LUMOS

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SBA DEFAULTS ANALYSIS

RESEARCH REPORT

Key Insights on Small Business Loan Performance and Emerging Risks

PREPARED BY :

Lumos Data

Lumos provides financial institutions with powerful small business credit decisioning models powered by rich, curated data and decades of financial institution literacy at the heart of it all.

Synopsis

With this analysis, Lumos aims to investigate the following key aspects of small business loan performance:

- Pandemic Stimulus Impact: Determine if 2024 saw a surge in defaults due to the delayed effects of pandemic stimulus, particularly for loans originated in FY 2018 and FY 2019.
- Recent Loan Risk: Evaluate whether FY 2023 and FY 2024 loan originations are inherently riskier than those from previous years.
- Lender Type and Risk: Investigate if specific lender types (e.g., nonbanks) contributed to riskier loans in FY 2023 and FY 2024, and if their increased SBA participation is linked to higher default rates.
- Program Modification Effects: Assess if SBA program changes implemented on August 1, 2024, have increased credit risk for loans under $500,000.
- Interest Rate Impact: Quantify how the rising Prime rate has affected default rates due to increased debt service payments for small businesses.

Lumos' analysis of SBA loan data from 2018, 2022, and 2024, simulated using the Lumos Portfolio Score (LPS) risk model, reveals several key findings.

Firstly, FY 2024 loans exhibit a higher inherent default risk compared to prior years, supporting the notion that SBA program changes contributed to riskier lending policies and increased default risk.

Secondly, the analysis supports the hypothesis that pandemic-era stimulus artificially suppressed default rates, with 2023 and 2024 representing a "catch-up" period as loans revealed their credit performance, albeit delayed.

Elevated 2024 default risks are also linked to rising interest rates. Notably, nonbank lenders maintained a consistent risk profile compared to previous years, banks and credit unions originated riskier loans in FY 2024 relative to their originations in prior years.

Furthermore, increased credit performance variability for established businesses and higher default rates for loans between $25 thousand and $350 thousand to these businesses suggest a specific area of increased risk.

> **The increase in SBA loan defaults in 2024 isn't a simple issue. It is a mixture of policy shifts, stimulus aftermath, rising rates, and macroeconomic conditions demanding a comprehensive analysis.**

Introduction

The Small Business Administration's (SBA) flagship program has helped lenders extend credit to over 700 thousand small business loans since FY 2010, amounting to just over $300 billion and supporting nearly 8 million jobs. The success of small businesses that have utilized the program significantly contributes to the dynamism of the United States economy.

As the credit elsewhere analysis applies to lending within the SBA program, small business owners and employees benefiting from the program would not have been able to start or acquire a business, nor maintain operations, due to the unavailability of financing on reasonable terms from non-federal sources. Like non-government-supported lending, SBA credit performance is influenced by the macroeconomic environment, lender-specific parameters, and characteristics unique to the borrowing entity, among others.

Additionally, credit extended as part of the SBA program is affected by SBA policy and procedural guidelines. With all these factors in play, it is important to understand the extent to which each may favorably or unfavorably impact credit performance.

Of particular interest is the recent increase in default rates on SBA loans during FY 2024, which has deteriorated to an annualized rate not seen since the early recovery period following the 2008-2009 financial crisis.

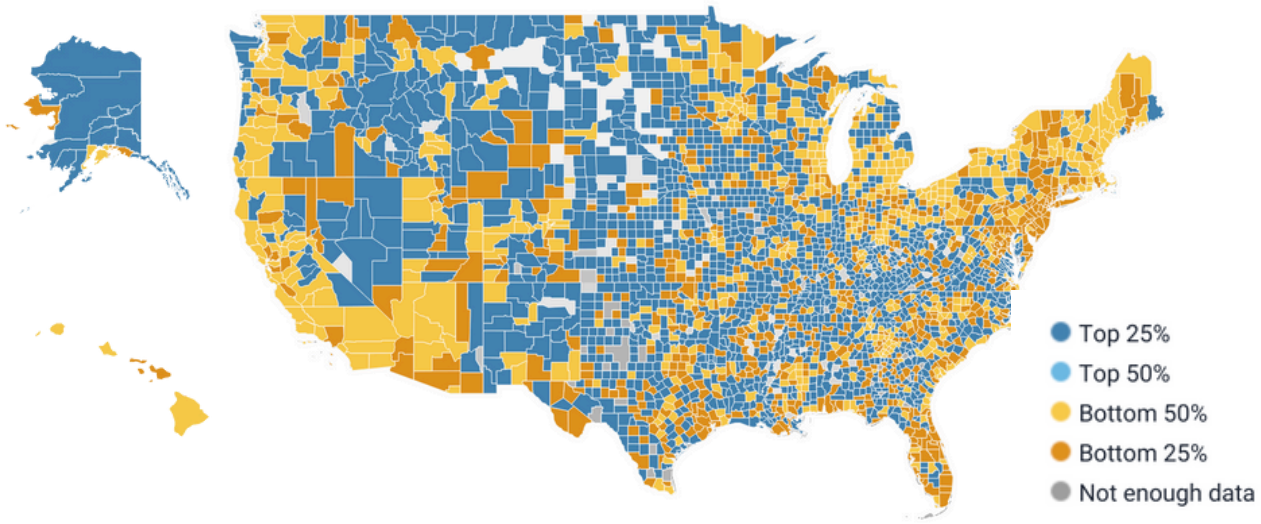
Importantly, the SBA program has operated as a zero-subsidy program, meaning it has been self-sustaining through fees from lenders and borrowers.

The timing and magnitude of default rates impact the consideration of fees to ensure any taxpayer burden is minimized. This paper examines the reasons behind the increase in default rates seen in 2024 by testing five mutually inclusive hypotheses using a combination of comparative data analysis and risk simulation experiments with a predictive credit risk model.

