASU 2017-12 on banks' asset allocation and deposit franchise, two primary determinants of banks' interest rate risk exposure. We find that banks more exposed to hedge accounting significantly increased their asset-liability duration gap after adopting ASU 2017-12. The increased duration mismatch is due to an increase in asset duration rather than in liability duration, consistent with Drechsler et al.'s (2021) finding that banks primarily adjust asset duration while maintaining a short and stable liability duration. Our further analyses suggest that the increase in asset duration is driven by an increase in long-term asset holdings, especially long-term loans, and a reduction in cash balances. These findings indicate that banks seek to earn

a higher term premium when lower hedge accounting costs allow them to hedge the increased interest rate risk exposure from longer-term assets.

For increased derivative use to effectively hedge longer-term assets, it should not significantly weaken the deposit franchise, another important hedge. Therefore, if the observed change in asset allocation is indeed due to the effect of increased derivatives in hedging longer-term assets, ASU 2017-12 should not negatively affect banks' deposit franchises. To the extent that increased derivative use reduces volatility in bank performance without relying heavily on sticky deposits, it may even alleviate depositors' concerns about bank solvency and, in turn, strengthen the deposit franchise. Indeed, we find that the new standard reduces the sensitivity of banks' interest expense to changes in interest rates, indicating a stronger deposit franchise (Drechsler et al., 2021). The standard change also significantly increases uninsured deposit inflows, with insured deposits unaffected. Since uninsured deposits are more sensitive to bank performance, this result is consistent with increased derivatives alleviating depositors' concerns about bank solvency. In addition, the sensitivity of deposit flows to information about banks' underlying asset values, as captured by fair value gains and losses on bank assets (Chen et al., 2025), remains unchanged. An increase in deposits without heightened depositor sensitivity to asset-value information further supports a stronger deposit franchise. Collectively, these results reveal a complementary relationship between interest rate derivative hedging and the deposit franchise, which, to the best of our knowledge, is new to the literature.

Next, we examine how ASU 2017-12 affects banks' overall interest rate risk exposure. While extended asset duration increases interest rate risk, greater derivative use and a stronger deposit franchise offset this effect, making the net effect unclear ex ante. If the complexity of hedge accounting limited banks' ability to hedge their interest rate risk exposures before 2017, the

standard change could reduce their exposure, as has been documented among non-financial firms (Ali et al., 2025). However, if banks were already well hedged and insulated from interest rate volatility, as prior studies suggest (Drechsler et al., 2021; McPhail et al., 2024), ASU 2017-12 may have little effect on their overall exposure. To examine the change in banks' overall interest rate risk exposures, we estimate a series of interest rate betas that capture the sensitivity of banks' key performance metrics (i.e., stock returns, ROA, and net interest margin) to changes in the federal funds rate. Across these measures, we fail to find a significantly greater effect of ASU 2017-12 on banks that use more hedge accounting.

Our findings so far suggest that banks take advantage of ASU 2017-12 to adjust asset allocation, supported by greater derivative hedging and a stronger deposit franchise, without changing overall interest rate risk exposure. What motivates these changes? How do these adjustments affect banks' other risk exposures? We explore these questions in our last set of analyses. We first investigate whether the observed changes in asset allocation and deposit franchise are due to the alleviation of the primary concern banks have regarding interest rate risk, i.e., the risk of rising interest rates. Consistent with this conjecture, we find that these changes are driven by banks that, after ASU 2017-12, can more flexibly use fair value hedges, which primarily mitigate the risk that rising interest rates depress asset fair values, rather than cash flow hedges, which primarily mitigate the risk that falling interest rates reduce interest income. This result strengthens our argument that facilitating derivative hedging of interest rate risk is a key mechanism through which ASU 2017-12 affects banks' and depositors' decisions.

Furthermore, we find that banks that are more influenced by ASU 2017-12 experience a significantly greater increase in net interest margin, driven by higher interest income rather than lower interest expense. Meanwhile, the standard change increases these banks' credit risk, as

reflected in higher future non-performing loans, net charge-offs, and loan loss provisions. These results are consistent with our earlier finding of increased holdings of long-term loans and suggest that increasing interest income is another important motive underlying banks' response to ASU 2017-12. They also point to an interesting role of interest rate risk derivative hedging in increasing banks' credit risk exposure. More interestingly, relative to better-capitalized banks, those with lower regulatory capital shift toward longer-maturity, more liquid assets (by reducing total loans and increasing long-term securities) without significantly changing interest income or credit risk. This finding indicates that liquidity risk management also drives banks' responses: less-capitalized banks, which typically have fewer resources to manage liquidity risk, seize this opportunity to improve liquidity without reducing profitability or increasing credit or interest rate risk.

Taken together, our findings reveal novel and nuanced effects of mitigating frictions banks face when using interest rate derivatives. Hedge accounting relief increases banks' derivative use, asset duration, and strengthens their deposit franchise, without significantly changing their overall interest rate risk exposure. These changes increase banks' interest income and credit risk exposure, while helping less-capitalized banks better manage their liquidity risk. Therefore, instead of simply reducing their interest rate risk exposure, banks focus more on improving profitability and adjusting risk management strategies in response to ASU 2017-12.

Our paper contributes to the literature on banks' interest rate risk management. An important line of research in this literature suggests that the deposit franchise allows banks to maintain a duration gap without being exposed to substantial interest rate risk (Egan et al., 2017; Drechsler et al., 2017, 2021; McPhail et al., 2024). Recent developments in the literature following the 2023 regional banking crisis suggest that the deposit franchise can be significantly weakened during crises, when fear of bank insolvency and other depositors' withdrawals trigger a self-

fulfilling run (Drechsler et al., 2023; Haddad et al., 2023; Jiang et al., 2024). The limitations of the deposit franchise and the crisis draw attention to interest rate derivatives and their very limited use among banks (Granja et al., 2024; McPhail et al., 2024). The effect of these derivatives is also unclear. Purnanandam (2007) finds that interest rate derivatives mitigate the impact of monetary policy shocks on bank lending, Drechsler et al. (2021) document an insignificant effect of derivative holdings on interest rate betas, while Begenau et al. (2025) suggest that banks hold a net position in pay-floating swaps, akin to taking, rather than hedging, long bond positions. Exploiting an exogenous shock to frictions that banks face when using interest rate derivatives, our paper extends this literature by studying the effects of derivative use on asset allocation, deposit franchise, interest income, as well as banks' exposures to interest rate risk, credit risk, and liquidity risk. These findings offer novel insights into banks' interest rate risk management and the role of derivatives.

Our paper is also related to research on the influence of accounting standards on financial stability and, in particular, on banks' interest rate risk management (Beatty and Liao, 2014; Acharya and Ryan, 2016; Ryan, 2017; Granja et al., 2024). Beatty (1995) and Hodder et al. (2002) find that banks reduced the amount and maturity of AFS security holdings to mitigate interest rate risk exposure following the initial adoption of SFAS 115 during 1993-1994, which, by including unrealized gains and losses of AFS securities in banks' regulatory capital, increased capital's sensitivity to interest rate changes. This effect was then reversed after the implementation of the AOCI filter in 1995, which excluded unrealized gains and losses from regulatory capital (Hodder et al., 2002). Kim, Kim, and Ryan (2019) find that the AOCI filter removal in 2014 reversed the pattern again, leading to a shift from AFS to HTM securities. More interestingly, they find that affected banks reduced securities risk to reduce the need to hedge the interest rate risk of HTM

securities, which are difficult to sell and cannot be hedged using hedge accounting, and increased loan risk to mitigate the decreased interest income from securities. Our paper broadens this research by examining how accounting standards for derivatives, rather than for securities, shape banks' interest rate risk management.

Finally, our paper adds to the literature on derivatives and hedge accounting standards. Prior research has examined the effects of the first hedge accounting standard, SFAS 133 (Zhang, 2009; Choi, Mao, and Upadhyay, 2015), and the disclosure rule for derivatives, SFAS 161 (Campbell, Khan, and Pierce, 2021; Chen, Doug, and Zou, 2021). Recent studies on the ASU 2017-12 have examined its impact on the effectiveness of hedging activity among industrial firms, on public versus private debt contracting, and on banks' earnings volatility (Ali, Bens, and Cassar, 2025; Ali, 2023; Albrahimi, 2023). Our paper focuses on the effect of the standard on banks' use of interest rate derivatives and changes in their interest rate risk management.

2. Background

2.1 Interest Rate Hedges and Hedge Accounting Practice at Banks

Banks are exposed to a range of fixed- and floating-rate instruments. Fixed-rate assets or liabilities carry a fair value exposure to changes in interest rates. Such fixed-rate instruments include investments in treasury securities (held-to-maturity⁷ and available for sale securities), fixed-rate loans, funding liabilities (e.g., deposits or certificates of deposit), short-term debt (e.g., federal home loan bank advances or commercial paper), and long-term debt. Banks typically deploy fair value hedges of interest rate swaps to stabilize the fair value of fixed-rate assets or

⁷ Under US GAAP, treasury securities classified as HTM cannot be hedged for interest rate risk, on the basis that a bank should be indifferent on how interest rate risk may affect the value of HTM securities because it is committed to holding the securities until maturity, thus receiving the full amount of its anticipated return, regardless of interest rates (FASB 2008). Since HTM securities can neither be sold nor hedged for interest rate risk, a bank would virtually have no risk management options for this significant asset portfolio (International Swaps and Derivatives Association 2024). While ASU 2017-12 and ASU 2022-01 alleviated substantial hedge accounting frictions, the inability to hedge account HTM securities remains a key friction and is at odds with international accounting (Tunstead 2023).

liabilities. Under fair value hedging, the gain or loss on the interest rate swap, along with the offsetting gain or loss on the hedged item attributable to the hedged interest rate risk, is recognized in earnings in the current accounting period.

Variable-rate assets or liabilities with cash flow variability exposures include floating-rate loans (impacting interest rate receipts) and financial debt (impacting interest rate payments). Banks typically deploy cash flow hedges of interest rate swaps to reduce the exposure to the future/forecasted interest receipt or payment variability of variable-rate loans and debt. Under cash flow hedging, the entire change in the fair value of the interest rate swap is reported as a component of OCI and is reclassified into earnings in the same future period(s) during which the hedged forecasted interest receipt or payment affects earnings.

Interest rate hedge accounting has historically been operationally challenging to achieve, and if banks cannot apply hedge accounting to mitigate interest rate risk, this may result in financial reporting and earnings volatility that users of banks' financial statements cannot easily discern. In principle, using derivatives such as interest-rate swaps should be an effective way for banks to fine-tune portfolios and offset risks that come with having a mix of fixed-rate and floating-rate assets and liabilities. In practice, however, many banks chose not to hedge with derivatives because of complicated accounting and financial reporting practices required by legacy US GAAP rules (Moore 2020).

