Our Search for an Urban Banking Market Made Less Competitive by a Banking Merger

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A recent BPI blog post demonstrated that aggregate measures of banking market concentration in the United States indicate a robust level of competition, and that banking market concentration on average has not increased for at least the past 25 years, despite the decline in the number of banks. Because less populated areas naturally have fewer banks, the aggregate measures primarily reflect the overall competitiveness of urban banking markets—those associated with defined metropolitan areas.

That analysis, however, does not provide views on individual market competitiveness. For instance, it does not address whether there are any urban markets that are currently highly concentrated due to effects of a past merger. Nor does it address whether any markets that were initially highly concentrated may have become materially more concentrated because of a merger.

Here, we revisit the earlier analysis to take a close look at markets that are classified as "concentrated" under the Herfindahl-Hirschmann Index of market concentration (HHI).[1] We focus on the period from 1998 through 2021, seeking to assess the role of mergers in causing a market either to become concentrated in the first instance or materially more concentrated if it was already highly concentrated pre-merger. As of mid-year 2021, the mean HHI across 312 urban markets was close to 1200, well below the 1800 threshold characterizing a market as "highly concentrated" under existing bank competition standards. About a third of these (101 markets) were above the 1800 threshold.

Among the latter, we found only three cases where the current, high level of concentration appears to have resulted from a past merger. In addition, we found a single instance of a merger that led to a material and lasting increase in concentration in an already concentrated market. The Federal Reserve's approval orders for the four mergers with notable concentration effects point to competition from credit unions as the key mitigating circumstance justifying the approvals.

While additional markets during the period examined experienced increases in the HHI to above 1800 following mergers, these increases were transitory and the markets subsequently returned to HHI levels below 1800. Existing policy allows for increases in the HHI to above 1800 but limits these increases to less than 200, with occasional exceptions for markets that are determined to be "attractive for entry." These aspects of merger policy have helped (as intended) to ensure that such increases are temporary.

The analysis additionally highlights the following facts about highly concentrated urban banking markets:

- Most are semi-rural or outlying sections of metropolitan areas as opposed to densely populated urban areas

[1] The HHI is calculated as the sum of squared market shares in a local banking market. Generally, the deposits of all institutions with a commercial bank charter receive 100 percent weight and the deposits of all institutions with a thrift charter (i.e., savings banks and savings and loan institutions) receive 50 percent weight in computing market shares for the baseline evaluation of competitive effects. However, as highlighted in our later discussion, in the context of mergers raising potential competitive concerns, scrutiny, the regulatory authorities may recalculate the HHI with 100 percent thrift inclusion or with 50 percent inclusion of credit union deposits, if this is seen as appropriate based on an analysis of the banking activities of these other depository institutions.

- Organic growth by the lead banks in a market caused some markets to become highly concentrated
- Bank failures and acquisitions of troubled banks are additional factors that have contributed to banking market concentration
- Some banking markets are misleadingly classified as "concentrated" primarily based on the inclusion of out-of-market deposits in market share calculations

Overall, the analysis demonstrates that existing merger policy has been successful at preserving competition in urban banking markets.

In addition, the analysis demonstrates that assessments of banking market competition by the Department of Justice and the federal banking agencies are approached conservatively. We observe three important dimensions where conservatism is applied: the delineation of geographic banking markets; the extent to which competition from nonbank financial firms is considered; and how bluntly deposits at local branches are measured for quantifying market shares.

Banking market delineations tend to be narrower than metropolitan areas as defined by the Office of Management and Budget, which can cause a market to appear more concentrated than it may in fact be. For example, the Atlanta metropolitan area consists of 29 counties, while the Atlanta banking market as defined by the Federal Reserve consists of 19 counties.

The Department of Justice and the banking agencies consider competition from credit unions for their final assessment of competitive effects of mergers. Typically, this is accomplished with 50 percent weighting of credit union deposits, conditional on a determination that the credit unions are open to a broad segment of the population and are active in small business lending. However, the role of finance companies, online banks and fintech companies, which often are significant competitors of local banks in mortgage, consumer and small business lending, is not considered.

Branch-level deposits are a blunt measure that tends to overstate market concentration, because in some cases banks house significant quantities of non-local deposits in a market, thereby inflating their measured market shares. Although there seems to be no practical alternative to using deposits to quantify banks' market shares, more attention to anomalies in the branch-level deposit data could enable more accurate assessment of potential competitive effects of proposed mergers, as we demonstrate below.

One condition frequently imposed by the regulators for approving a merger is the divestiture of branches in certain markets. More attention to outliers and anomalies that lead to overstatement of market concentration may in turn result in fewer branch divestitures being required as a condition of a merger approval.

Data Sources and Analysis Procedure

As in the earlier analysis referred to previously, our source of data on local market concentration is an expanded version of the FDIC's Summary of Deposits (SOD) data that has been supplemented with the Federal Reserve's banking market definitions. This expanded version, obtained from S&P Global Market Intelligence (SNL Financial), is available annually for 1998 through 2021. The dataset reports total deposits at the branch level for all branches of U.S. banks and thrift institutions, along with identifying the institution, its top parent holding company (if applicable) and the branch location (state, county and banking market).

We apply similar filters to the SOD data as in the earlier study. For instance, we follow the standard practice of including only branch offices identified as "full-service brick and mortar" and "full-service retail."[2] In addition, we exclude Wilmington, Delaware and Sioux Falls, South Dakota, which have many special-purpose banks serving a national market.[3] The final sample contains 312 banking markets that are associated with urban areas (that are either identical to, contained in or partially overlap with a metropolitan statistical area), of which 101 are highly concentrated as of 2021.

