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Banking Trends

Has the Banking Industry Become Too Concentrated?

By one key measure, the banking market has become highly concentrated, but other measures suggest a more nuanced story.

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The views expressed in this article are not necessarily those of the Federal Reserve.

Nearly 40 years of bank mergers has created several giant organizations with assets between $250 billion and $4 trillion. Meanwhile, the number of separate banking organizations and thrifts has fallen from more than 20,000 to around 5,000.[1] Some policymakers worry that this trend has gone too far, and, if left unchecked, will result in limited choices for consumers and monopoly power for providers. But gauging this market concentration depends on which bank product you look at. Although deposits have become more concentrated since 2000, home mortgages and small-business loans have become less concentrated since 2010. In this article, I examine how–and why–some bank products have become more concentrated while others have become less so. My findings suggest that deposits are no longer an adequate proxy for all of a bank's products and services.

Deposit Markets Have Grown More Concentrated

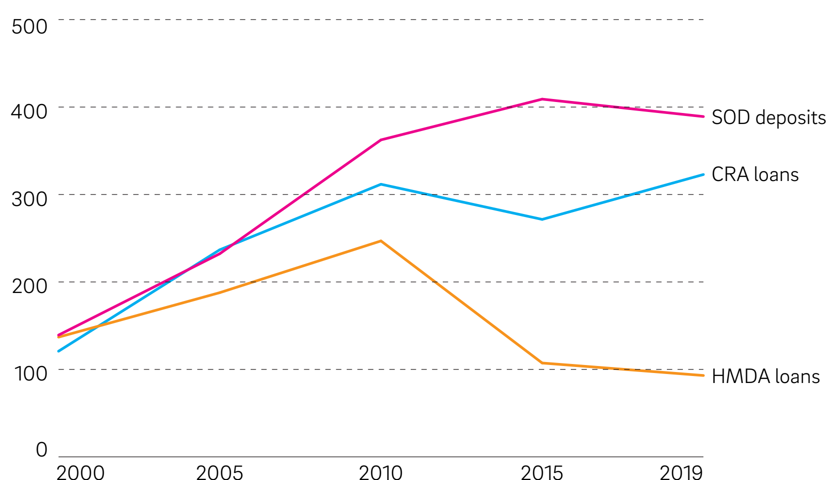
Early in this century, deposits, which regulators use as a proxy for all banking products and services, became substantially more concentrated in fewer banks at both the national and local levels. At the national level, one key measure of market concentration, the Hirschman-Herfindahl Index (HHI) of deposits, increased from 139 in 2000 to 409 in 2015 (Figure 1).[2] Since 2015, deposits have become only modestly less concentrated, with the HHI decreasing just 20 points, to 389 as of 2019.[3]

FIGURE 1

Deposits Became More Concentrated Until 2015

Loans, however, show different trends.

Hirschman–Herfindahl Index (HHI) of market concentration, 2000–2019, for Summary of Deposits, Home Mortgage Disclosure Act loans, and Community Reinvestment Act (i.e., small-business) loans



Source: FDIC Summary of Deposits data, FFIEC HMDA data, FFIEC CRA Small Business Loan data.

Hirschman–Herfindahl Index

The Hirschman–Herfindahl Index (HHI) is the sum of squared market shares of all firms in the market (HHI=∑MS²). A market's HHI can vary between almost zero for a perfectly competitive market and 10,000 for a monopoly.

See ***Data Sources.***

See ***A (Very) Brief History of Bank Antitrust.***

However, banking markets are, to a large extent, local, so I also examined the 34 largest metropolitan statistical areas (MSAs) to get a more accurate sense of market concentration.[4] I find that many of these national trends are also true for the 34 large MSAs. Among the 34 MSAs, the average number of firms decreased from 92 in 2000 to 70 in 2019, while the mean HHI of deposits increased from 1,279 to 1,719 (Figure 2). Thus, according to Department of Justice antitrust guidelines, the average MSA was unconcentrated in 2000 but is now moderately concentrated.[5] This increase in the HHI is comparable to the increase that would result from one or two large in-town mergers.