By introducing the Accounting Standard Update (ASU) 2017-12, under Topic 815 (Derivatives and Hedging): Targeted Improvements to Accounting for Hedging Activities, the Financial Accounting Standards Board (FASB) sought to remove significant barriers that previously discouraged firms, including banks, from using derivatives to hedge exposure to fluctuating interest rates.

2.2 Flexibility of Interest Rate Hedge Accounting under ASU 2017-12 and ASU 2022-01

We synthesize below ASU 2017-12's key compliance reliefs from authoritative guidance and practitioner whitepapers (FASB 2017, Crowe 2018, Stone 2021, Ali et al. 2025, Mishler 2023, PwC 2017, and Morgan Stanley 2017). These reliefs made interest rate hedging using interest rate swaps and the resulting accounting significantly more flexible while also reducing the complexity of complying with the reporting of interest rate swap hedging transactions.

Fair Value Hedge Reliefs under ASU 2017-12 and ASU 2022-01

First, banks can partially hedge a fixed-rate asset against interest rate risk (e.g., using a swap whose term is shorter than that of the loan or security it hedges). Banks can now assume that the hedged item has a term that reflects only the hedged term (i.e., only consider the portion of the term of the asset that corresponds with the term of the swap). For example, a bank can hedge a 10-year fixed rate loan for only two years, using a two-year interest-rate swap. Prior to ASU 2017-12, GAAP did not allow this methodology when calculating the change in the fair value of the hedged item attributable to interest rate risk. Thus, banks would often experience a difference between changes in the fair value of the interest rate swap and the hedged item, due to the difference in maturities, resulting in hedge ineffectiveness that was recognized in earnings.

Second, the last-of-layer method introduced by ASU 2017-12 allows banks to designate a portion of the principal balance of an asset pool (e.g., long-term fixed rate assets such as loans or securities) in a hedging relationship. This portion is one that is not expected to be affected by prepayments, defaults, or other events affecting the timing and amount of cash flows. As such, banks are not required to identify which assets (or portions thereof) in the pool are expected to remain outstanding during the term of the hedging instrument (interest rate swap).⁸ As such,

⁸ Pre-payment risk, or the risk of a premature return of principal on a fixed-rate treasury security or fixed-rate loan, directly impacts the duration risk of the bank (International Swaps and Derivatives Association 2024). Prepayment

prepayment risk is not incorporated into the measurement of the hedged assets when applying hedge accounting to interest rate swaps. Like the partial-term fair value hedge reliefs, the last-of-layer method provides greater flexibility in matching terms of the interest rate swap (hedging instrument) and assets hedged, without cumbersome de-designation and redesignation of interest rate swaps due to prepayment risk typically associated with hedged treasury bonds and loan investments.

Third, the ASU adds the Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Rate as an eligible benchmark interest rate to those already permitted under current GAAP (the U.S. Treasury Rate, the London Interbank Offered Rate Swap Rate, and the Fed Funds Effective Swap Rate or Overnight Index Swap Rate). This allows banks that issue or invest in fixed-rate financial instruments to designate as the hedged risk changes in fair value attributable to interest rate risk related to the SIFMA Municipal Swap Rate rather than overall changes in fair value.

Morgan Stanley (2017) remarked that banks stand to benefit directly—with more leeway to hedge interest rate risk on prepayable assets, such as mortgage-backed securities— from ASU 2017-12’s key fair value hedge reforms, and that the rules also give banks more flexibility in managing their balance sheets, with the added flexibility increasing bank demand for conventional mortgage securities.

Finally, more recently, ASU 2022-01: Fair Value Hedging—Portfolio Layer Method, expanded the applicability of fair value hedges by allowing multiple-layer hedges. As a result, the term “last-of-layer method” was renamed “the portfolio layer method.” The portfolio layer method allows banks to establish tranches, or multiple layers, within its hedged asset portfolio, based on,

risk at the individual asset or liability level can result in frequent de-designation and re-designation (application of hedge accounting) of hedges since many hedging instruments (swaps) do not allow for prepayment.

for example, contractual maturity dates. These various layers could then be paired with different hedging arrangements. Multiple layers also provide added flexibility by allowing banks to move underlying bonds in and out of the AFS book and keep the hedge accounting, which wasn't possible under the last of layer method.⁹ Critics argue that ASU 2022-01, if introduced earlier, could have helped Silicon Valley Bank safeguard their treasury portfolios against adverse interest rate shocks (Tunstead 2023).

Cash Flow Hedge Reliefs under ASU 2017-12

First, for a cash flow hedge of interest rate risk of a variable-rate financial instrument, a bank could designate as the hedged risk the variability in cash flows attributable to the contractually specified interest rate. By eliminating the concept of benchmark interest rates for hedges of variable-rate instruments in current GAAP, the amendments remove the requirement to designate only the overall variability in cash flows as the hedged risk in a cash flow hedge of a variable-rate instrument indexed to a non-benchmark interest rate.

Second, for cash flow hedges, the ineffective portion of such hedges is no longer presented separately from the effective portion. Rather, the entire change in fair value of the interest rate swap is kept in other comprehensive income without the need to recognize ineffective portions in earnings every quarter.

Relief in Testing Hedge Effectiveness of Interest Rate Swaps (common to both hedge types)

Measuring the effectiveness of a hedge relationship can prove to be complicated and may in some cases require statistical analysis. For interest rate swaps only, US GAAP allowed a “shortcut” method, whereby banks may assume perfect effectiveness in a hedging relationship of interest rate risk involving a recognized interest-bearing asset or liability and an interest rate swap

⁹ Upon adoption of ASU 2017-12 and ASU 2022-01, banks were permitted to transfer eligible held-to-maturity securities to available for sale.

if the notional amount of the interest rate swap matches the principal amount of the interest-bearing asset or liability being hedged, among other criteria. In the past, when a bank chose the “shortcut” method for evaluating hedge effectiveness, it was bound to that method throughout the life of the hedge. If management later determined that the more complicated “long-haul” method would be more appropriate, they could not simply start using that method prospectively. Rather, they would also have to evaluate for a possible restatement of previous financial statements, as if hedge accounting had never been applied.

ASU 2017-12 changes the above by allowing banks to specify a long-haul method in their documentation to be used as a fallback method if they later determine that the shortcut method is no longer appropriate. The ASU also simplifies the long-haul method at inception. Previously, banks using the long-haul method were required to perform a quantitative assessment (e.g., a regression analysis) every quarter for the life of a hedge. The new standard still requires a quantitative assessment at inception, but now banks can perform subsequent quarterly assessments using only qualitative methods, validating that the terms and conditions of the hedged transaction and hedging derivative have not changed. Moreover, the ASU extends the deadline for when prospective tests may be performed, allowing completion up to three months after hedge initiation.

3. Data and Sample

The Statement of Financial Accounting Standards (SFAS) No. 161: *Disclosures about Derivative Instruments and Hedging Activities*, effective in 2009, governs the disclosure requirements for derivatives (FASB 2008). SFAS 161 requires firms to disclose, in a tabular format in footnotes, the notional and fair value amounts of derivative assets and liabilities on the balance sheet by risk type (including interest rate, commodity, and foreign exchange risks) and by accounting designation (with or without hedge accounting designation). For interest rate

derivatives, banks widely disclose notional amounts, which capture the quantity of interest-rate hedged principal amounts. We focus on these notional amounts to quantify the intensity of interest-rate hedging activity.¹⁰ We also collect mandated disclosed amounts of hedged assets and liabilities, among other information on derivatives. The disclosure requirements apply to both quarterly and annual reports. In addition, firms must disclose derivative assets and liabilities separately, rather than netting them into a single amount.

We manually collect quarterly measures of interest rate derivative holdings for hedging purposes from the SFAS 161 disclosures in banks' 10-K and 10-Q filings from 2013 to 2023. Because of the resource-intensive data collection process and the limited use of derivatives among smaller banks, we restrict our sample to banks with assets above \$5 billion. We collect ASU 2017-12 adoption dates, notional amounts of interest rate derivatives for hedging purposes (separately by fair value hedge, cash flow hedge, and economic hedge), and the historical cost of hedged items (by asset and liability types). When gathering detailed hedge positions, we comprehensively search for interest rate hedges in banks 10Q/Ks. While interest rate hedges mainly feature in the risk management and derivatives note, we carefully consider other places where interest rate hedges may feature, such as MD&A, accounting policies note, risk factor discussions, accumulated other comprehensive statement and its footnote, fair value measurements, the financial debt footnote. We subject our hand-collected data to multiple rounds of review using former PwC hedge accounting experts.

We complement the manually collected derivative data with bank financial data from the Call Reports provided by the Federal Financial Institutions Examination Council (FFIEC). Call

¹⁰ Ali, Bens, and Cassar (2025) rely on absolute fair values to ensure they comprehensively cover FX and commodity derivatives, for which their sampled non-financial firms do not provide dollar-denominated notionals but rather express them in foreign currency or metric quantities. Since banks widely provide dollar-denominated notional amounts for interest rate swaps, we rely on these to quantify the extent of interest rate hedging activity more precisely.

Reports are available at the commercial bank level and include granular deposit data (separately reporting insured and uninsured deposits) that are unavailable in the FR Y-9C data for bank holding companies. However, since the manually collected derivative data and our empirical analysis are at the financial statement filer level, we aggregate Call Report data to the top bank holding company level for banks belonging to a holding company (following Kashyap et al., 2002; Acharya and Mora, 2015).¹¹ We also obtain banks' financial asset fair value disclosures from the S&P Capital IQ PRO database. We collect stock return data from CRSP. We winsorize all continuous variables at the 1% and 99% levels.

