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**Bank Mergers and Syndicated Loan Pricing: Evidence
from the BB&T–SunTrust Merger**

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Abstract

This paper examines the effect of the 2019 BB&T–SunTrust merger on syndicated loan outcomes in the United States. Using loan-level data, we estimate difference-in-differences and event-study specifications comparing loans involving the merging banks with other syndicated loans. We find that loans involving the merged bank experienced a statistically and economically significant decline in all-in drawn spreads after the merger, with a baseline estimate of approximately 17 basis points. Event-study results show no evidence of differential pre-trends and indicate that the spread reduction emerges mainly in 2020 and 2021. Mechanism analyses suggest that loan composition plays an important role: after the merger, the merged bank participated in significantly larger facilities, which are systematically associated with lower spreads. We find limited evidence that the effect is driven by increased market power, as syndicate structure remains broadly stable and non-merged lenders continue to account for most lender participation. Overall, the evidence is consistent with efficiency-related mechanisms and a shift toward larger syndicated facilities, rather than with a market-power explanation.

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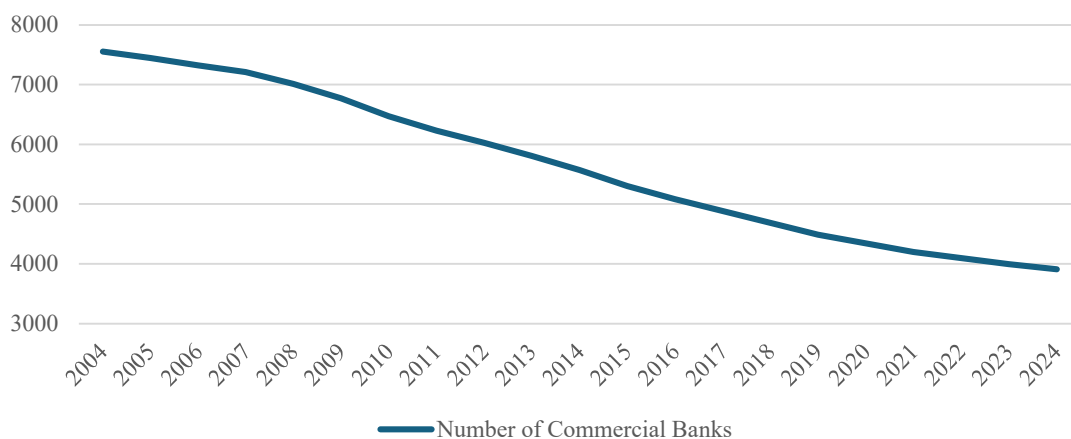
1 Introduction

1.1 U.S. Banking Consolidation

Modern banking markets are increasingly shaped by consolidation, driven by decades of mergers and acquisitions facilitated by deregulation and technological change. Over the past decades, the U.S. banking industry has undergone substantial consolidation. The number of commercial banks declined from more than 14,000 in the mid-1980s to fewer than 5,000 by the early 2020s, reflecting a persistent trend toward industry concentration. The asset share of the top five U.S. banking organizations accounts for over 40% of total banking assets, compared to less than 20% in the early 1990s.

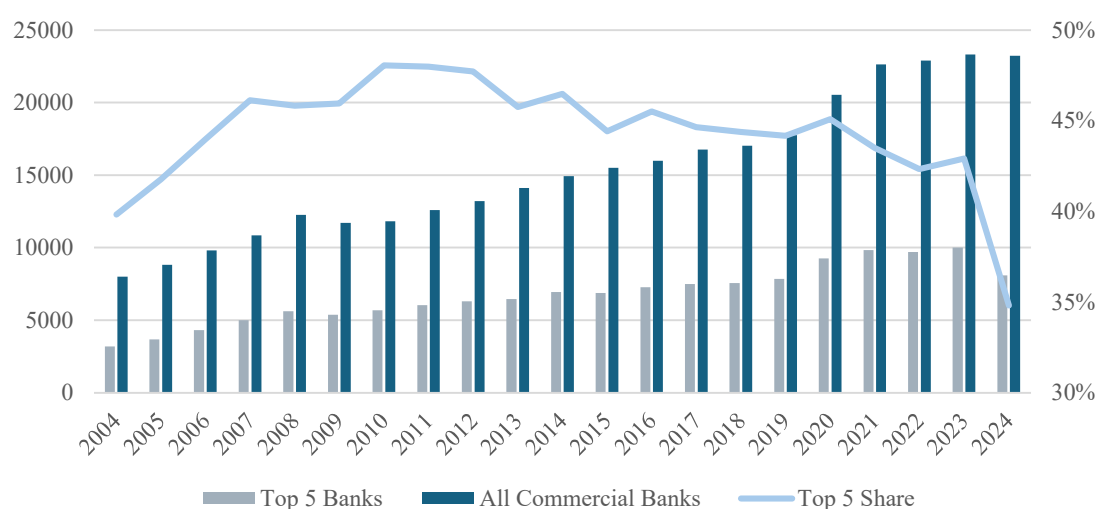
This consolidation has ambiguous implications for borrowers. On the one hand, mergers may generate efficiency gains through economies of scale, operational integration, improved risk management, and greater balance sheet capacity. These gains may reduce intermediation costs and lead to more favorable loan pricing. On the other hand, consolidation may increase market power by reducing the number of competing lenders, potentially weakening credit availability or raising borrowing costs. The overall effect of bank mergers on lending outcomes is therefore an empirical question, especially in markets where large banks compete alongside a broad set of non-merging lenders.