As in the earlier analysis, a branch-level deposit cap is applied to address outliers in the data—branches with outsized amounts of deposits. These correspond to offices that house non-retail deposits or deposits collected from outside the local market—deposits that are used to support lending activity across multiple markets. As others have pointed out, such outliers can generate distorted measures of market concentration and flawed assessments of competition.[4]

Specifically, branch-level deposits are capped at three times the 99th percentile of the distribution of branch-level deposits in a market, but (with two exceptions) only in markets with continual presence of an outlier branch for which the cap is binding.[5] Appendix 1 lists the markets subject to this cap.

The continuity criterion is incorporated for conservatism, to ensure that the cap is appropriately targeted to offices housing non-retail or out-of-market deposits. The threshold is set at three times the 99th percentile because, when combined with the continuity criterion, it generally selects the same outlier branches as would a substantially stricter threshold.[6] Therefore, we believe that the selected threshold provides a reliable lower bound on the share of out-of-market deposits held at outlier branches.

Although this cap is more binding than the nine times 99th percentile cap applied in the earlier study, we believe that the latter is too permissive of outliers. The previously applied cap also allows too much year-over-year volatility of HHIs, making it difficult to assess effects of mergers.

Market shares of each institution in each locality each year are then calculated and used to construct the time series of each locality's HHI of banking market concentration. Figure 1 shows the time series of mean and median

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[2] This restriction also provides for exclusion of various industrial loan companies and custodian banks.

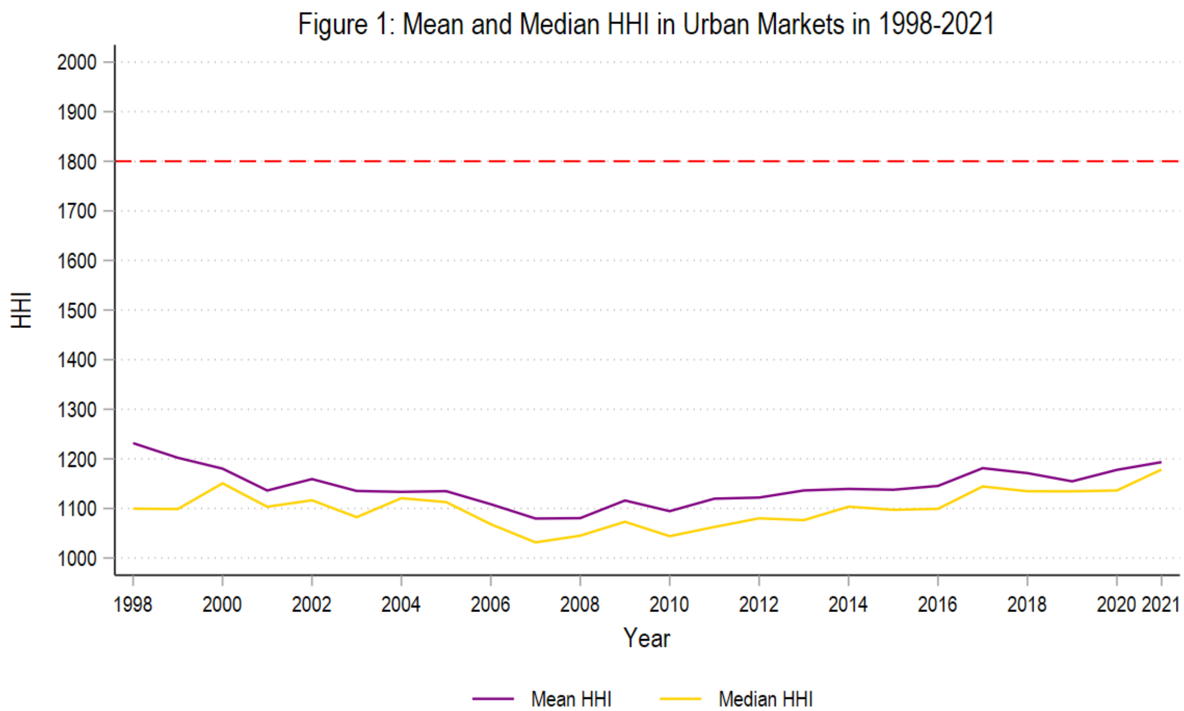
[3] The earlier study excluded several additional markets which exhibit oddities. We revisited these exclusions, to ensure that we do not omit potential cases of non-competitive effects of mergers. Based on this review, we reincorporated one market (Columbus, IN), where the volatility of market deposits is no longer present after 2010 and where a merger that significantly increased market concentration occurred in 2018. We continue to exclude Columbus Area, GA, Las Vegas, NV, and Winston-Salem, NC, best characterized as long-term highly concentrated markets; and Ogden, UT and Red Wing MN, which are not highly concentrated.

[4] See, for example, *Submission of Wachtell, Lipton, Rosen, & Katz on Revisions to the Antitrust Division of the Department of Justice as to the 1995 Banking Guidelines* (October 15, 2020), pages 11-12. The submission points out that "corporate accounts, brokered deposits, collateralized government deposits and other highly volatile deposit accounts typically booked in regional or national headquarters branches are not segregated from true retail deposits…. The data also ignore the supply-side ramifications of the largest nationwide banks with hundreds of billions of dollars of deposits in a small number of branches…. This trend toward the centralized booking of deposits creates a two-fold problem: it overstates the market shares of banks with mammoth branches in the markets where these branches are located and understates their shares in all the other markets from which these deposits actually originated. These centralized branch deposits of the nation's largest banks also represent a huge source of supply-side lending capacity that could be deployed to any local market where pricing incentives beckon."