4. Empirical Design

We test the effect of ASU 2017-12 on banks' interest rate risk exposure and hedging choices using a treatment intensity difference-in-differences design, comparing banks that are relatively more and less exposed to the change in hedge accounting standard. Formally, we run the following regressions:

$$Outcome_{i,t} = \beta_0 + \beta_1 IR_HA_{i,t} * ASU2017_{i,t} + \beta_2 DerivativeHedge_{i,t} + \beta_3 ASU2017_{i,t} + Controls_{i,t-1} + \alpha_i + \alpha_t + \varepsilon_{i,t} \quad (1)$$

Outcome represents outcome variables related to banks' interest rate risk exposure, interest rate risk management choices, and other bank performance metrics. Specifically, measures of interest rate risk exposure, estimated following Drechsler et al. (2021), include interest income beta, *Interest Income Beta*; interest expense beta, *Interest Expense Beta*; net interest income beta, *NIM Beta*; ROA beta, *ROA Beta*; and the sensitivity of stock returns to federal funds rate changes, *Interest Rate Exposure*. Each beta represents the sensitivity of a specific financial performance

¹¹ To check the quality of the aggregation, we calculate the difference between total deposits aggregated from Call Reports and those reported on 10Qs/10Ks (scaled by the former). We remove observations where the difference is larger than 5%. In our final sample, we find the difference to be negligible, with the mean and median at about 0.8% and 0.5%.

variable to changes in the federal funds rate. Measures of banks' interest rate risk management choices include asset and liability maturity gap, *Maturity Gap*; the duration of total assets, *Asset Duration*; the duration of total liabilities, *Liability Duration*; the proportion of long-term assets, *LT Assets*; the proportion of long-term liabilities, *LT Liabilities*; the ratio of cash balance to total assets, *Cash*; the ratio of total loans (long-term loans, short term-loans) to total assets, *Loans (LT Loans, ST Loans)*; changes in total deposits (uninsured deposits, insured deposits), ΔDep^T (ΔDep^U , ΔDep^I). Measures of other bank performance metrics include interest income scaled by total assets, *Interest Income*; interest expense scaled by total assets, *Interest Expense*; net interest margin, *NIM*; non-performing loans scaled by total loan amount, *NPL*; loan loss provision scaled by total loan amount, *LLP*; net charge-offs scaled by total loan amount, *NCO*; return on equity, *ROE*; standard deviation of ROE, *Std ROE*; stock return volatility, *Return Volatility*.

The treatment intensity, *IR_HA*, captures a bank's exposure to the influence of ASU 2017-12. It is the notional amount of interest rate derivatives designated as accounting hedges as a percentage of total assets. This measure reflects the extent to which a bank uses hedge-accounted derivatives to hedge its interest rate risk exposure. Banks with higher *IR_HA* tend to be heavier users and, thereby, are more affected by the adoption of ASU 2017-12.¹² Using a continuous treatment variable, $IR_HA_{i,t}$, allows us to capture the cross-sectional exposure to the accounting rule change more accurately than an indicator treatment variable. The latter is also noisier as it might capture non-derivative hedging and other real activities associated with derivative usage. Moreover, we allow the treatment variable to vary over time to capture the differential treatment

¹² Although banks' Call Reports include the notional amount of non-trading purpose interest rate derivatives, this measure includes both derivatives designated as accounting hedges and those that are simply economic hedges (i.e., derivatives for hedging purposes without hedge accounting designation). Since economic hedges were unaffected by ASU 2017-12, the call report derivative measure is noisier than our hand-collected data in capturing banks' exposure to the hedge accounting standard. Therefore, we do not rely on this measure to construct our treatment intensity measure.

effect arising from changes in exposure. For example, a bank with the same IR_HA as the other bank when adopting ASU 2017-12 might nevertheless have a greater exposure to the rule change in the following years if the former experiences greater increases in hedge-accounted derivative usage than the latter.

$ASU2017$ is an indicator variable equal to one if the bank has adopted ASU 2017-12, and zero otherwise. Banks adopted the ASU mandatorily in 2019, although early adoption was allowed at any time after August 2017. Since the majority of the banks in our sample adopted the rule in 2019 (103 out of 140), endogenous choice of adoption time is less of a concern in our setting. In addition, Ali et al. (2025) provide further evidence that the adoption pattern does not pose endogeneity concerns. *Controls* represents bank characteristics related to banks' interest rate risk management, including return on equity, ROE ; book value of capital scaled by total assets, *Capital Ratio*; natural log of total assets, $Ln(Assets)$; ratio of total unused commitments divided by the sum of total loans and unused commitments, *Unused Commitment*; and federal funds rate, *Fed Funds Rate*. In addition, we include the interaction between IR_HA and federal funds rate to control for the influence of interest rate changes. We lag all bank-level control variables by one quarter to avoid their being affected by bank activities in the concurrent quarter. We also include bank fixed effects, α_i , to control for time-invariant bank characteristics that can influence outcomes, as well as year-quarter fixed effects, α_t , to control for the influence of general time trends. The coefficient of interest is β_1 , which captures the incremental effect of the ASU 2017-12 on regression outcomes for banks with greater hedge accounting exposure.

5. Results

5.1 Descriptive statistics

Table 1 reports the descriptive statistics. The notional amount of hedge-accounted interest rate derivatives, *IR_HA*, accounts for 3.14% of total assets. Economic hedges, *IR_EH*, which represent interest rate derivative holdings for hedging purposes without a hedge accounting designation, are 3.97% of total assets. Although we focus on large banks with over \$5 bn assets, more than a quarter of the observations do not have interest rate derivatives under accounting hedges. The sum of the averages of *IR_HA* and *IR_EH* aligns with the average of the non-trading interest rate derivatives in the call reports, *IR_Swap_Call*. The statistics of these manually collected hedging data also align with recent research on banks' interest rate risk hedging activities in the U.S. (Granja et al., 2024; McPhail et al., 2024).

Two measures of interest rate risk exposure, *NIM Beta* and *ROA Beta*, have average values of around 0.06 and 0.05. These statistics are similar to the interest rate betas estimated in Drechsler et al. (2021), consistent with banks' generally well-hedged interest rate risk exposure. Banks in our sample have an average asset duration of 5.39 years and an average liability duration of 0.21 years, resulting in an average maturity gap of 5.18 years. This reflects the duration mismatch underlying banks' fundamental function of maturity transformation. The magnitude of the mismatch in our sample is greater than the 3.4 years reported by Drechsler et al. (2021), potentially because we focus on larger banks, which are better able to manage interest rate risk.

5.2 Interest rate risk derivative hedging

In Panel A of Table 2, we examine changes in interest rate derivative usage following ASU 2017-12, after controlling for lagged bank characteristics related to interest rate risk and other risk exposures, as well as for the federal funds rate. As reported in column 1, the usage of hedge-accounted interest rate derivatives as a proportion of total assets, *IR_HA*, significantly increased by about 1 percentage point, representing 32% of its sample mean, after adopting the new

accounting standard. These results are consistent with the anticipated effect of ASU 2017-12 in increasing banks' use of hedge accounting. However, it is unclear whether the increase in accounting hedges reflects an increase in overall hedging activities using interest rate derivatives or simply a shift of some newly qualified derivatives from economic hedges to accounting hedges without increasing overall hedging activities. If it were the latter case, we should see a significant decline in economic hedges after the standard change.

As reported in column 2, economic hedges, *IR_EH*, did not significantly change following the shock. This result is consistent with our expectation that the rule change should affect only accounting hedges, not economic hedges, and that it should lead to increased hedging activity using interest rate derivatives. To provide further evidence on the change in overall interest rate hedging activity, we examine the change in non-trading interest rate derivatives reported in banks' call reports, *IR_Swap_Call*. As reported in column 3, *IR_Swap_Call* also significantly increases after ASU 2017-12. Distinguishing accounting hedges (*IR_HA*) from economic hedges (*IR_EH*) is central to our research question as the differentiation allows us to focus on *IR_HA*, which are the focus of ASU 2017-12 reforms. Solely relying on *IR_Swap_Call* would introduce noise in our treatment effect since economic hedges conceptually and as empirically shown remain unaffected by the ASU. As such, *IR_HA* does not simply relabel *IR_Swap_Call* but instead allows us to precisely gauge the impact of hedge accounting frictions where they matter.

In additional tests reported in Table A1 of the Online Appendix, we find increases in derivative hedging for banks with assets above and below \$50 billion, although larger banks experience larger increases. This finding is consistent with larger banks' greater reliance on derivatives to manage interest rate risk. In Table A2 of the Online Appendix, we find that the ratios of hedged loans and AFS securities to total assets increased significantly after the standard change

when we include bank fixed effects but do not control for bank size. After controlling for bank size, the positive effect becomes statistically insignificant. Therefore, the amount of hedged assets increased alongside within-bank asset growth. This finding suggests that the standard change facilitated balance sheet expansion by reducing the costs and increasing banks' ability to hedge interest rate risk.

Overall, our findings in this section suggest that implementation costs associated with hedge accounting are an economically significant friction that constrains banks' use of derivatives to hedge interest rate risk, and that banks trade off these costs with the benefits of derivatives in making hedging choices.

5.3 Asset allocation and deposit franchise

Given that the adoption of ASU 2017-12 increases the use of interest rate derivatives and that more derivatives can support a longer asset duration, we investigate how the standard change affects banks' asset allocation. We examine this effect using our main regression model, as specified in Model (1) in Section 4. As reported in Panel A of Table 3, banks with greater exposure to hedge accounting experienced a significant increase in the asset-liability maturity gap, *Mat_Gap*, after adopting the new standard (column 1). The widening of the maturity gap is driven by an increase in asset duration, while the liability duration remains unchanged (columns 2 and 3). This aligns with Drechsler et al.'s (2021) finding that banks manage duration mismatch primarily by adjusting asset duration, while maintaining a short and stable liability duration. Consistent with this finding, Panel B of Table 3 suggests that ASU 2017 leads to significant increases in banks' long-term assets and a corresponding decline in cash balance (columns 1 and 2). When we further break down banks' assets, we find that ASU 2017-12 leads to an increase in long-term loans (column 3), while total loan and long-term security holdings do not increase significantly (columns

4-5). These results suggest that banks take advantage of the less costly derivative hedges under ASU 2017-12 to increase their exposure to the more profitable long-term assets, especially long-term loans.

Although the standard change does not significantly change liability duration, it can nevertheless affect the liability side of the interest rate risk exposure that is not captured by liability duration. Specifically, the increased derivative use after ASU 2017-12 can strengthen the deposit franchise because more derivatives allow banks to report less volatile financial performance and to hedge interest rate risk in a more flexible way without relying on sticky depositors, mitigating depositors' concerns about bank solvency. A stronger deposit franchise would strengthen banks' ability to hedge against rising interest rates without increasing liability duration, further supporting banks' shift towards longer-maturity assets. We examine the effect of the standard change on the deposit franchise in Panel A of Table 4. We find that the standard change significantly reduces banks' interest expense beta, which captures the sensitivity of banks' interest expense to changes in interest rates (column 1). Interest expense beta is an inverse measure of the deposit franchise, and its decline indicates a stronger deposit franchise (Drechsler et al., 2021). In addition, we find that more affected banks experience significantly larger inflows of uninsured deposits, which are more sensitive to bank performance than insured deposits (column 2). In contrast, we do not find significant changes in insured deposits (column 3). These results align with our expectation that increased derivatives strengthen the deposit franchise by alleviating depositors' concerns about solvency risk. In Panel B of Table 4, we find that the sensitivity of deposits to fair value gains and losses of bank assets, which capture information about banks' underlying asset values (Chen et al., 2025), does not significantly change after ASU 2017-12. This suggests that depositors do not

become more sensitive to asset-value information despite the inflows of deposits, further supporting a stronger deposit franchise.