Objectives

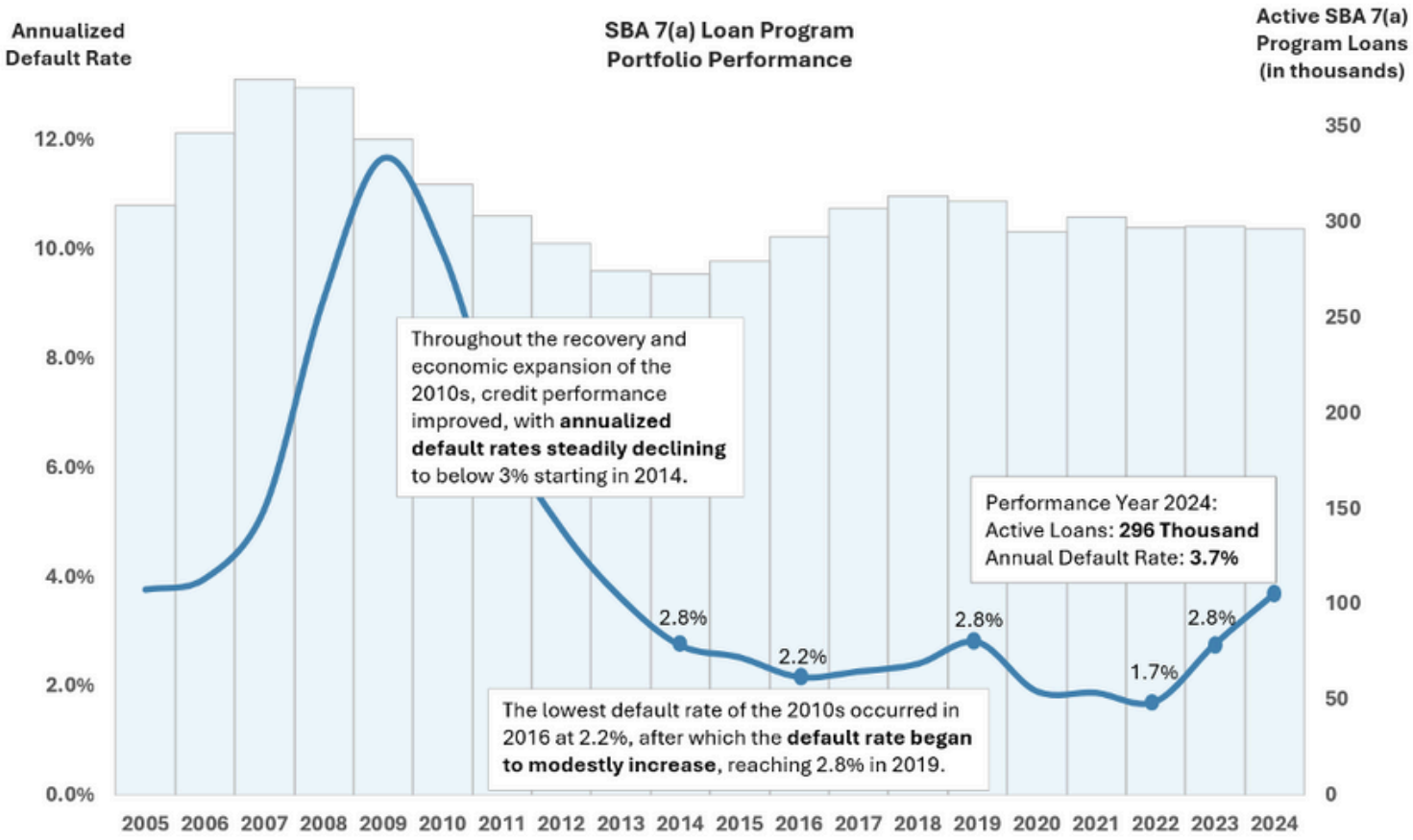
We formulated 5 objectives for our analysis, stated below:

- Determine whether 2024 was a catch-up period for defaults delayed by the benefit of pandemic stimulus, especially for small business loan originated in FY 2018 and FY 2019.
- Evaluate whether loan originations in FY 2023 and FY 2024 are uncharacteristically riskier compared to prior vintage years.
- Investigate whether riskier loans were originated by each lender type in FY 2023 and FY 2024 and if the higher default rates are a result of nonbanks increasing their participation in the SBA program.
- Evaluate whether the modifications to the SBA program beginning August 1, 2024, have led to an increased credit risk for loans under $500 thousand.
- Quantify the impact of the increase in the Prime rate on default rates due to small businesses having higher debt service payments.



Source: Lumos Data Dashboard representing Historical Defaults (%) by County for Loan originated in year '23-'24

Background



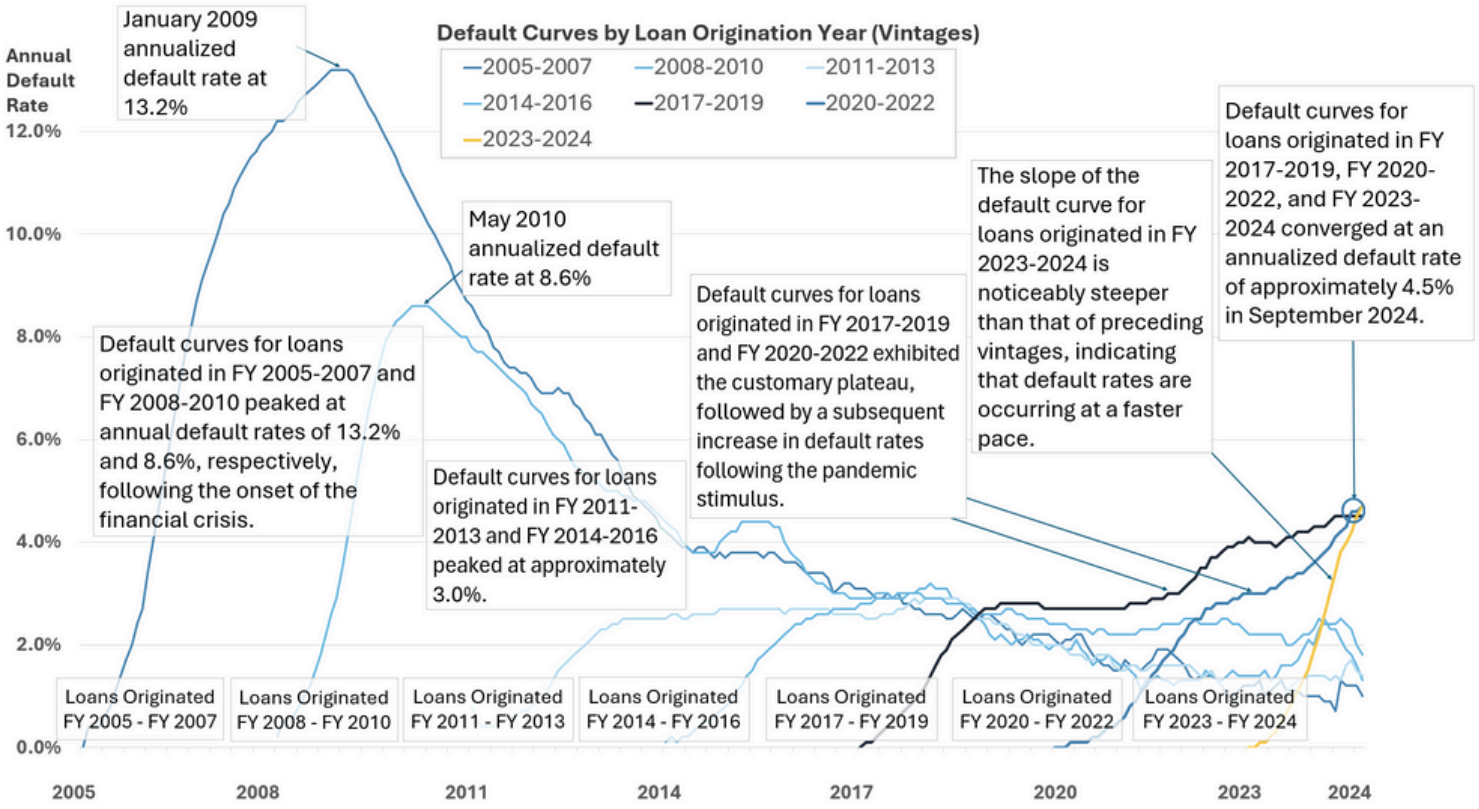
The financial crisis that began in 2008 resulted in the weakest performance of SBA program loans, with the annualized default rate of the active portfolio peaking at 11.7% in 2009.