[5] The rule for applying this cap is that it be binding in 18 out of the 24 years comprising the analysis period. Exceptions are made for two cases where the cap is applied to an extreme outlier present in only one year. These are Kalamazoo-Battle Creek, Michigan for 1999 and Sacramento, California for 2009.

[6] In all but five of the 48 markets where the cap is applied, the deposit amount at the largest outlier branch consistently exceeds the deposit size of the 99th percentile branch by at least a multiple of five.

HHI for the sample with these caps applied. As of 2021, the mean HHI is just under 1200 and below its 1998 level, and the median HHI is slightly less than the mean.



Classifications of Highly Concentrated Urban Markets

The annual HHIs for each local market, along with other historical, market-level information is used to group highly concentrated urban markets into eight descriptive categories, including whether their high concentration appears to have resulted from a merger. Other information relied upon for this purpose includes market share information from the SOD data for selected years, information on bank failures, mergers and acquisitions from the Federal Reserve System's market analysis tool CASSIDI®, and historical news reports.

Table 1 summarizes our categorization of the highly concentrated urban banking markets.

Table 1: Highly Concentrated Urban Market Categories

Semi-rural	60
Long-term highly concentrated	8
Organic growth of lead bank(s)	7
Deposit mismeasurement -- outlier branches	11
Failures and troubled-bank deals	5
Deposit mismeasurement -- other	3
Idiosyncratic market share jump	3
Merger involved	4
Total	101

Semi-rural or outlying portions of metro areas. Many banking markets as defined by the Federal Reserve coincide or largely overlap with metropolitan statistical areas defined by the Office of Management and Budget. However, others are less populated areas near but within the boundary of a large metropolitan area, and others straddle the boundary of a metropolitan area. The largest category of highly concentrated urban banking markets consists of 60 such semi-rural or outlying areas. Appendix 2 provides a listing of these markets along with some descriptive information.[7]

Although these banking markets are contained in or partially overlap with a metropolitan area, these essentially are not urban markets. Most of them have had persistently high levels of market concentration.

Heard County, Georgia, for example, is one of 29 counties that comprise the Atlanta–Sandy Springs–Alpharetta, Georgia Metropolitan Statistical Area, but it is considered by the Federal Reserve to be a separate banking market. The county is located well to the west of the city of Atlanta along the Alabama state line and features only one banking institution (Bank OZK) with a physical presence. In 2020 its population was only 11,412, and its population density was just 38 people per square mile, but nonetheless it has sufficient integration with other counties in the Atlanta region to be included in the metropolitan area definition. As another example, the Sandstone, Minnesota market, with an HHI of 2373, consists of rural Pine County, plus a sliver of Carlton County which is part of the Duluth metropolitan statistical area.

Other long-term highly concentrated markets. Eight highly concentrated markets that are not semi-rural exhibit persistently high levels of concentration as far back as 1998. They are listed in Table 2 along with their 1998 and 2021 HHIs.

Notably among these markets, Manchester, New Hampshire has had a declining concentration trend since 2006, while Essex and Richmond Counties, Virginia had stable concentration until 2017, but since then has had an upward trend reflecting deposit growth at its lead bank (Primis).

[7] We reviewed each of these markets for cases where a market may have become highly concentrated due to a merger or acquisition and identified only a single instance. In the Sandstone, Minnesota market, the acquisition of First National Bank of the North (market share of 18 percent) by Northview Bank (market share of 25 percent) resulted in an increase in the HHI from 1679 to 2503. We were unable to obtain further information about this transaction or the basis for the merger approval decision.

Some of these markets have experienced substantial year-to-year fluctuation in concentration, reflecting variability of deposits at their lead banks (those with the largest shares). However, none has had a material increase in concentration due to a merger.

Table 2: List of Long-Term Highly Concentrated Markets

Market Name	1998 HHI	2021 HHI
Baton Rouge, LA	1843	1889
Fayetteville, NC	2023	1896
Davis, CA	1898	2101
Fayetteville/Rogers, AR	2113	2219
Concord, NH	2197	2460
Manchester, NH	3226	2658
Biloxi, MS	3227	2661
Essex and Richmond Counties, VA	2068	3095

Organic growth of lead bank(s). A market can become increasingly concentrated due to growth of market share at its lead banks. We identified seven markets where organic growth of lead banks caused the markets to cross the 1800 HHI threshold or, if already highly concentrated, to become materially more concentrated. These markets and the banks that drove the change are listed in Table 3.

Table 3: Markets Affected by Organic Growth of Lead Bank(s)

Market Name	1998 HHI	2021 HHI	Lead Bank(s)
Anchorage, AK	2740	3295	Wells Fargo
Amarillo, TX	1895	3259	Amarillo National Bank, Happy State Bank
Honolulu, HI	2593	3018	First Hawaiian and Bank of Hawaii
Fredericksburg, VA	1277	2206	Atlantic Union Bank
Green Bay, WI	1459	1958	Associated Bank; Nicolet Bank
Binghamton, NY	1384	1854	NBT Bank
Johnson, IA	1110	1852	Hills Bank & Trust

For example, in Green Bay, Associated Bank's market share rose from 31 to 38 percent and Nicolet's from 14 to 17 percent between 2016 and 2021. These gains by the two largest banks in the market drove an increase in the HHI from 1480 to 1958.[8]

Deposit mismeasurement–outlier branches. Our approach to capping branch-level deposits, described previously, reduces the calculated HHI from above to below 1800 in 11 markets. We believe that by applying the cap to these branches, we more accurately measure market competitiveness.