Overall, our findings so far indicate that ASU 2017-12 leads to increased use of derivatives to hedge interest rate risk, which allows banks to extend the asset-liability maturity gap to earn a higher term premium. The increased derivative hedges also strengthen the deposit franchise, further facilitating the increase in the maturity gap. Therefore, the standard changes banks' equilibrium interest rate risk management strategy, as banks adjust their asset allocation in response to the lower cost of derivative hedges. While the shift towards longer-maturity assets increases interest rate risk exposure, the increased derivative holdings and the stronger deposit franchise can offset this effect. Therefore, how ASU 2017-12 affects banks' overall interest rate risk exposure is an empirical question, which we examine next.

5.4 Overall interest rate risk exposure

To investigate how the standard change affects banks' overall interest rate risk exposure, we follow Drechsler et al. (2021) to measure the exposure using a series of interest rate betas, which capture the sensitivity of interest-related performance metrics to interest rate changes. Specifically, we estimate the sensitivities of stock returns, return on assets, and net interest margin to changes in the federal funds rate to construct *Interest Rate Exposure*, *ROA Beta*, and *NIM Beta*, respectively. For *Interest Rate Exposure*, we regress banks' monthly stock returns on the monthly federal funds rate for 36 months prior to the fiscal-year end and obtain the absolute value of the estimated coefficient. For *ROA Beta* and *NIM Beta*, we compute one beta value during the pre-period and one during the post-period for each bank, regressing ROA and net interest margin on changes in the fed funds rate during that period. Although this approach yields

a small sample size for the latter two beta measures, using longer horizons helps mitigate noise in beta estimates and is consistent with the approach in Drechsler et al. (2021).¹³

We examine the effect of ASU 2017-12 on interest rate betas using our main regression model, as specified in Model (1) in Section 4. The results are reported in Table 5. Across the three interest rate betas, the coefficients of $IR_HA*ASU2017$ are statistically insignificant, indicating that banks that rely more on accounting hedges to hedge interest rate risk do not experience significant changes in interest rate risk exposure after these hedges become less costly. Overall, banks do not appear to use the increased derivatives following ASU 2017-12 to reduce their interest rate risk exposure. This is not very surprising given banks' already very low interest rate risk exposure, as documented in Section 5.1 and prior research (Drechsler et al., 2021; McPhail et al., 2024). Instead, they primarily take advantage of the increased derivatives to increase asset duration without increasing overall interest rate risk exposure. This shift is supported by greater derivative hedging and a stronger deposit franchise. In the next section, we further investigate why banks make these changes and how these adjustments affect their other risk exposures.

5.5 Mechanisms and other risk exposures

To better understand banks' and depositors' motives when responding to ASU 2017-12, we first examine whether relief from banks' primary interest rate concerns, namely exposure to rising interest rates, drives the observed changes in asset allocation and the deposit franchise. We exploit the difference in banks' reliance on fair value hedges and cash flow hedges to conduct this analysis. Specifically, since fair value (cash flow) hedges primarily mitigate the exposure to rising (falling) interest rates that depress asset fair values (reduce interest income), fair value hedges are most relevant for banks' interest rate risk hedging. To confirm this insight, we conducted a thorough

¹³ Estimating betas using a rolling window of 12 quarters generates qualitatively the same results.

review of banks' comment letters ahead of the issuance of ASU 2017-12 and summarized the findings in Appendix B. Consistent with our argument, all banks supported the standard change, and they especially appreciated the fair value hedge relief. This is because they are most concerned about changes in the market value of fixed-rate assets and liabilities, instead of uncertainty about future cash flows, and fair value hedge accounting aligns most directly with their need to hedge interest rate risk.

Therefore, if changes in banks' and depositors' decisions are indeed driven by a reduction in banks' interest rate risk exposure, these effects should be more pronounced for banks with greater use of fair value hedges and correspondingly larger improvements in fair value hedging following the standard change. We test this prediction by regressing asset allocation and deposit franchise outcomes on the interactions between *ASU2017* and banks' use of fair value hedges, *IR_FVH*, or cash flow hedges, *IR_CFH*. The results are reported in Table 6. Across these outcome variables, the coefficients on *IR_FVH*ASU2017* are consistent with those on *IR_HA*ASU2017* for the corresponding outcomes reported in Tables 4 and 5. In contrast, none of the coefficients on *IR_CFH*ASU2017* are statistically significant. Taken together, these results support our argument that banks' and depositors' responses to ASU 2017 are driven by a reduction in the interest rate risk exposure most relevant for banks.

Next, we examine whether banks' choice to widen the duration gap is also driven by their incentives to increase term premium and whether it leads to additional credit risk exposure. Table 7 reports consistent results. In Panel A, we find that banks with a greater exposure to hedge accounting experienced a significant increase in net interest margin after adopting ASU 2017-12 (column 1). This increase is driven by higher interest income rather than lower interest expense (columns 2 and 3). These results support our conjecture that banks seek to earn a higher term

premium by increasing their holdings of longer-term assets, especially long-term loans, once hedging the correspondingly increased interest rate risk using derivatives becomes less costly. In Panel B, we find that banks more exposed to ASU 2017-12 experienced a significant increase in non-performing loans (column 1), indicating higher credit risk. The effect strengthens for one- and two-year-ahead non-performing loans (columns 2 and 3). Other credit risk measures, including loan loss provisions and net charge-offs, also increase and become more significant over the two years after the standard change (columns 4-9). Therefore, as increased derivative hedging allows banks to shift toward longer-term, more profitable assets, they assume greater credit risk and experience higher future credit losses.

Lastly, we examine whether other risk management incentives also drive banks' asset allocation changes after ASU-2017-12. We conduct this analysis by comparing banks with higher vs. lower regulatory capital. On the one hand, less-capitalized banks, because of their lack of "skin in the game," may have incentives to increase credit risk-taking once increased derivative hedging allows them to hold longer-term assets. On the other hand, these banks, with less buffer for depositors, tend to have less capacity to manage liquidity risk. Therefore, when facing the opportunity to increase asset maturity, they may choose to replace some shorter-term, illiquid assets (e.g., short-term loans) with longer-term, liquid assets (e.g., long-term securities), thereby improving liquidity without sacrificing interest income. As reported in Table 8, Panel A, we find that banks with lower regulatory capital experience a larger increase in the maturity gap (column 1), driven by increases in asset duration (column 2) instead of liability duration (column 3). These banks experience a greater increase in long-term loans and long-term securities. However, they significantly scale back their holdings of short-term loans, resulting in a net decline in total loans relative to those of better-capitalized banks. The general shift from loans to long-term securities

better aligns with the liquidity risk management channel (rather than the credit risk-taking channel). To further support this mechanism, we examine whether less-capitalized banks report higher interest income and future credit losses than better-capitalized banks. As reported in Panel B of Table 8, we fail to find statistically significant differences between banks with higher vs. lower regulatory capital across all interest income and credit loss outcomes. Therefore, less-capitalized banks do not appear to take more credit risk than better-capitalized banks, again supporting the liquidity risk management channel.

Overall, findings in this section point to novel and nuanced mechanisms through which ASU 2017-12 affects banks' risk management strategies. The increased derivative hedging following the standard change leads to longer asset duration and stronger deposit franchises, while banks' incentives to increase interest income and manage liquidity risk also contribute to their asset allocation decisions.

6. Conclusion

How banks use derivatives to manage interest rate risk exposure is an important understudied question. Using the adoption of ASU 2017-12 as a shock to the ease of derivative hedging, we provide novel evidence on the determinants of banks' derivative use and the effect of derivative hedging on banks' interest rate risk management. Our findings suggest that reducing the implementation costs of hedge accounting under ASU 2017-12 significantly increases banks' use of interest rate derivatives. The standard change widens banks' asset-liability duration gap, driven by increased holdings of longer-term assets, particularly long-term loans. Meanwhile, it strengthens banks' deposit franchise by reducing the sensitivity of interest expense to interest rate changes and increasing inflows of uninsured deposits. These changes have offsetting effects on banks' interest rate risk exposure, leaving their overall exposure unchanged. Our further analyses

suggest that banks leverage their improved interest rate hedging capacity to increase interest income and the corresponding credit risk exposure, with less-capitalized banks also enhancing their liquidity risk management. Taken together, our findings reveal nuanced effects of ASU 2017-12 on banks: instead of using it to reduce their already-low interest rate risk exposure, banks take this opportunity to adjust their asset allocation to better meet their profitability and risk management needs.

Our paper extends the literature on banks' interest rate risk management by examining how implementation costs associated with hedge accounting requirements may affect derivative use and related decisions in managing interest rate risk. It also contributes to research on the influence of accounting standards on banks' interest rate risk management by focusing on the impact of accounting standards for derivatives, rather than for securities. Finally, our paper adds to the literature on the effects of derivatives and hedge accounting standards by examining the effect of ASU 2017-12 on banks' interest rate risk management.

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Appendix A: Variable Definitions

Variable	Definition	Source
<i>IR_HA</i>	Notional value of hedge-accounted interest rate derivatives scaled by total assets (in %).	SEC filings
<i>IR_FVH</i>	Notional value of interest rate derivatives accounted for as fair value hedges scaled by total assets (in %).	SEC filings
<i>IR_CFH</i>	Notional value of interest rate derivatives accounted for as cash flow hedges scaled by total assets (in %).	SEC filings
<i>IR_EH</i>	Notional value of interest rate derivatives accounted for as economic hedges scaled by total assets (in %).	SEC filings
<i>IR_Swap_Call</i>	Notional value of interest rate derivatives held for non-trading purposes per Call Reports scaled by total assets (in %).	Call Reports