The increasing trend in annual default rates from 2016 to 2019 (2.2% to 2.8%) reversed during the performance years from 2020 to 2022, with default rates improving to 1.7% annually in 2022 before returning to the 2019 annual rate of 2.8% again in 2023 and accelerating to a 3.7% default rate for 2024, the highest annual default rate since 2012.

Annual default rates for loans originated in FY 2005-2010 peaked at an average of approximately 11% following the financial crisis, while those for FY 2011-2016 peaked at around 3.0%.

Loans from FY 2017-2022 exhibited the customary default rate plateau, then began to increase again following the pandemic stimulus. The slope of the default curve for FY 2023-2024 loans is noticeably steeper, showing a faster pace of default rates.

By September 2024, annualized default rates for each cohort of loans originated during FY 2017-2024 have converged at approximately 4.5%.



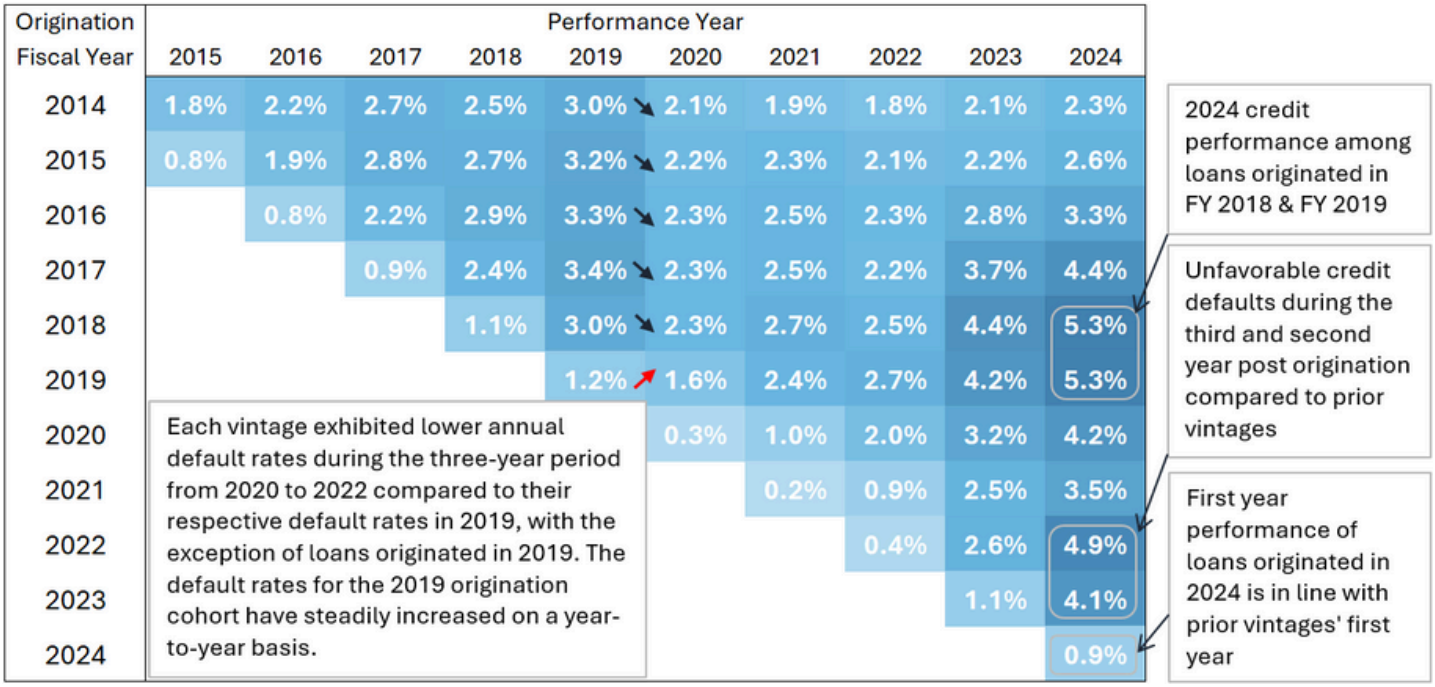
Loan Vintage Analysis

An analysis of loan cohorts reveals the contribution of loans originated each fiscal year (vintages) to the default rate in 2024. The increase in the annual default rate was highest for loans originated in FY 2018 and FY 2019, with default rates for those vintages each at 5.3%.

Focusing on more recent vintages, small business loans originated in FY 2021 experienced a default rate of 3.5% in performance year 2024, marking the highest default rate during the fourth year of performance.

Similarly, loans originated in vintage years 2022 and 2023 showed the highest default rates during the third year and second year of performance, at 4.9% and 4.1%, respectively.

