

MOODY's | Better decisions



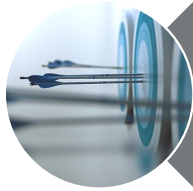
# CreditForecast Small Business Product Overview

Exclusive Forecasts, Data and Analysis of Small Business Credit

# CreditForecast Small Business

## Key Features and Benefits

- CreditForecast Small Business addresses an important gap in existing risk management tools by linking small business credit performance with underlying local economic drivers
- Our forecasts under baseline and alternative economic scenarios provide a versatile solution for multiple use cases within your organization
- This product is only available to SBFE members



Make better strategic and tactical business decisions



Gain insight on how US and local economies impact Small Business performance



Benchmark performance to improve internal and external stakeholder communication



Capitalize on Small Business trends to improve profitability

# CreditForecast Small Business

A joint product offering from Equifax, SBFE\* and Moody's Analytics for SBFE consortium members

## Equifax / SBFE Credit Data

- Origination counts and balances
- Outstanding accounts and balances, high credit limits
- Defaults
- Closed positives
- Firmographics
- Bankruptcy, Liens & Judgements

## Moody's Analytics

- Economic variables
- Demographic variables
- Financial variables
- Baseline and alternative macroeconomic scenarios

## Moody's Analytics

- Combination of business credit and economic data
- Custom credit models built incorporating origination vintage, regional information and tradeline nuances.
- Baseline and alternative economic scenarios

## CreditForecast Small Business

- Robust forecasts with alternative scenarios to facilitate stress testing or 'what if' analysis
- Web-based access to all data
- Monthly updates to credit performance
- Quarterly updates to forecasts and associated analysis/commentary
- Access to team of economists/credit analysts for additional insight

\*Small Business Financial Executives





# CreditForecast Small Business

## Product Features

### Financial

- » Term Loan
- » Commercial Card
- » Business Lease
- » Other revolving
  - Line of Credit
  - Open Ended
  - Letter of Credit

### Non-Financial

- » Trade supplier
- » Services (Telecom, electric utilities, etc.)

Scenario-conditioned projections with associated narratives



- S4 **Severely Adverse**  
96<sup>th</sup> Percentile
- S3 **Adverse**  
90<sup>th</sup> Percentile
- BL **Baseline**  
50<sup>th</sup> Percentile
- S1 **Stronger Near-Term Growth**  
10<sup>th</sup> Percentile
- S0 **Exceptionally Strong Growth**  
4<sup>th</sup> Percentile

CreditForecast  
Small Business

Product Categories

Economic Scenarios

Forecast Highlights

Views

### Views by:

- » Product Categories
- » Geography (national, state, MSA)
- » Industry (6-digit NAICS)
- » Business Size
  - Small, large
  - # employees
  - annual sales
- » Origination vintage

### Forecasts:

- » Final disposition rates (#):
  - » Default
  - » Prepayment
- » Five-year forward-looking forecasts.
- » Monthly updates

# Views

## Sample views

Calendar Time	Region	# Employees	Annual Sales	Industry	Business Size	Default Rate (bps)
9/30/2019	Florida	<50	1-249,999	Professional, Scientific, and Technical Services	S	142.8571
10/31/2016	Other	<50	1,000,000+	Construction	S	144.9275
1/31/2020	California	<50	1-249,999	Other Services	S	147.0588
2/28/2015	Northeast	<50	1,000,000+	Construction	S	149.2537
4/30/2015	Midwest	<50	1,000,000+	Construction	S	151.5152
2/28/2018	California	<50	1-249,999	Administrative and Support and Waste Management and Remediation Services	S	151.5152
8/31/2018	Midwest	<50	1,000,000+	Construction	S	151.5152
11/30/2019	California	<50	1-249,999	Administrative and Support and Waste Management and Remediation Services	S	151.5152
2/28/2014	Northeast	<50	1,000,000+	Construction	S	153.8462
9/30/2014	Midwest	<50	1,000,000+	Construction	S	153.8462
4/30/2017	Midwest	<50	1,000,000+	Retail Trade	S	153.8462
8/31/2015	Midwest	<50	1-249,999	Administrative and Support and Waste Management and Remediation Services	S	156.25
5/31/2020	Midwest	<50	1,000,000+	Construction	S	156.25
6/30/2012	Midwest	<50	1-249,999	Transportation and Warehousing	S	158.7302
3/31/2020	Northeast	<50	1,000,000+	Construction	S	161.2903

# Current Model Inventory

LOB Type	LOB	PD	CLP
Non-Financial	Services	★	
	Trade Credit	★	
Financial	Loan	★	★
	Card	★	★
	Lease	★	
	Other Revolving	★	★

# CreditForecast Small Business

## Use Cases



Risk  
management

Performance  
monitoring

Early warning  
signal

Scenario  
analysis

Industry trend  
analysis &  
economic  
insights

Underwriting /  
Originations  
Strategy

Stress testing

Benchmarking

Regulatory  
Reporting:  
CECL



Data



# Number of Accounts (~ 10% Sample)

## By Category

Category	# Number of Businesses	# Number of Loans
Commercial Card	1,502,732	1,584,241
Business Leases	610,238	985,592
Term Loans	996,622	1,423,937
Trade Supplier	76,885	78,888
Services	69,583	71,467
Other Revolving	2,347,157	2,891,767

# Data

## Firmographics

Variable	Values
Geo	All State/5 Digit Zip code
Industry	2 to 6 Digit NAICS codes
Size of Business	Small, Large, Unknown
Number of Employees	4 Bands
Annual Sales	5 Bands
Public Company	Yes, No, Unknown
Years in Business	Early 1900's to current

# Data

## Loan Characteristics [2012- 2020 September]

Variable	Values
Account Type	Financial Non- Financial
Secured	Yes, No
Origination Source	Bank, Credit Union, etc.
Government Guarantee Program	SBA 7A, SBA low doc, SBA Express, SBA subsidized program
Term, Balance, Delinquencies, Defaults, Prepayments	

# Data Composition

- The data largely include loans from banks and financial institutions.
- The number of SBA loans is around ~1.1 million
- The solution includes trades from financial and non-financial lenders
- We cover approximately 60% of the businesses
- The impact of pandemic is not so pronounced in the data due to forbearance and pay protection plans.
- The data covers the period from 2012 to 2020 December