<i>ASU 2017</i>	Indicator variable equal to one for a bank when it adopts ASU 2017-12 anytime between August 28, 2017 (ASU available for early adoption), and December 31, 2019 (mandatory adoption date).	SEC filings
<i>ROE</i>	Return on equity (in %, annualized).	Call Reports
<i>Capital</i>	Ratio of equity to asset.	Call Reports
<i>Ln(Assets)</i>	Natural log of total assets.	Call Reports
<i>Unused Commitment</i>	Unused commitments divided by the sum of loans and unused commitments.	Call Reports
<i>Asset Duration</i>	The weighted average of the repricing maturities of assets, following Drechsler et al. (2021). An asset's repricing maturity is the time until its interest rate resets. See Drechsler et al. (2021) Online Appendix for details.	Call Reports
<i>Liability Duration</i>	The weighted average of the repricing maturities of assets, following Drechsler et al. (2021). An asset's repricing maturity is the time until its interest rate resets. See Drechsler et al. (2021) Online Appendix for details.	Call Reports
<i>Maturity Gap</i>	<i>Asset Duration</i> minus <i>Liability Duration</i> .	Call Reports
<i>Fed Funds Rate</i>	Federal Funds Rate.	https://fred.stlouisfed.org/series/FEDFUNDS
<i>FVH (Long Term Debt)</i>	Carrying amount of long-term debt hedged by fair value hedges scaled by total assets (in %).	SEC filings
<i>FVH (AFS Securities)</i>	Carrying amount of AFS securities hedged by fair value hedges scaled by total assets (in %).	SEC filings
<i>FVH (Deposits)</i>	Carrying amount of deposits hedged by fair value hedges scaled by total assets (in %).	SEC filings
<i>FVH (Loans)</i>	Carrying amount of loans hedged by fair value hedges scaled by total assets (in %).	SEC filings
<i>Interest Expense Beta</i>	Sensitivity of interest expense to federal funds rate changes estimated following Drechsler et al. (2021) (in %). We estimate one beta value during the pre-period using data from 2004 to 2016 and one during the post-period using data from 2020 to 2023.	Call Reports
<i>NIM Beta</i>	<i>Interest Income Beta</i> minus <i>Interest Expense Beta</i> .	Call Reports
<i>ROA Beta</i>	Sensitivity of ROA to federal funds rate changes estimated following Drechsler et al. (2021) (in %). We estimate one beta value during the pre-period using data from 2004 to 2016 and one during the post-period using data from 2020 to 2023.	Call Reports
<i>Interest Rate Exposure</i>	Absolute value of the estimated coefficient from a regression of banks' monthly holding period stock returns on monthly federal funds rate for 36 months prior to fiscal-year end.	CRSP
<i>LT Assets</i>	Carrying amount of securities and loans with maturity longer than three years scaled by total assets (in %).	Call Reports
<i>LT Liabilities</i>	Carrying amount of deposits with maturity longer than one year and subordinated debt scaled by total liabilities (in %).	Call Reports
<i>Cash</i>	Cash scaled by total assets (in %).	Call Reports
<i>Loans</i>	Total loans scaled by total assets (in %).	Call Reports
<i>ST Loans</i>	Carrying amount of loans with maturity shorter than three years scaled by total assets (in %).	Call Reports

<i>LT Loans</i>	Carrying amount of loans with maturity longer than three years scaled by total assets (in %).	Call Reports
ΔDep^U	Change in uninsured deposits from quarter <i>t</i> to <i>t+2</i> as a percentage of total assets (in %, annualized).	Call Reports
ΔDep^I	Change in insured deposits from quarter <i>t</i> to <i>t+2</i> as a percentage of total assets (in %, annualized).	Call Reports
<i>FVG&L</i>	Change in unrealized fair-value gains or losses on financial assets, including assets recognized at historical cost and AFS securities (in %, annualized), calculated as the change in the excess of fair value over book value of financial assets net of tax scaled by beginning equity. We apply a tax rate of 35% before 2017 and 21% after 2017.	Call Reports, S&P Capital IQ PRO database (formerly SNL)
<i>Interest Income</i>	Quarterly interest income scaled by total assets (in %, annualized).	Call Reports
<i>Interest Expense</i>	Quarterly interest expense scaled by total assets (in %, annualized).	Call Reports
<i>NIM</i>	Quarterly net interest income scaled by total assets (in %, annualized).	Call Reports
<i>NPL</i>	Nonperforming loans scaled by total loans (in %).	Call Reports
<i>LLP</i>	Loan loss provisions scaled by total loans (in %, annualized).	Call Reports
<i>NCO</i>	Net charge-offs scaled by total loans (in %, annualized).	Call Reports
<i>Tier1Ratio</i>	Tier-1 capital scaled by total risk weighted assets.	Call Reports

Appendix B: Summary of Bank Comment Letters on ASU 2017-12

Respondent	Key Areas of Relief Mentioned	Importance of FVH vs. CFH	Key Conclusion
Ally Financial, Inc.	Prepayable Assets	FVH	The ability to utilize multiple-layer hedge strategies within a single closed pool. Liability side should also be simplified.
American Bankers Association (ABA)	FVH (Benchmark Rate and Components)	FVH	ABA strongly supports FASB's efforts to expand and simplify hedge accounting. Taken as a whole, ABA expects that the proposals in the ED will better reflect the economic performance of banks that engage in such risk management activities.
Bank of America	Partial term hedge + Prepayable Assets	FVH	Will align hedge accounting to risk management. ASU 2022-01 updates requested.
Citigroup Inc.	Partial term hedge + Hedge Effectiveness	FVH + CFH	We agree with and support the Board's goal to more closely align an entity's risk management activities and its financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedge relationships and the presentation of hedge results
FHLBanks	Qualitative Tests	FVH	Concerns regarding same line disclosure of hedge and hedged item as this may distort core performance.
Goldman Sachs	Partial term hedge + Prepayable Assets	FVH	Will increase the number of hedging strategies that qualify for fair value hedge accounting and reduce the mismatch between the change in fair value of the hedged item and the change in fair value of the hedging. derivative
JPMorgan Chase & Co.	Partial term hedge + Hedge Effectiveness	FVH + CFH	The Firm appreciates the FASB's efforts to reduce the complexity related to hedge accounting, and believes that the proposals will meet the Board's stated objective to improve the financial reporting of hedging relationships through the more accurate financial statement portrayal of the economic results of an entity's risk management activities.
Morgan Stanley	Benchmark Rate	FVH	We are supportive of the efforts of the FASB ("the Board") in its initiative to address practice issues that have arisen under generally accepted accounting principles (GAAP) and to simplify the application of hedge accounting guidance.
Regions Financial Corporation	Partial term hedge + Prepayable Assets	FVH	Immediately include these assets in our hedging strategies as part of asset-liability management.

TD Bank	Partial term hedge + Hedge Effectiveness	FVH + CFH	Achieving hedge accounting, especially consistent application under U.S. GAAP and IFRS, is of vital importance as it allows for reduction of mark-to-market volatility in our financial statements.
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Wells Fargo & Co.	Hedge Effectiveness	FVH	Wells Fargo supports the primary objectives of the Proposal to improve financial reporting of hedging results to better reflect the economics of an entity's risk management hedging activities and to implement other targeted improvements to simplify the application of hedge accounting. We use derivatives as a significant component of our overall asset/liability management strategy to manage interest rate and foreign currency risk exposures related to "banking book" assets and liabilities. Accordingly, alignment of our hedge accounting with our risk management strategies and the potential to reduce the costs and effort required to apply hedge accounting are important to us.
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Tables

Table 1: Descriptive Statistics

This table presents the descriptive statistics for the main variables. All variables are defined in Appendix A.

	(1) N	(2) Mean	(3) Std. Dev.	(4) Median	(5) P25	(6) P75
<i>IR_HA</i>	4447	3.14	7.83	0.05	0.00	3.24
<i>IR_EH</i>	4447	3.97	16.57	0.00	0.00	0.52
<i>IR_Swap_Call</i>	4447	6.05	8.56	2.66	0.42	8.50
<i>ROE</i>	4447	10.39	4.45	10.01	8.07	12.50
<i>Capital</i>	4447	0.11	0.02	0.11	0.10	0.13
<i>Ln(Assets)</i>	4447	16.38	1.41	16.06	15.43	17.12
<i>Unused Commitment</i>	4447	0.25	0.12	0.22	0.17	0.28
<i>Maturity Gap</i>	4447	5.18	2.10	4.95	3.84	6.42
<i>Fed Funds Rate</i>	4447	0.74	0.81	0.36	0.09	1.26
<i>Interest Expense Beta</i>	259	37.84	21.68	34.02	26.83	42.83
<i>NIM Beta</i>	259	6.08	34.15	3.87	-2.92	13.60
<i>ROA Beta</i>	259	5.16	42.70	3.25	-3.04	12.38
<i>Interest Rate Exposure</i>	2629	60.93	66.40	27.26	14.26	83.14
<i>Asset Duration</i>	4447	5.39	2.06	5.13	4.05	6.62
<i>Liability Duration</i>	4447	0.21	0.17	0.17	0.10	0.26
<i>LT Assets</i>	4447	51.00	15.43	51.35	42.56	61.79
<i>LT Liabilities</i>	4447	5.55	5.02	4.23	2.28	7.12
<i>Cash</i>	4447	6.67	7.66	4.00	2.19	7.77
<i>Loans</i>	4447	66.28	16.19	69.92	60.96	76.65
<i>ST Loans</i>	4447	36.59	14.47	36.28	27.28	44.95
<i>LT Loans</i>	4447	29.14	13.38	29.21	21.66	37.77
<i>ΔDep^U</i>	4396	6.68	9.77	4.58	0.78	10.07
<i>ΔDep^L</i>	4396	4.02	12.36	1.54	-0.70	5.29
<i>FVG&L</i>	3943	-0.34	17.94	-0.35	-8.59	8.08
<i>Interest Income</i>	4447	3.64	1.24	3.57	3.15	3.98
<i>Interest Expense</i>	4447	0.45	0.34	0.36	0.21	0.63
<i>NIM</i>	4447	3.18	1.08	3.13	2.79	3.48
<i>NPL</i>	4447	1.45	1.61	1.01	0.63	1.67
<i>LLP</i>	4447	0.30	0.83	0.14	0.00	0.30
<i>NCO</i>	4447	0.25	0.52	0.10	0.02	0.26
<i>IR_FVH</i>	4447	1.74	7.22	0.00	0.00	0.14
<i>IR_CFH</i>	4447	1.38	2.82	0.00	0.00	1.37
<i>FVH (Long Term Debt)</i>	4447	0.58	1.84	0.00	0.00	0.00
<i>FVH (AFS Securities)</i>	4447	0.14	0.65	0.00	0.00	0.00
<i>FVH (Deposits)</i>	4447	0.05	0.36	0.00	0.00	0.00
<i>FVH (Loans)</i>	4447	0.21	0.96	0.00	0.00	0.00