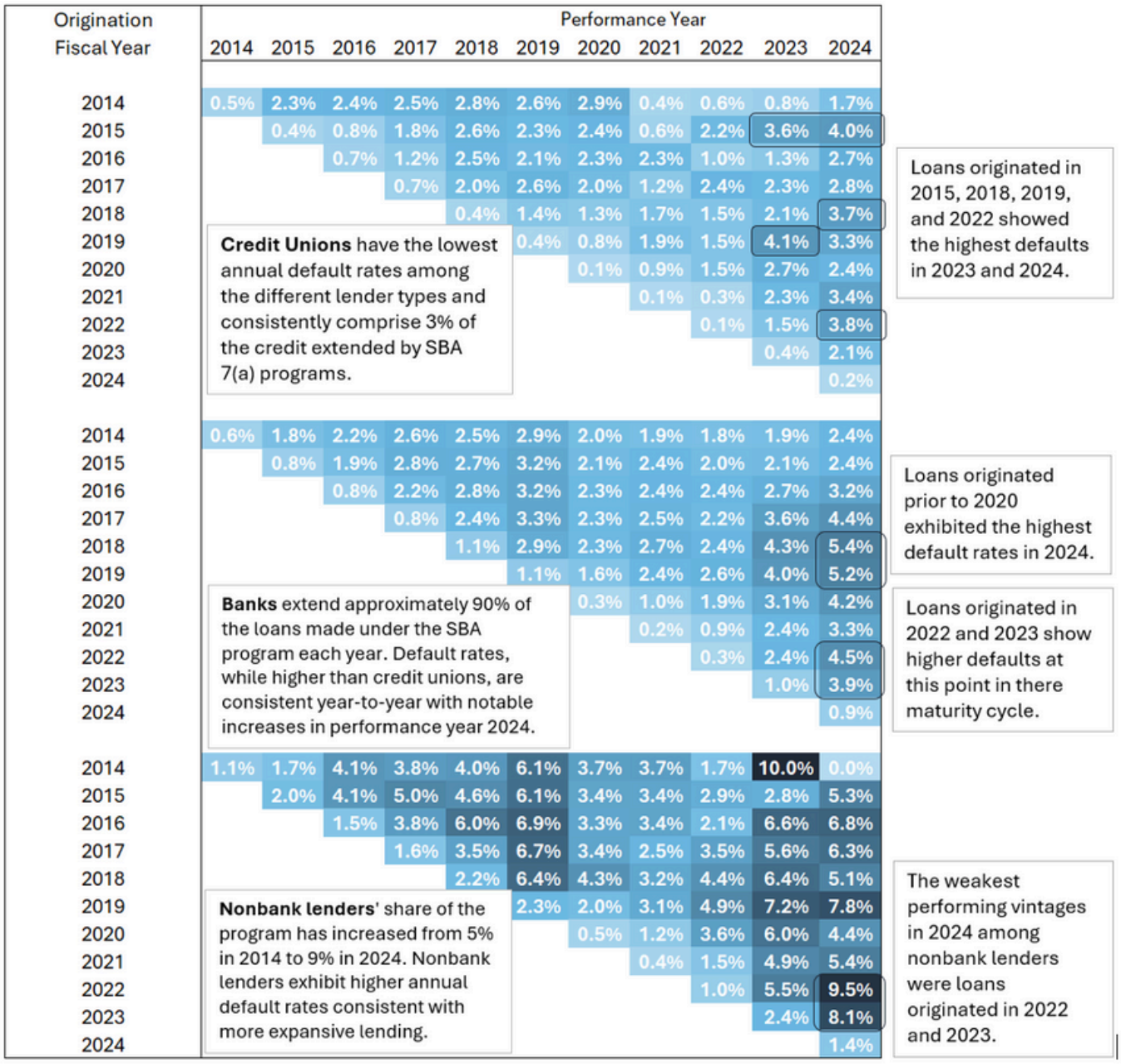
The first performance year for loans originated in 2024 demonstrated a default rate characteristic of the first year of credit performance observed in prior vintages.



Lender Type and Vintage Analysis

Extending credit to small businesses under the SBA 7(a) program can be performed by depository institutions (e.g., credit unions and banks) and non-depository institutions (e.g., nonbank lenders). While each lender type works within the procedural parameters established by the SBA, the credit risk profile and borrower type vary among the different types of institutions.

> Leveraging our advanced LPS risk model and rigorous loan simulations across multiple years, we've dissected the complex factors driving SBA loan defaults to pinpoint the true impact of policy shifts, economic headwinds, and lender risk tolerances.



Additionally, due to the relative number of each type of institution participating in the SBA program, the impact of participation (via loan count originated) varies by lender type, with banks typically responsible for over 90% of the credit extension each year by both aggregate loan count and amount.

From 2014 through 2024, 558 thousand small business loans were originated utilizing SBA 7(a) programs. Banks, credit unions, and nonbank lenders generated 92.3%, 2.8%, and 4.9% of these originations, respectively. Notably, nonbank lenders have increased their share of annual originations from 2.3% of the program in 2014 to 6.1% in 2023 and 9.2% in 2024, while banks' share has declined from 94.5% in 2014 to 88.4% in 2024. Credit unions have consistently maintained approximately 3.0% of the program's loans each year.

The performance of loans originated in FY 2024, consistent across all lender types, exhibited a first-year default rate comparable to the first-year performance of earlier vintages. Furthermore, this represents an improvement over the first-year performance of loans originated in 2023.

Loan Amount and Vintage Analysis

Annually, over 2 million small businesses seek financing, with approximately 80% of these businesses looking for less than $250 thousand.[1] Smaller loans also carry a higher risk of default for the lender and are financially less efficient than larger loans.

To address this market need, SBA program changes in 2023 aimed to make lending in this market more efficient for lenders by changing requirements for the extension of credit for loan sizes less than $500 thousand. Notably, the number of loans with a note amount less than $500 thousand originated in 2024 reached a new high at more than 50 thousand, nearly 30% higher than 2023.

Comparatively, loans with a note amounts greater than $500 thousand in FY 2024 increased by 14% and 12% over 2022 and 2023, respectively.

Credit performance trends for loans less than $500 thousand are consistent with the previously discussed credit performance for the full program and lender types. Loans originated in FY 2018 and FY 2019 showed the weakest performance in 2024. Loans originated in FY 2022 and FY 2023 demonstrated the weakest performance in their third and second year of performance, respectively, compared to any other vintage year.

Additionally, loans originated in FY 2024 performed in line with the first-year performance of prior vintages.