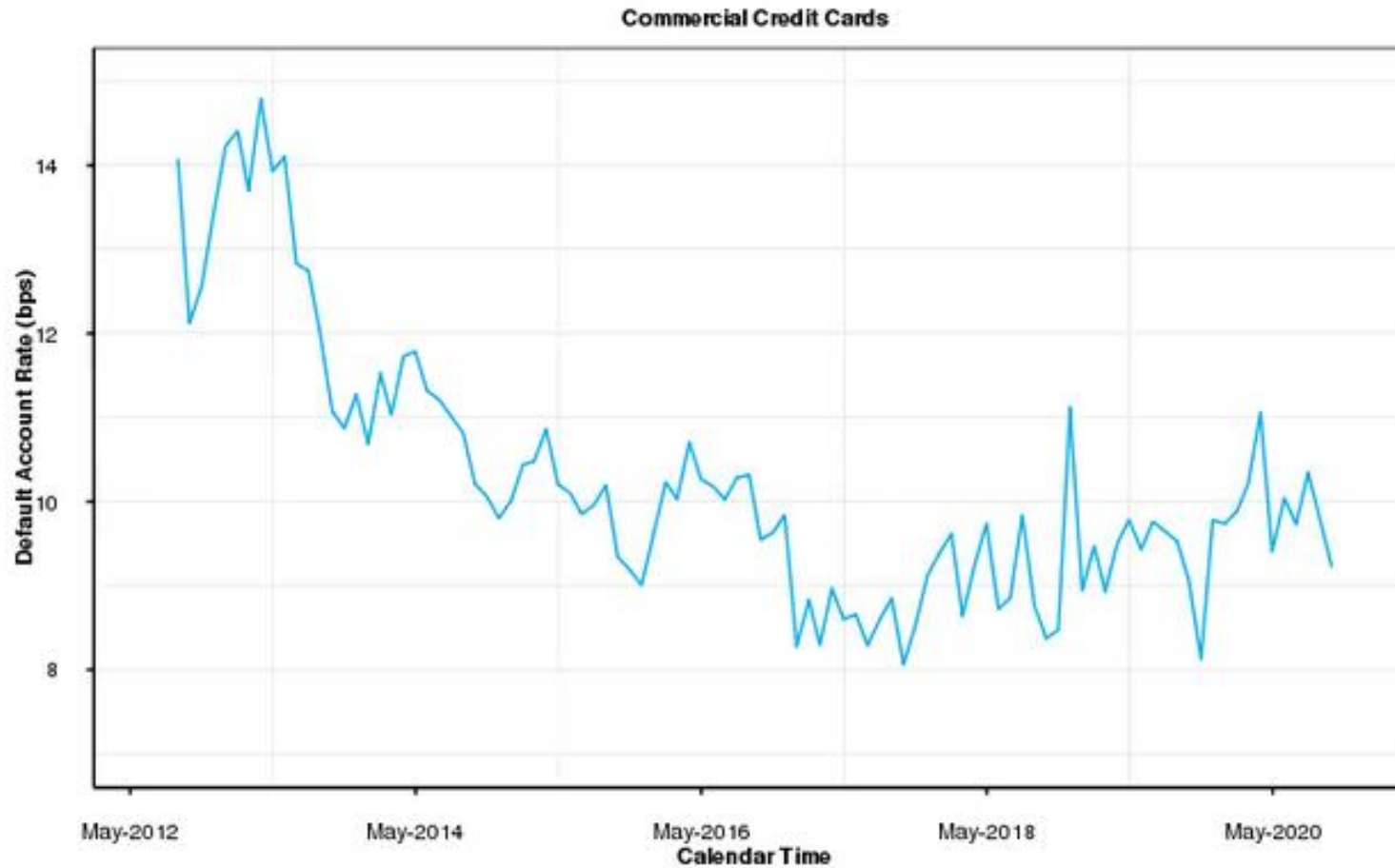




# Insights from Data

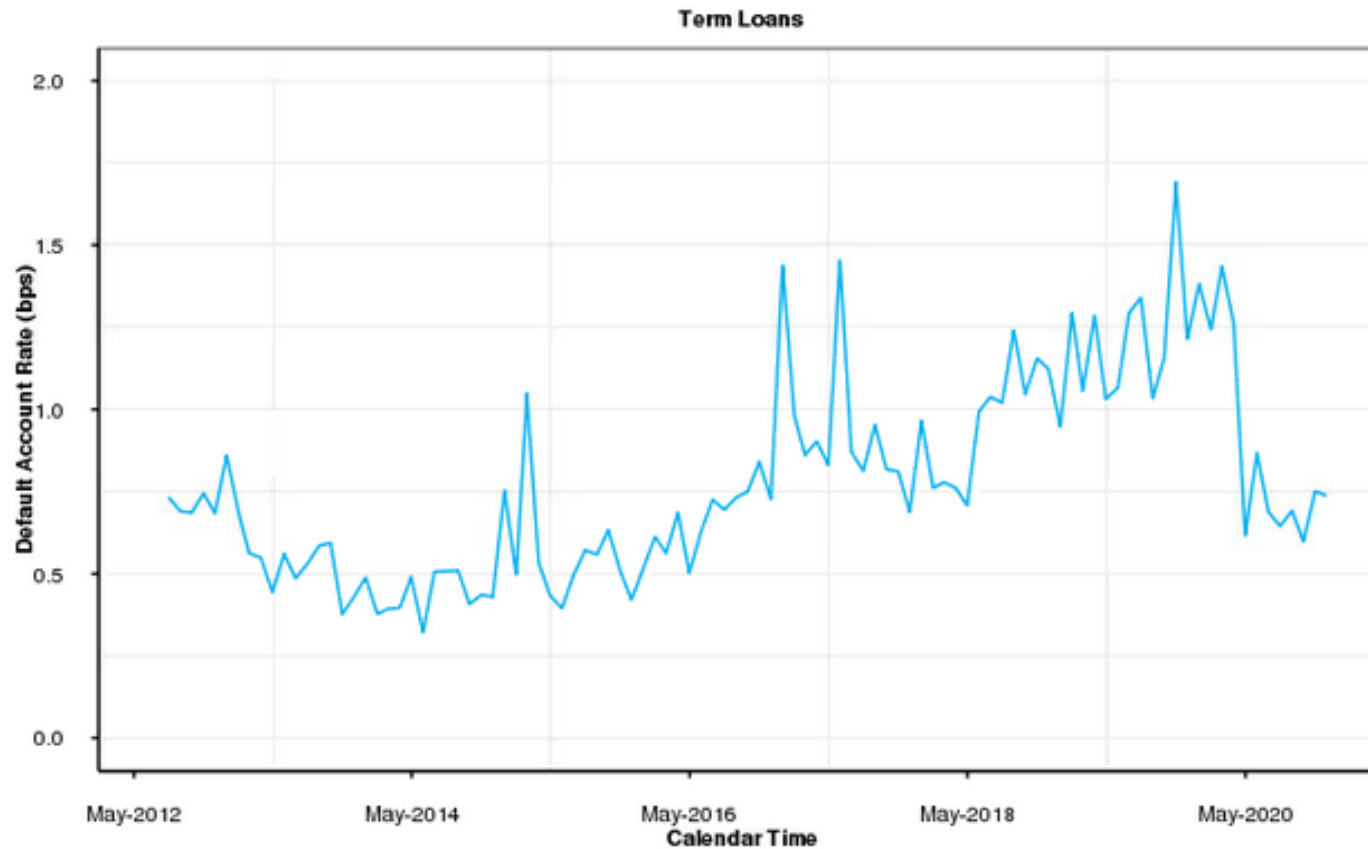
# Default Account Rate

## Commercial Card



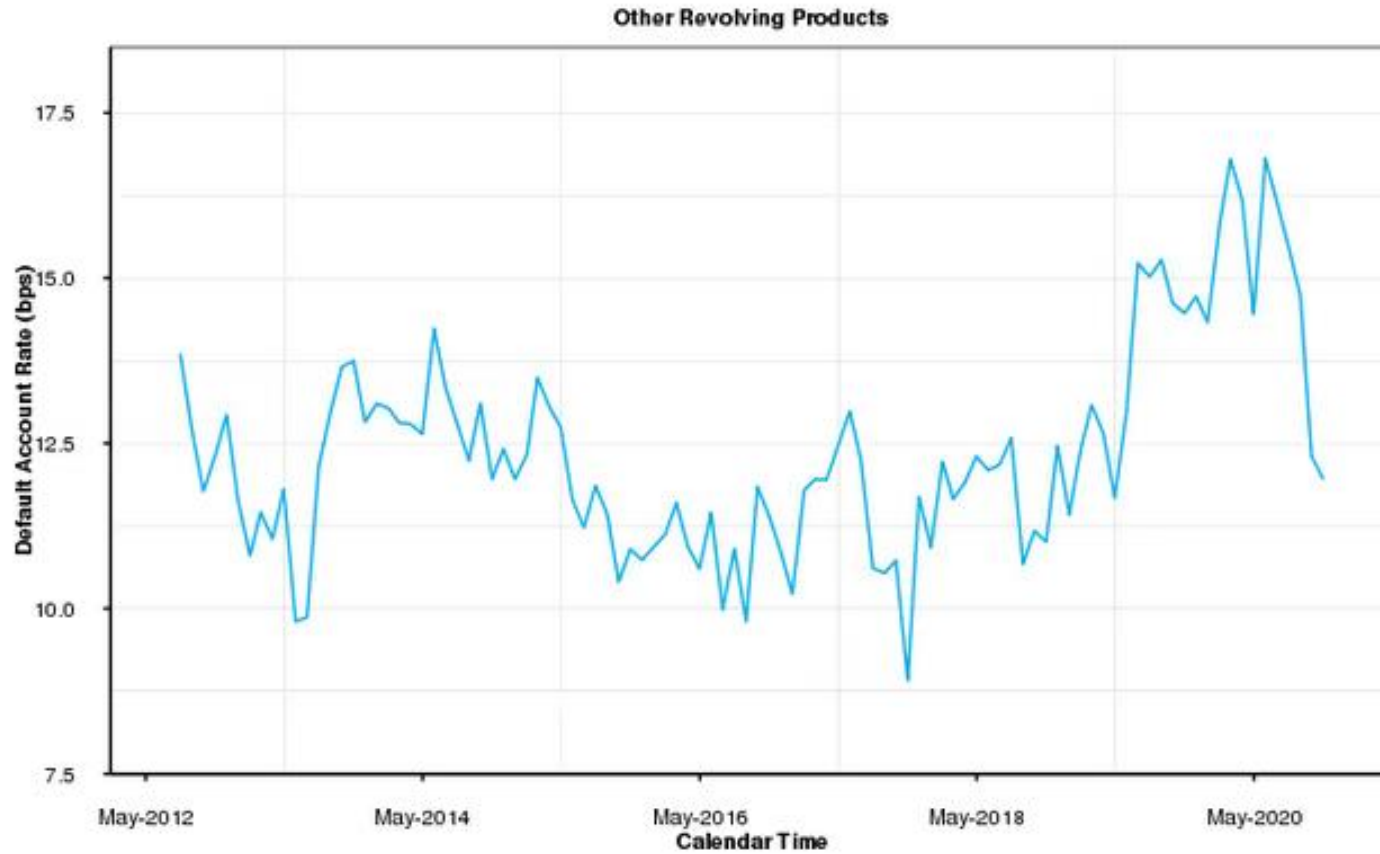
# Default Account Rate

## Term Loans



# Default Account Rate

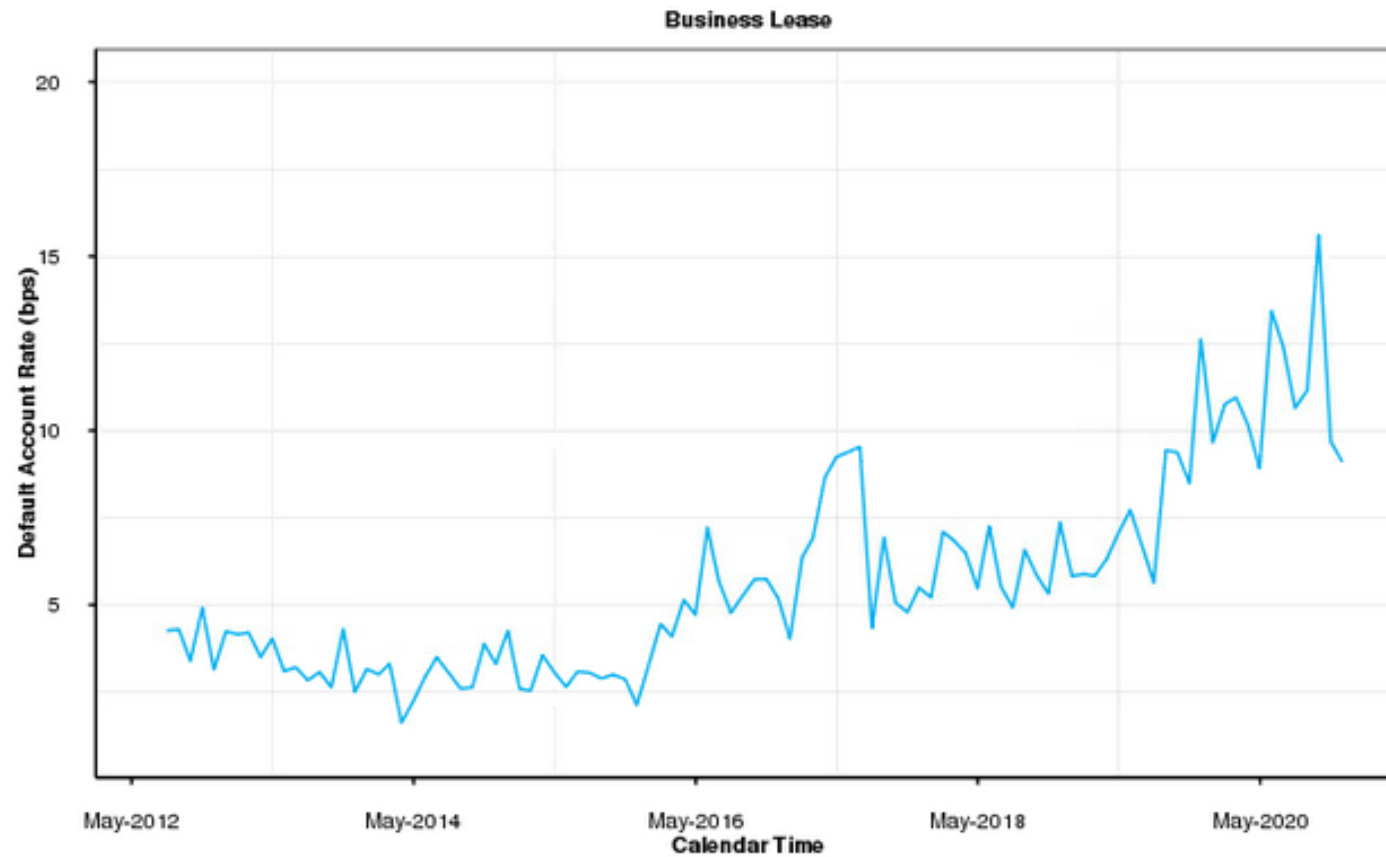
## Other Revolving Products





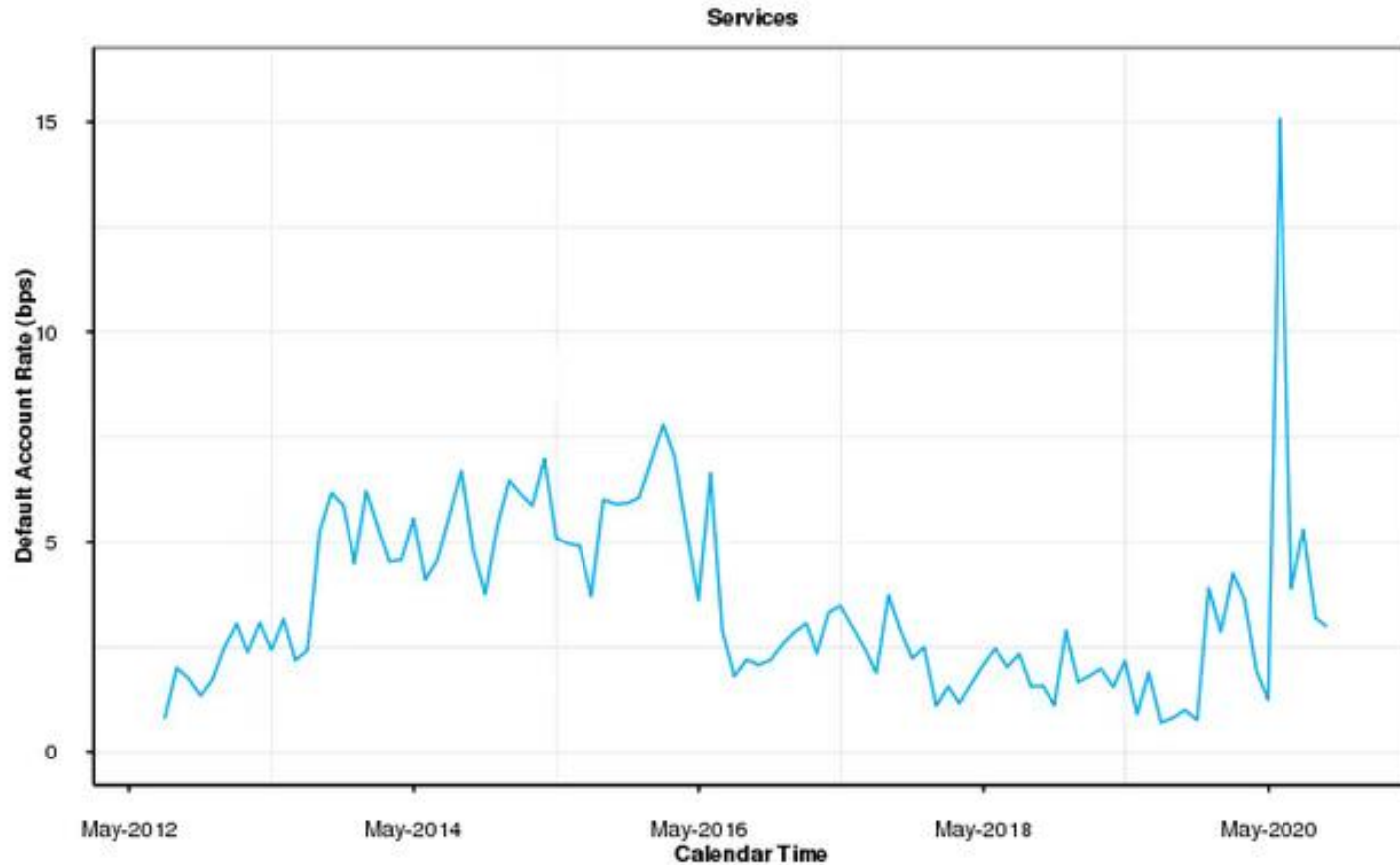
# Default Account Rate

## Business Lease



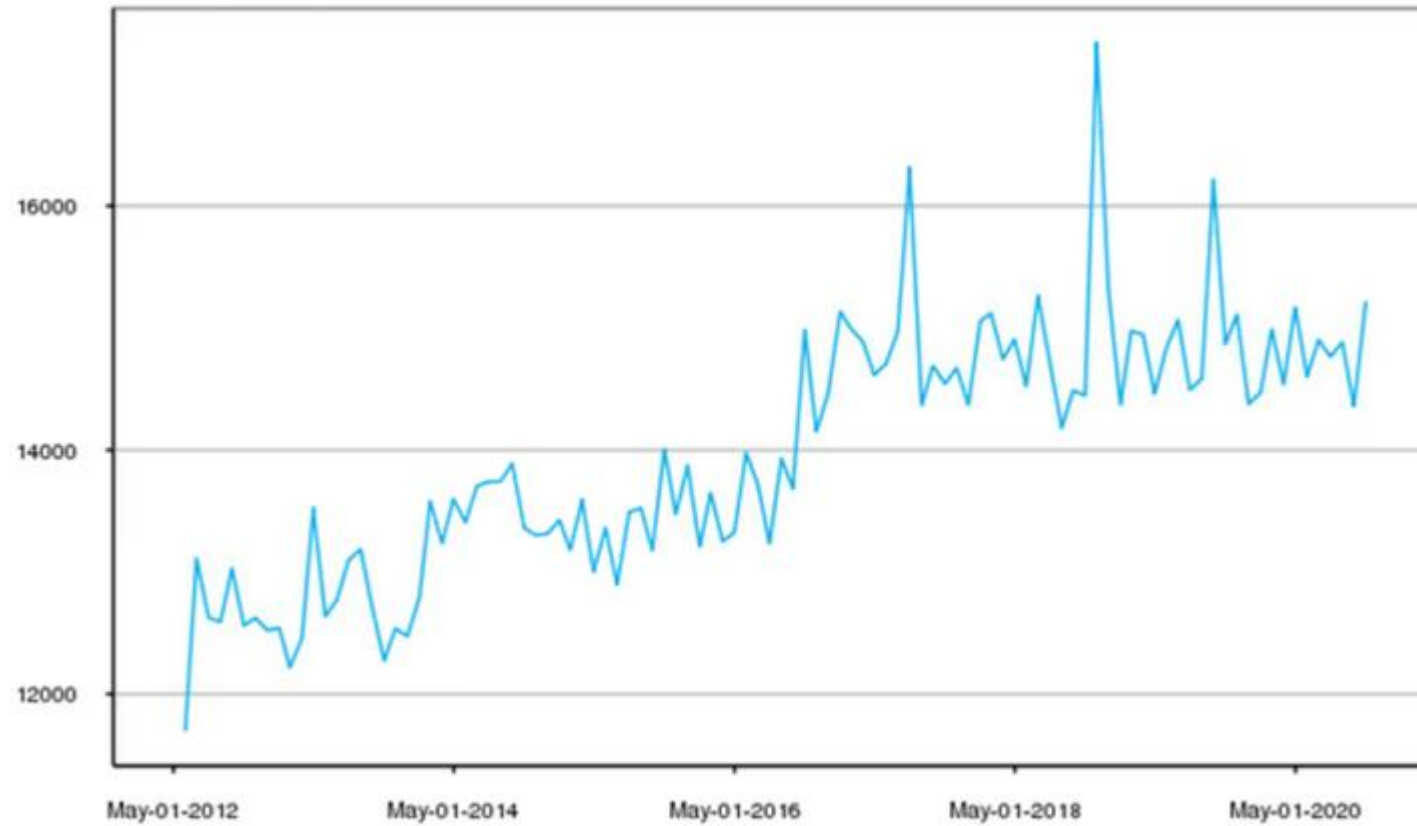