Table 2: Interest Rate Derivative Usage following ASU 2017-12

This table examines changes in interest rate derivative usage following ASU 2017-12. All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) <i>IR HA</i>	(2) <i>IR EH</i>	(3) <i>IR Swap Call</i>
<i>ASU 2017</i>	1.007*** (4.37)	-0.0420 (-0.06)	1.547*** (2.88)
<i>ROE</i>	-0.0111 (-0.98)	-0.105* (-1.84)	-0.0591 (-0.99)
<i>Capital</i>	-2.876 (-0.41)	19.64 (0.93)	9.681 (0.50)
<i>Ln(Assets)</i>	-0.280 (-1.00)	-1.646 (-1.25)	1.900* (1.94)
<i>Unused Commitment</i>	2.028 (0.76)	3.911 (0.57)	10.55 (1.29)
<i>Maturity Gap</i>	-0.0355 (-0.36)	0.685 (1.32)	-0.570 (-1.45)
<i>Fed Funds Rate</i>	0.171* (1.81)	0.726 (1.32)	-0.178 (-1.03)
Bank FE	Yes	Yes	Yes
Year-Qtr FE	No	No	No
Observations	4447	4447	4447
Adjusted R-squared	0.947	0.686	0.766

Table 3: Effect of ASU 2017-12 on Banks' Balance Sheet Duration Management

These tables examine the effect of ASU 2017-12 on banks' maturity gap and balance sheet items with different durations using Model (1). All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Maturity Gap and Balance Sheet Durations

	(1) <i>Maturity Gap</i>	(2) <i>Asset Duration</i>	(3) <i>Liability Duration</i>
<i>IR_HA</i> × <i>ASU 2017</i>	0.0190*** (2.73)	0.0193** (2.32)	-0.000438 (-0.18)
<i>ROE</i>	0.00579 (0.67)	0.00572 (0.66)	0.0000926 (0.18)
<i>Capital</i>	-3.507 (-0.84)	-2.490 (-0.59)	1.279*** (3.08)
<i>Ln(Assets)</i>	0.253 (0.88)	0.265 (0.91)	0.0111 (0.33)
<i>Unused Commitment</i>	2.426 (1.20)	2.216 (1.09)	-0.254** (-2.39)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	0.00276 (1.07)	0.00391 (1.51)	0.000998* (1.74)
<i>IR_HA</i>	-0.0212 (-1.08)	-0.0225 (-1.11)	-0.000441 (-0.19)
<i>ASU 2017</i>	0.0685 (0.51)	0.0587 (0.42)	-0.00478 (-0.33)
Bank FE	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes
Observations	4447	4447	4447
Adjusted R-squared	0.904	0.895	0.907

Table 3 – (Continued)*Panel B: Balance Sheet Items with Different Durations*

	(1) <i>LT Assets</i>	(2) <i>Cash</i>	(3) <i>LT Loans</i>	(4) <i>Loans</i>	(5) <i>LT Securities</i>
<i>IR_HA</i> × <i>ASU 2017</i>	0.0802* (1.79)	-0.125** (-2.16)	0.0635* (1.95)	0.0600 (1.09)	0.0449 (1.42)
<i>ROE</i>	-0.0902** (-2.02)	0.0444 (1.19)	0.0120 (0.40)	0.0389 (0.72)	-0.0203 (-0.46)
<i>Capital</i>	-52.88** (-2.20)	-27.10* (-1.91)	-1.443 (-0.06)	51.75 (1.41)	-48.91* (-1.96)
<i>Ln(Assets)</i>	2.646 (1.38)	-0.682 (-0.78)	-0.829 (-0.68)	-2.519* (-1.89)	1.999** (1.98)
<i>Unused Commitment</i>	-3.532 (-0.29)	14.63** (2.32)	-10.70* (-1.67)	-23.04** (-2.58)	11.10 (1.63)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	0.0269 (1.16)	-0.0324 (-1.64)	-0.00896 (-0.84)	0.0157 (1.17)	0.0227 (1.57)
<i>IR_HA</i>	-0.394*** (-2.94)	0.0303 (0.44)	-0.271*** (-3.02)	-0.000134 (-0.00)	-0.0568 (-0.71)
<i>ASU 2017</i>	0.972 (1.20)	-0.250 (-0.48)	-0.618 (-0.90)	-0.739 (-1.32)	1.269*** (2.75)
Bank FE	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes
Observations	4447	4447	4447	4447	4447
Adjusted R-squared	0.933	0.855	0.944	0.968	0.921

Table 4: Effect of ASU 2017-12 on Banks' Deposit Franchise and Deposit Flows

This table examines the effect of ASU 2017-12 on banks' deposit franchise and deposit flows using Model (1). All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Deposit Franchise and Deposit Flows

	(1) <i>Interest Expense Beta</i>	(2) ΔDep^U	(3) ΔDep^I
<i>IR_HA</i> × <i>ASU 2017</i>	-3.925** (-2.10)	0.0768* (1.67)	0.00900 (0.17)
<i>ROE</i>	-2.448 (-1.55)	0.136*** (2.62)	0.234*** (3.52)
<i>Capital</i>	-231.3 (-1.19)	-2.606 (-0.15)	-18.20 (-0.66)
<i>Ln(Assets)</i>	13.95 (1.14)	-5.032*** (-3.25)	-10.38*** (-4.36)
<i>Unused Commitment</i>	-64.64 (-0.60)	-7.814 (-0.88)	-11.93 (-1.16)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	3.814** (2.18)	-0.0108 (-0.47)	-0.0164 (-0.81)
<i>IR_HA</i>		-0.152 (-1.58)	-0.0554 (-0.59)
<i>ASU 2017</i>		-2.066 (-1.50)	-1.425 (-1.13)
Bank FE	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes
Observations	240	4396	4396
Adjusted R-squared	0.679	0.287	0.226

Table 4 – (Continued)*Panel B: Sensitivity of Deposit Flows to Asset Fair Value Changes*

	(1) ΔDep^U	(2) ΔDep^I
<i>IR_HA</i> × <i>ASU 2017</i> × <i>FVG&L</i>	0.000782 (0.20)	0.00226 (0.48)
<i>IR_HA</i> × <i>Fed Funds Rate</i> × <i>FVG&L</i>	-0.000264 (-0.17)	0.000504 (0.26)
<i>ASU 2017</i> × <i>FVG&L</i>	0.00287 (0.12)	-0.0218 (-0.71)
<i>IR_HA</i> × <i>FVG&L</i>	-0.000841 (-0.24)	-0.000723 (-0.16)
<i>IR_HA</i> × <i>ASU 2017</i>	-0.121 (-1.22)	-0.0906 (-0.94)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	0.0231 (0.39)	-0.0188 (-0.39)
<i>IR_HA</i>	-0.0943 (-0.69)	-0.151 (-1.56)
<i>FVG&L</i>	-0.00963 (-0.77)	0.00146 (0.07)
<i>ASU 2017</i>	-0.710 (-0.50)	-0.161 (-0.14)
Controls	Yes	Yes
Bank FE	Yes	Yes
Year-Qtr FE	3895	3895
Observations	0.282	0.179
Adjusted R-squared	0.000782	0.00226

Table 5: Effect of ASU 2017-12 on Banks' Interest Rate Risk Exposure

This table examines the effect of ASU 2017-12 on banks' overall interest rate risk exposure using Model (1). All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) <i>Interest Rate Exposure</i>	(2) <i>ROA Beta</i>	(3) <i>NIM Beta</i>
<i>IR_HA</i> × <i>ASU 2017</i>	-0.0142 (-0.37)	7.724 (1.37)	0.352 (0.08)
<i>ROE</i>	-0.00873 (-0.10)	-0.396 (-0.12)	-0.0704 (-0.02)
<i>Capital</i>	-2.894 (-0.12)	404.7 (0.83)	53.56 (0.17)
<i>Ln(Assets)</i>	-1.303 (-1.04)	-9.910 (-0.33)	-23.23 (-1.04)
<i>Unused Commitment</i>	-14.55 (-1.51)	-285.0 (-1.38)	-310.8 (-1.52)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	0.0155 (0.74)	-8.128 (-1.46)	0.0494 (0.01)
<i>IR_HA</i>	-0.0604 (-0.51)		
Bank FE	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes
Observations	2625	240	240
Adjusted R-squared	0.988	0.587	0.495

Table 6: Fair Value Hedge vs. Cash Flow Hedge

These tables examine the differential effects of ASU 2017-12 on banks' asset composition and deposit franchise for banks with different reliance on fair value hedges and cash flow hedges. All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Reliance on Fair Value Hedges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Maturity Gap</i>	<i>Asset Duration</i>	<i>Liability Duration</i>	<i>LT Loans</i>	<i>LT Securities</i>	<i>Interest Expense Beta</i>	ΔDep^U	ΔDep^I
<i>IR_FVH</i> × <i>ASU 2017</i>	0.0201*** (2.87)	0.0206** (2.34)	-0.000345 (-0.12)	0.0494* (1.78)	0.0475* (1.67)	-0.886 (-1.57)	0.117*** (4.04)	0.00587 (0.13)
<i>IR_FVH</i>	-0.0158 (-0.53)	-0.0154 (-0.52)	0.00210 (0.90)	-0.236 (-1.61)	0.0457 (0.31)	0.189 (0.10)	-0.280 (-1.42)	-0.155 (-1.20)
<i>ASU 2017</i>	0.115 (0.89)	0.105 (0.80)	-0.00612 (-0.48)	-0.563 (-0.81)	1.466*** (3.50)		-1.914 (-1.41)	-1.427 (-1.19)
<i>IR_FVH</i> × <i>Fed Funds Rate</i>	0.000737 (0.41)	0.00207 (1.09)	0.00118 (1.56)	-0.00155 (-0.20)	0.00341 (0.42)		-0.0328** (-2.14)	-0.0119 (-0.74)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4447	4447	4447	4447	4447	240	4396	4396
Adjusted R-squared	0.903	0.894	0.908	0.943	0.920	0.675	0.288	0.226

Panel B: Reliance on Cash Flow Hedges

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Maturity Gap</i>	<i>Asset Duration</i>	<i>Liability Duration</i>	<i>LT Loans</i>	<i>LT Securities</i>	<i>Interest Expense Beta</i>	<i>ΔDep^U</i>	<i>ΔDep^I</i>
<i>IR_CFH × ASU 2017</i>	0.0181 (0.81)	0.0168 (0.73)	-0.00134 (-0.55)	0.125 (1.18)	0.0763 (0.94)	-0.194 (-0.16)	-0.130 (-1.04)	0.0139 (0.10)
<i>IR_CFH</i>	-0.0312 (-1.21)	-0.0316 (-1.21)	-0.000490 (-0.20)	-0.335*** (-3.02)	-0.198** (-2.14)	1.589 (1.17)	-0.0255 (-0.19)	-0.0231 (-0.19)
<i>ASU 2017</i>	0.131 (0.96)	0.135 (0.98)	0.00416 (0.34)	-0.655 (-0.93)	1.328*** (2.73)	0 (.)	-1.758 (-1.30)	-1.500 (-1.19)
<i>IR_CFH × Fed Funds Rate</i>	0.0122 (1.29)	0.0118 (1.23)	-0.000532 (-0.56)	-0.0341 (-0.77)	0.119*** (4.01)	0 (.)	0.106 (1.55)	-0.0397 (-0.62)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4447	4447	4447	4447	4447	240	4396	4396
Adjusted R-squared	0.903	0.893	0.907	0.944	0.921	0.657	0.286	0.226