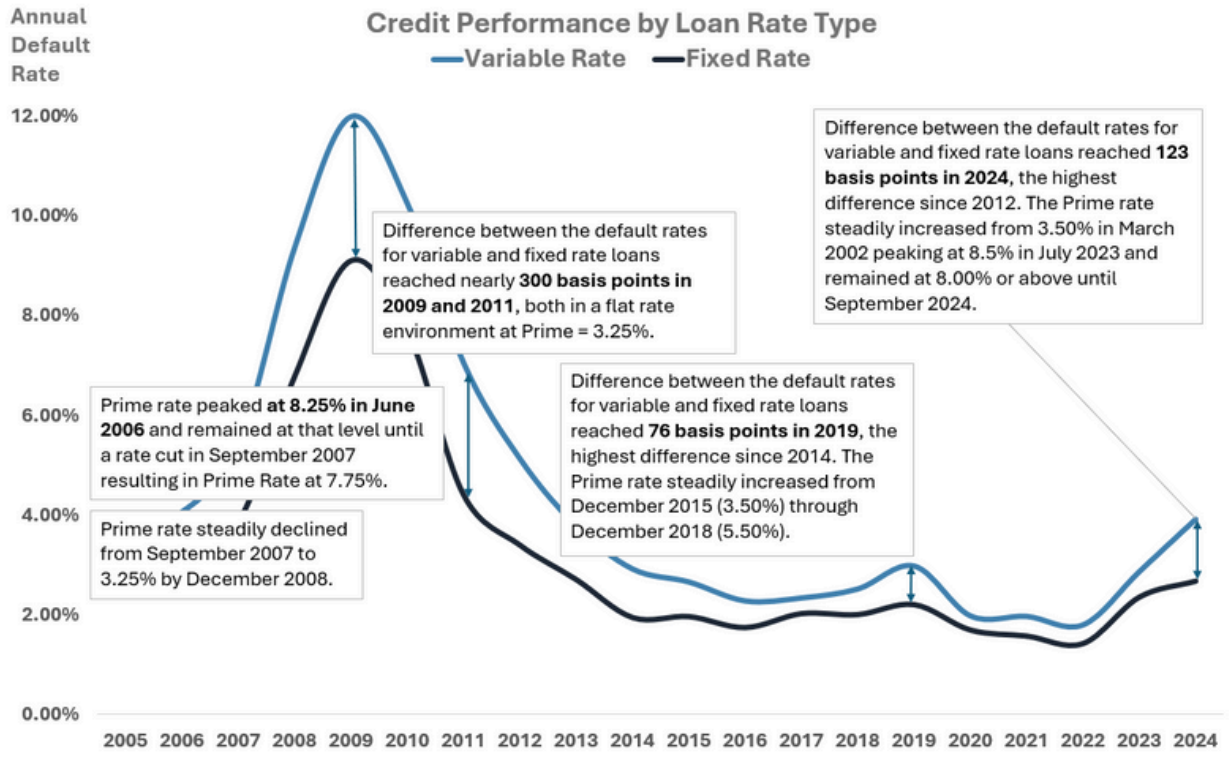
1. Source: 2024 Federal Reserve Small Business Credit Survey
https://www.fedsmallbusiness.org/reports/survey/2024/2024-report-on-employer-firms

Number of Loans Originated (000)	Origination Fiscal Year	Performance Year 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
37.2	2014	2.0%	2.4%	2.9%	2.6%	3.1%	2.2%	2.1%	1.8%	2.0%	2.0%
45.0	2015	0.9%	2.2%	3.1%	2.8%	3.3%	2.4%	2.8%	2.4%	2.7%	2.8%
45.9	2016		0.9%	2.5%	3.1%	3.4%	2.4%	2.8%	2.6%	3.2%	3.6%
44.5	2017			1.0%	2.6%	3.6%	2.6%	2.8%	2.6%	4.1%	4.8%
42.9	2018				1.2%	3.3%	2.5%	3.0%	2.7%	4.8%	6.0%
35.5	2019					1.2%	1.8%	2.7%	2.9%	4.5%	5.7%
26.7	2020						0.4%	1.2%	2.1%	3.5%	4.4%
29.0	2021							0.3%	1.0%	2.9%	3.9%
31.4	2022								0.4%	2.9%	5.2%
40.8	2023									1.2%	4.5%
52.8	2024										1.0%

The number of loans with note amounts less than $500,000 originated in 2024 increased by 68% compared to 2022 and 29% compared to 2023.

Loan Rate Structure

Typically, more than 80% of the active SBA loan portfolio consists of variable-rate loans. Most small businesses' ability to service debt is influenced by changes in the Federal Funds rate and, by extension, the Prime rate, which serves as the base rate for most SBA program loans.



Analysis

Considering the recent increase in loan default rates within the SBA program in 2024, a comprehensive analysis has been conducted to determine the factors contributing to elevated 2024 default rates. The following hypotheses outline the foundation for the analysis, grounded in historical data and empirical observations:

1. Loan Performance in FY 2018 and FY 2019: Loans originated in FY 2018 and FY 2019 demonstrated the poorest performance during 2024 compared to other vintage years. This analysis will assess the impact of pandemic stimulus on these loans and determine whether 2024 was a catch-up period for defaults delayed by the benefit of stimulus.

2. Higher Default Rates for FY 2023 and FY 2024: There is a clear trend of higher default rates for loans originated in FY 2023 and FY 2024 at the current stage of their life cycle compared to prior vintages. This analysis will evaluate whether loan originations in FY 2023 and FY 2024 are uncharacteristically riskier.

3. Credit Risk Profile of Lenders: Historically, nonbank lenders have permitted higher credit risk than banks and credit unions. This analysis will investigate whether riskier loans were originated by each lender type in FY 2023 and FY 2024 and if the higher default rates are a result of nonbanks increasing their participation in the SBA program.

4. Impact of SBA Program Changes: With the implementation of SBA program changes on August 1, 2023, it is crucial to evaluate whether these modifications have led to an increased credit risk for loans under $500 thousand.

5. Effect of Prime Rate Increase: The analysis will also quantify the impact of the increase in the Prime rate on default rates due to small businesses having higher debt service payments.

To test these hypotheses, we performed comparative analyses and ran a series of loan performance simulations using Lumos Portfolio Score (LPS), an advanced credit risk model that predicts the one-year probability of default of small business loans. LPS is a decision tree model that accounts for the macroeconomic environment, the interest rate environment, and various other characteristics including industry, geography, and loan structure.

> Our analysis reveals a confluence of factors – from SBA policy shifts and the echo of pandemic stimulus to surging interest rates – driving the FY2024 SBA loan default surge.

LPS simulation experiments were performed as follows:

- Step 1: A random sample of 5,000 loans originated during three different periods - FY 2018, FY 2022, and FY 2024 – was taken from the SBA loan data set for a total of 15,000 unique loans.

- Step 2: Each cohort of 5,000 loans was simulated by LPS as being originated in January 2018.

- Step 3: LPS predicted the one-year default probability each January thereafter to simulate annual defaults through FY 2024 to produce a default curve.

- Step 4: To control for changes in risk during a loan's life cycle, step 3 was repeated after originating each cohort of loans in January 2019, January 2020, and so on for each year until 2023.

To understand the risk profiles of different loan cohorts (2018, 2022, and 2024), LPS default risk predictions will be compared. Differences in these predictions will indicate differences in risk profiles. Crucially, this will help to identify if the 2023 SBA program changes led to increased risk (Hypotheses 2 and 4).

A simulation will be used to isolate the impact of the SBA changes. Each loan group (cohort) will be simulated as if they were all originated in 2018. This "2018 origination" simulation acts as a control, removing any inherent risk differences that might naturally exist between the loan groups. This allows for a determination whether the higher default rates in the 2024 loan group are truly due to 2023 SBA program changes or just the inherent nature of those 2024 loans.