Responding to these trends, some politicians argue that banking markets have become less competitive. These policymakers worry that greater concentration is associated with higher loan rates and reduced availability of services, especially for households and small businesses. Last year, one such policymaker, Senate Banking Committee Chair Sherrod Brown (D-OH), argued that banking market consolidation "has enriched big bank shareholders and executives, buoyed by record bank profits. But their gains have come at the expense of consumers and small businesses with less access to low-cost financial services."[6]

Things Look Different for Loans

However, under traditional banking antitrust policy, bank deposits are merely a proxy for a cluster of services and products offered by banks, and each of the other services and products may have a different level of concentration. Notably, the markets for small-business loans and home mortgages tell a different story.[7]

Nationally, the HHI for home mortgages increased from 137 in 2000 to 247 in 2010, but it fell sharply to 93 as of 2019 (Figure 1).[8] The MSA sample follows much the same pattern. Among our sample of MSAs, the mean HHI for home mortgages rose from 294 in 2005 to a peak of 415 in 2010 before falling to 220 in 2019 (Figure 2).

Although the trend in small-business loans looks similar to the trend in deposits nationally (Figure 1), the story is different locally—and most small-business lending is still local.[9] The mean HHI for small-business lending in the 34 MSAs increased from 994 in 2000 to a peak of 1,207 in 2010 (Figure 2), but it then fell to 711 in 2019. Among the 34 MSAs, the concentration of both small-business lending and home mortgages was lower in 2019 than it was at the start of the century.

Why Is Loan Concentration Falling in These Markets?

Regulatory factors explain some of the decline in the concentration of home mortgages and small-business loans, as do factors peculiar to each market.

Dodd-Frank's Effect on Market Concentration

The Dodd-Frank Wall Street Reform and Consumer Protection Act, enacted in 2010 in response to the financial crisis and bank bailouts, contributed to reversing concentration in both these markets by imposing higher capital requirements, instituting stress tests, and limiting the growth of large banks. These regulatory changes would most affect those assets, notably small-business loans and home mortgages, for which large banks have the smallest competitive advantage over nonbanks and small banks. The higher lending costs for large banks opened the door for nonbanks and small banks to expand their market share, thus decreasing overall market concentration. A closer look at Dodd-Frank explains why.

First, under Dodd-Frank, a bank that originates a loan and keeps it on its books (rather than selling it)

must hold additional capital, which makes it more expensive for the bank to make and keep loans. Second, the largest banks (34 banks as of 2023) were made subject to the Comprehensive Capital Analysis and Review (CCAR)—also known as the stress test. The CCAR requires each tested bank to determine its expected losses under very stressful economic conditions. To pass the test, the bank's capital must be high enough for the bank to remain well capitalized under these conditions. This often becomes the bank's binding capital requirement. This higher capital requirement reduces the largest banks' competitive advantage by increasing their costs relative to their nonbank and small-bank competitors. And third, Dodd-Frank imposed national caps of 10 percent on both assets and liabilities of any banking organization. Any organization above those caps could not make any acquisitions beyond de minimus transactions, thereby limiting the largest banks' ability to compete in loan markets. The data suggest that these three reforms reversed some of the asset concentration seen before 2010: Prior to Dodd-Frank, national asset concentration had been increasing steadily, but its pace of concentration subsequently slowed (Figure 3).