# Default Account Rate

## Services



# Average Origination Limit Over time

## Commercial Card



# Dimensions

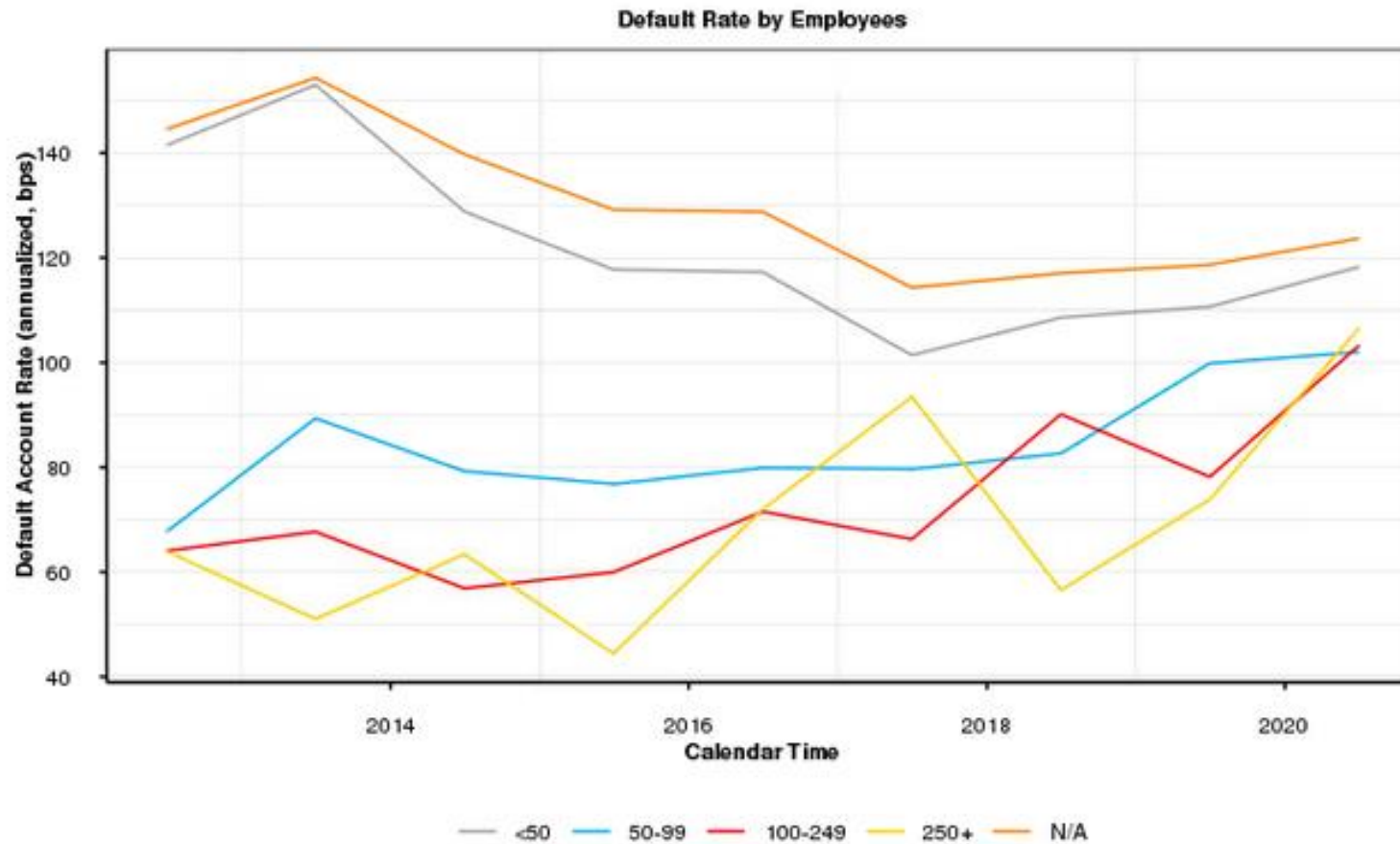
## Commercial Card

Dimensions	Levels
Number of Employees	< 5, 6~20, >20, Missing
Annual Sales	<249K, 250~499K, 500~999K, > 999K, Missing
Business Size	Big, Small, Missing
Year in Business	<=5 Years, 6~20 Years, > 20 Years
Industry	2 Digit NAICS Code (20 Industries)
Region	National, State, MSA
Credit Grantor Groups	Finance - Banks Finance – Credit Card Issuers Finance - Personal Loan Companies