Chart 1 Number of Commercial Banks in US, 2004 to 2024¹



¹ Source: [International Monetary Fund via FRED](#)

Chart 2 Total Asset Share of Top 5 US Commercial Banks²



1.2 Literature Review

The existing literature identifies three main channels through which bank mergers may affect lending outcomes: changes in lending technology, efficiency gains, and changes in market power. These channels generate competing predictions for loan pricing, credit availability, and borrower welfare. Whether bank consolidation benefits or harms borrowers therefore depends on the relative strength of these mechanisms and on the institutional setting in which lending takes place.

First, bank mergers may alter lending technology. A large literature emphasizes that small banks and large banks differ in how they collect and process borrower information. Small banks are often better suited to relationship lending, which relies on repeated interactions and soft information about borrowers. Boot (2000) defines relationship banking as financial intermediation based on proprietary borrower-specific information accumulated through repeated interactions over time and across products. This information advantage allows banks to screen and monitor borrowers more effectively, but it can also create informational lock-in and hold-up problems.

This mechanism is especially relevant when small, locally oriented banks are absorbed into larger and more hierarchical organizations. Prior studies show that acquisitions of small banks by larger

² Source: [Board of Governors of the Federal Reserve System \(US\) via FRED](#); [US Bank Locations](#)

institutions may reduce small business lending and shift lending practices away from relationship lending toward more standardized, arm's-length lending (Peek and Rosengren 1995; Berger et al. 1998; Stein 2002; Berger and Udell 2002). Weston and Strahan (1996) also show that small banks devote a substantially larger share of their portfolios to small business loans than large banks, reflecting the importance of relationship-based lending at smaller institutions. However, this lending-technology channel may be less central in our setting because the BB&T–SunTrust merger involved two already large regional banks, and our analysis focuses on syndicated loans, which are typically larger, more standardized, and based more heavily on hard information than traditional small business loans.

Second, mergers may generate efficiency gains. Consolidation can reduce operating costs, improve technology systems, increase balance sheet capacity, diversify risk, and allow banks to participate in larger transactions. Theoretically, whether these gains reduce loan prices depends on whether cost savings are passed through to borrowers. Farrell and Shapiro (1990) show that horizontal mergers tend to raise prices unless they generate sufficient synergies; in other words, price reductions require efficiency gains large enough to offset the loss of competition. This framework is useful for interpreting bank mergers because the net pricing effect depends on the balance between efficiency and market power.

Empirical evidence on bank merger efficiency is mixed. Houston and Ryngaert (1994) find that the overall gains from large bank mergers are only slightly positive but not significant, suggesting limited average value creation in large bank consolidation. However, they also find that mergers with greater operational overlap are perceived more favourably by the market, consistent with potential cost savings from consolidating overlapping operations. Akhavein et al. (1997) provide more direct evidence that megamergers can improve profit efficiency, finding a statistically significant increase in profit efficiency rankings among merged banks, although price effects are small on average. These findings suggest that efficiency gains may exist, but they need not always be fully reflected in lower loan rates.

Erel (2011) provides evidence more directly related to loan pricing. She finds that U.S. bank mergers reduce loan spreads on average, especially when post-merger cost savings are larger, but that the effect depends on bank size and market overlap. This result supports the interpretation that efficiency gains can be passed on to borrowers through lower spreads, while also recognizing that market power can offset these gains when overlap is sufficiently large.

Third, mergers may affect lending through market power. When merging banks operate in overlapping markets, consolidation can reduce competition and increase the pricing power of the merged entity. The industrial organization literature emphasizes that horizontal mergers without sufficient efficiency gains tend to raise prices, particularly when they reduce the number of effective competitors in the market (Farrell and Shapiro 1990). In the banking context, the structure–performance framework suggests that higher market concentration is associated with less favorable pricing outcomes for borrowers, reflecting non-competitive behavior in more concentrated markets (Berger and Hannan 1989). Consistent with this view, evidence on commercial lending indicates that loan markets retain a strong local component, and that higher concentration in these markets is associated with higher loan rates (Hannan 1991).

Loan-level evidence further highlights that the pricing effects of bank mergers are not uniform and depend critically on the degree of market overlap. The literature suggests that mergers can lead to lower loan spreads when efficiency gains dominate, but may increase borrowing costs in markets where merging banks have substantial overlap, reflecting stronger market power effects (Sapienza 2002). This distinction underscores the importance of differentiating between average merger effects and those arising specifically in markets where competition is significantly reduced. Related evidence on large bank mergers also indicates that borrowers may face worse terms in areas with high geographic overlap, consistent with reduced competition and weakened borrower bargaining power.

A related mechanism operates through borrower bargaining power and bank relationships. The theoretical literature on financial intermediation emphasizes that banks with superior information can influence borrower outcomes by controlling credit allocation and project continuation decisions, but may also extract rents from borrowers once lending relationships are established (Rajan 1992). To

mitigate such hold-up problems, firms may choose to maintain multiple banking relationships, thereby reducing dependence on any single lender and increasing their bargaining position (Ongena 2000). This mechanism is particularly relevant in syndicated lending, where multiple lenders jointly finance a loan. The presence of several participants can constrain the ability of any single bank, including a merged institution, to exercise unilateral market power in pricing.

Another important dimension concerns the dynamic effects of mergers. The literature suggests that consolidation may lead to adverse pricing outcomes in the short run due to increased market power, while efficiency gains may materialize more gradually and dominate in the long run, resulting in more favourable prices for borrowers over time (Focarelli and Panetta 2003). This dynamic perspective is particularly relevant for empirical analyses that track the evolution of merger effects over time, such as event-study frameworks examining both immediate and persistent changes in loan pricing.