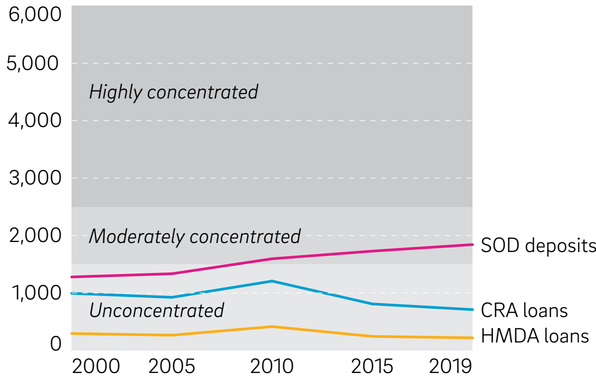
We can attribute much of this leveling off to the behavior of the largest banks. Before 2010, three of the largest banks—

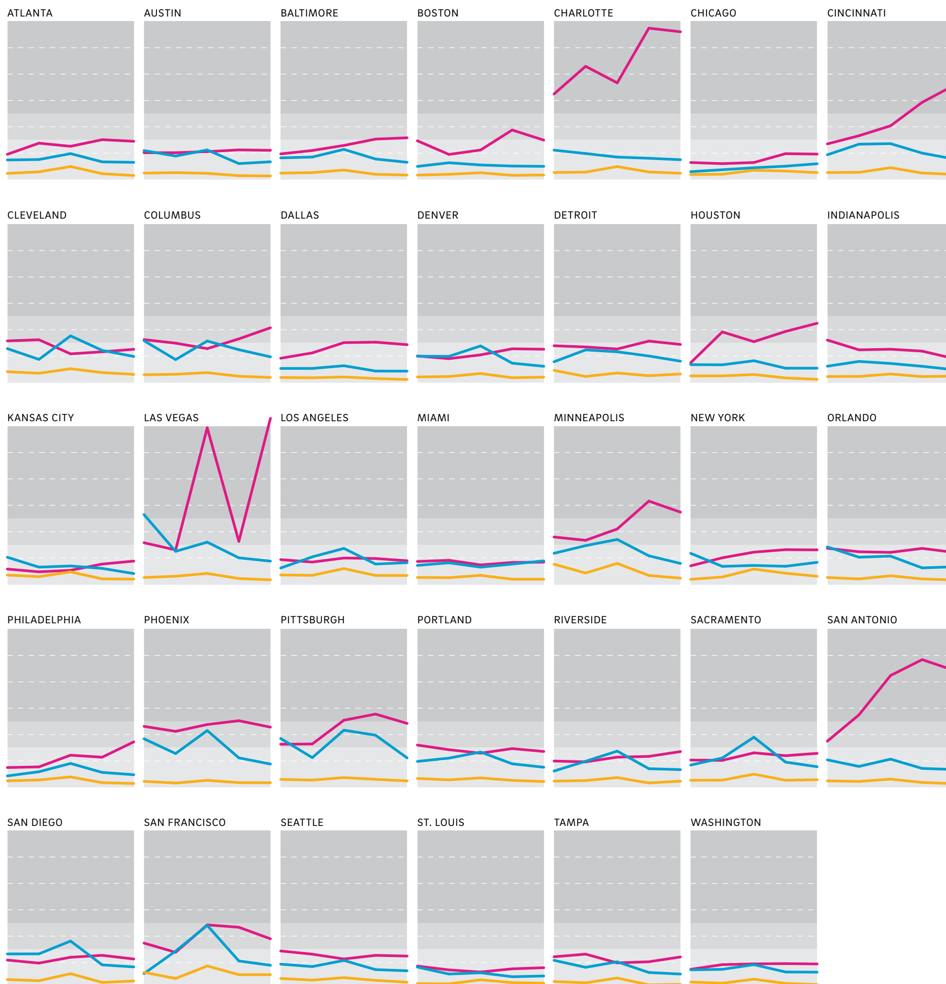
FIGURE 2

Deposits Became Even More Concentrated at the Local Level

But again, loans show different trends.