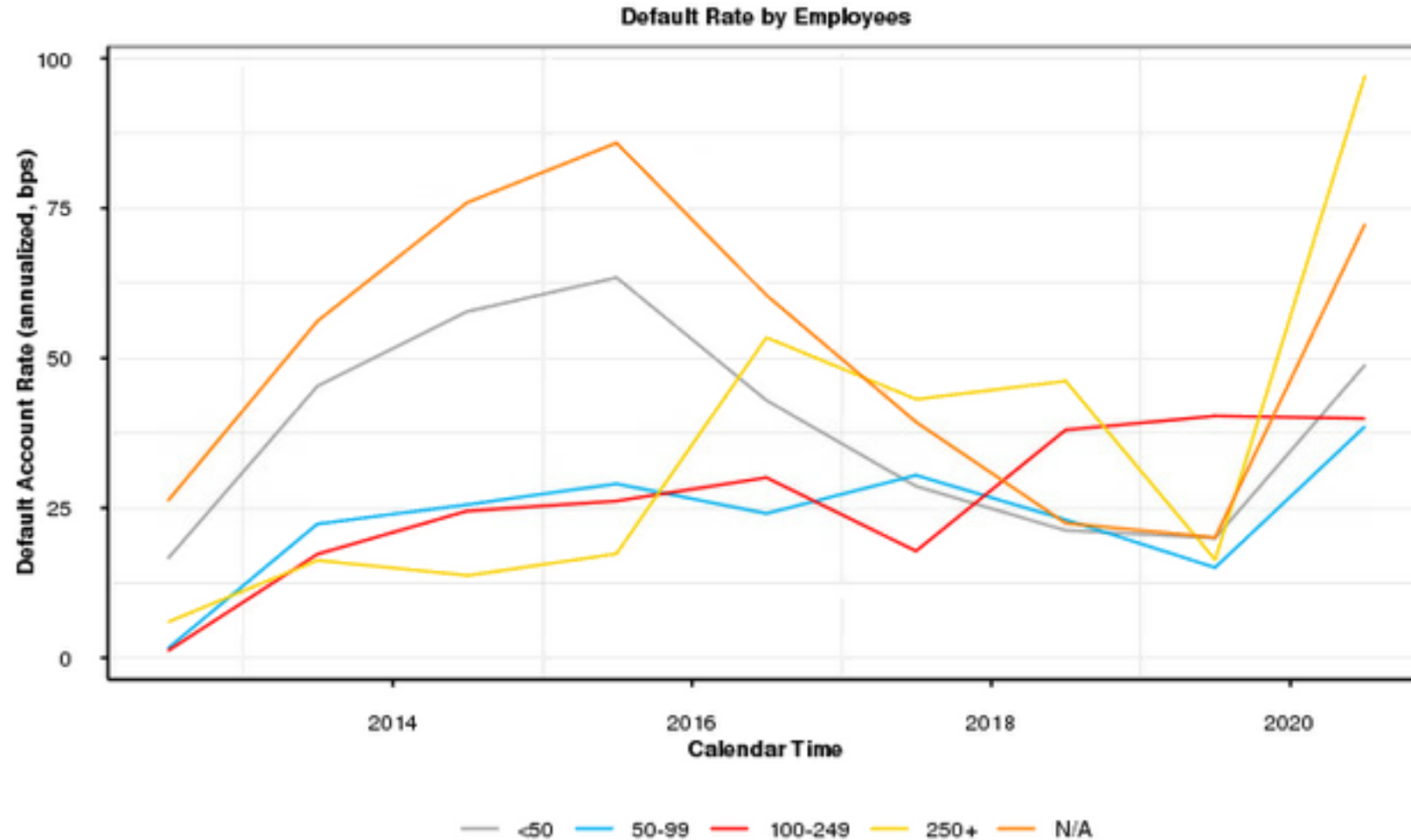
# Default Account Rate by Employees

## Commercial Card



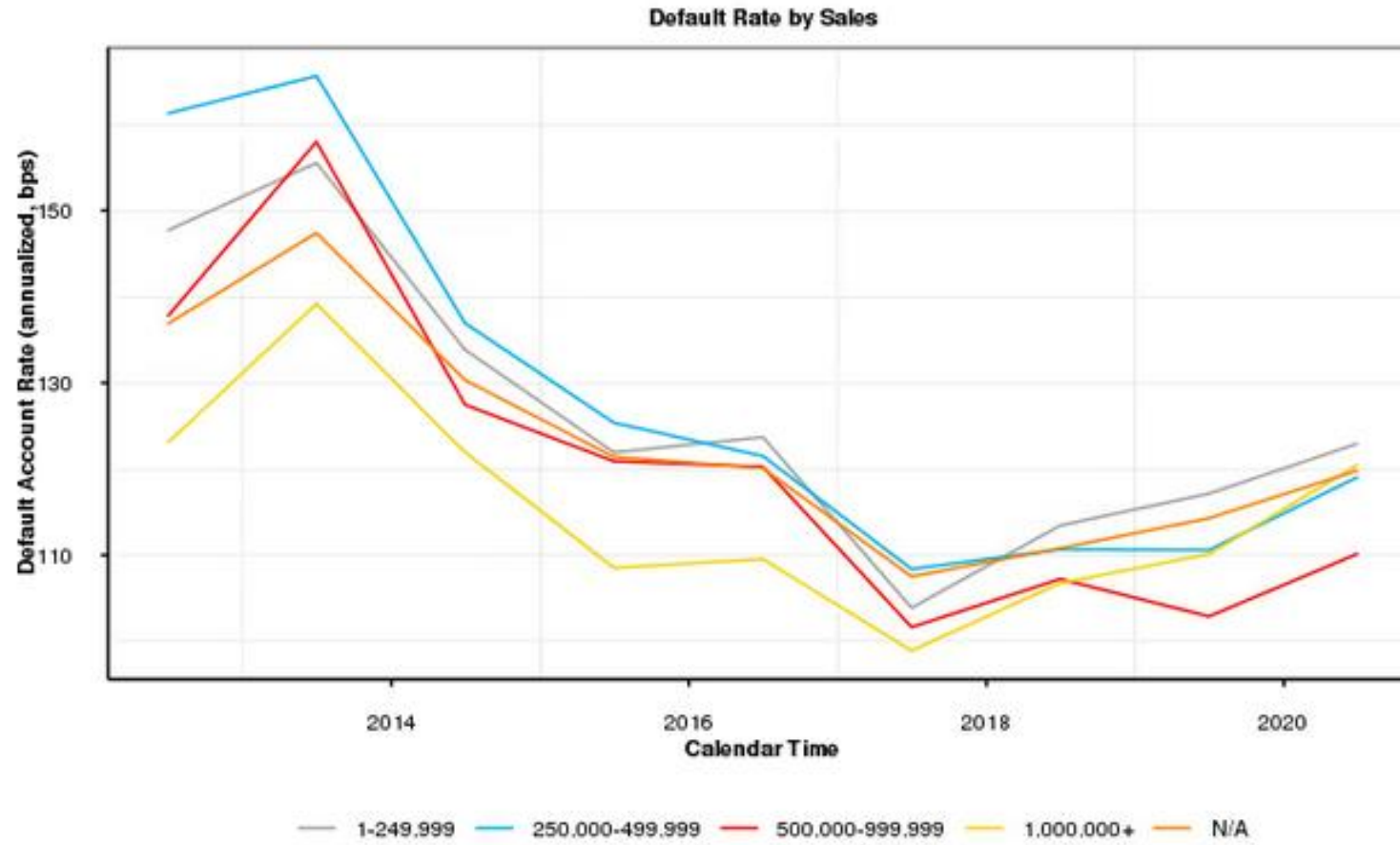
# Default Account Rate by Employees

## Services



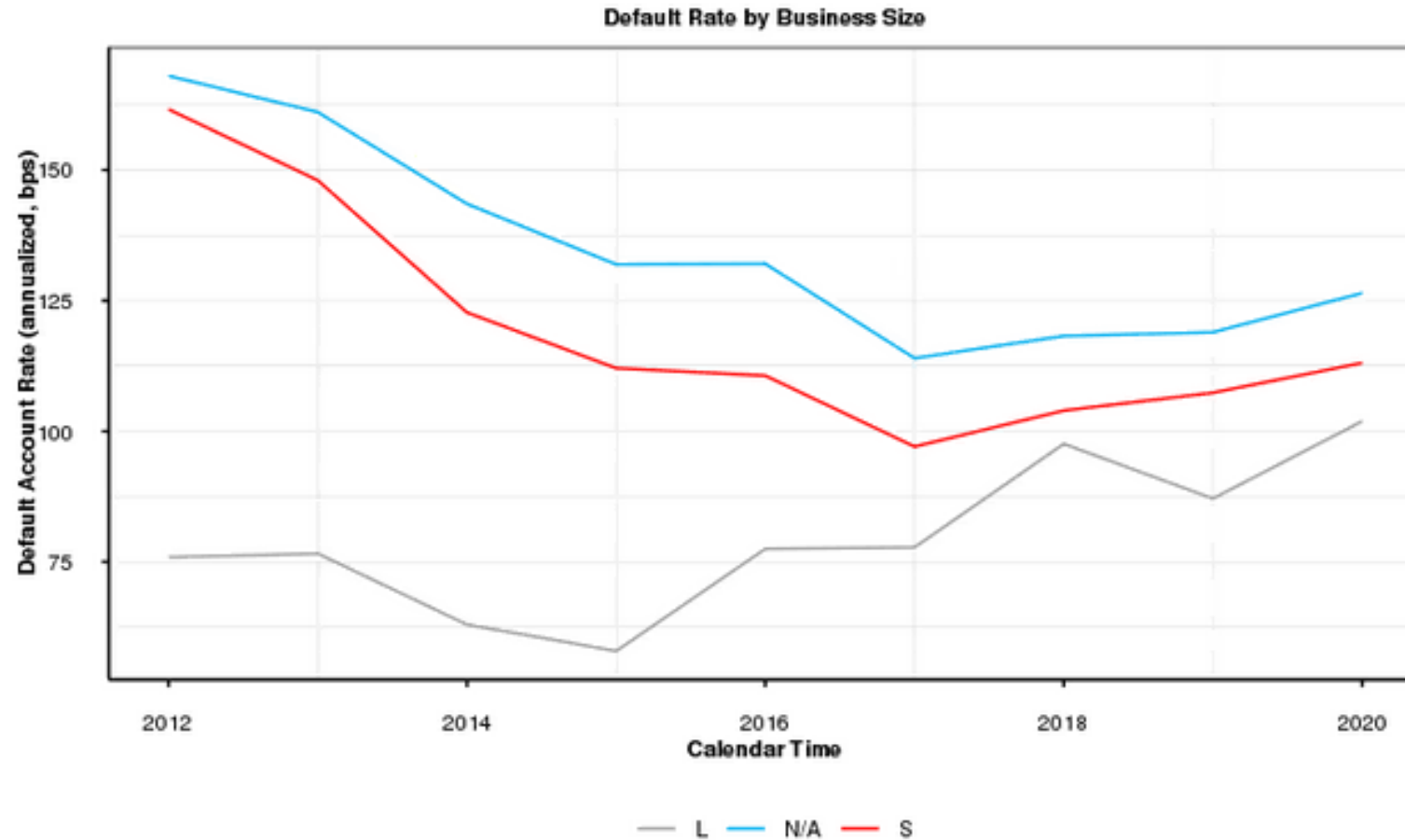
# Default Account Rate by Annual Sales

## Commercial Card



# Default Account Rate by Business Size

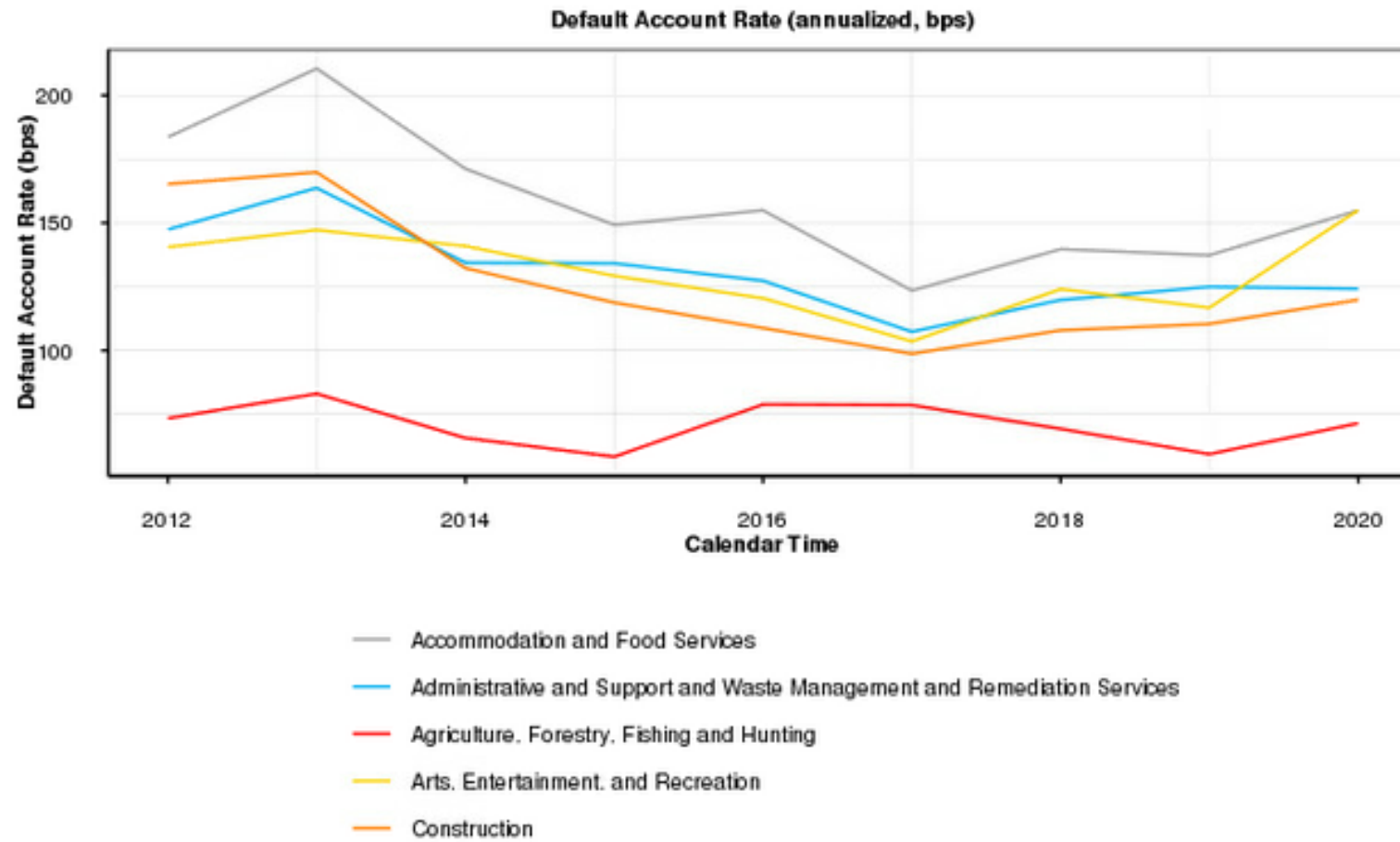
## Commercial Card





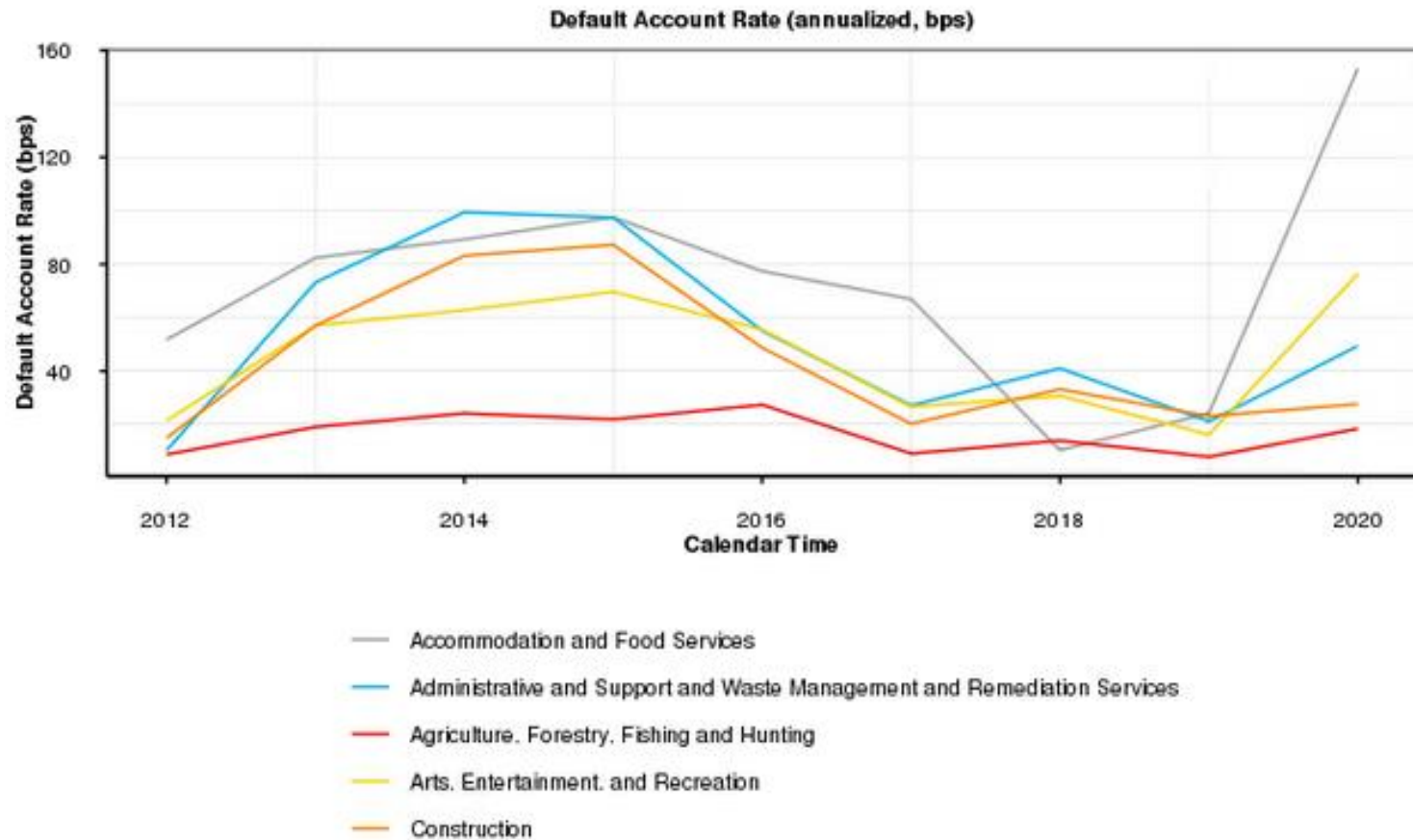
# Default Account Rate by 2-Digit NAICS

## Commercial Card



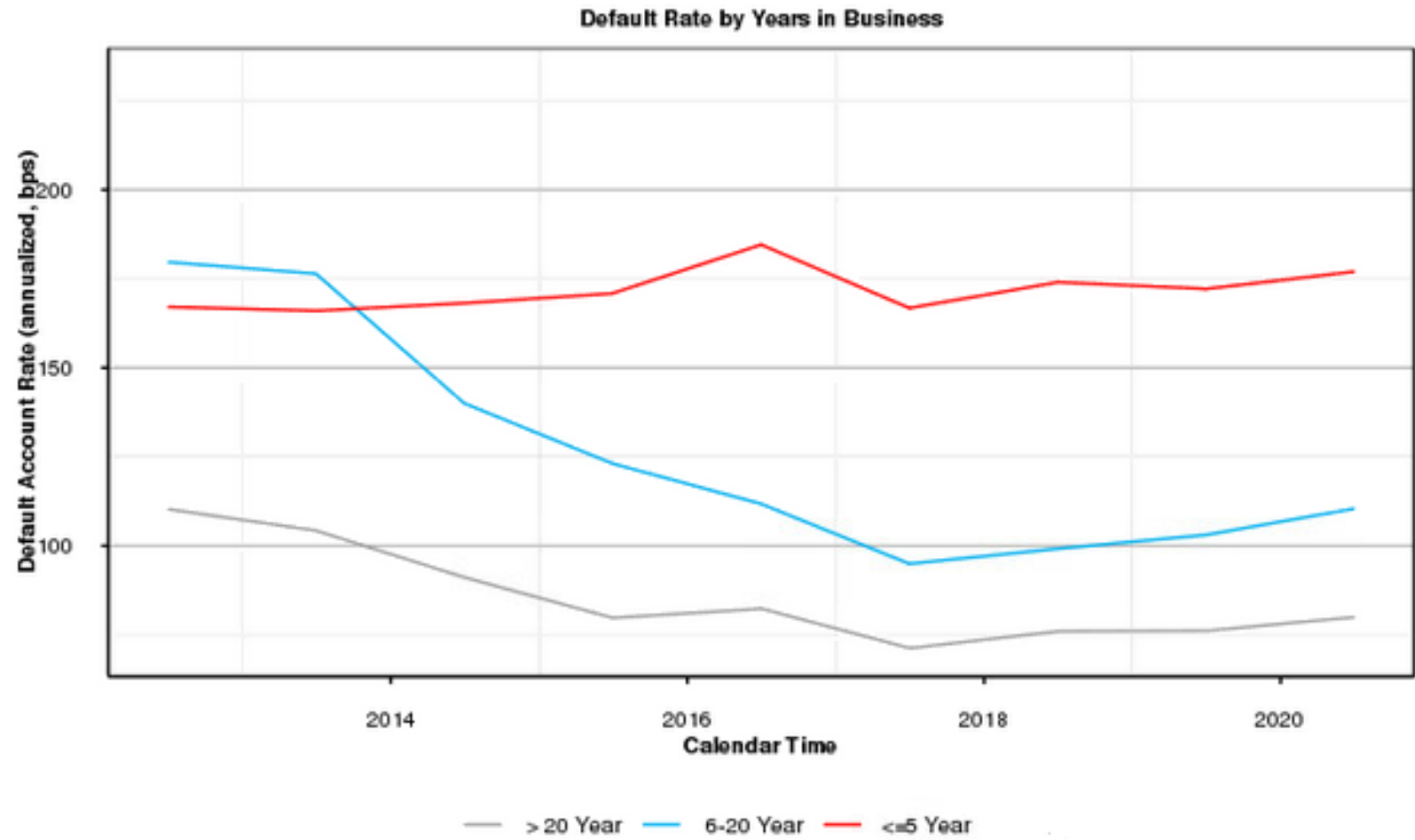
# Default Account Rate by 2-Digit NAICS

## Services



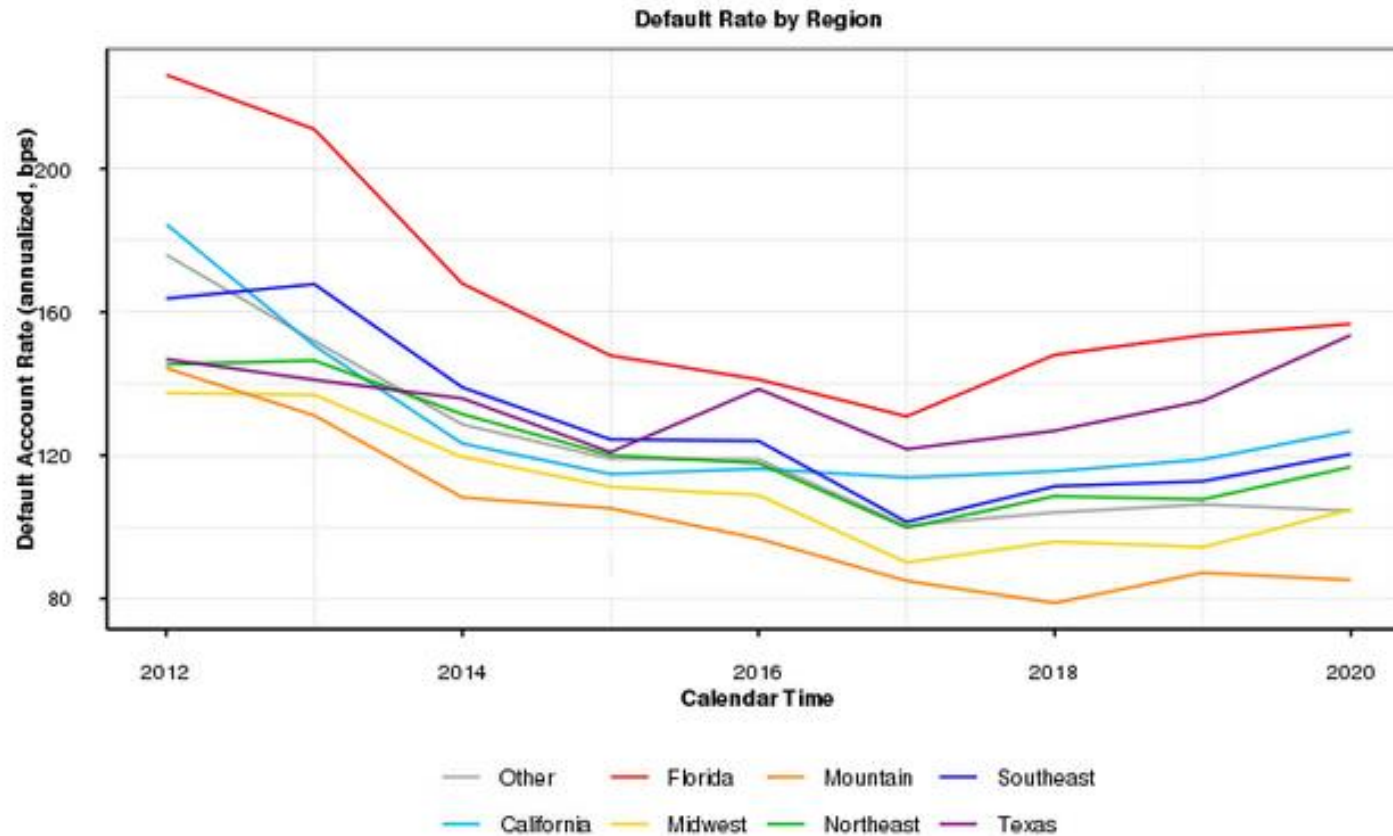
# Default Account Rate by Year in Business