This paper contributes to the literature by studying the BB&T–SunTrust merger in the U.S. syndicated loan market. This setting differs from traditional small business lending in several ways. Syndicated loans are typically larger, involve multiple lenders, and are negotiated in a more competitive deal-level environment. These features may weaken the market-power channel and make efficiency gains, balance-sheet capacity, and loan composition more important. Consistent with this interpretation, our empirical results show that loans involving the merged bank experience lower spreads after the merger, while syndicate composition remains broadly stable and non-merged lenders continue to account for most participation. The evidence therefore suggests that, in this setting, efficiency-related mechanisms and a shift toward larger loan facilities dominate the market-power channel.

1.3 Merger Background

To understand this question, we rely on loan-level data to analyze the merger two large U.S. regional banks. BB&T Corporation and SunTrust Banks, Inc. combined at the end of 2019 to form Truist Financial Corporation. Before the merger, BB&T and SunTrust had total assets of approximately \$225 billion and \$215 billion, respectively, representing around 1.1% and 1.0% of US GDP and

ranking around 11th and 12th among all US banks³. Both banks were among the largest regional lenders in the United States providing a wide range of financial products and services, with strong positions particularly in the Southeast.

Following the merger, the combined entity became the 6th largest bank⁴ in the United States by total assets. After the merger announcement in February 2019, the stock prices of both BB&T and SunTrust reacted positively, indicating favorable market expectations regarding the value of the transaction and anticipated synergies. However, this initial increase was partially offset by broader market volatility in 2020, particularly during the COVID-19 shock, after which the combined entity's stock performance gradually stabilized as integration progressed.

1.4 Results and Contributions

This paper uses loan-level syndicated loan data from LSEG SDC Platinum to examine how the BB&T–SunTrust merger affected loan pricing and contract outcomes. Our empirical strategy is designed to speak directly to the competing mechanisms highlighted in the literature by comparing loans involving the merging banks with other syndicated loans before and after the merger. The primary outcome variable is the all-in drawn spread, which captures the cost of borrowing over the benchmark rate.

Our results show that loans involving the merged bank experienced a statistically and economically significant decline in spreads following the merger. In the baseline difference-in-differences specification, the estimated effect is approximately –17 basis points and remains robust to the inclusion of industry and geographic fixed effects. Event-study estimates show no evidence of differential pre-trends, supporting the identification strategy, and indicate that the decline in spreads emerges after the completion of the merger, particularly in 2020 and 2021.

³ As of 2019-06-30.

⁴ As of 2020-03-31.

These findings contribute to the ongoing debate in the literature on whether bank consolidation leads to higher or lower borrowing costs. While the market power channel predicts that increased concentration should raise loan rates, especially in the presence of overlap (e.g., Sapienza, 2002), our results are more consistent with settings in which efficiency gains dominate. At the same time, the absence of immediate pre-merger effects and the delayed emergence of the spread reduction are consistent with the dynamic view that efficiency gains materialize gradually over time (Focarelli and Panetta, 2003).

To better understand the underlying mechanisms, we examine how the merger affects loan composition and syndicate structure. The evidence suggests that loan composition plays a central role. After the merger, loans involving the merged bank become significantly larger, and larger loans are systematically associated with lower spreads. This shift toward larger syndicated facilities is consistent with the idea that consolidation increases balance sheet capacity and enables participation in more competitive, large-scale transactions. However, the persistence of a significant pricing effect even after controlling for loan size indicates that loan composition alone cannot fully explain the observed decline in spreads, pointing to additional efficiency-related mechanisms.

In contrast, we find limited support for the market power channel. Despite the increase in size of the merged entity, syndicate composition remains broadly stable, and non-merged lenders continue to account for the vast majority of participation. This suggests that competitive pressure at the deal level remains strong, consistent with the view that the presence of multiple lenders constrains the ability of any single bank to exercise unilateral pricing power. We also find little evidence supporting alternative explanations based on geographic reallocation, changes in use of proceeds, or strengthened relationship lending, further reinforcing the interpretation that efficiency-related factors dominate.

This paper contributes to the literature in three main ways. First, it provides new evidence on the effects of large regional bank consolidation in the U.S. syndicated loan market, a setting that differs from traditional relationship-based lending markets and in which competition operates at the level of loan syndicates. Second, it shows that bank mergers can be associated with lower, rather than higher, borrowing costs, highlighting the importance of distinguishing between market power and efficiency

effects. Third, it identifies loan composition and scale-related mechanisms as key drivers of pricing changes, while documenting that syndicate-level competition remains largely intact after the merger.

Overall, the findings suggest that loans involving the merged bank experienced lower borrowing costs after the merger announcement. The evidence is consistent with efficiency-related mechanisms and a shift toward larger syndicated loans, rather than with an increase in market power. This highlights the importance of market structure and institutional setting in determining the effects of bank consolidation on lending outcomes.

2 Empirical Design

2.1 The BB&T–SunTrust Merger

BB&T and SunTrust Banks were large U.S. universal banks providing a broad range of services, including commercial banking, investment banking, and wealth management. Both institutions developed strong regional franchises concentrated in the Southeastern United States. Over the two decades preceding the merger, each bank expanded through a combination of acquisitions and organic growth, yet remained primarily regional players relative to the largest U.S. money-center banks. Their business models were broadly comparable but featured complementary strengths, with BB&T emphasizing community banking and insurance activities, and SunTrust maintaining a stronger presence in middle-market corporate and investment banking.

In February 2019, the two banks announced a merger of equals to form Truist Financial Corporation, creating one of the largest regional banking groups in the United States. The transaction was motivated by the expectation of significant synergies arising from scale, diversification, and complementary business lines. Management projected annual net cost synergies of approximately \$1.6 billion by 2022, primarily driven by operational consolidation, technology integration, and efficiency improvements in overlapping functions. Importantly, the merger was framed as a strategic combination aimed at enhancing competitiveness and long-term growth, rather than as a response to financial distress or weaknesses in core lending activities. This feature supports the plausibility of treating the merger as exogenous to loan-level pricing conditions and borrower-specific credit demand.