Mean Hirschman-Herfindahl Index (HHI) of market concentration in the 34 largest metropolitan statistical areas (MSAs), 2000–2019, for Summary of Deposits, Home Mortgage Disclosure Act loans, and Community Reinvestment Act (i.e., small-business) loans





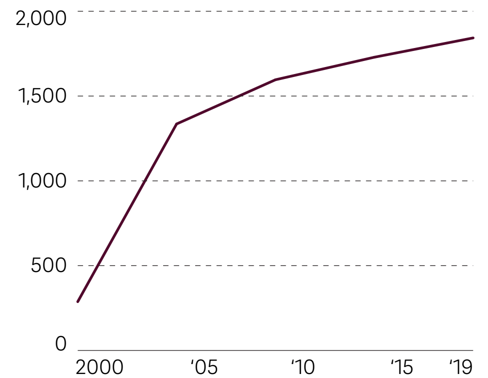
Source: FDIC Summary of Deposits data, FFIEC HMDA data, FFIEC CRA Small Business Loan data.

FIGURE 3

National Asset Concentration Was Increasing Strongly Prior to Dodd-Frank

Thereafter, the pace of concentration has decreased.

Hirschman–Herfindahl Index (HHI) of assets, 2000–19



Source: FFIEC Call Reports, Federal Reserve FRY-9C data.

Bank of America, JPMorgan Chase, and Citigroup—dramatically increased in size, primarily due to mergers and acquisitions, such that all three were well above Dodd-Frank's 10 percent cap on assets as of 2010, with asset market shares of 13.8, 11.7, and 11.2 percent, respectively.[10]

After Dodd-Frank, these three organizations could grow only organically rather than by acquisitions. As a result, their growth slowed considerably, and their combined asset share shrank 1.45 percentage points, to 35.25 percent. With less room to grow, these banks eased out of those assets, including small-business loans and home mortgages, for which they had a smaller competitive advantage.

Nonbanks, Small Banks, and Home Mortgages

Nonbank mortgage originators, unlike banks, are not subject to Dodd-Frank regulations, and thus do not face capital requirements or stress tests, so they have been able to expand their lending at the expense of large banks. In 2000, banks and thrifts originated over 70 percent of all home mortgage loans (Figure 4).[11] By 2019, they originated only about 42 percent.[12] In terms of absolute lending, banking organizations increased their lending by only 30.5 percent between 2000 and 2019, while nonbank lending more than quadrupled. Because concentration is historically lower among nonbanks, an increase in nonbanks' market share reduces overall market concentration (Figure 5). Meanwhile, smaller banks, which are less affected by Dodd-Frank, have also increased their market share. This growth in the share of lending done by nonbanks and small banks helps explain the overall decline in home asset concentration since 2010.

Apart from the effects of capital regulations, researchers have found another reason for nonbanks' expansion of market share: A significant share of nonbank mortgage lending is made by fintech firms, which use new technologies to compete with more traditional financial-services companies. A number of researchers have found that fintechs provide higher-quality products in terms of both speed and convenience.[13] Indeed, University of Wisconsin professor of finance Dean Corbae and his coauthors argue that higher-quality products have been even more important than lower regulatory requirements in explaining nonbanks' rising market share.

Competition in the Small-Business Loan Market

Although nonbanks' increasing market share contributed heavily to the decrease in the concentration of home mortgage lending, it can't account for the decline in the concentration of small-business lending, because only depository institutions are required to report small-business loans under the Community Reinvestment Act (CRA). To evaluate small-business loan concentration, we have to take a closer look at changes in the distribution of small-business loans among bank lenders.

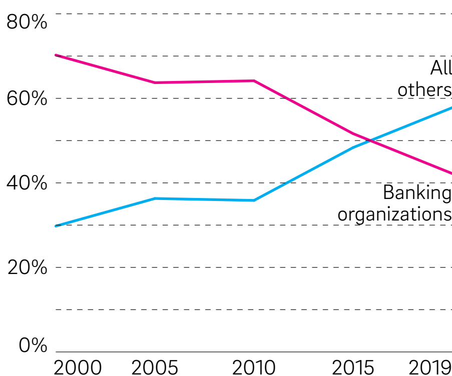
There is evidence that small commercial real estate (CRE) loans shifted to smaller banks (that is, banks with less than $50 billion in assets) between 2015 and 2019. (CRE loans make up a large share of business loans at smaller banks.) Smaller banks already dominate that market, and from 2015 to 2019 their share of small CRE loans increased from 76.7 to 80.8 percent (Figure 6).[14] Researchers have found evidence that the Dodd-Frank stress tests have reduced small-business lending by large banks and that this lending has been taken up by smaller competitors, further strengthening the significance of the trend in CRE lending.[15]