Table 4 lists the 11 markets thus affected by capping deposits at outlier branches. Also shown are the HHIs for these markets, alternatively calculated with and without the cap on branch deposits. Each are large metropolitan areas that are also regional or national banking centers, further affirming the view that non-local or large institutional deposits are housed at these branches.

Table 4: Markets with Outlier Branches

Market Name	2021 HHI with 3X Cap	2021 HHI without cap
Baltimore, MD	1546	1931
Buffalo, NY	1772	3961
Charlotte, NC-SC	1756	4361
Columbus, OH	1460	2040
Jacksonville Area, FL	1494	4957
Minneapolis/Saint Paul, MN	1433	2474
Pittsburgh, PA	1705	3073
Cincinnati, OH	1249	3126
Dallas, TX	954	1990
Hartford, CT	1436	2964
Houston, TX	887	2401

Bank failures and troubled-bank deals. Five urban banking markets are highly concentrated today because of legacy effects from bank failures or troubled-bank acquisitions that occurred during the financial crisis period. These markets and their 2021 HHIs are listed in Table 5.

[8] Notably, Associated Bank consistently has achieved high rankings based on customer satisfaction responses; see, for example, here and here

The Erie market became concentrated in 2009 following PNC's merger with troubled National City, with the HHI rising from just under 1800 to about 2100. In Evansville, the HHI similarly increased from just under 1800 to about 2100 after the 2011 acquisition of failed Integra Bank by Old National.[9]

The Monterey-Seaside-Marina market became highly concentrated following Wells Fargo's acquisition of troubled Wachovia in 2009, with the HHI increasing from about 1500 to about 1850. In the Reno market, with the failure of First National Bank of Nevada in 2008 followed by Wells Fargo's acquisition of Wachovia in 2009, the HHI more than doubled, from about 1500 to about 3300, but it has been trending down since then.

Reno provides an interesting case study of how bank failures may generate an increase in market concentration even when the failed bank is not acquired by another institution in the same market. The failure of First National Bank of Nevada caused market concentration to rise because it removed a significant competitor from the market. Although the deposits of First National Bank of Nevada were transferred to Mutual of Omaha Bank, substantial deposit runoff ensued.[10] Similarly, in the Salt Lake City market, a spate of four bank failures between September 2009 and March 2010, including the failure of Advanta, caused the market to be more highly concentrated due to the loss of significant competitors through deposit runoff.[11]

Table 5: Markets Affected by Bank Failures or Troubled-Bank Acquisitions

Market Name	2021 HHI
Erie, PA	2111
Evansville, IN	2055
Salt Lake City, UT	2518
Monterey-Seaside-Marina, CA	1916
Reno, NV	1865

Deposit mismeasurement (non-outliers). The Durham-Chapel Hill and Wilmington, North Carolina markets have HHIs greater than 1800 because of two specialty banks that have a national customer base, PacWest and Live Oak, respectively. PacWest acquired Square 1 Bank in 2015, retaining the latter's business model of lending to entrepreneurs and startup companies nationwide. Live Oak specializes in small business lending, also nationwide through partnering with fintechs.

These banks very likely gather most of their deposits non-locally. However, our cap on outlier branches is not binding in these cases, allowing the non-local deposits to unduly influence the HHI calculations for these markets.

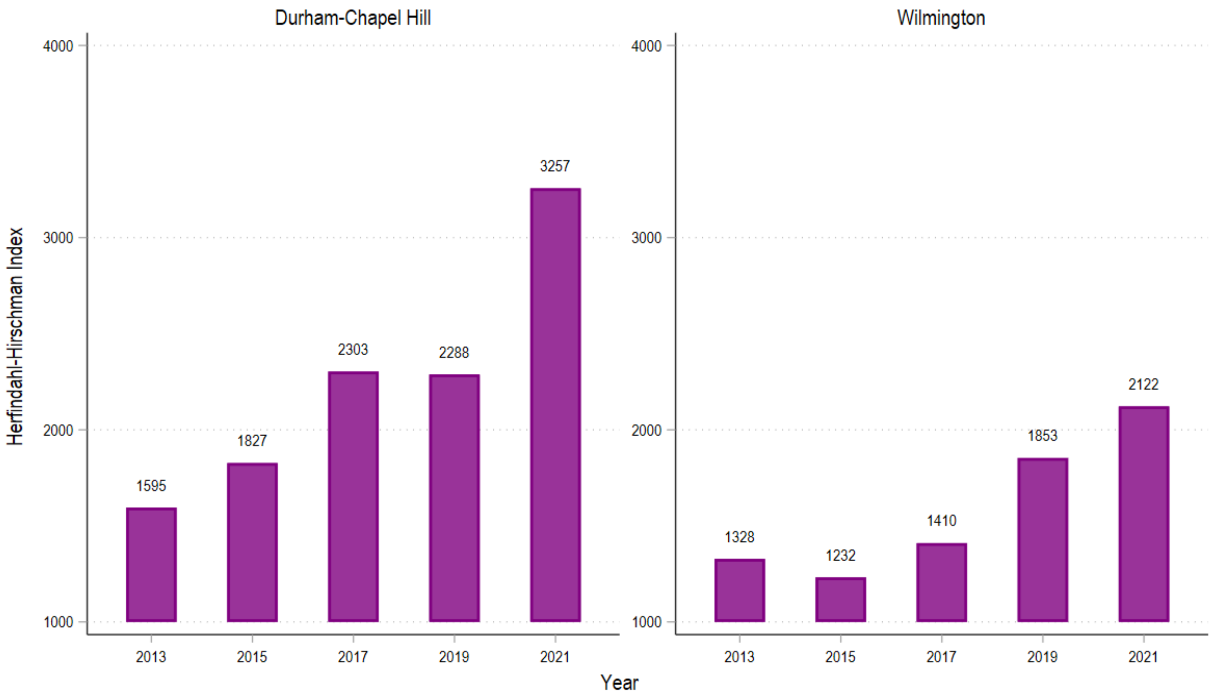
Figure 2 shows the HHI series for the Durham-Chapel Hill and Wilmington markets biannually from 2013 through 2021. The HHI in Durham-Chapel Hill about doubled over this period, from 1595 in 2013 to 3257 in 2021, crossing