The transaction was reviewed and approved by U.S. regulators, including the Federal Reserve System and the Federal Deposit Insurance Corporation, subject to standard supervisory conditions. The merger was completed in December 2019. From an empirical perspective, the timing of the announcement and completion provides a well-defined event around which to structure difference-in-differences and event-study analyses.

Following the merger, the combined entity adopted a hybrid organizational structure. While client-facing activities—such as relationship management and local loan origination—remained partially decentralized within legacy regional networks, key strategic functions, including pricing policies, risk management, capital allocation, and credit approval frameworks, became increasingly centralized at the group level. This organizational design has two important implications for our analysis. First, centralized decision-making may lead to more uniform pricing and lending standards across markets, potentially amplifying any merger-induced efficiency gains. Second, the coexistence of centralized strategy and decentralized relationships implies that local market conditions and pre-merger exposure remain relevant, allowing for meaningful cross-market variation in competitive effects.

From an empirical perspective, the announcement of the merger in February 2019 provides a clear event around which to structure the analysis. Our empirical strategy compares syndicated loans involving BB&T, SunTrust, or Truist-related entities with other syndicated loans before and after the merger announcement. The treatment variable is therefore defined at the loan level based on the presence of the merging banks in the lending syndicate. This approach is appropriate for the syndicated loan market because loan pricing is determined at the deal level and reflects the identity of participating lenders, borrower characteristics, syndicate structure, and market conditions at origination. By comparing treated and control loans over time and controlling for loan size, borrower industry, geography, loan type, and year effects, the analysis estimates the differential change in loan outcomes associated with merged-bank participation after the merger announcement.

2.2 Data and Variable Construction

We use syndicated loan data from LSEG SDC Platinum, which provides detailed information on loan facilities, borrowers, and participating lenders. The raw dataset includes facility identifiers, announcement dates, loan pricing measures, tranche amounts, maturity, use of proceeds, borrower characteristics, and lender identities, allowing us to construct both contract-level outcomes and lender participation measures.

Our baseline sample covers syndicated loan facilities issued between 2016 and 2022. We restrict the sample to borrowers whose country of risk is the United States, in order to focus on the U.S. syndicated loan market affected by the BB&T–SunTrust merger. Importantly, the sample is not limited to loans involving the merging banks; instead, it includes all syndicated loans in the market, allowing non-merging lenders to serve as a comparison group. We further require observations to have non-missing information on key variables such as lender identity, announcement year, tranche amount, and the outcome variable used in each specification. As a result, the number of observations varies across regressions depending on data availability.

The BB&T–SunTrust merger was announced in February 2019 and completed in December 2019, leading to the creation of Truist Financial. We define the post-announcement period as loans issued from 2019 onward, while the pre-announcement period covers 2016–2018. The transaction was publicly announced in February 2019 and legally completed in December 2019. Since syndicated loan pricing and syndicate formation are forward-looking, market participants may have adjusted expectations and lending behavior after the announcement. The baseline difference-in-differences specification therefore treats 2019 onward as the post period, capturing both announcement effects and early integration effects. The dynamic event-study analysis uses 2018 as the omitted reference year, as it is the last full year before the merger announcement.

From the raw data, we construct two complementary datasets. The first is a loan-level dataset, where each observation corresponds to a single loan facility and is used to analyze contract outcomes such as all-in drawn spread, maturity, and use of proceeds. The second is a lender-level dataset, where each observation corresponds to a lender participating in a given loan facility. This data set allows us to

examine changes in syndicate composition and the presence of BB&T-, SunTrust-, and Truist-related entities over time.

Our main outcome variable is the all-in drawn spread, measured in basis points, which captures the borrowing cost over the benchmark rate. As an alternative pricing measure, we also use the all-in initial drawn spread when available. We further consider maturity, measured as the number of years to final maturity, and use of proceeds, which is recoded into broader categories to ensure sufficient observations within each group.

The main treatment variable is based on the presence of the merging banks in a loan syndicate. We construct an indicator, *MergedPresent*, equal to 1 if BB&T, SunTrust, or Truist-related entities are present in the syndicate, and 0 otherwise. This is interacted with a post-merger indicator, *Post*, which equals 1 for loans issued from 2019 onward. The interaction term *Post*MergedPresent* captures the differential effect of the merger on loans involving the merging banks relative to other loans.

Loan size is measured by tranche amount in U.S. dollars, and we use its logarithm in regressions to reduce the influence of extreme observations. Additional controls include borrower industry (based on TRBC classification), borrower region, loan type, and year fixed effects. For heterogeneity analysis, we further classify loans into three size buckets: small (below USD 100 million), medium (USD 100–500 million), and large (above USD 500 million). These thresholds provide economically meaningful distinctions between smaller syndicated facilities and larger transactions and are consistent with common market segmentation practices.⁵

For the lender-level analysis, lender and parent names are harmonized to consistently identify BB&T, SunTrust, and Truist-related entities. This step ensures that different subsidiaries or naming variations are correctly mapped to the same banking group. The final loan-level sample contains more than 53,000 loan observations and over 16,000 unique borrowers. Pricing information is available for a

⁵ PitchBook, 2023. 2022 Annual US PE Middle Market Report. March 14, 2023.

subset of loans, while maturity is observed for the full sample. The tables below demonstrate a brief description of the deals in the data set.