Table 7: Effect of ASU 2017-12 on Banks' Performance and Risk Measures

These tables examine the effect of ASU 2017-12 on banks' other key performance metrics and measures of risk profiles using our main regression model, as specified in Model (1). All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Net Interest Margin, Interest Income, and Interest Expense

	(1) <i>NIM</i>	(2) <i>Interest Income</i>	(3) <i>Interest Expense</i>
<i>IR_HA</i> × <i>ASU 2017</i>	0.00760** (2.32)	0.00756** (2.12)	-0.000627 (-0.46)
<i>ROE</i>	0.0154*** (3.06)	0.00938* (1.81)	-0.00595*** (-3.61)
<i>Capital</i>	4.649*** (3.12)	2.826 (1.62)	-1.810** (-2.54)
<i>Ln(Assets)</i>	-0.224*** (-3.06)	-0.0983 (-1.17)	0.138*** (3.41)
<i>Unused Commitment</i>	-0.734 (-1.35)	-0.749* (-1.86)	-0.0769 (-0.29)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	0.000306 (0.16)	0.00646*** (3.15)	0.00421** (2.39)
<i>IR_HA</i>	-0.00943* (-1.75)	-0.0112* (-1.78)	0.00122 (0.37)
<i>ASU 2017</i>	0.0388 (0.92)	0.0961** (2.07)	0.0562*** (2.73)
Bank FE	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes
Observations	4447	4447	4447
Adjusted R-squared	0.977	0.983	0.921

Table 7 – (Continued)

Panel B: Loan Credit Risk Exposures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>NPL</i>	<i>NPL_{t+4}</i>	<i>NPL_{t+8}</i>	<i>LLP</i>	<i>LLP_{t+4}</i>	<i>LLP_{t+8}</i>	<i>NCO</i>	<i>NCO_{t+4}</i>	<i>NCO_{t+8}</i>
<i>IR_HA</i> × <i>ASU 2017</i>	0.0269** (2.07)	0.0291*** (2.67)	0.0353** (2.50)	0.0103 (1.22)	0.0189 (1.56)	0.00836** (2.38)	0.00672 (1.53)	0.00453 (1.61)	0.00549* (1.88)
<i>ROE</i>	-0.0132 (-1.09)	-0.0171 (-1.15)	-0.0176** (-2.38)	-0.0110 (-1.20)	0.0231 (1.36)	-0.00950 (-1.15)	-0.00194 (-0.34)	-0.000599 (-0.17)	-0.000384 (-0.12)
<i>Capital</i>	-3.194 (-0.57)	3.458 (0.77)	6.700 (1.09)	2.377 (0.61)	9.036 (1.38)	0.648 (0.39)	1.057 (0.44)	1.463 (0.95)	1.857 (1.14)
<i>Ln(Assets)</i>	0.334* (1.74)	0.212 (1.15)	0.126 (0.53)	0.341** (2.31)	0.232* (1.74)	-0.0847 (-0.60)	0.111* (1.81)	0.0797* (1.91)	0.0479 (1.19)
<i>Unused Commitment</i>	-0.711 (-0.60)	-1.105 (-1.26)	-0.179 (-0.21)	-0.816 (-0.89)	-0.794 (-1.47)	0.819 (1.20)	-0.558 (-1.08)	-0.409 (-1.41)	0.268 (0.79)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	-0.00907 (-1.54)	-0.00255 (-0.59)	-0.00159 (-0.33)	-0.00291 (-0.69)	-0.00547 (-1.23)	0.00133 (0.53)	-0.00164 (-0.83)	0.00103 (0.74)	0.000328 (0.56)
<i>IR_HA</i>	-0.0317** (-2.24)	-0.0232* (-1.69)	-0.0179 (-0.88)	0.0107 (1.25)	0.00171 (0.17)	-0.00545 (-0.62)	0.00240 (0.40)	-0.00255 (-0.82)	-0.00348 (-0.99)
<i>ASU 2017</i>	-0.294** (-2.08)	-0.346** (-2.13)	-0.344** (-2.09)	-0.194* (-1.66)	-0.262 (-1.34)	0.103 (1.13)	-0.133*** (-2.68)	-0.0884** (-2.11)	0.0879 (1.64)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4447	4379	4328	4447	4348	4302	4447	4348	4302
Adjusted R-squared	0.899	0.898	0.872	0.742	0.704	0.780	0.783	0.840	0.839

Table 8: Effect of ASU 2017-12 and Tier 1 Capital Ratio

These tables examine the differential effects of ASU 2017-12 on banks' asset allocation, performance metrics and measures of risk profiles for banks with below- and above-median tier 1 capital ratios. All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Duration Management and Asset Composition

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<i>Maturity Gap</i>	<i>Asset Duration</i>	<i>Liability Duration</i>	<i>Loans</i>	<i>LT Loans</i>	<i>ST Loans</i>	<i>LT Securities</i>
<i>High_Tier1Ratio × IR_HA × ASU 2017</i>	-0.0401** (-2.25)	-0.0369** (-2.01)	0.00218 (0.82)	0.340*** (4.19)	-0.245*** (-3.13)	0.580*** (5.91)	-0.176*** (-3.00)
<i>IR_HA × ASU 2017</i>	0.0535*** (3.23)	0.0512*** (3.05)	-0.00209 (-1.51)	-0.240*** (-3.47)	0.265*** (3.40)	-0.506*** (-5.64)	0.198*** (3.62)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4447	4447	4447	4447	4447	4447	4447
Adjusted R-squared	0.905	0.896	0.909	0.968	0.946	0.947	0.921

Table 8 – (Continued)

Panel B: Net Interest Margin, Interest Income, Interest Expense, and Loan Credit Risk Exposures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	<i>NIM</i>	<i>Interest Income</i>	<i>Interest Expense</i>	<i>NPL</i>	<i>NPL_{t+4}</i>	<i>NPL_{t+8}</i>	<i>LLP</i>	<i>LLP_{t+4}</i>	<i>LLP_{t+8}</i>	<i>NCO</i>	<i>NCO_{t+4}</i>	<i>NCO_{t+8}</i>
<i>High_Tier1Ratio</i> ×	0.0000591	0.00581	0.00383	0.0128	0.00385	0.00422	0.0187	0.00794	0.00151	0.0255	0.00347	0.00423
<i>IR_HA</i> × <i>ASU 2017</i>	(0.01)	(1.14)	(1.31)	(0.96)	(0.54)	(1.04)	(1.37)	(0.73)	(0.44)	(1.40)	(0.55)	(1.09)
<i>IR_HA</i> × <i>ASU 2017</i>	0.00746**	0.00269	-0.00367	0.0160	0.00838	0.00384	0.0139	0.0138*	0.00374*	0.0148	0.00589	0.00211
	(2.09)	(0.82)	(-1.22)	(1.52)	(1.56)	(1.26)	(1.58)	(1.93)	(1.91)	(1.41)	(1.21)	(0.85)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4447	4447	4447	4447	4447	4447	4379	4348	4348	4328	4302	4302
Adjusted R-squared	0.977	0.983	0.922	0.899	0.744	0.784	0.898	0.708	0.841	0.873	0.781	0.840

Online Appendix for “Hedge Accounting and Banks’ Interest Rate Risk Management”

Table A1: Interest Rate Derivative Usage by Bank Asset Size

This table examines changes in interest rate derivative usage following ASU 2017-12 for banks with assets greater than \$50 Billion and those with assets less than \$50 Billion, respectively. All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	Banks with Assets > \$50 Billion			Banks with Assets ≤ \$50 Billion		
	(1) <i>IR HA</i>	(2) <i>IR EH</i>	(3) <i>IR Swap Call</i>	(4) <i>IR HA</i>	(5) <i>IR EH</i>	(6) <i>IR Swap Call</i>
<i>ASU 2017</i>	3.140*** (4.21)	-0.270 (-0.22)	2.867*** (3.05)	0.721*** (3.30)	-0.728 (-1.47)	1.396** (2.37)
<i>ROE</i>	0.0123 (0.49)	-0.296 (-0.92)	0.0775 (0.62)	-0.0125 (-1.00)	-0.0652** (-2.04)	-0.0822 (-1.25)
<i>Capital</i>	-16.38 (-0.62)	-50.90 (-0.52)	51.33 (0.75)	-2.672 (-0.35)	33.60 (1.59)	-1.062 (-0.06)
<i>Ln(Assets)</i>	-4.698* (-2.06)	-4.104 (-0.81)	-3.453 (-0.79)	0.105 (0.43)	-1.195 (-0.87)	2.223** (2.21)
<i>Unused Commitment</i>	3.421 (0.57)	-1.678 (-0.06)	4.699 (0.29)	0.602 (0.20)	10.34 (1.27)	10.21 (1.08)
<i>Maturity Gap</i>	-0.412 (-0.99)	3.610 (1.19)	0.915 (1.01)	-0.0105 (-0.10)	0.306 (0.72)	-0.705* (-1.71)
<i>Fed Funds Rate</i>	-0.0963 (-0.27)	2.355 (0.86)	-1.403** (-2.22)	0.160* (1.73)	0.373 (0.86)	-0.0510 (-0.30)
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	No	No	No	No	No	No
Observations	608	608	608	3839	3839	3839
Adjusted R-squared	0.972	0.724	0.822	0.676	0.661	0.737