[9] Note that such acquisitions may allow for less costly resolution of failed banks or for efficiently recapitalizing and reinvigorating weak banks.
[10] Moreover, because Mutual of Omaha Bank was a thrift institution, the deposits were weighted 50 percent after the transfer. Citibank's sale of its Reno branches to Wells Fargo in 2008 also contributed to the rise in the HHI.
[11] None of the four failures were resolved through an in-market merger or acquisition. During 2005 through 2008, the HHI in Salt Lake City ranged between 1850 and 1930, but by 2011 it had increased to 2665.

the 1800 threshold in 2015. In Wilmington, the HHI increased by more than 400 between 2017 and 2019, crossing the 1800 threshold, and rose again by more than 250 between 2019 and 2021.

Figures 3 and 4 show the change in market shares of the larger competitors in the Durham-Chapel Hill and Wilmington markets, respectively, since 2013. As can be inferred from these charts, the increasing concentration levels were driven by steep market share gains by PacWest and Live Oak.[12]

Figure 2: Market Concentration Trends in the Durham-Chapel Hill and Wilmington Markets



[12] It also can be inferred from Figure 3 that the 2021 market share of Truist, which was created by the merger of SunTrust and BB&T, barely exceeds SunTrust's 2019 market share, mainly because of branch divestitures required as a condition for approval of the merger, and because of PacWest's expansion.

Figure 3: Market Shares in Durham-Chapel Hill

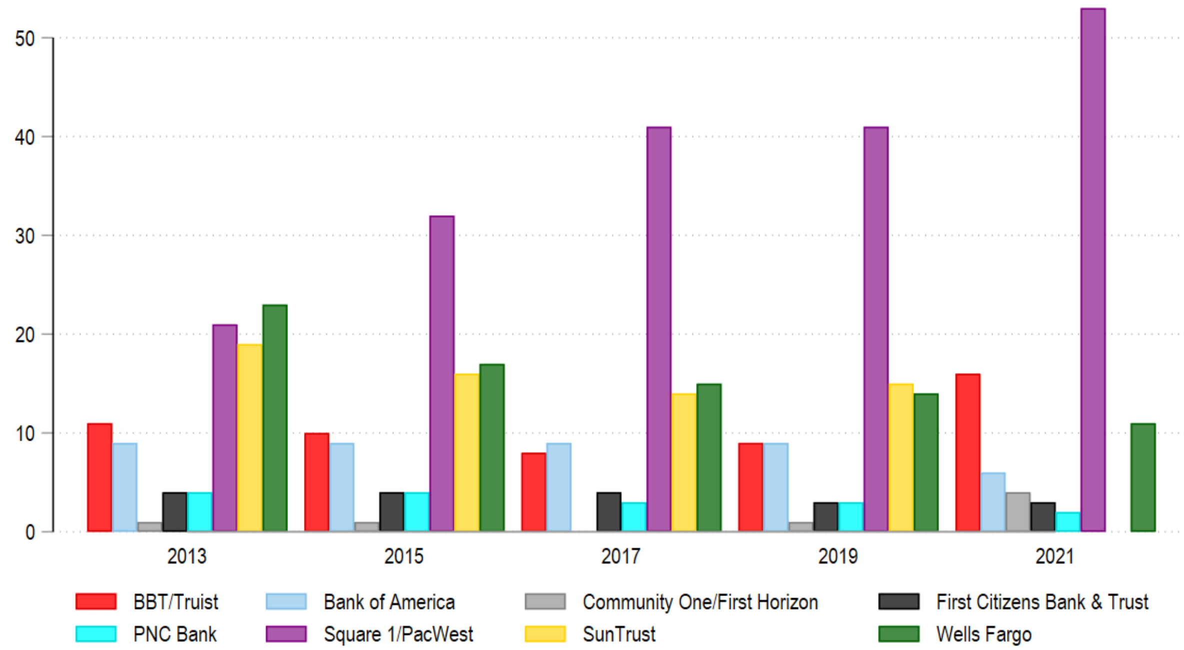
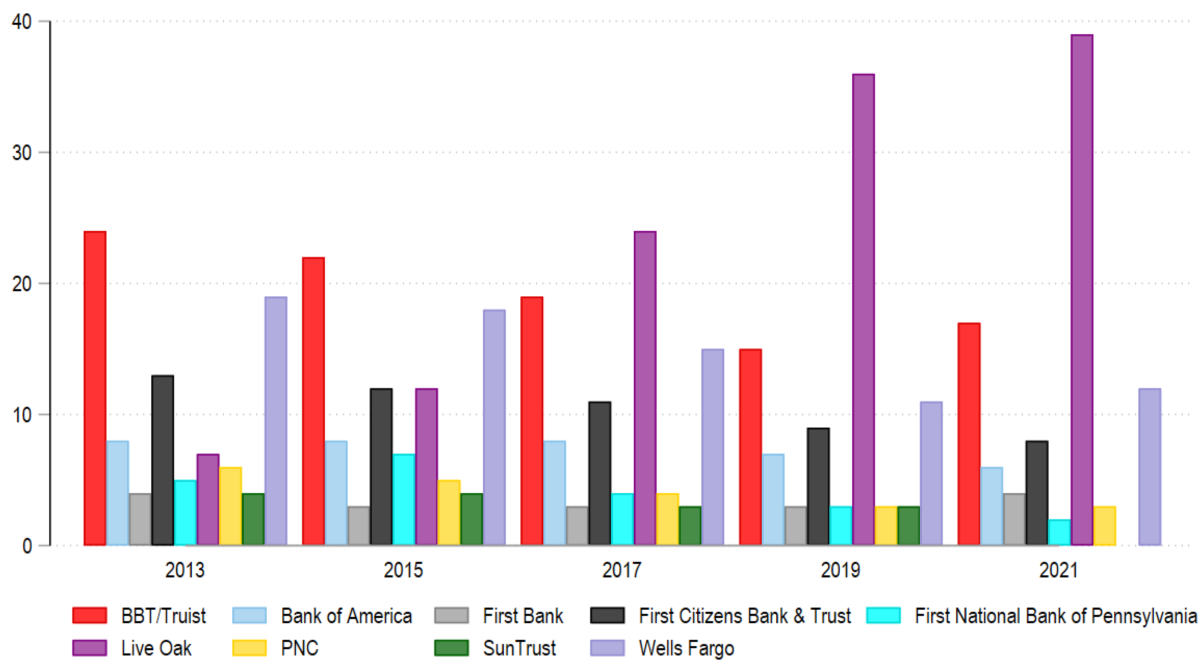