The simulated runs also investigate the potential "catch-up" effect on default rates (Hypothesis 1). During the government stimulus period of 2020-2021, actual SBA default rates were artificially low. If the simulations show increased predicted default risk during this same stimulus period, it suggests that 2024 might be a "catch-up" year. In this "catch-up," default rates would rise to more accurately reflect underlying risk, after being suppressed by the stimulus.

Comparative analyses are used to further investigate hypotheses 3, 4, and 5 above. An increase in the fraction of SBA loans originated by nonbank lenders in 2023 and 2024 in combination with continued evidence of elevated default risk in these loans relative to those originated by banks will support Hypothesis 3. Finally, an increase in the difference in default rates between variable and fixed rate loans in 2024 will further support Hypothesis 5.

Results

With credit performance of each cohort simulated by LPS, Figure 1 shows the mean probability of default across the three cohorts of loans:

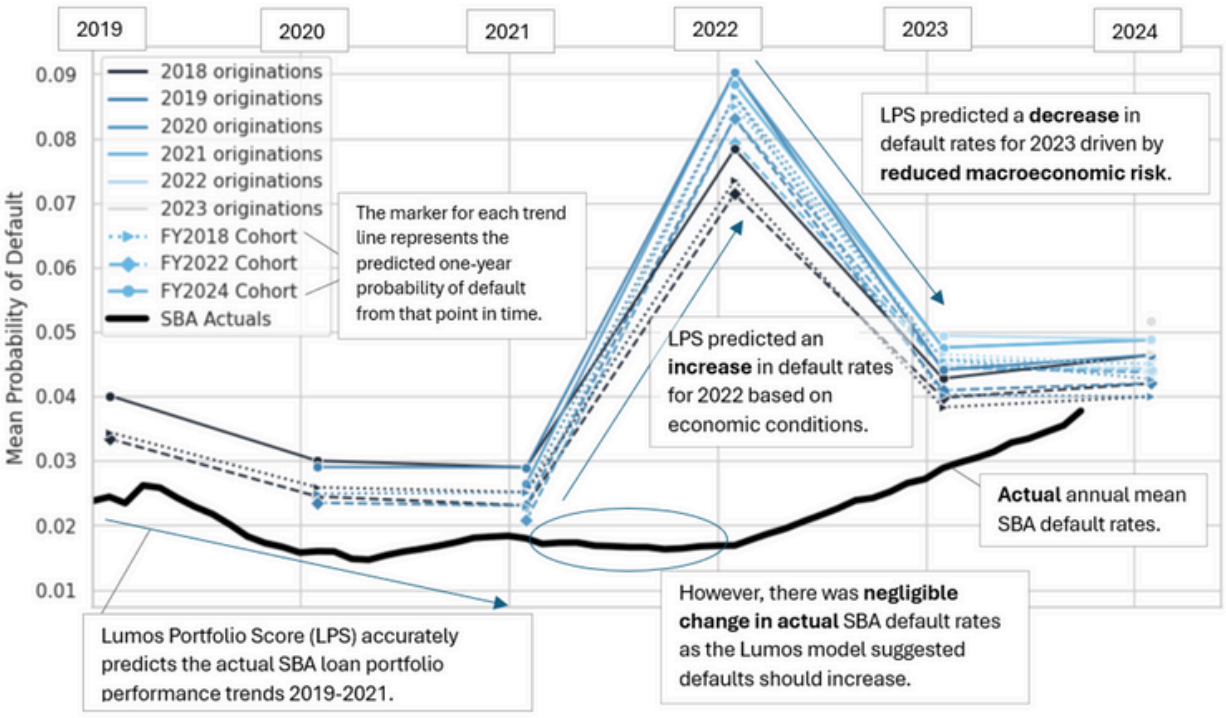
- Loans originated in FY 2018 as a dotted line,
- Loans originated in FY 2022 as a dashed line, and
- Loans originated in FY 2024 as a solid line.

The results of LPS simulation experiments in Figure 1 showed that the FY 2024 loan cohort (solid lines) had consistently higher predicted default risk than the other two cohorts (dotted and dashed lines) for nearly all simulated origination and LPS scoring dates. This indicates that loans originated in 2024 carry higher inherent default risk than loans originated in 2018 or 2022.

Overall, these results support hypotheses 2 and 4 that changes in SBA regulations have contributed to the adoption of riskier credit policies by lenders and an increase in default risk for newly originated SBA loans, which in turn, contributes to elevated 2024 default rates.

Comparison between the results of LPS simulation experiments and actual SBA default rates in Figure 1 also supports the hypothesis that pandemic-related stimulus depressed default rates in those years, with 2023 and 2024 serving as a "catch-up" year for the previously depressed years (Hypothesis 1).

Figure 1



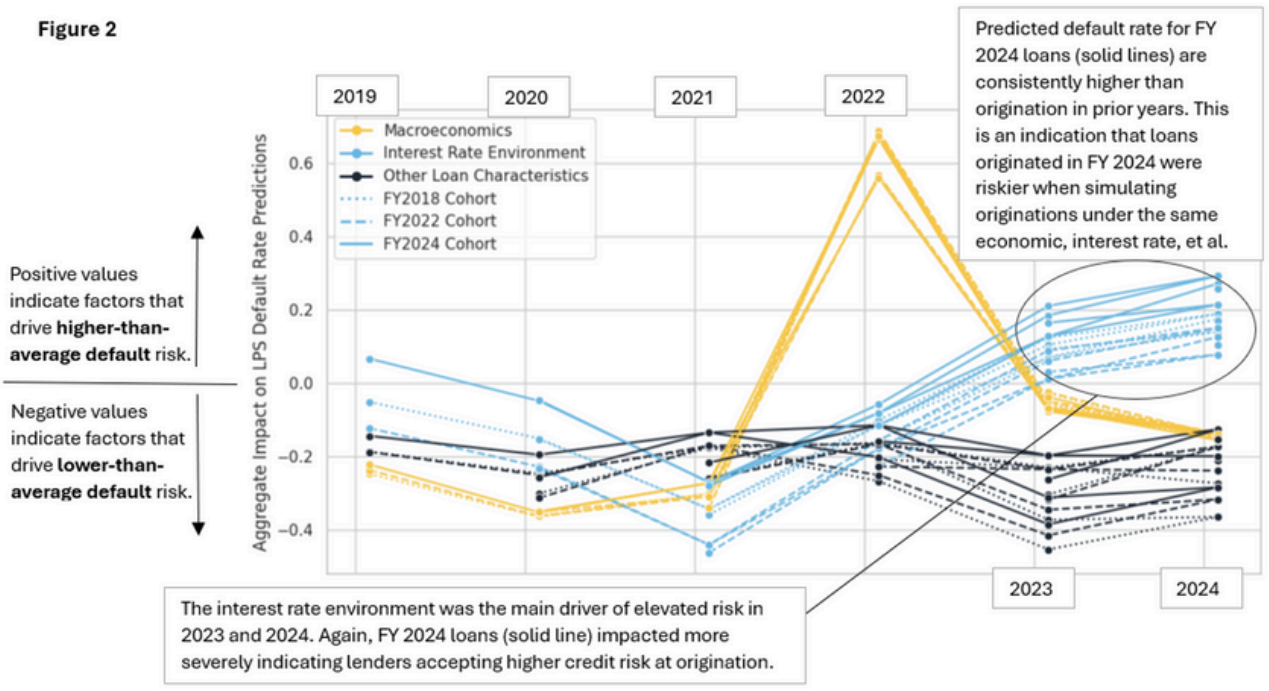
From 2019 to 2021, LPS-predicted default rates closely matched actual SBA default rates across all three loan groups. However, in 2022, LPS predicted a significant increase in default rates across all groups, driven by the changing macroeconomic environment. Interestingly, actual SBA default rates showed very little change in 2022.