## Commercial Card



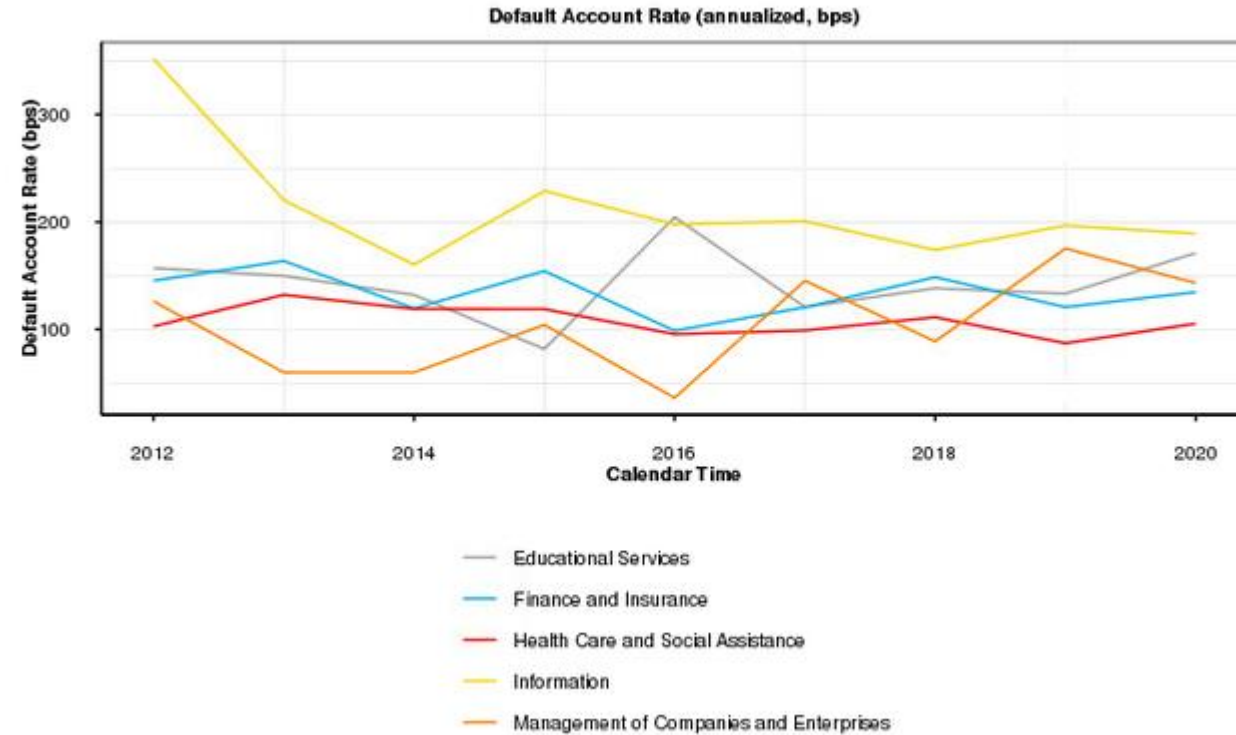
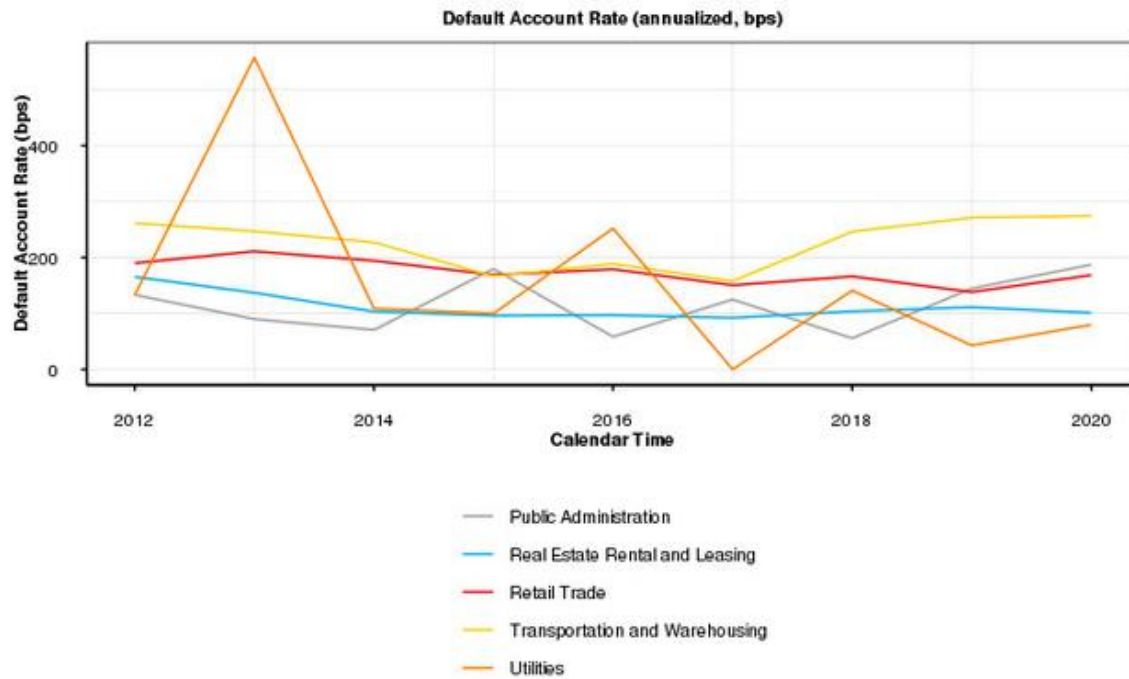
# Default Account Rate by Region

## Commercial Card



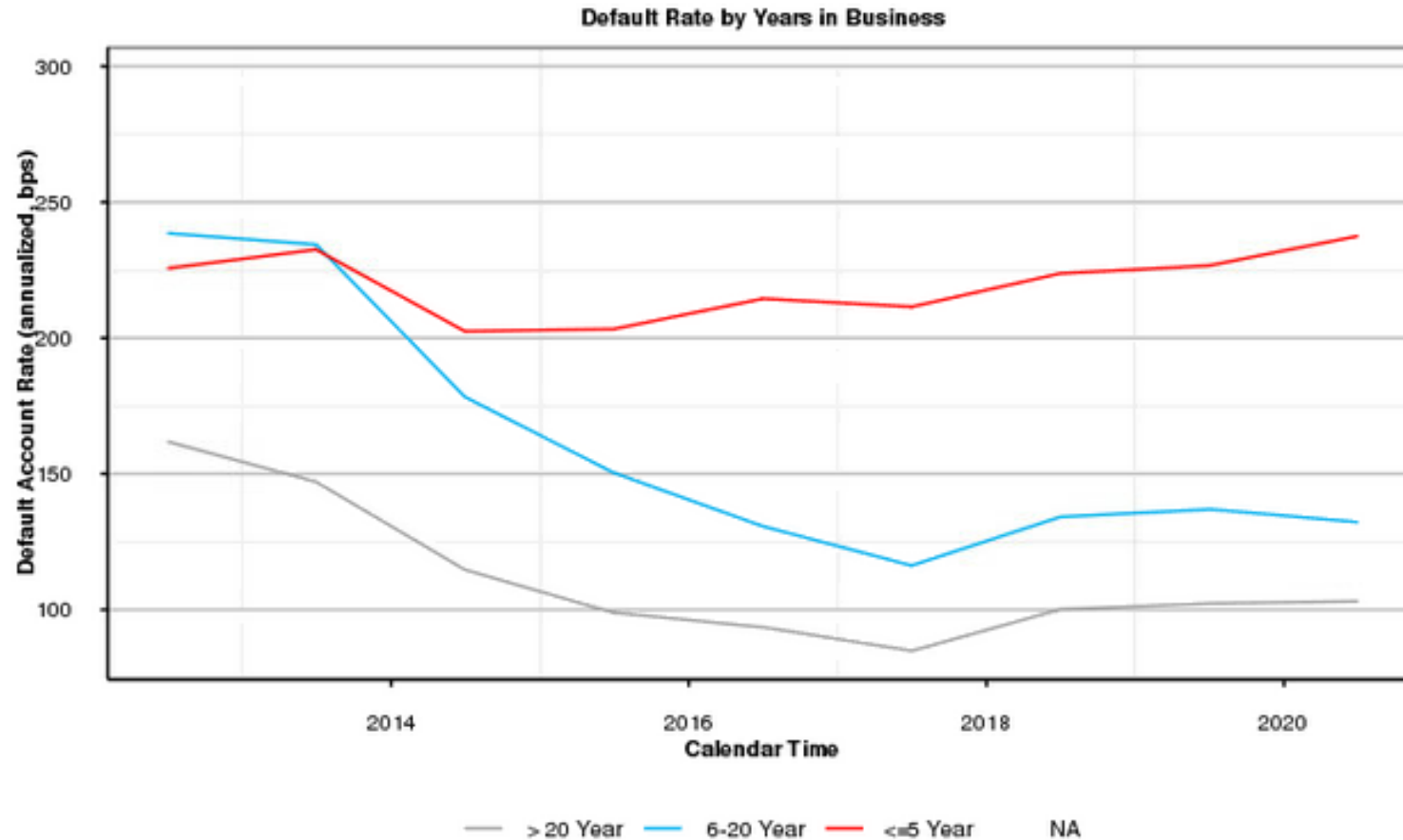
# Florida by Industry

## Commercial Card



# Florida by Employees

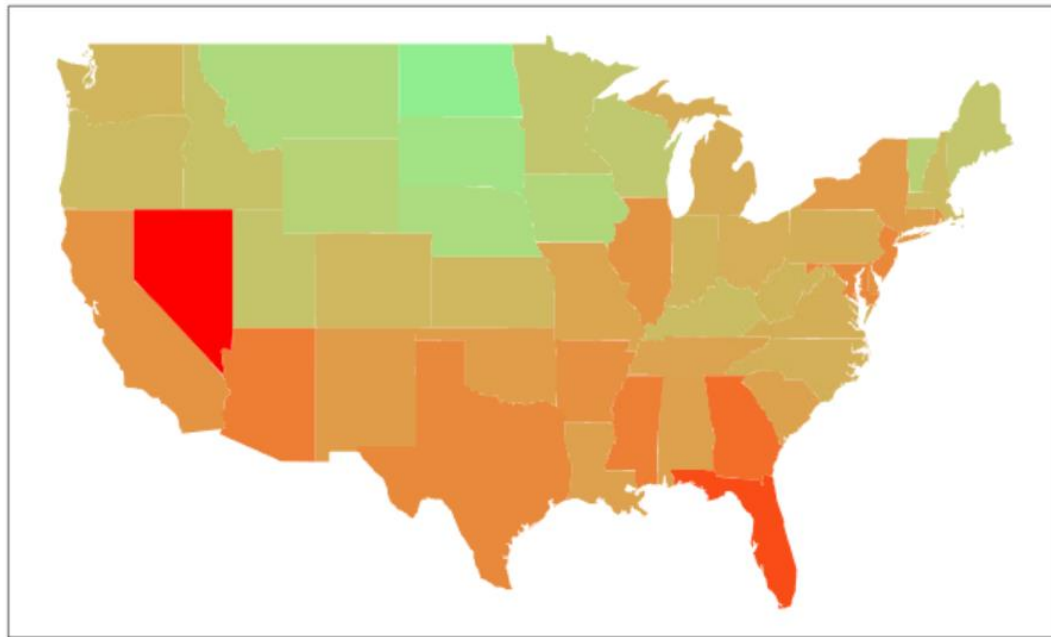
## Commercial Card



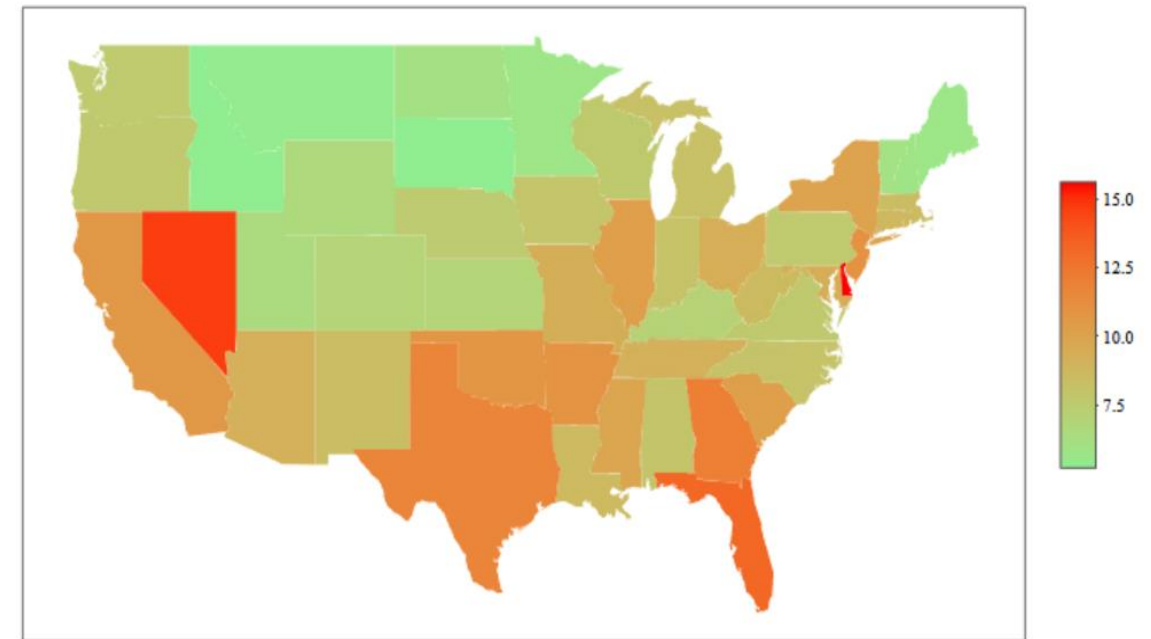
# Commercial Card Default Rates

## Commercial Card

Avg monthly default rate: 2009-2020 Feb (bps)