Table 1 Loan Level Sample Overview

Metric	Value
Total loan observations	53,008
Unique deals	53,008
Unique borrowers	16,452
Years covered	2016–2022
Non-missing spread	39,065
Non-missing initial spread	39,029
Non-missing maturity	53,008

Table 2 Main Loan-level Description

Variable	Mean	SD	P25	Median	P75
All-in drawn spread (bps)	307	183	150	265	425
All-in initial drawn spread	307	184	155	270	425
Maturity (Year)	4.44	1.85	3.00	5.00	5.01
Tranche amount (\$)	376,397,195	961,131,252	35,000,000	100,000,000	350,000,000
ln(Tranche amount)	18.50	1.65	17.37	18.42	19.67

The sample exhibits substantial heterogeneity in both loan pricing and size. The average all-in drawn spread is around 307 basis points, while the median is lower, indicating a skewed distribution. Loan size is also highly skewed, with a small number of very large facilities driving the mean, which motivates the use of logarithmic transformation in the regression analysis.

At the lender level, the dataset includes more than 276,000 lender–loan observations and over 2,400 unique lenders. (Table 3&4) BB&T, SunTrust, and Truist-related entities account for a relatively small share of total observations, confirming that the analysis relies on a broad market comparison group rather than a narrow sample of treated loans.

Table 3 Lender-Level Sample Overview

Metric	Value
Total lender observations	276,205
Unique facilities	33,238

Metric	Value
Unique deals	53,008
Unique borrowers	16,452
Unique lenders	2,415
Merged-bank observations	7,514
Share of merged-bank observations	2.72%

Table 4 Number of Lenders by Loan-Size Bucket

Loan-size bucket	Average number of lenders	Number of deals
Small	3.28	24,750
Medium	5.48	19,062
Large	9.87	9,196

Syndicate structure varies systematically with loan size. Larger loans involve more lenders on average, consistent with the risk-sharing role of syndication. These loans also tend to have lower spreads and slightly longer maturities, highlighting the importance of controlling for loan size in the empirical analysis.

Finally, the time-series distribution of loans (Chart 3) shows sufficient observations in both the pre- and post-merger periods. Loan volume and average spreads (Chart 4 Average All-in Drawn Spread by Year) vary across years, particularly around 2020, which motivates the inclusion of year fixed effects.

Chart 3 Number of Loans by Year

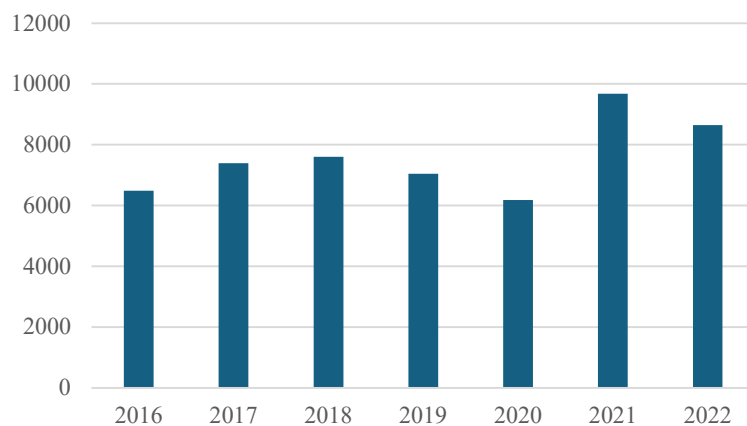
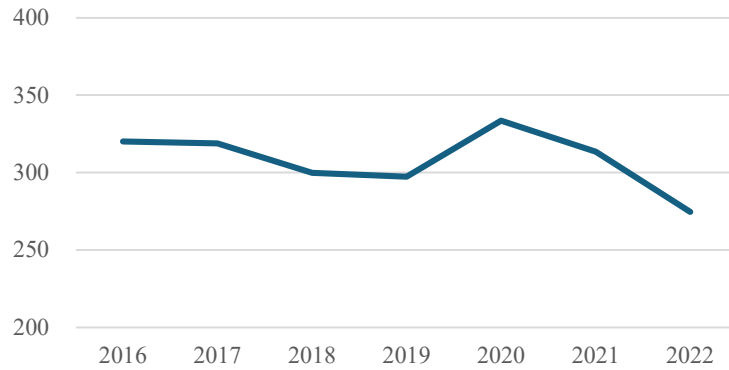


Chart 4 Average All-in Drawn Spread by Year



2.3 Methodology and Empirical Strategy

To identify the effect of the merger on lending activity, it is necessary to control for aggregate and bank-specific shocks that may independently affect loan pricing. For instance, merging banks may be differently exposed to macroeconomic conditions, such as the credit cycle or regional shocks, including the recovery from Covid. To estimate the differential change associated with the merger announcement, we adopt a difference-in-differences (DID) framework.

Our identification strategy compares loans involving the merging banks prior to the merger (“treated” loans) to loans that do not involve either of the merging banks (“control” loans). In the treated group, the merger leads to a structural change in lender identity and organization, while in the control group, loan contracts are not directly affected by the merger. This comparison allows us to difference out common time trends and isolate the effect of the merger.

Formally, we estimate the following baseline specification:

$$Y_{i,t} = \alpha + \beta (Post_t \times MergedPresent_i) + \gamma X_{i,t} + \delta_t + \epsilon_{i,t}$$

Where $Y_{i,t}$ denote the outcome variable for loan i at time t , $Post_t$ is an indicator equal to one in the post-merger period, and $MergedPresent_i$ is a dummy indicating whether the loan involves at least one of the merging banks. The interaction term $Post_t \times MergedPresent_i$ captures the differential change in spreads for treated loans after the merger. $X_{i,t}$ is a vector of loan-level controls, including

loan size and other loan characteristics, and δ_t denotes year fixed effects to control for aggregate time shocks.

Under the parallel trends assumption, the coefficient β captures the differential post-announcement change in loan spreads for loans involving the merging banks relative to other syndicated loans.

We use loan spread as the primary dependent variable for measuring borrowing costs in our data. We additionally examine loan maturity and other loan-level characteristics to explain the observations.