Figure 4: Market Shares in Wilmington



A third instance of a market indicated to be highly concentrated due to inclusion of non-local deposits is Canton, Ohio. The three times 99th percentile cap was not applied to Canton because it is only intermittently binding (fails to satisfy our continuity criterion.) However, according to the Federal Reserve Board's approval order for the merger of Huntington Bancshares with FirstMerit Corporation in July 2016, Huntington's largest branch in Canton housed a large amount of out-of-market, government deposits that the Board considered appropriate to exclude from HHI calculations.

The Board projected a post-merger HHI of 1790 after excluding the out-of-market government deposits and accounting for Huntington's commitment to divest 10 branches.[13] After netting out the deposit amount associated with the divested branches, deposits of the combined institution grew 42 percent between 2016 and 2021.[14] Deposits of the remaining institutions in the market grew by almost double that (80 percent.) Considering these facts, it seems reasonable to conclude that if the HHI could be properly measured; that is, with exclusion of the out-of-market deposits at the Huntington branch, the 2021 HHI would be below 1800, although admittedly there is uncertainty around this assessment.[15]

Idiosyncratic market share gains. Three markets are highly concentrated as of 2021 because of a prior occurrence of a sudden and sharp increase in deposits at a bank with a large, ex-ante share. These changes are more sudden than in markets with organic growth of lead banks, which have gradual trends of rising concentration.

In the Reading, Pennsylvania market, deposits at two banks, Santander and Customers, jumped 126 percent and 76 percent, respectively, between 2014 and 2015. Santander's market share jumped from 21 to 35 percent while Customers' share increased from 17 to 22 percent. The HHI increased from 1284 to 1935 and the market remained highly concentrated thereafter.

In the Columbia, South Carolina market, deposits at Wells Fargo jumped 68 percent between 2011 and 2012, the bank's market share rose from 19 to 28 percent, and the HHI increased from 1544 to 1806. Afterward, the market remained highly concentrated.

In the Richmond, Virginia market, deposits at Truist jumped 37 percent between 2020 and 2021, while the aggregate deposits of other banks in the market increased 9 percent. As a result, the market share of Truist increased from 25 to 30 percent and the HHI rose from 1769 to 1908.

We are unable to determine the reasons for these idiosyncratic shifts in market share. A plausible conjecture is that there was an inflow or a relocation (from another market where the bank operates) of non-local or large institutional deposits.

Markets that became highly concentrated, or materially more so, because of a merger. The final category consists of three markets where a bank merger led to the market HHI crossing the 1800 threshold, plus one market which was ex-ante highly concentrated where a merger led to a material increase in the concentration level. Table 6 lists these markets and provides details about the relevant merger event (including a link to the Federal Reserve

[13] For the Board's calculation, one thrift institution was included with 100 percent weighting and some credit unions were included with 50 percent weighting of their deposits; the effect on the calculated HHI was modest due to their small market shares.

[14] We subtract 613 million in deposits, the amount associated with the divested branches as reported in the approval order, from the merging institutions' total for 2016, prior to calculating the deposit growth rate of the combined institution.

[15] Consistent with this assessment, the market HHI as measured with inclusion of the out-of-market deposits declined from 2179 to 2002 between 2017 and 2021. A quarter of this decline occurred after 2018. However, our assessment is uncertain because we have no updated information about the quantity of out-of-market deposits at the Huntington branch.

Board's approval order), along with their 2021 HHIs and HHIs from the years immediately prior to and following the year of the merger event.[16]

Table 6: Markets Materially Affected by a Merger

Market Name	Merger	2021 HHI	ex-ante HHI	ex-post HHI
Columbus, IN	First Financial and MainSource, Feb. 2018	1824	1465	1788
Norfolk/Portsmouth, VA	BBT and SunTrust in Nov. 2019	1977	1727	2029
Morristown Area, TN	First Tennessee and Capital Bank in Oct. 2017	1809	1535	1874
North Lake-Sumter FL	BBT and SunTrust in Nov. 2019	2690	1931	2308

It may be tempting to conclude that each of these mergers presented competitive concerns for the local markets based on the measured effects on concentration. However, it would be premature to do so without first considering the Federal Reserve Board's explanations in its approval orders.