This substantial difference between predicted and actual default rates in 2022 suggests that pandemic-related stimulus led to artificially low default rates for fiscal year 2022, considering the overall economic situation.Following this, in 2023, LPS-predicted default rates decreased notably (again due to reduced macroeconomic risk factors), which coincided with an increase in actual default rates. These findings support Hypothesis 1, indicating that pandemic-related stimulus payments delayed the expected increases in SBA default rates.

The influence of macroeconomics, interest rate conditions, and other loan characteristics on the LPS default rate predictions (as shown in Figure 2) supports Hypothesis 5, which posits that increases in the Prime Rate are contributing to higher default rates in 2024. Across almost all simulations from 2019 to 2022, a period of low Prime Rates, the interest rate environment (light blue lines in Figure 2) generally lowered LPS predicted default rates. However, after the Prime Rate increased in 2023 and 2024, the interest rate environment began to increase predicted default risk for all loan groups.

These results are further strengthened by comparing actual default rates for fixed and variable rate SBA loans. However, in 2023 and 2024, actual default rates for variable rate loans rose much more sharply than those for fixed rate loans. Taken together, these results reinforce Hypothesis 5: that rising interest rates are a contributing factor to the elevated default rates in 2024.

Figure 2

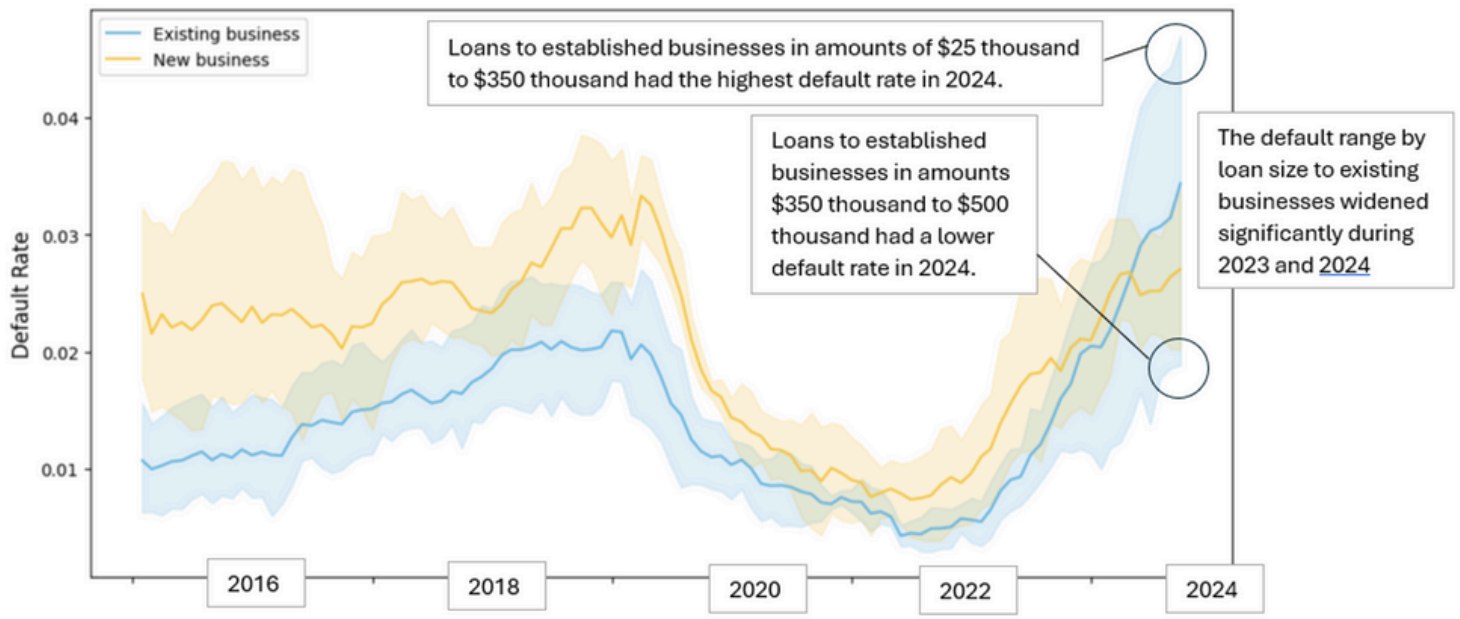


To further examine the impact of SBA program changes on loans of $500 thousand or less, Figure 3 shows that the range of credit performance results for established businesses (operating for more than two years) broadened considerably in 2023 and 2024.

Conversely, the range of credit performance results for newer businesses (startups and those less than two years old) stayed within the approximate ranges of previous years.

Interestingly, loans to established businesses for amounts less than $25 thousand showed a lower default rate compared to loans between $25 thousand and $350 thousand. Taken together, this supports Hypothesis 4, suggesting potentially riskier lending practices during fiscal years 2023 and 2024, especially for loans to established businesses in amounts from $25 thousand to $350 thousand.