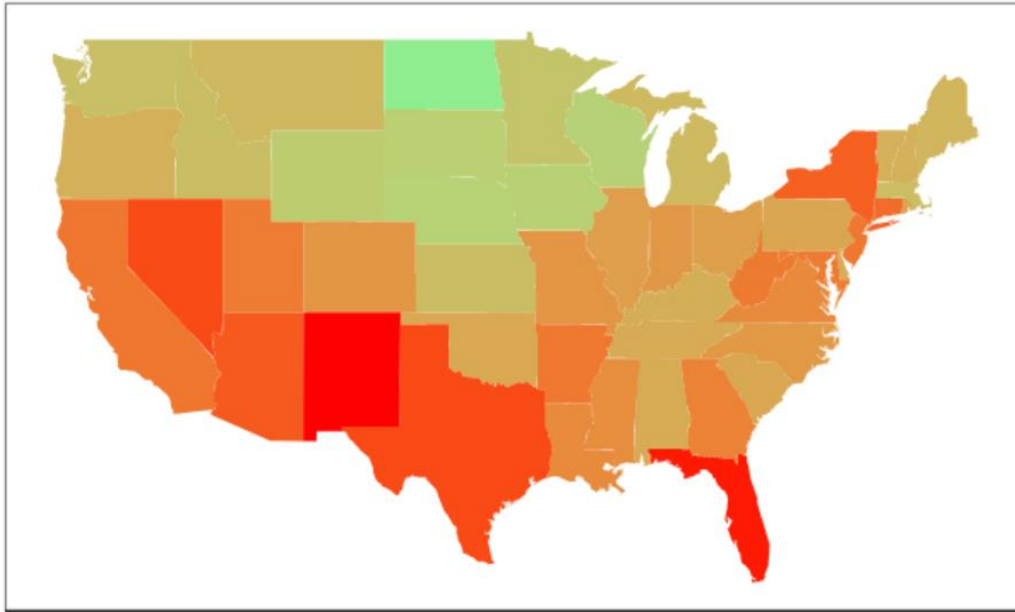
Avg monthly default rate: After 2020Feb (bps)



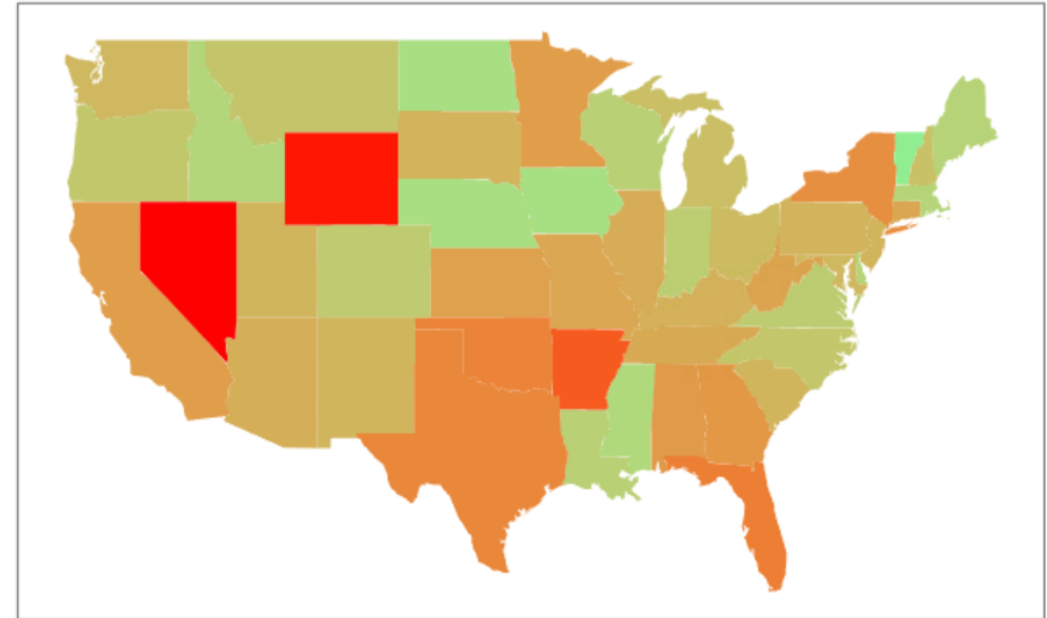
# Business Lease Default Rates

## Business Lease

Avg monthly default rate: 2009-2020Feb (bps)



Avg monthly default rate: After 2020Feb (bps)







# Forecasts – Commercial Card & Business Lease

# Model Drivers

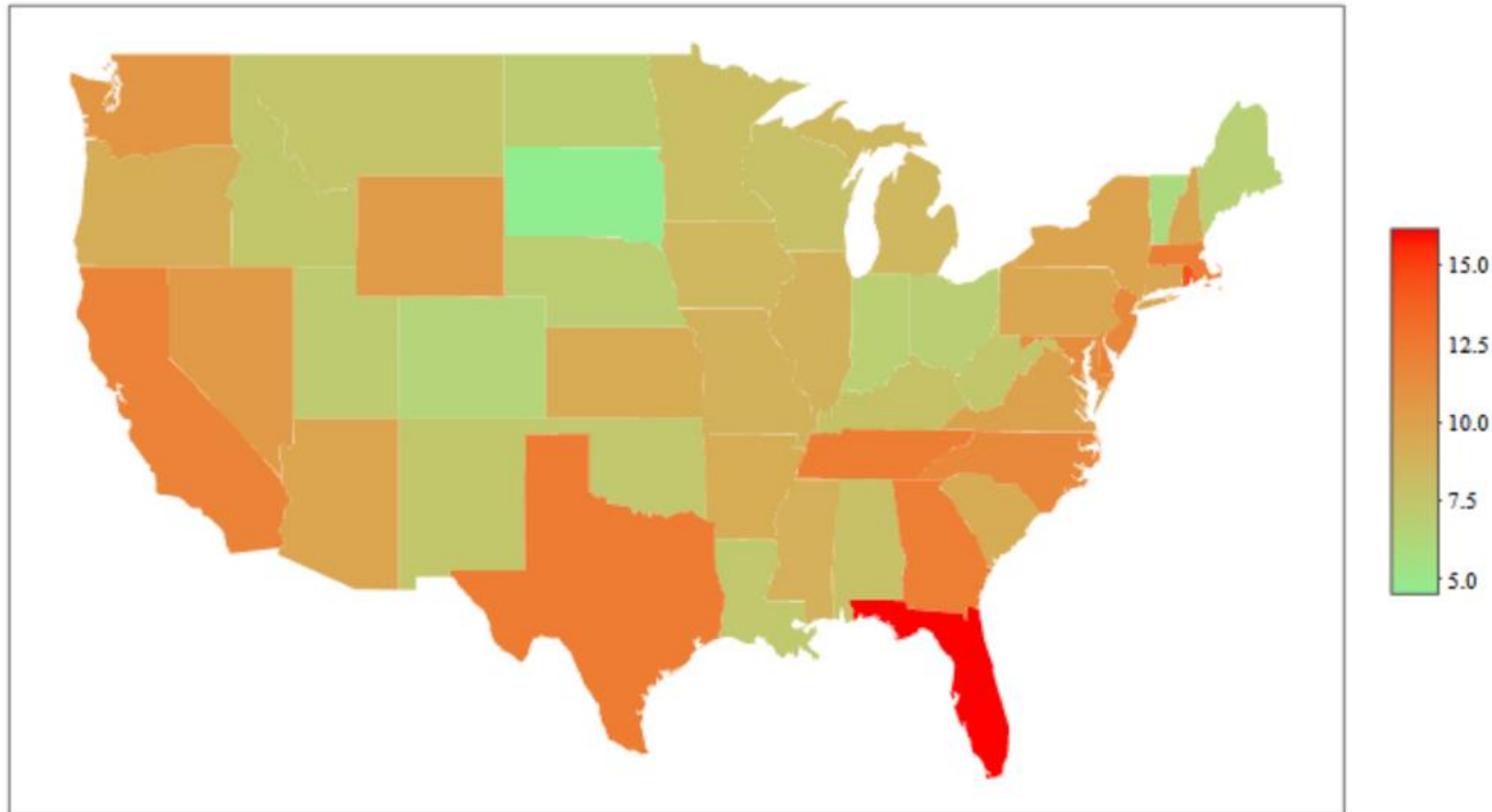
## All Loans

Business Characteristics	Macroeconomic Variables
Maturation/Seasoning of the loan	Unemployment Rate
Number of Employees	GDP
Annual Sales	Income: Farm Proprietors
Credit Grantor Group	Industrial Production
Business Size	
Business Size	
Year in Business	
Industry	
Region	

# Identify Troubled Markets in Real Time

Avg Monthly Card Default Rate Forecast (BL): 2021m1 – 2021m12

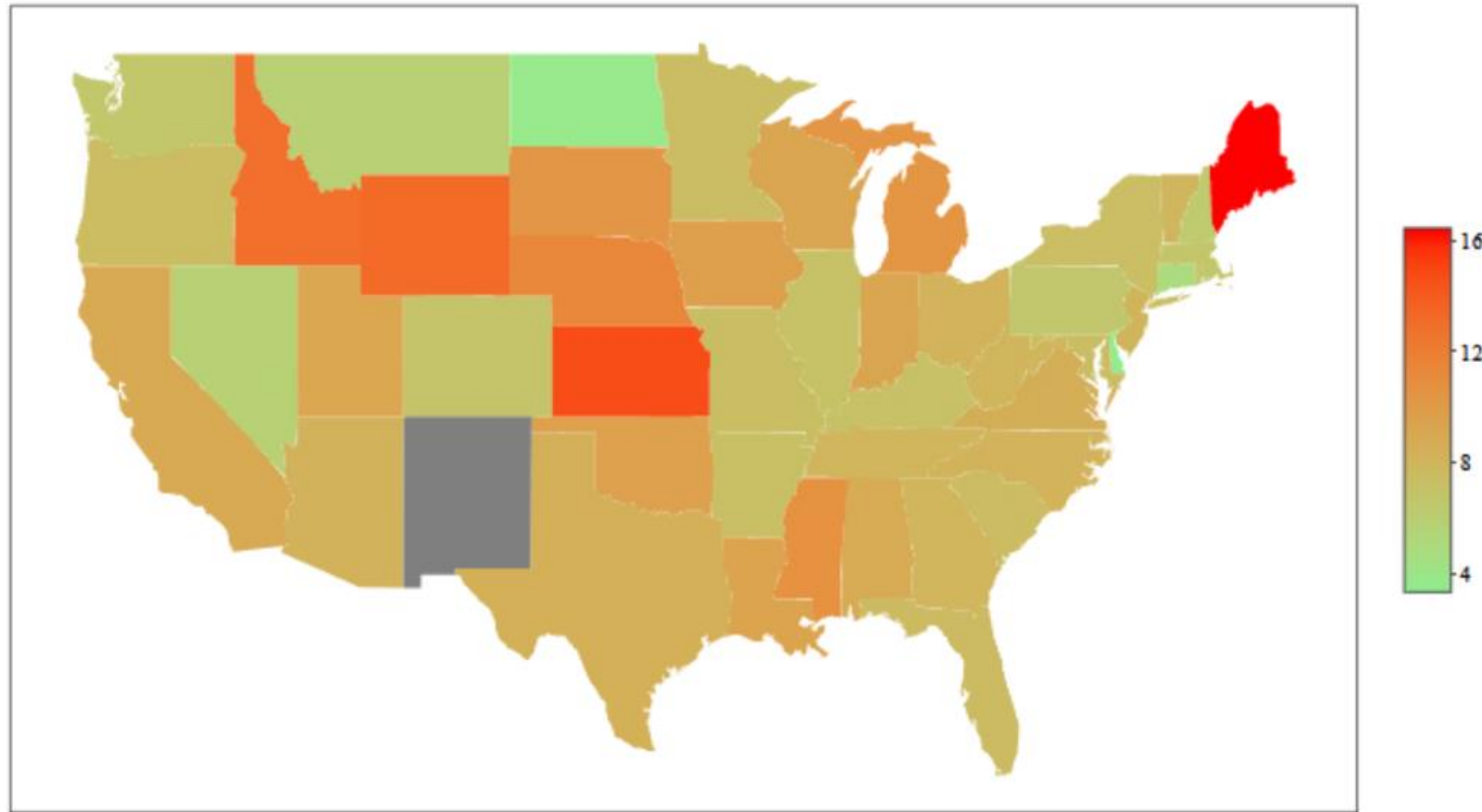
Avg monthly BL default rate: 2021m1-2021m12 (bps)