In each case, the Board argued that the baseline HHI calculations substantially overstate market concentration and understate competition by failing to account for competition from credit unions. After recalculating the ex-ante and pro-forma HHIs with deposits at credit unions included with fifty percent weighting, the Board determined that market concentration (or, in the case of North Lake-Sumter, the increase in concentration) would be within an acceptable range. The Board noted that "this weighting takes into account the limited lending done by the credit union to small businesses relative to commercial banks' lending levels."

For example, in the approval order for the merger of First Financial Bancorp with MainSource Financial Group, the Board cites "the competitive influence of one credit union in the Columbus market that offers a wide range of consumer banking products, operates street-level branches, and has broad membership criteria that include almost all of the residents in the market." Moreover, the Board's recalculation accounting for the credit union markedly reduces the ex-post HHI, and if applied to the 2021 HHI would lower it to well below 1800.[17]

In the case of the Norfolk-Portsmouth market in the context of the BBT merger with SunTrust, the projected, post-merger HHI declines by nearly three hundred points after recalculation with inclusion of eight credit unions.[18] The merger memo offers few details on the adjustment, but it seems plausible that most of the change in the pro-forma HHI would be from inclusion of Navy Federal Credit Union, which has a very large presence in the market.

Concluding summary. Our deep dive examination of the 101 urban banking markets that are highly concentrated as of 2021 revealed that most are semi-rural portions of metropolitan areas, which tend to be more concentrated simply because of the presence of fewer banks in less densely populated areas. Others are highly concentrated

[16] The ex-ante (respectively, ex-post) HHI calculation are based on the data from the most recent (next) June in relation to the month of the merger.
[17] In addition, First Financial committed to divesting three of MainSource's nine branches in the market.
[18] The recalculation also reweighted the market share of a small thrift institution from 50 to 100 percent.

because of the historical incidence of bank failures or acquisitions of troubled banks, and some because organic growth of lead banks caused the markets to become concentrated.

Some other markets should not be considered highly concentrated because of anomalies in the data. Specifically, SOD reporting tends to grossly overstate market share concentrations in markets that include outlier branches with centrally booked out-of-market deposits or large institutional deposits.

In all, we identified just three cases where the high level of concentration in an urban market appears to have resulted from a merger. In addition, we identified a single instance of a merger that led to a material increase in concentration in an already concentrated market. The Federal Reserve's approval orders for those mergers point to competition from credit unions as the key mitigating circumstance justifying the approval; such credit union competition is not reflected in the baseline HHI calculations for such markets.

In sum, existing merger policy appears to have been quite successful at preserving competition in urban banking markets. At the same time, the current approach has several important elements of conservatism that the DOJ and banking agencies should consider revising to achieve a more accurate assessment of potential competitive effects of proposed mergers (narrow banking market delineations, omission of nonbank competition, and inclusion of out-of-area deposits). Moreover, we would encourage the regulators to review outliers and other anomalies in the data used to measure market concentration to improve the usefulness of HHI calculations.

Appendix 1: List of Markets Subject to Outlier Caps

Market name	Number of years cap is binding
Albany, NY	24
Atlanta, GA	24
Baltimore, MD	24
Birmingham, AL	20
Boston, MA	24
Buffalo, NY	24
Charlotte, NC-SC	24
Chicago, IL	24
Cincinnati, OH	24
Cleveland, OH	24
Columbus, OH	24
Dallas, TX	24
Denver-Boulder, CO	24
Detroit, MI	24
Green Bay, WI	21
Hartford, CT	18
Houston, TX	24
Indianapolis, IN	20
Jacksonville Area, FL	24
Kansas City, MO	23
Little Rock, AR	18
Los Angeles, CA	24
Louisville, KY	19
Memphis, TN	24
Metro New York City, NY-NJ-CT-PA	24
Miami-Fort Lauderdale Area, FL	22
Milwaukee, WI	24

Market name	Number of years cap is binding
Minneapolis/Saint Paul, MN	24
Nashville, TN	22
New Orleans Area, LA	24
Omaha, NE/Council Bluffs, IA	22
Orlando Area, FL	24
Philadelphia, PA	24
Phoenix, AZ	23
Pittsburgh, PA	24
Portland, OR-WA	23
Providence, RI	24
Raleigh, NC	19
Richmond, VA	22
Rochester, NY	23
Saint Louis, MO	24
San Antonio, TX	21
San Diego, CA	20
San Francisco-Oakland-San Jose, CA	24
Seattle, WA	24
Tampa Bay Area, FL	24
Tulsa, OK	24
Washington, DC-MD-VA-WV	24