But there is another explanation for declining market concentration in small-business lending: Many out-of-market competitors

FIGURE 4

Banks and Thrifts Have Lost Home-Mortgage Market Share

Percent of home mortgages reported under the Home Mortgage Disclosure Act, 2000–2019, banks versus nonbanks



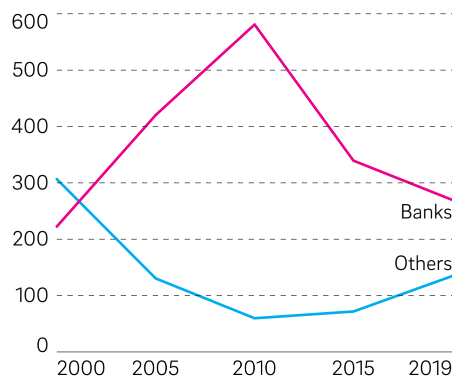
Source: FFIEC HMDA data.

FIGURE 5

The Home Mortgage Market Has Become Less Concentrated

Bank mortgage lending has become less concentrated and nonbank mortgage lending remains unconcentrated.

Hirschman–Herfindahl Index (HHI) of market concentration, 2000–2019, Home Mortgage Disclosure Act loans, banks versus nonbanks

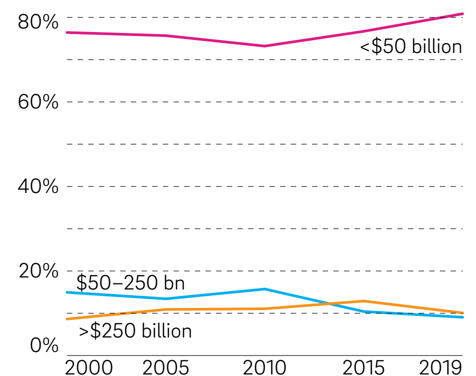


Source: FFIEC HMDA data.

FIGURE 6

After 2015, Small Banks Further Increased Their Hefty Share of Small-Business Loans

Percentage of small-business commercial real estate (CRE) loans by bank assets, 2000–2019

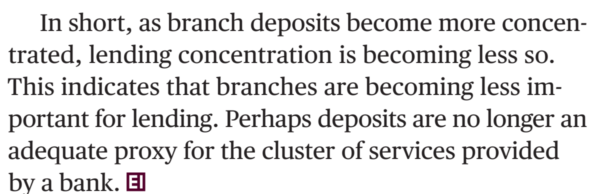


Source: FFIEC Call Reports, Federal Reserve FR-Y9C data.

(that is, competitors without a local branch) operate in small-business-lending markets—especially the market for business credit cards—and that number is increasing. In our sample of MSAs, the mean number of lenders reporting loans in areas where they have no deposits increased from 79 in 2010 to 124 in 2019. These lenders' combined market share increased from 12.8 to 26.4 percent (Figure 7).[16] My previous *Economic Insights* article and other research show that a substantial share of out-of-market lending was due to business credit cards.[17] Because these out-of-market competitors are operating in markets where they have no deposits, their lending activity runs counter to the trend of increasing deposits concentration.