Figure 3



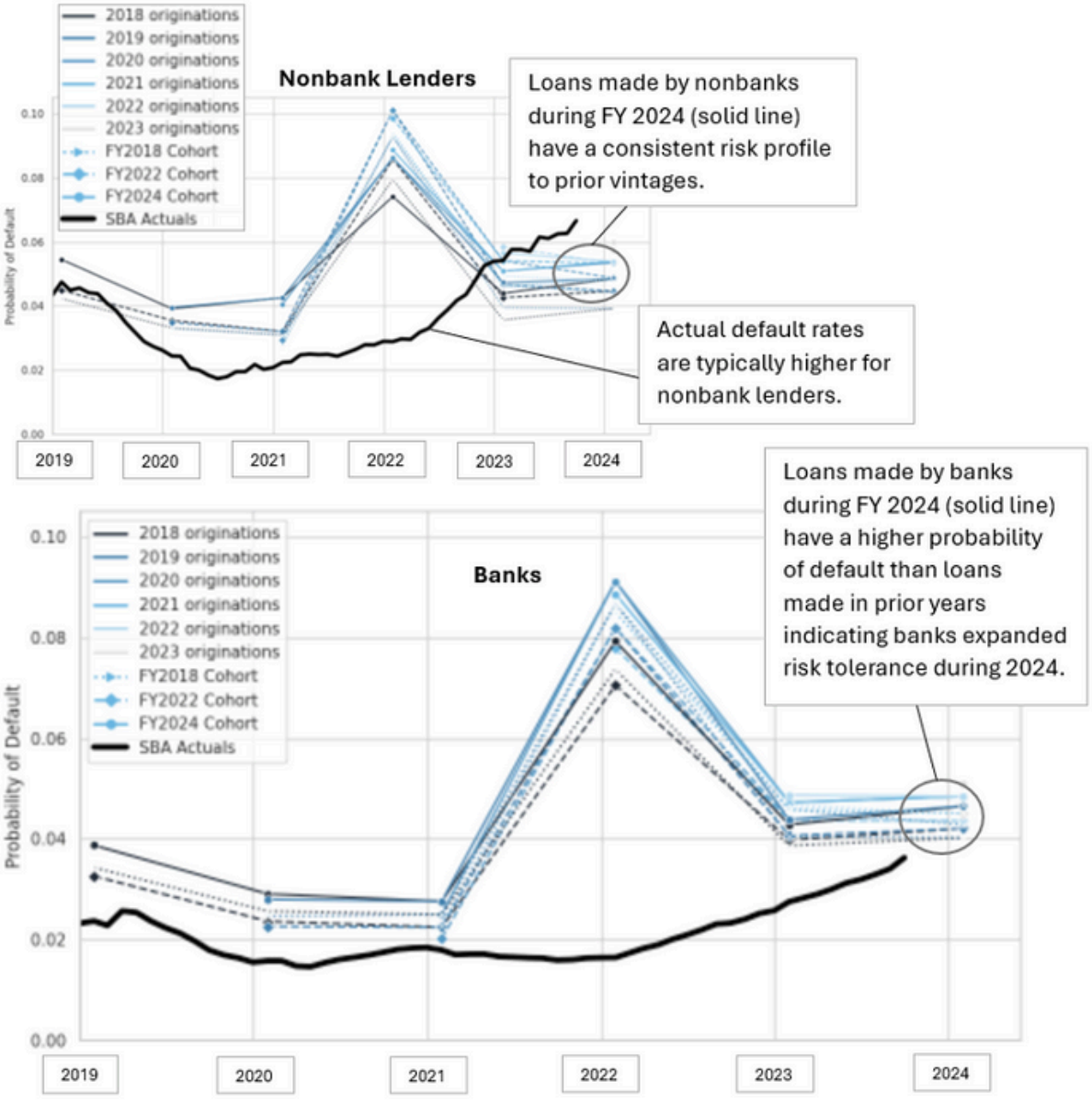
Lumos conducted an analysis to evaluate the credit risk associated with different types of lenders after the SBA program changes at the end of fiscal year 2023. The main goal of this analysis was to determine if these program changes affected how banks and nonbank lenders approached credit risk. Historically, as noted in the Background section, nonbank lenders have shown higher loan default rates compared to banks and credit unions. While nonbank lenders have increased their participation in the SBA program, this increase alone doesn't automatically mean they are taking on more risk specifically due to the 2023 program changes

Because the program changes are recent, there hasn't been enough time to fully assess loan performance for loans issued by banks and nonbank lenders in 2024.

Therefore, Lumos used its predictive risk model, LPS, to simulate the potential performance of loans from different lender types..

The above simulations from 2018, 2022, and 2024 were divided by lender type. The results shown in Figure 4 indicate that the risk profile of loans originated by nonbank lenders in fiscal year 2024 was similar to their risk profiles in fiscal years 2018 and 2022.This suggests that SBA loans from nonbank lenders after the 2023 program changes were not inherently riskier than those made before the changes. It's important to remember that, generally, nonbank lenders have a riskier credit profile than banks and credit unions.However, this inherent risk level did not appear to increase after the SBA program changes; their risk profile at the time of loan origination remained consistent.

Figure 4



In contrast, when the same simulation method was applied to banks and credit unions, the findings were different. SBA loans originated by banks and credit unions in fiscal year 2024 appeared riskier than those originated in fiscal years 2018 and 2022.

While Lumos concludes that banks and credit unions made riskier loans in fiscal year 2024 compared to previous years, it's not possible to definitively say if this increased risk is a direct result of the SBA program changes in 2023.

However, the results from testing Hypothesis 4 do point to an increased risk specifically related to loans between $25 thousand and $350 thousand made to established businesses.

> To ensure the SBA program remains a robust engine for job creation and economic growth, we need to analyze and understand the drivers of 2024 loan default rates to make the best possible decisions going forward.

Conclusion

Elevated SBA default rates in 2024 are a major concern for financial institutions, small businesses, and the federal government. Our data, comparative analyses, and credit risk simulation experiments above demonstrate that a complex mix of interacting factors is driving these elevated default rates rather than a single policy or behavioral change by any of the entities involved in SBA lending.

We found compelling support for all 5 hypotheses investigated here. While regulatory changes implemented by the SBA in 2023 apparently contributed to riskier credit policies and loan originations in FY 2024, our results also indicate that artificially low SBA default rates in 2022 are still recovering from the impacts of substantial injections of stimulus in 2020 and 2021. These combined with an increasingly unfavorable interest rate environment for SBA loan recipients are apparently driving the increased SBA default rate seen in 2024.

Consideration of all of 5 of these contributing factors will help government officials, lenders, and borrowers make informed decisions around how to respond to mitigate the impacts of these elevated default rates on our small business ecosystem.

This analysis is based on publicly available data from the U.S. Small Business Administration through Sept 2024, complemented by additional data obtained through a Freedom of Information Act (FOIA) request. Although not all findings presented here were processed through our proprietary predictive models, these models assisted in the analysis by synthesizing and interpreting relevant portions of the combined dataset to enhance forecasting and risk assessment.

See the whole story