Appendix 2: List of Semi-Rural Markets

Market Name	1998 HHI	2021 HHI	Description
Heard County, GA	7345	10000	Outlying county in Atlanta MSA
Saint Helena Parish, LA	8329	8565	Outlying area of Baton Rouge MSA
Taft, CA	2855	5756	Outlying area in Bakersfield MSA
Firebaugh-Mendota, CA	5789	5659	Outlying area in Fresno MSA
Chester County, SC	4313	5514	Outlying area in Charlotte-Concord-Gastonia, NC-SC MSA
Sequatchie County, TN	4653	5258	Outlying area in Chattanooga TN-GA MSA
Butts County, GA	4489	5253	Outlying county in Atlanta MSA
Marion County, GA	10000	5048	In Columbus GA-AL MSA
Washington County, NE	4011	4734	Outlying area of Omaha-Council Bluffs NE-IA MSA plus small sliver of Burt County, NE
Sanford, ME	2835	4700	Outlying area of Portland-South Portland MSA
Atlantic, IA	1615	4561	Outlying area of Omaha-Council Bluffs NE-IA MSA plus portion of rural Audubon County, IA
West Feliciana Parish, LA	5018	4559	Outlying area of Baton Rouge MSA
Saluda County, SC	3632	4456	Outlying area of the Columbia SC MSA
Peterborough, NH	5605	4286	Outlying area of Manchester-Nashua MSA
Hillsborough, NH	3789	4121	Outlying area of Manchester-Nashua MSA and portion of rural Sullivan County, NH
Yazoo County, MS	3343	4036	Outlying area of Jackson, MS MSA
Somerset, MD	5707	3988	In Salisbury MD MSA
Athol, MA	4165	3726	Outlying area of Worcester MA-CT MSA and portion of rural Franklin County, MA
Morgan County, GA	3504	3688	Outlying county in Atlanta MSA
Blythe, CA	3438	3650	Outlying area in Riverside-San Bernardino-Ontario MSA
Sussex, VA	3394	3493	Outlying area in the Richmond MSA
East Feliciana Parish, LA	3342	3476	Outlying area of Baton Rouge MSA

Market Name	1998 HHI	2021 HHI	Description
Madison, IN	2747	3337	Outlying area of Louisville/Jefferson County KY-IN MSA and rural Jefferson County, IN
Griffin Area, GA	1976	3236	Outlying area in Atlanta MSA
Wickenburg, AZ	2584	3203	Outlying areas of Phoenix and Prescott MSAs
Belle Glade Area, FL	2873	2970	Outlying area of Miami-Fort Lauderdale-West Palm Beach MSA
Kaufman, TX	2354	2931	Outlying area of Dallas-Fort Worth-Arlington MSA
Mills County, IA	2191	2920	Outlying area of Omaha-Council Bluffs NE-IA MSA plus portion of rural Fremont County, IA
Wells, ME	2605	2762	Outlying area of Portland-South Portland MSA
Barstow, CA	2328	2740	Outyling area in Riverside-San Bernardino-Ontario MSA
Porterville, CA	2252	2647	In Visalia-Porterville MSA
Mora, MN	2577	2633	Outlying area of the Minneapolis-St. Paul-Bloomington MN-WI MSA plus rural Kanebec County, MN
Sharon, PA-OH	2147	2619	Outlying area of the Youngstown-Warren-Boardman OH-PA MSA
Pointe Coupee Parish, LA	4931	2616	Outlying area of Baton Rouge MSA
Bridgton-Paris, ME	2626	2533	Outlying area of Portland-South Portland MSA and portion of rural Oxford County ME
Pickens County, GA	3226	2512	Outlying county in Atlanta MSA
California City, CA	2174	2512	Outlying area in Bakersfield MSA
Grady County, OK	2097	2503	Outlying area of Oklahoma City MSA
Lompoc, CA	2270	2468	In Santa Maria-Santa Barbara MSA
Pottawatomie County, OK	1731	2382	Small outlying portion of the Oklahoma City MSA plus rural Pottawatomie County, OK
Sandstone, MN	1495	2373	Outlying area of Duluth MN-WI MSA plus rural Pine County MN
Zanesville, OH	2587	2287	Small outlying portion of the Columbus OH MSA plus rural Muskingum County, OH
South Lake Tahoe, CA-NV	1634	2237	Outlying area of Sacramento-Roseville-Arden-Arcade MSA, plus portion of non-metropolitan, Douglas County, NV
Sandpoint, ID-WA	2113	2222	Outlying area of the Spokane, WA MSA plus rural Bonner County, ID
Richmond, IN	1651	2217	Outlying area of the Cincinatti OH-KY-IN MSA plus rural Wayne County IN and a portion of rural Randolph County IN
Abingdon, VA	1847	2069	In Kingsport-Bristol-Bristol TN-VA MSA

Market Name	1998 HHI	2021 HHI	Description
Los Banos, CA	2596	2037	Outlying area of Merced MSA
Manchester Area, GA	1763	2037	Outlying areas of Atlanta and Columbus, GA-AL MSAs
Truckee-Tahoe, CA-NV	2231	2012	Outlying areas of Sacramento and Reno MSAs, plus portion of non-metropolitan Nevada County, CA
Lincoln County, CO	2180	2012	Outlying area of Denver MSA plus rural Lincoln County and portion of rural Kit Carson County
Sunnyside, WA	1907	2001	Outlying areas of the Yakima and Kennewick-Richland MSAs
Tracy, CA	1624	1978	In Stockton-Lodi MSA
Palatka Area, FL	1634	1972	Outlying area of the Jacksonville MSA plus rural Putnam County
Tiffin-Fostoria, OH	1386	1960	Small outlying portion of the Toledo MSA plus rural Seneca County, OH
Ellis County, TX	2214	1929	Outlying area of Dallas-Fort Worth-Arlington MSA
Temecula, CA	1079	1916	Outyling area in Riverside-San Bernardino-Ontario MSA
Salisbury, NC	2089	1915	Outlying area of Charlotte-Concord-Gastonia NC-SC MSA
Brigham City, UT	3391	1909	In Ogden-Clearfield MSA
Dover-Durham, NH-ME	2198	1908	Outlying areas of the Boston-Cambridge-Newton MA-NH and Portland ME MSAs
Carrollton Area, GA	1487	1813	Carroll and Haralson counties are outlying areas of Atlanta MSA; plus part of Cleburne county AL