Conclusion

There is no universal trend toward increasing concentration. While deposits concentration increased substantially, none of these markets were concentrated by any traditional measures as of 2019, and they were not trending that way. Market entry, not increasing concentration, explains these trends. In mortgage lending, nonbanks have become major players. Meanwhile, small banks are still important providers of small-business loans, and lenders without a local branch or office have increased their share of small-business loans.[18]

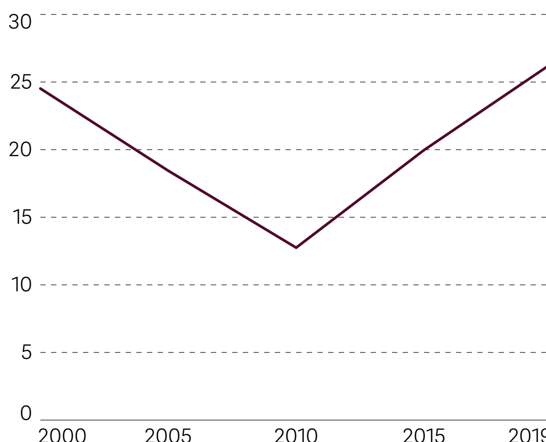


In short, as branch deposits become more concentrated, lending concentration is becoming less so. This indicates that branches are becoming less important for lending. Perhaps deposits are no longer an adequate proxy for the cluster of services provided by a bank. EI

FIGURE 7

Out-of-Market Lenders Have Expanded Their Presence in Small-Business Lending Since 2010

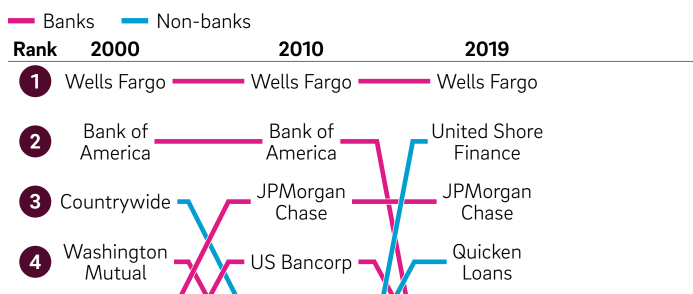
Market share (percentage) of out-of-market small-business lenders, top 34 metropolitan statistical areas, 2000–2019



Source: FFIEC CRA Small Business Loan data, FDIC Summary of Deposits data.

FIGURE 8

Top Four Mortgage Lenders



Source: FFIEC HMDA data.

Data Sources

The data used in this paper come from four sources: the Federal Deposit Insurance Corporation's (FDIC's) Summary of Deposits (SOD), the Federal Financial Institutions Examination Council's (FFIEC's) Home Mortgage Disclosure Act (HMDA) data, the FFIEC's Reports of Condition (Call Reports), and the FFIEC's Community Reinvestment Act (CRA) Small Business Loan data. Whenever possible, subsidiaries of the same bank holding or financial holding company are counted as one institution.

SOD data are data on deposits at all bank branches. These data are collected annually by the FDIC. These data cover banks, thrifts, and insured branches of foreign banks. For more information, see *Summary of Deposits Reporting Instructions* (2020).

HMDA data are data on mortgage and other home loan applications. These data are collected annually by the FFIEC. In addition to banks, thrifts, and credit unions, these data come from any other company that made at least 25 mortgages in the reporting year. I include only originations on home-purchase loans. For more information, see the FFIEC's *Home Mortgage Disclosure Act Main Page* (2022).

CRA data are county-level data by institution on loans to small businesses and farms. These loans are made or purchased by banks and thrifts, and these data are collected annually by the FFIEC. These data cover just about every bank and thrift with assets greater than $250 million. I use only business loans. For further information, see *A Guide to CRA Data Collection and Reporting* (2001).

The Call Reports provide quarterly balance sheet data for all U.S. banks and thrifts.

A (Very) Brief History of Banking Antitrust

In 1960, Congress enacted the Bank Merger Act, which made banking regulators responsible for assessing the effects on competition of any bank merger or bank holding company acquisition. In other words, the act applied antitrust laws, specifically the Sherman Act (1890) and the Clayton Act (1914), to bank mergers. Under the Bank Merger Act, bank regulators must define a specific line of commerce (the product market) and an area of the country (the geographic market) that will be affected by the merger.

Shortly thereafter, the Supreme Court laid out a framework for applying the Bank Merger Act in its landmark case, U.S. v. Philadelphia National Bank (1963). The court's major findings were (1) banking represented a unique industry whose product market was defined by a "cluster" of products and services,[19] and (2) the geographic market was local (in this case, the Philadelphia metropolitan area). Subsequent court cases refined but did not substantially alter the findings of the PNB case.