In addition to the baseline DID specification, we conduct several further analyses to strengthen identification and explore underlying mechanisms. First, we estimate a dynamic event-study specification to test for pre-trends and to examine the timing of the merger effect. Second, we implement robustness checks by including additional fixed effects, being industry and geographic controls.

3 Main Results

3.1 Baseline Results

The estimation results for our baseline specification at the loan level on spreads are reported in Table 5. The coefficient on *Post*MergedPresent* is -16.79 and statistically significant at the 1% level, indicating that, following the merger, loans involving the merged banks experience a reduction in spreads of approximately 17 basis points relative to loans without the merged entity. This magnitude is economically meaningful when compared to the sample average spread of 307 basis points, suggesting a non-trivial improvement in pricing conditions for borrowers.

Table 5 Baseline results with fixed effects

Variable	(1) Baseline	(2) Industry FE	(3) State FE
Constant	1025.27*** (10.07)	1027.34*** (10.86)	1020.35*** (10.59)
MergedPresent	-52.23*** (3.06)	-52.28*** (3.66)	-52.27*** (3.66)
Post*MergedPresent	-16.79*** (3.80)	-16.73*** (4.75)	-16.80*** (4.75)

ln_tranche_amt	-38.23*** (0.52)	-38.23*** (0.55)	-38.22*** (0.55)
YEAR 16	12.24*** (3.24)	12.25*** (3.20)	12.15*** (3.20)
YEAR 17	16.58*** (3.00)	16.67*** (3.10)	16.59*** (3.10)
YEAR 19	-5.87* (3.13)	-5.73* (3.26)	-5.86* (3.26)
YEAR 20	30.74*** (3.76)	30.92*** (3.45)	30.67*** (3.45)
YEAR 21	20.55*** (3.04)	20.65*** (3.13)	20.55*** (3.13)
YEAR 22	-13.62*** (3.11)	-13.22*** (3.23)	-13.62*** (3.23)
Fixed Effect	Null	Industry	State
Observations	39,062	39,058	39,058
Adj. R-squared	0.157	0.157	0.157

Notes: (1) Standard errors are reported in parentheses.

(2) *** p<0.01, ** p<0.05, * p<0.1

The coefficient on *MergedPresent* is strongly negative and highly significant (around –52 basis points) across all specifications, indicating that even prior to the merger, loans involving the merging banks were associated with lower spreads. This highlights the importance of the difference-in-differences framework, which isolates the incremental post-merger effect captured by the interaction term.

To assess the robustness of the baseline results, columns (2) and (3) incorporate industry and state fixed effects to control for sectoral and geographic heterogeneity in loan pricing. The coefficient on *Post*MergedPresent* remains remarkably stable, with estimates of –16.73 and –16.80, respectively, and continues to be statistically significant at the 1% level. This stability suggests that the observed decline in spreads is unlikely to be explained solely by changes in industry composition or geographic reallocation of lending activity.

Across all specifications, the coefficient on ln(Tranche Amount) is consistently negative and highly significant (approximately –38 basis points), confirming the well-established inverse relationship between loan size and borrowing costs. This result underscores the importance of controlling for loan size in the analysis. At the same time, it raises the possibility that changes in loan composition may

contribute to the observed reduction in spreads, a mechanism that will be explored in subsequent sections.

We also examine the effect of the merger on loan maturity as an alternative contract dimension. The estimated coefficients are not statistically significant in either the baseline specification or in the models including industry and state fixed effects. This lack of significance suggests that the merger does not materially affect the non-price terms of loan contracts. Taken together, these findings indicate that the impact of the merger operates primarily through pricing rather than through adjustments in loan maturity.

3.2 Dynamic Effects

To further assess the validity of our identification strategy and to examine the timing of the merger effect, we estimate a dynamic event-study specification in which the treatment effect is allowed to vary by year relative to the merger. This framework enables us to formally test for pre-existing trends and to trace the dynamic evolution of the merger effect over time.

The empirical specification is given by the following equation:

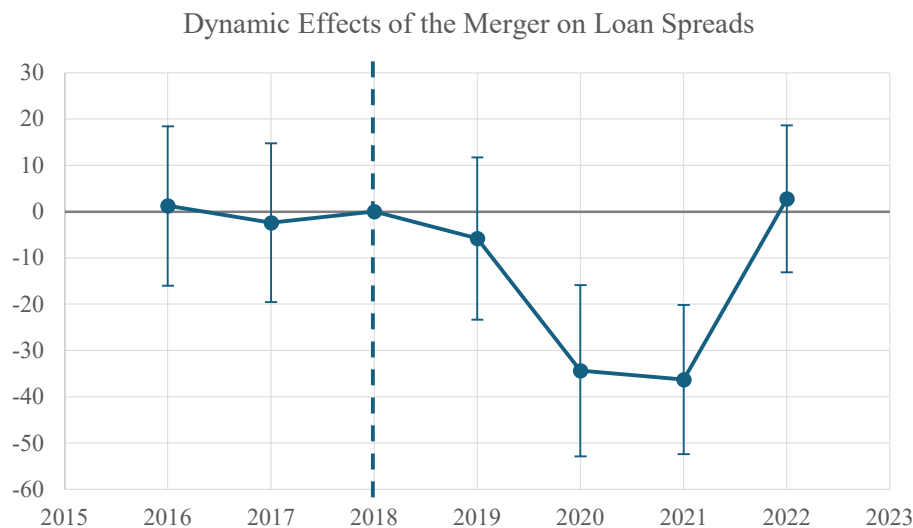
$$Y_{i,t} = \alpha + \sum_{k \neq k_0} \beta_k \cdot Merged_i \times 1(t = k) + \gamma_t + \delta X_{i,t} + \varepsilon_{i,t}$$

Chart 5 plots the estimated coefficients from the event-study specification. The base year is 2018, and the vertical bars represent 95% confidence intervals. We begin by examining the pre-merger coefficients. The estimates for the years prior to the merger (2016 and 2017) are small in magnitude and statistically insignificant. This absence of differential pre-trends suggests that loans involving the merged bank and those in the control group followed parallel paths in spreads before the merger. This finding supports the key parallel trends assumption underlying our difference-in-differences framework and strengthens the causal interpretation of our baseline results.