# Identify Troubled Markets in Real Time

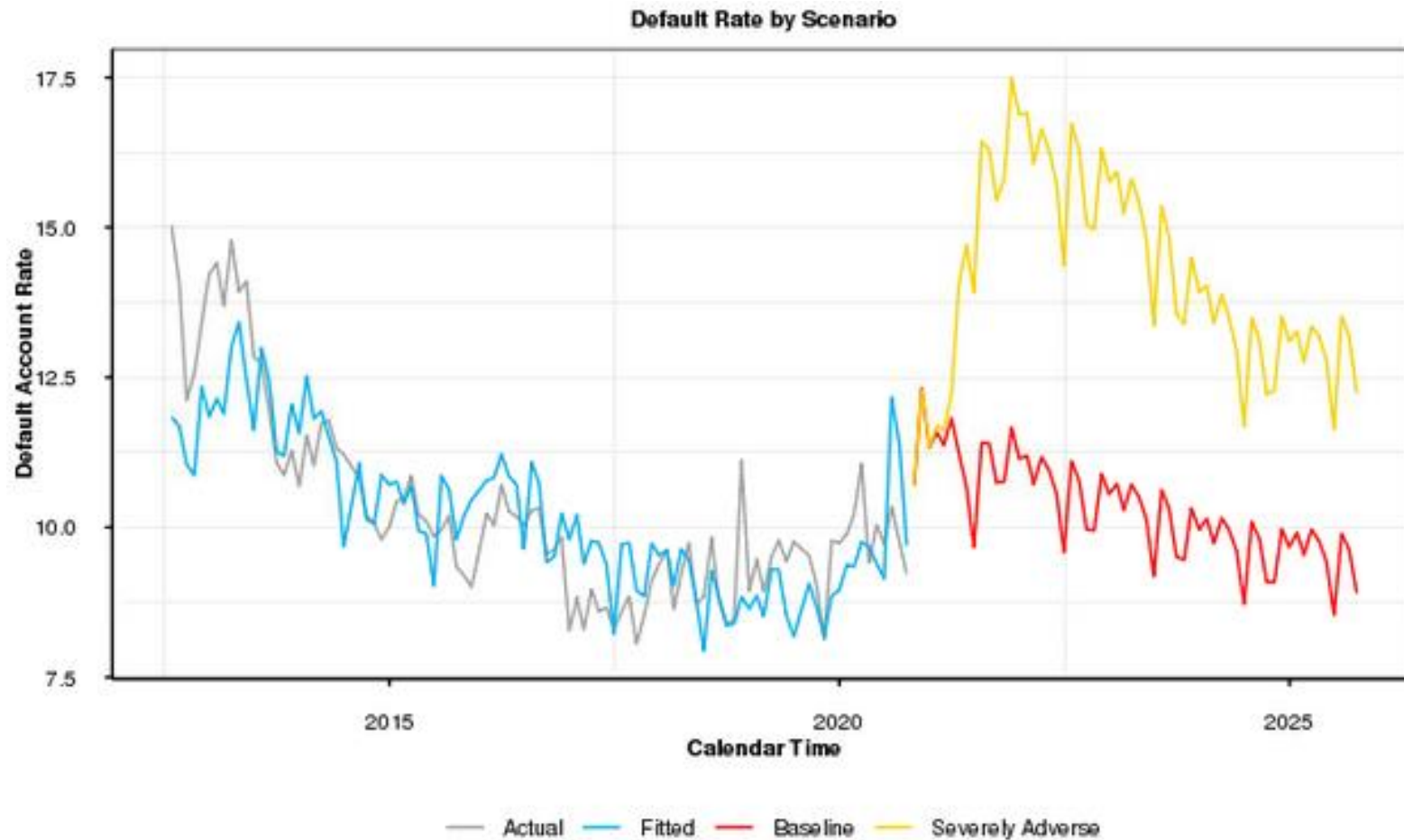
Avg Monthly BL Default Rate Forecast (BL): 2021m1 – 2021m12

Avg monthly BL default rate: 2021m1-2021m12 (bps)



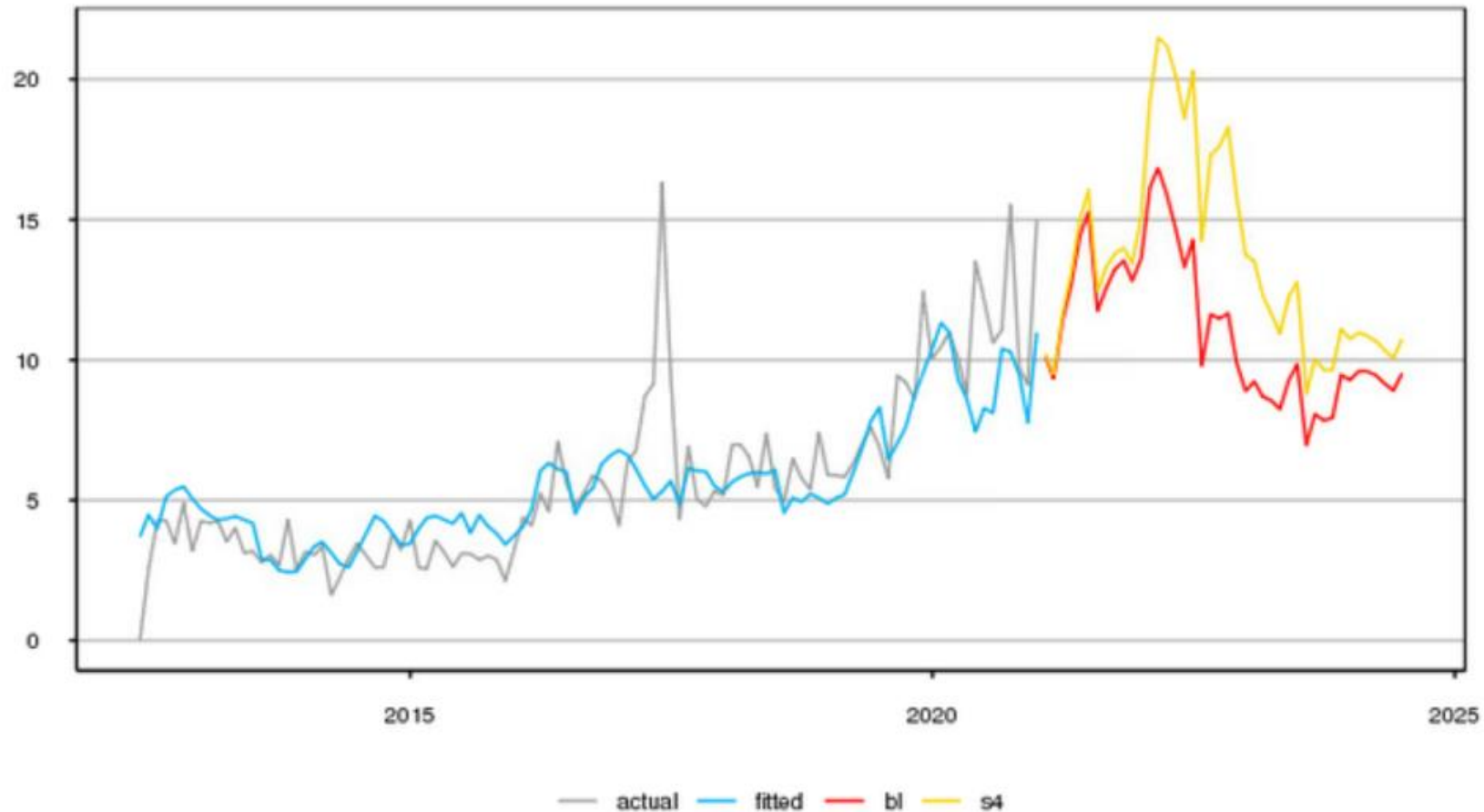
# Compare Default Risk Across Economic Scenarios

Portfolio-level PD rates (bps), Commercial Card



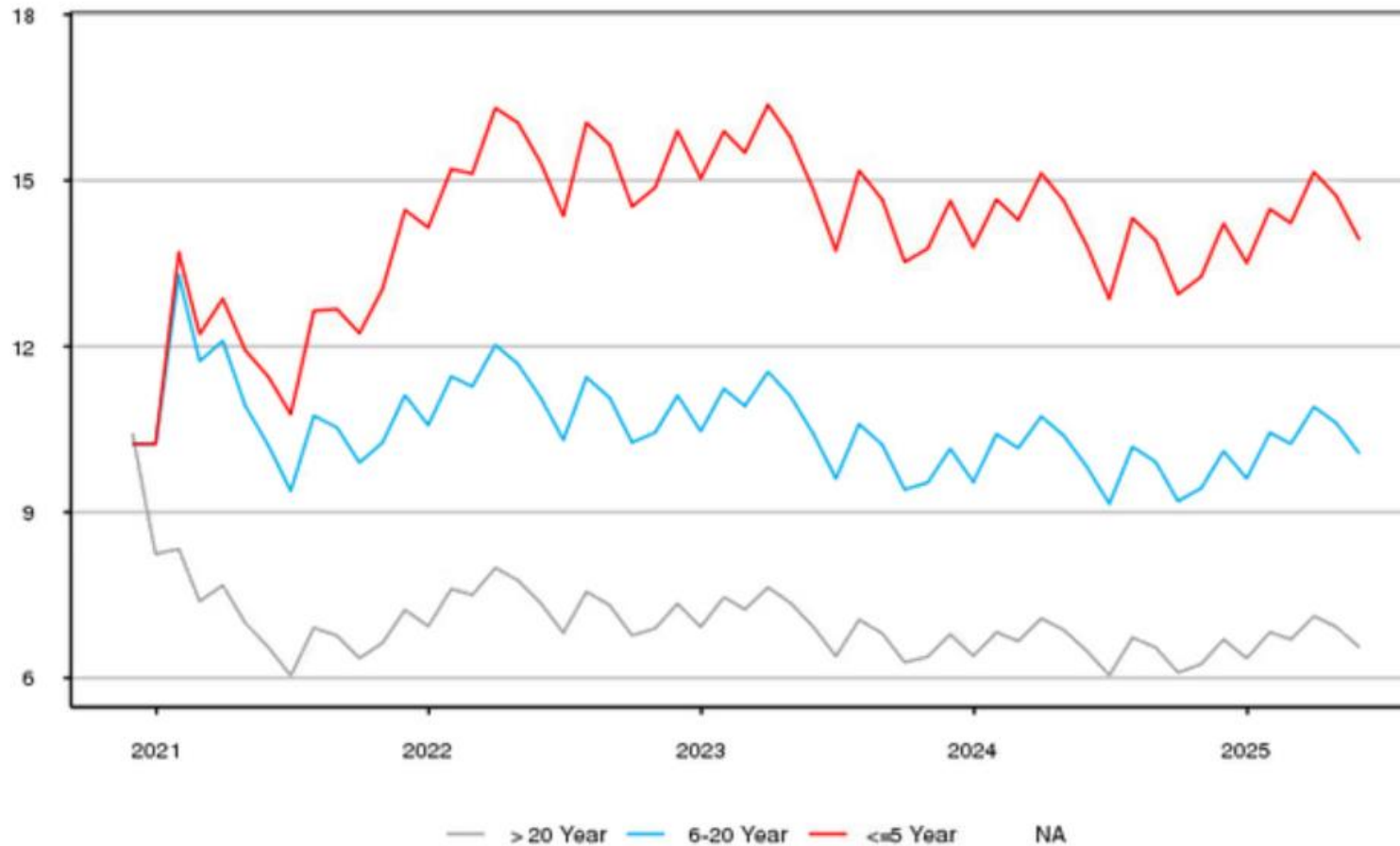
# Compare Default Risk Across Economic Scenarios

Portfolio-level PD rates (bps), Business Lease



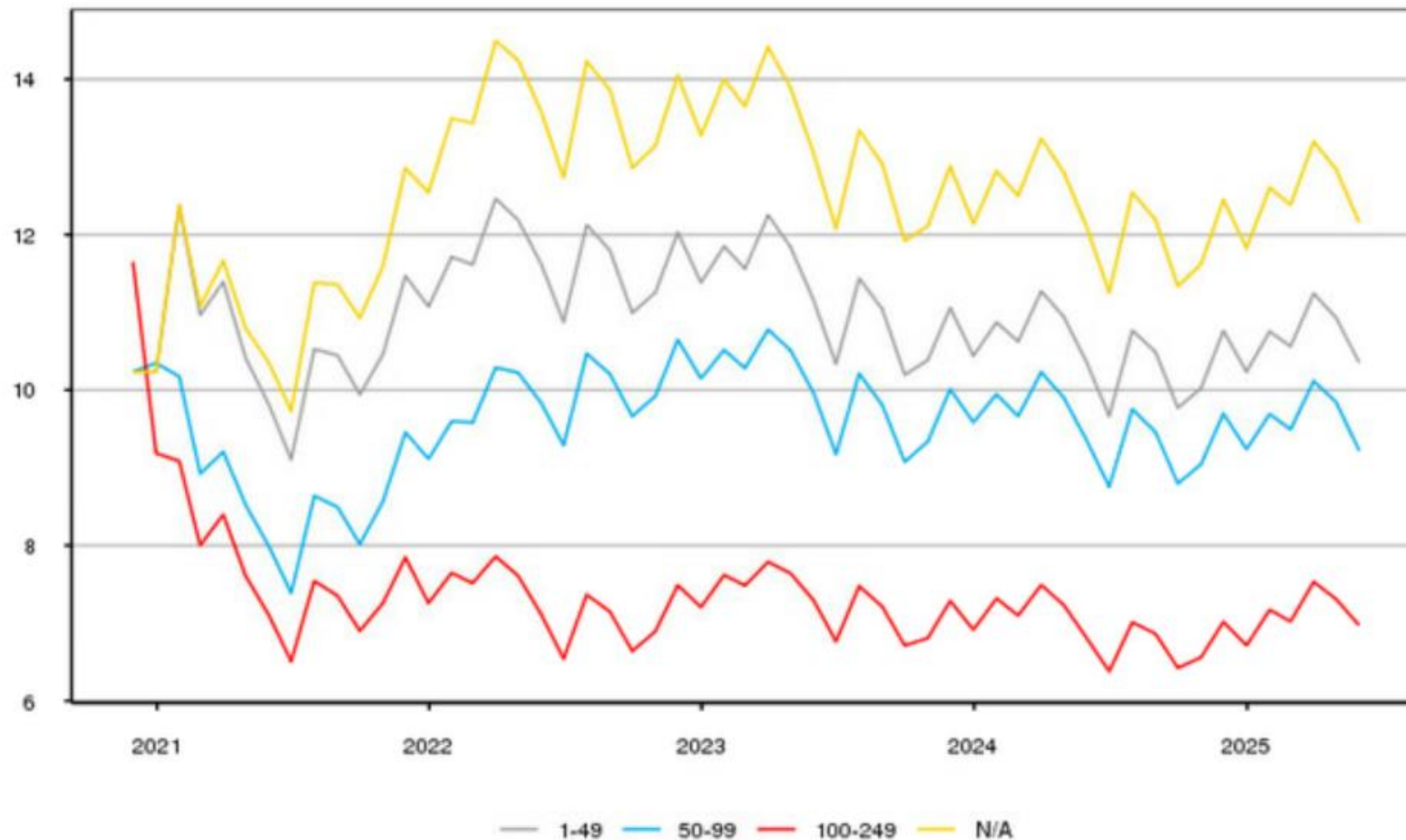
# Analyze Default Risk by Years in Business