Table A2: Balance Sheet Items Hedged by Fair Value Hedges

This table examines changes in various balance sheet items hedged by fair value hedges following ASU 2017-12. All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>FVH (Loans)</i>	<i>FVH (Loans)</i>	<i>FVH (AFS Securities)</i>	<i>FVH (AFS Securities)</i>	<i>FVH (Deposits)</i>	<i>FVH (Deposits)</i>	<i>FVH (Long Term Debt)</i>	<i>FVH (Long Term Debt)</i>
<i>ASU 2017</i>	0.122 (1.61)	0.153** (2.38)	0.0172 (0.48)	0.0869*** (2.68)	0.0270 (1.35)	0.00966 (0.56)	0.123* (1.83)	0.0387 (0.77)
<i>ROE</i>	-0.00104 (-0.25)	-0.000993 (-0.24)	0.000431 (0.19)	0.000542 (0.24)	0.0000466 (0.04)	0.0000188 (0.02)	-0.00538 (-1.40)	-0.00552 (-1.40)
<i>Capital</i>	-4.484 (-1.38)	-4.320 (-1.32)	-0.572 (-0.50)	-0.196 (-0.18)	-0.677 (-1.54)	-0.770* (-1.70)	-0.614 (-0.35)	-1.068 (-0.61)
<i>Ln(Assets)</i>	0.0709 (0.98)		0.162* (1.78)		-0.0404 (-1.10)		-0.196** (-2.12)	
<i>Unused Commitment</i>	0.162 (0.17)	0.182 (0.19)	-0.442 (-0.58)	-0.396 (-0.52)	-0.687 (-1.29)	-0.698 (-1.32)	0.0324 (0.05)	-0.0230 (-0.03)
<i>Maturity Gap</i>	-0.0498 (-0.92)	-0.0466 (-0.84)	0.0705** (2.30)	0.0777** (2.30)	0.0165* (1.71)	0.0147* (1.67)	0.0122 (0.68)	0.00352 (0.19)
<i>Fed Funds Rate</i>	0.0420 (1.33)	0.0428 (1.34)	-0.00937 (-0.93)	-0.00756 (-0.78)	0.00538 (0.56)	0.00493 (0.52)	0.0507*** (2.64)	0.0486** (2.50)
<i>Bank FE</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year-Qtr FE</i>	No	No	No	No	No	No	No	No
<i>Observations</i>	4447	4447	4447	4447	4447	4447	4447	4447
<i>Adjusted R-squared</i>	0.692	0.691	0.756	0.753	0.787	0.786	0.935	0.934

Table A3: Parallel Trend

This table examine the effects of ASU 2017-12 on main outcomes in the pre-period. All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) <i>Maturity Gap</i>	(2) <i>Asset Duration</i>	(3) <i>LT Assets</i>	(4) <i>LT Loans</i>	(5) ΔDep^U
<i>IR_HA</i> × <i>Year</i> (<=-4)	-0.0271* (-1.96)	-0.0268* (-1.85)	-0.107 (-1.35)	-0.0442 (-0.99)	0.104 (1.13)
<i>IR_HA</i> × <i>Year</i> (-3)	-0.0134 (-1.29)	-0.0130 (-1.14)	-0.129** (-2.03)	-0.0501 (-1.26)	0.128** (2.03)
<i>IR_HA</i> × <i>Year</i> (-2)	-0.000268 (-0.04)	-0.000565 (-0.08)	-0.0221 (-0.59)	-0.00721 (-0.25)	0.0401 (0.48)
<i>IR_HA</i> × <i>Year</i> (-1)	0.00681 (1.42)	0.00694 (1.50)	0.0410 (1.32)	0.0396 (1.50)	-0.0500 (-0.70)
<i>IR_HA</i> × <i>Post</i>	0.00859*** (2.77)	0.00897*** (2.64)	0.0460 (1.55)	0.0480** (2.06)	0.164*** (3.60)
<i>ROE</i>	0.00497 (0.61)	0.00492 (0.61)	-0.0917** (-2.06)	0.0125 (0.42)	0.134** (2.60)
<i>Capital</i>	-3.137 (-0.78)	-2.135 (-0.52)	-49.50** (-2.00)	-0.402 (-0.02)	-1.958 (-0.12)
<i>Ln(Assets)</i>	0.276 (0.98)	0.289 (1.02)	2.599 (1.36)	-0.777 (-0.63)	-5.150*** (-3.47)
<i>Unused Commitment</i>	2.745 (1.39)	2.528 (1.27)	-2.090 (-0.17)	-9.943 (-1.53)	-8.229 (-0.93)
<i>IR_HA</i> × <i>Fed Funds Rate</i>	-0.000239 (-0.08)	0.000936 (0.28)	0.00148 (0.08)	-0.00896 (-0.67)	0.0337 (1.22)
<i>IR_HA</i>	-0.00364 (-0.18)	-0.00504 (-0.24)	-0.329** (-2.43)	-0.241** (-2.56)	-0.254** (-2.27)
<i>Year</i> (<=-4)	0.628* (1.94)	0.644* (1.91)	-3.365 (-1.27)	1.693 (1.00)	-2.178 (-0.47)
<i>Year</i> (-3)	0.354 (1.28)	0.363 (1.27)	-2.185 (-1.00)	2.370 (1.61)	-1.673 (-0.53)
<i>Year</i> (-2)	0.0877 (0.39)	0.0992 (0.43)	-2.220 (-1.46)	1.598 (1.42)	-1.188 (-0.47)

<i>Year (-1)</i>	-0.124 (-0.80)	-0.118 (-0.75)	-1.860* (-1.94)	0.162 (0.21)	1.315 (0.75)
<i>Post</i>	0.0434 (0.35)	0.0551 (0.44)	1.324* (1.67)	-0.0934 (-0.13)	-0.909 (-0.75)
Bank FE	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes
Observations	4447	4447	4447	4447	4396
Adjusted R-squared	0.906	0.897	0.934	0.945	0.290

Table A4: Difference-in-Differences Robustness Tests

These tables examine the effect of ASU 2017-12 on main outcome variables using various Difference-in-Differences specifications. All variables are defined in Appendix A. t-statistics are shown in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Staggered Difference-in-Differences for Q1 2018 and Q1 2019 ASU 2017-12 Adopters

	(1) <i>Maturity Gap</i>	(2) <i>Asset Duration</i>	(3) <i>LT Assets</i>	(4) <i>LT Loans</i>	(5) ΔDep^U
<i>IR_HA</i> × ASU 2017	0.0260*** (3.46)	0.0269*** (3.05)	0.108** (2.59)	0.0681* (1.94)	0.0930** (2.01)
<i>ROE</i>	0.00182 (0.21)	0.00200 (0.23)	-0.108** (-2.46)	-0.00129 (-0.04)	0.131** (2.15)
<i>Capital</i>	0.193 (0.05)	1.285 (0.29)	-31.85 (-1.53)	16.04 (0.70)	-3.589 (-0.20)
<i>Ln(Assets)</i>	0.317 (1.13)	0.360 (1.27)	3.021 (1.65)	-0.0930 (-0.07)	-6.400*** (-4.81)
<i>Unused Commitment</i>	3.370* (1.75)	3.244* (1.67)	6.993 (0.64)	-8.679 (-1.57)	1.993 (0.22)
<i>IR_HA</i> × Fed Funds Rate	-0.000456 (-0.21)	0.000549 (0.23)	0.00994 (0.51)	-0.0150 (-1.44)	-0.0130 (-0.60)
<i>IR_HA</i>	-0.00256 (-0.12)	-0.00497 (-0.22)	-0.355** (-2.54)	-0.231** (-2.30)	-0.169* (-1.72)
<i>ASU 2017</i>	0.191 (1.00)	0.170 (0.86)	1.001 (0.85)	0.212 (0.26)	-3.922*** (-2.83)
Bank FE	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes
Observations	4066	4066	4066	4066	4026
Adjusted R-squared	0.909	0.899	0.941	0.945	0.292

Panel B: Staggered Difference-in-Differences for Q1 2018 and Q1 2019 ASU 2017-12 Adopters, Excluding Q2–Q4 2018 Observations for the Q1 2018 Cohort

	(1) <i>Maturity Gap</i>	(2) <i>Asset Duration</i>	(3) <i>LT Assets</i>	(4) <i>LT Loans</i>	(5) ΔDep^U
<i>IR_HA</i> × ASU 2017	0.0278*** (3.61)	0.0287*** (3.15)	0.118*** (2.70)	0.0725** (2.04)	0.0932** (1.98)
<i>ROE</i>	0.00175 (0.21)	0.00198 (0.24)	-0.103** (-2.34)	0.00108 (0.03)	0.138** (2.24)
<i>Capital</i>	0.191 (0.05)	1.272 (0.29)	-32.91 (-1.60)	16.60 (0.73)	-0.460 (-0.03)
<i>Ln(Assets)</i>	0.333 (1.21)	0.373 (1.34)	3.056* (1.67)	-0.190 (-0.14)	-6.238*** (-4.70)
<i>Unused Commitment</i>	3.484* (1.86)	3.354* (1.76)	7.257 (0.66)	-8.490 (-1.51)	1.091 (0.12)
<i>IR_HA</i> × Fed Funds Rate	0.00166 (0.74)	0.00264 (1.16)	0.0216 (1.06)	-0.0114 (-1.09)	-0.00816 (-0.42)
<i>IR_HA</i>	-0.00505 (-0.23)	-0.00733 (-0.32)	-0.364** (-2.52)	-0.234** (-2.30)	-0.189* (-1.84)
<i>ASU 2017</i>	0.00880 (0.04)	-0.0379 (-0.18)	0.146 (0.12)	-0.414 (-0.49)	-4.138** (-2.41)
Bank FE	Yes	Yes	Yes	Yes	Yes
Year-Qtr FE	Yes	Yes	Yes	Yes	Yes
Observations	3982	3982	3982	3982	3943
Adjusted R-squared	0.909	0.899	0.940	0.944	0.287

Panel C: Stacked Difference-in-Differences for Q1 2018 and Q1 2019 ASU 2017-12 Adopters (Event Window: Year -5 to Year 3)

	(1) <i>Maturity Gap</i>	(2) <i>Asset Duration</i>	(3) <i>LT Assets</i>	(4) <i>LT Loans</i>	(5) <i>ΔDep^U</i>
<i>IR_HA × Post</i>	0.0147** (2.14)	0.0150* (1.81)	0.0825* (1.68)	0.0444 (1.19)	0.0917* (1.77)
<i>ROE</i>	0.000664 (0.08)	0.00101 (0.12)	-0.114** (-2.48)	0.0167 (0.53)	0.127* (1.95)
<i>Capital</i>	-0.736 (-0.18)	0.462 (0.11)	-34.96 (-1.58)	12.63 (0.54)	-12.99 (-0.72)
<i>Ln(Assets)</i>	0.422 (1.43)	0.460 (1.54)	3.895* (1.96)	-0.775 (-0.59)	-6.632*** (-5.02)
<i>Unused Commitment</i>	3.325* (1.78)	3.230* (1.71)	7.738 (0.69)	-6.879 (-1.26)	6.243 (0.69)
<i>IR_HA × Fed Funds Rate</i>	-0.0000212 (-0.01)	0.00126 (0.42)	0.0147 (0.62)	-0.0132 (-0.80)	0.00488 (0.21)
<i>IR_HA</i>	0.00152 (0.07)	-0.000848 (-0.04)	-0.315** (-2.28)	-0.234** (-2.34)	-0.199** (-2.02)
Bank-Cohort FE	Yes	Yes	Yes	Yes	Yes
Year-Qtr-Cohort FE	Yes	Yes	Yes	Yes	Yes
Observations	3813	3813	3813	3813	3774
Adjusted R-squared	0.914	0.904	0.945	0.953	0.306