Turning to the post-merger period, Chart 5 shows a clear and economically meaningful decline in loan spreads for loans involving the merged bank. The estimated coefficients indicate reductions of approximately 34 basis points in 2020 and 36 basis points in 2021, both statistically significant. These

results suggest that the effect of the merger materializes after its completion and persists for at least two years at a relatively stable level. However, the coefficient for 2022 is not statistically significant, indicating that the effect may attenuate over time or be influenced by changing macroeconomic conditions.

Chart 5 Yearly dynamic effects on spreads



One caveat is that the post-announcement period overlaps with major changes in macroeconomic and credit-market conditions, including the COVID-19 shock in 2020–2021 and the monetary tightening environment in 2022. Year fixed effects absorb aggregate shocks that affect all syndicated loans in a given year. However, they do not rule out the possibility that loans involving the merged bank reacted differently to these macro conditions than other syndicated loans. For example, post-merger integration may have led to more centralized risk management, more conservative capital allocation, or a stronger shift toward larger and more standardized facilities during periods of credit-market stress. This interpretation remains speculative, since our data do not contain direct measures of borrower credit quality, bank internal risk assessments, or borrower-level credit demand. Therefore, the dynamic results should be interpreted as differential post-announcement changes conditional on observable loan characteristics and fixed effects, rather than as evidence that is entirely separate from the broader macroeconomic environment.

3.3 Result Summary

Overall, the results indicate that the merger leads to a statistically and economically significant decline in loan spreads for loans involving the merged bank. The event-study estimates show no evidence of differential pre-trends, supporting the validity of the identification strategy, and reveal that the decline in spreads emerges after the merger and persists for at least two years. The effect is robust to the inclusion of industry and geographic fixed effects, although it appears to attenuate in later periods. These findings motivate a deeper investigation into the underlying mechanisms driving the observed reduction in spreads, while also suggesting that the attenuation of the effect in 2022 may reflect either a weakening of merger-related effects over time or a differential response of the merged bank to tighter macroeconomic conditions.

4 Mechanism Analysis

To better understand the decline in loan spreads following the merger, we explore several potential mechanisms.

4.1 Loan Composition Channel

A natural explanation for the decline in loan spreads is a change in the composition of loans involving the merged bank. As shown in the baseline results, the loan size can be a key driver of the observed pricing differences. Larger loans are typically extended to more established and credit-worthy borrowers, who have stronger bargaining power and access to a broader set of competing lenders, leading to tighter pricing. Moreover, larger loans benefit from greater scale and liquidity in the syndicated loan market, which enhances competition among participating banks and reduces per-unit intermediation costs.

The merger combining balance sheets and enhancing capital capacity of the merged bank can allow the bank to participate in larger transactions that may have been difficult to accommodate pre-merger. Second, the merger may also shift the bank's strategic focus toward larger, more standardized

syndicated loan, which are easier to process within a more centralized organizational structure and rely less on soft information.

Consistent with this interpretation, we find that loans involving the merged bank become significantly larger after the merger, as shown in Table 6. When using the log of tranche amount as the dependent variable, the coefficient on the merger is estimated at 0.206 with significance at a 95% level in column (1), indicating a 23% increase in loan size after the merger.

To further assess the role of loan size in explaining the decline in spreads, we estimate specifications with progressively richer controls for tranche size. Comparing a baseline regression without controlling for the size (column (2)) and one adding the control (column (3)), the latter produces a coefficient substantially lower in magnitude, indicating that a large portion of the effect is absorbed by loan size. We then replace the continuous size control with 9 tranche size decile fixed effects, holding the 1st decile at the base level (column (4)). We find a strong and monotonic relationship between loan size and spreads: spreads decline sharply across the size distribution. For instance, both the gap between the 10th decile to the 5th decile and the gap between the 5th decile and the 1st decile are at around 100 bps.

Table 6 Key coefficients for composition effect

Variables	(1)Loan Size	(2)Spread	(3)Size Control	(4)Size Deciles
MergedPresent	0.938*** (0.032)	-88.67*** (3.84)	-52.21*** (3.66)	-52.67*** (3.66)
Post*MergedPresent	0.206*** (0.041)	-23.88*** (5.04)	-16.84*** (4.75)	-16.96*** (4.76)
ln(Tranche Amount)	—	—	-38.22*** (0.55)	—
Decile 5	—	—	—	-99.59*** (3.93)
Decile 10	—	—	—	-200.24*** (3.86)
Year FE	Yes	Yes	Yes	Yes
Constant	18.425*** (0.019)	314.01*** (2.40)	1025.15*** (10.40)	409.40*** (3.37)
Observations	52,924	39,058	39,058	39,058
Adj. R-squared	0.052	0.051	0.157	0.154

Notes: (1) Standard errors are reported in parentheses.
(2) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Taken together, these results indicate that loan composition is the central mechanism behind the post-announcement decline in spreads. The merger is associated with a significant shift toward larger facilities, and larger syndicated loans are systematically priced at substantially lower spreads. Although the pricing effect remains significant after controlling for loan size, the reduction in the coefficient once size is included suggests that changes in loan composition account for an important part of the observed spread decline. This points to a scale-related channel through which the merged bank participates in larger and more competitively priced syndicated loans.