Baseline PD rates (bps), Portfolio-level, Commercial Card



# Assess Default Risk by Firm Size (# Employees)

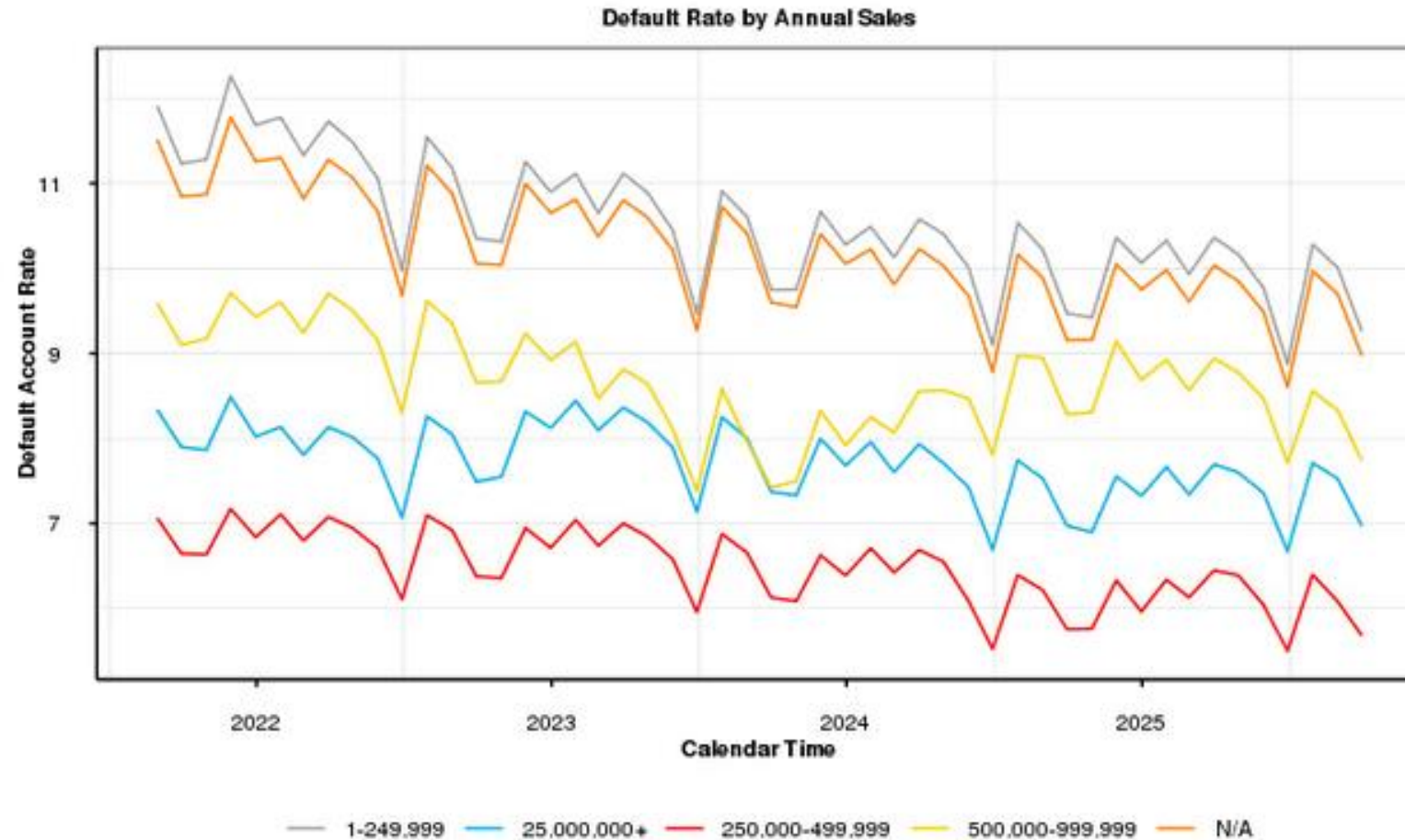
Baseline Scenario PD rates (bps) by Number of Employees





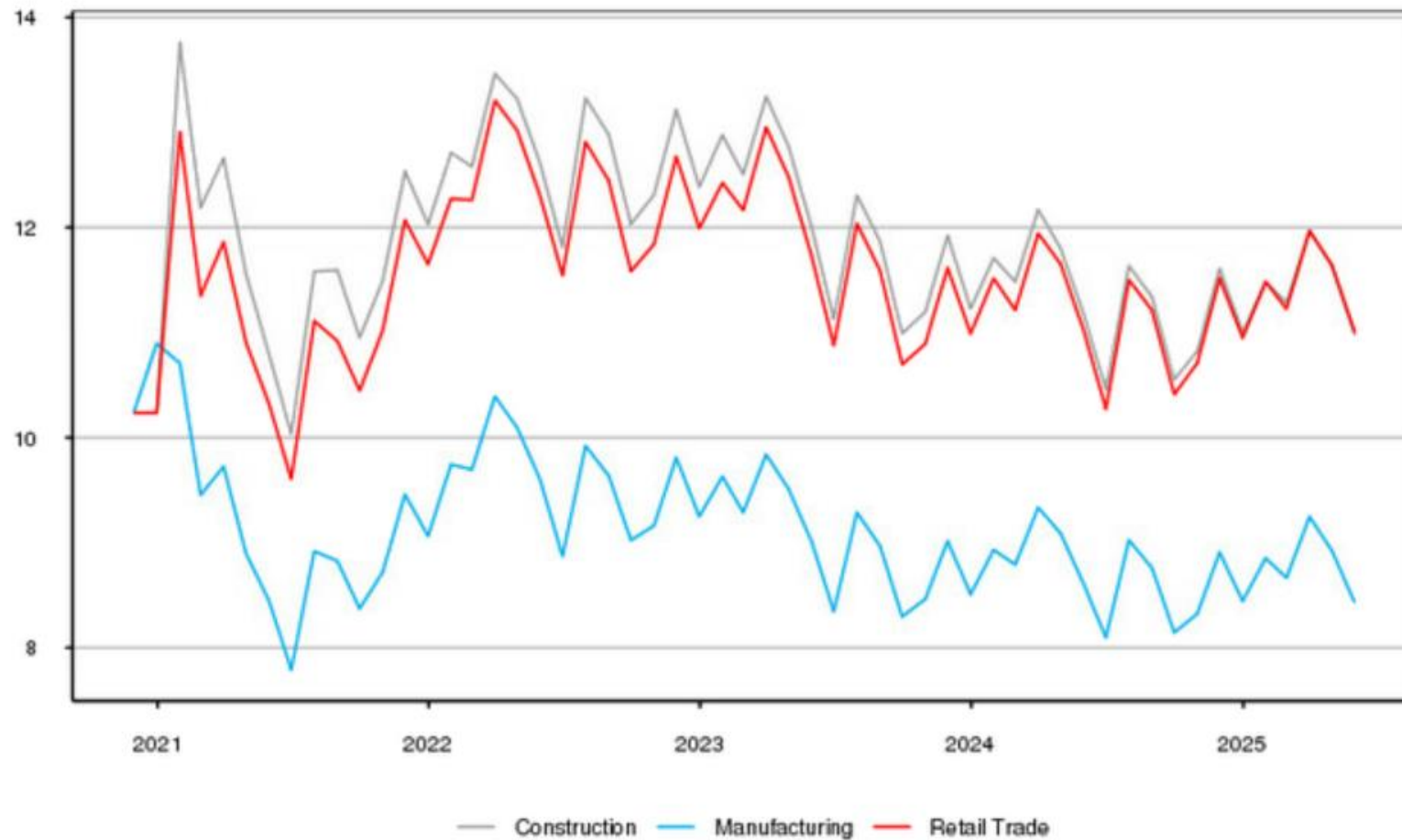
# Assess Default Risk by Firm Size (Annual Sales)

Baseline Scenario PD rates (bps) by sales (\$)



# Compare Default Risk Across Industries

Baseline Scenario PD rates (bps) by NAICS Code





Solutions

# Solutions

## Model Delivery

- Our delivery solutions are currently:
  - Data Buffet/CSV Delivery
    - Web-based platform to seamlessly view, manipulate, and automate forecast delivery.
- Our forthcoming delivery option:
  - Portfolio Analyzer: A loan-level platform that can generate loss forecasts for client specific portfolio.
    - Easy to use program interface for using models to estimate the risk to your small business portfolio.

# Portfolio Analyzer (PA) Suite of Models

Account level analysis – Connected to macroeconomic factors

- Availability of *Moody's Analytics Macroeconomic Forecasts* (off-the-shelf and custom scenarios) as well as a connection to *Scenario Studio*, our global forecasting platform.
- Macroeconomic data and forecasts can be made available at the **national, State or MSA** level.
- User-defined scenarios: users can create and run “what-if analysis” on their portfolios with idiosyncratic assumptions on macro variables.
- Macroeconomic simulations are embedded in our PA platform, helping users run Portfolio Credit Analytics: VaR & Tail Risk Contribution, Concentration Risk Analysis, Economic Capital calculations for retail portfolios.

Moody's Analytics - Portfolio Analyzer (PA) v0.19.2.1

Portfolio Analyzer

US Autos Economy Download Options

Analyses CECL Analysis Scenarios Asset Generator Loans Docs & Links Reporting Settings

Loan Data Profile

Filepath: C:\Users\TEMP.MD\NYCMAS\Desktop\APA\_OTS\_20 Browse... As of date: 02/03/2020 mm/dd/yyyy

Advanced Options

Analysis Settings

Horizon: 7 years 0 months

☒ Simulation

Simulations: 10000 economies

☒ Standard Loss Simulation ☐ Custom Loss Simulation

☐ Fixed Economic Scenario Simulation

☐ Fixed Custom Scenario Simulation

☐ CECL Analysis

☒ Economic Scenario

☒ 0 - Baseline Scenario (October 2019)

☒ 1 - Stronger Near-Term Growth (October 2019)

☐ 2 - Slower Near-Term Growth (October 2019)

☒ 3 - Moderate Recession (October 2019)

☒ 4 - Protracted Slump (October 2019)

☐ 5 - Below-Trend Long-Term Growth (October 2019)

☐ 6 - Stagflation (October 2019)

☐ 7 - Fed Baseline Scenario (CCAP 2019 - MidCycle Update)

☐ Custom Scenario

Run Analysis

Ready...

**Guide**

Please select a file containing the data you would like to analyze and indicate the date of the most recent update of that data. The data file should be a tabular layout such that the columns represent specific loan attributes and the rows are the loans themselves. Please refer to Description of Loan Fields in "Docs & Links" tab for descriptions of the supported loan attributes.

**Additional Information**

This version of software will expire on 05/15/2021

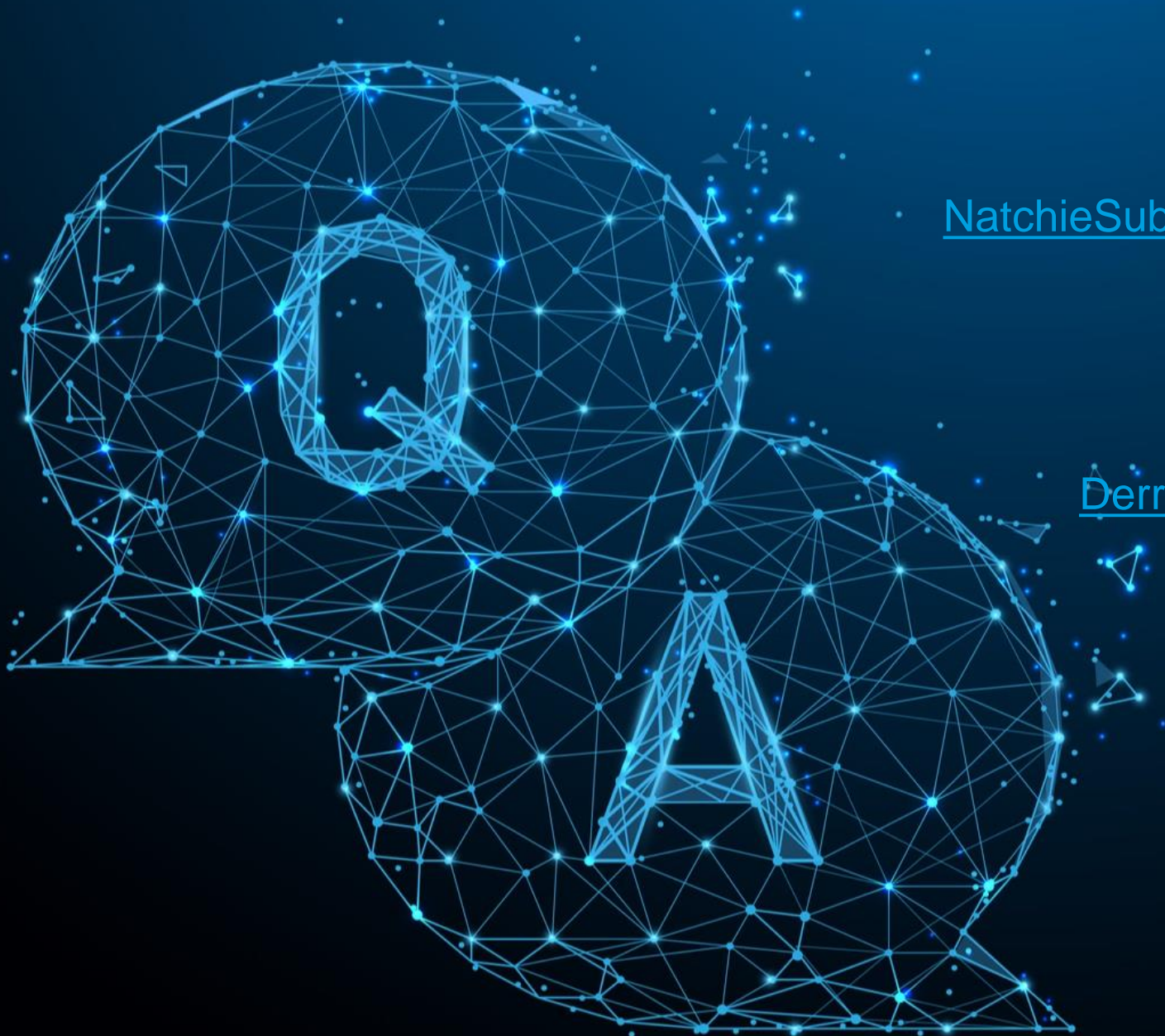
Macro-economic data downloaded on 10/31/2019

**Tools**

The following tools are available to perform additional analysis tasks. Please click the links below to launch individual applications.

[Model Calibration](#)

[Portfolio Concatenation](#)



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