Since then, bank regulators have defined the product market for banking as the cluster. Rather than examining each individual product, deposits are used as a proxy. The geographic market is the local area, mainly counties for rural areas or some definition of a metropolitan area, such as the metropolitan statistical area for more urban areas.

Notes

1 See Berger, Kashyap, and Scalise (1995), and Berger, Demirgüç-Kunt, Levine, and Haubrich (2004).

2 The Department of Justice and other antitrust enforcers define a market as unconcentrated if its HHI is less than 1,500, moderately concentrated if its HHI is between 1,500 and 2,500, and highly concentrated if its HHI exceeds 2,500. These thresholds are somewhat arbitrary and serve mainly as guidelines. When a merger results in a market moving to a higher concentration category, it may receive more scrutiny depending on the size of the increase in the HHI and other factors unique to that particular market.

3 Nonetheless, the number of institutions has continued to decrease, from 8,682 in 2000 to 5,194 in 2019.

4 Each MSA has a population of at least 2 million people. I selected MSAs based on 2020 Census population numbers. These 34 MSAs represent 48 percent of the population and between 50 and 60 percent of the banking activity as measured by deposits, mortgages, and small-business loans.

5 The increase in concentration is larger at the national level than at the local level. Indeed, even with the decline in the number of banks nationally, some MSAs are being served by more institutions. Increases in concentration have been tempered locally by out-of-market banks opening local branches, and by smaller in-market competitors expanding their branch networks in response to larger banks acquiring other in-market banks and closing their branches. These trends are not new and have been documented by Berger, Kashyap, and Scalise (1995) and Berger, Demirgüç-Kunt, Levine, and Haubrich (2004).

6 Brown (2022).

7 Loan volumes for mortgages and business loans are flow variables, i.e., they measure increases or decreases over time, while deposits are a stock variable, i.e., a snapshot of the level at each point in time.

8 For HMDA data, only originations of home purchase loans are included.

9 See Adams, Brevoort, and Driscoll (2020).

10 In fact, there were four megabanks as of 2010: JPMorgan Chase, Bank of America, Wells Fargo, and Citigroup. Together, these four banks increased their market share from 27.5 percent in 2000 to 43.8 percent in 2010. However, Wells Fargo didn't become a megabank until after several post-2000 mergers, most notably its acquisition of Wachovia in 2008.

11 Here, banks are defined as commercial banks, savings banks, and savings associations, as well as their subsidiaries and affiliates.

12 To measure market concentration, regulators and researchers also use the CR-4—that is, the combined market share of the four largest firms. The CR-4 for home mortgages confirms my findings. Before 2010, the four largest mortgage lenders were always banks or their affiliates. By 2019, the shares of the largest banks had dropped substantially, and two nonbanks were among the largest lenders (Figure 8).

13 See Corbae, D'Erasmo, and Liu (forthcoming), and Fuster, Plosser, Schnabl, and Vickery (2019).

14 Asset sizes are in constant (2019) dollars.

15 See Yu (2020) for an account of the evidence of stress tests' effects on small-business lending.

16 Banks with assets under $250 million don't report CRA data. The vast majority of these banks are likely in-market banks.

17 See DiSalvo (2021) and Adams, Brevoort, and Driscoll (2020).

18 This suggests that, with more out-of-market competitors making loans, small-business lending is becoming more than a strictly regional market.

19 The "cluster" consists of unsecured personal and business loans; mortgage loans; loans secured by securities or accounts receivable; au-

tomobile installment loans; personal installment loans; tuition financing; credit cards; revolving credit funds; demand deposits of individuals, partnerships, corporations, and government agencies; time and savings deposits; estate and trust planning; trusteeship services; lock boxes; safety-deposit boxes; account reconciliation services; acceptances and letters of credit; correspondent services; and investment advice.

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