4.2 Syndicate-Level Competition and Market Power

If the spread reduction were driven by increased market power, we would expect the merged bank to become more dominant within syndicates or non-merged lenders to play a reduced role after the merger. In that case, the merger could weaken deal-level competition and allow the merged bank to influence pricing more strongly. To assess this possibility, we examine the number of non-merged lenders participating in each loan.

The estimated coefficient on *Post*MergedPresent* is negative and statistically significant at approximately -0.3 . However, the magnitude of this effect is economically small, given that the average number of lenders is around 10 for loans involving the merged banks, both before and after the merger. More broadly, descriptive statistics show that the average number of lenders per loan remains essentially unchanged, from 5.22 to 5.20, and non-merged lenders continue to account for nearly all syndicate participation, approximately 98%, both before and after the merger.

Taken together, these results suggest that the merger does not materially alter syndicate composition. The merged bank does not appear to increase its dominance within loan syndicates, and competitive pressure from non-merged lenders remains strong, limiting the scope for market-power-driven changes in pricing.

4.3 Alternative Mechanisms

Beyond loan size and syndicate structure, we examine whether the spread decline could be explained by other changes in loan characteristics or borrower composition. Specifically, we consider three alternative mechanisms: geographic reallocation, changes in use of proceeds, and prior borrower–bank relationships.

First, a home-market channel does not appear to drive the results. Although BB&T and SunTrust are both regional banks with strong presence in the Southeast, loans in this region account for only a modest share of the sample (approximately 15% before the merger and 14.4% after). The geographic distribution of loans involving the merged bank remains broadly stable over time. Moreover, the main results are robust to the inclusion of geographic fixed effects, suggesting that changes in regional lending patterns are unlikely to explain the decline in spreads.

Second, changes in the composition of loan use of proceeds do not appear to be a relevant mechanism. Regression estimates show no significant effect, and descriptive statistics indicate that the composition remains stable over time. General corporate purposes account for the majority of loans (over 60%), followed by acquisition-related loans (around 34%), while other categories such as project finance and refinancing represent only a small fraction of the sample. Since acquisition loans are typically associated with higher spreads and larger loan sizes, while refinancing loans tend to carry lower spreads, the absence of meaningful changes in use-of-proceeds composition suggests that this channel does not explain the observed decline in spreads beyond what is already captured by loan size.

Third, we test whether the results are driven by prior borrower–bank relationships. Relationship lending is generally associated with lower borrowing costs due to improved information and reduced monitoring costs. Consistent with this, borrowers with prior relationships with BB&T or SunTrust exhibit significantly lower spreads. However, the interaction term is not statistically significant, indicating that the merger does not strengthen or alter the pricing advantage associated with existing relationships. This suggests that, while relationship lending is an important determinant of loan pricing, it does not account for the post-merger decline in spreads.

4.4 Conclusion

To sum up, a significant portion of the effect of the merger can be attributed to a loan composition channel, whereby the merged bank shifts toward participation in larger loans that are systematically associated with lower spreads. However, this channel does not fully account for the results, as the estimated pricing effect remains economically and statistically significant even after controlling flexibly for loan size.

At the same time, we find little support for alternative explanations based on market power or syndicate restructuring. The composition of lending syndicates remains largely unchanged, with non-merged lenders continuing to dominate participation, indicating that competitive pressure is preserved. Similarly, other potential mechanisms, including geographic reallocation, changes in use-of-proceeds composition, and strengthened relationship lending, do not exhibit meaningful variation following the merger and therefore cannot explain the decline in spreads.

In conclusion, the findings suggest that the reduction in loan spreads is not driven by observable borrower or contract characteristics alone, nor by increased market power. Instead, the evidence is more consistent with efficiency-related changes in lending behavior and continued competitive pressure in the syndicated loan market.

5 Concluding Remarks

This paper examines the effect of the BB&T–SunTrust merger on syndicated loan outcomes in the United States. Using loan-level data from LSEG SDC Platinum and a difference-in-differences framework, we find that loans involving the merged bank experienced a statistically and economically significant decline in spreads after the merger. The baseline estimate suggests a reduction of approximately 17 basis points, and the result remains stable after controlling for industry and geographic fixed effects. Event-study estimates show no evidence of differential pre-trends and indicate that the decline in spreads emerges after the completion of the merger, particularly in 2020 and 2021.

The mechanism analysis suggests that loan composition is an important driver of this effect. After the merger, the merged bank participated in significantly larger loans, and larger syndicated facilities are systematically associated with lower spreads. This shift toward larger transactions is consistent with improved balance sheet capacity, greater scale, and efficiency-related changes in lending behavior. However, the spread effect remains significant even after controlling flexibly for loan size, suggesting that composition changes do not fully explain the observed pricing decline. At the same time, we find limited evidence that the decline is driven by increased market power, as syndicate structure remains broadly stable and non-merged lenders continue to account for most of the lender participation.

This study has several limitations. First, the analysis focuses on the syndicated loan market, which consists mainly of larger and more transparent borrowers, so the findings may not generalize to small business lending or other relationship-based credit markets. Second, although the difference-in-differences and event-study results support the identification strategy, the attenuation of the effect in 2022 may reflect a differential response of the merged bank to tighter macroeconomic conditions, although this interpretation remains speculative given the lack of direct information on bank internal risk assessments, capital allocation decisions, and borrower credit quality.. Third, our data allow us to observe loan contracts and syndicate participation, but not direct measures of borrower credit quality, credit ratings, detailed borrower financials, bank operating costs, internal risk assessments, or borrower-level credit demand. As a result, we cannot fully rule out the possibility that part of the spread decline reflects a shift toward higher-quality borrowers after the merger, rather than only changes in bank behavior or loan composition.

Overall, the findings suggest that the BB&T–SunTrust merger reduced borrowing costs for loans involving the merged bank, mainly through efficiency-related mechanisms and a shift toward larger syndicated loans rather than through increased market power.

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