Shuttered Venue Operators Grant Program Evaluation: Final Evaluation Report

Submitted to:
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U.S. Small Business Administration

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Executive Summary

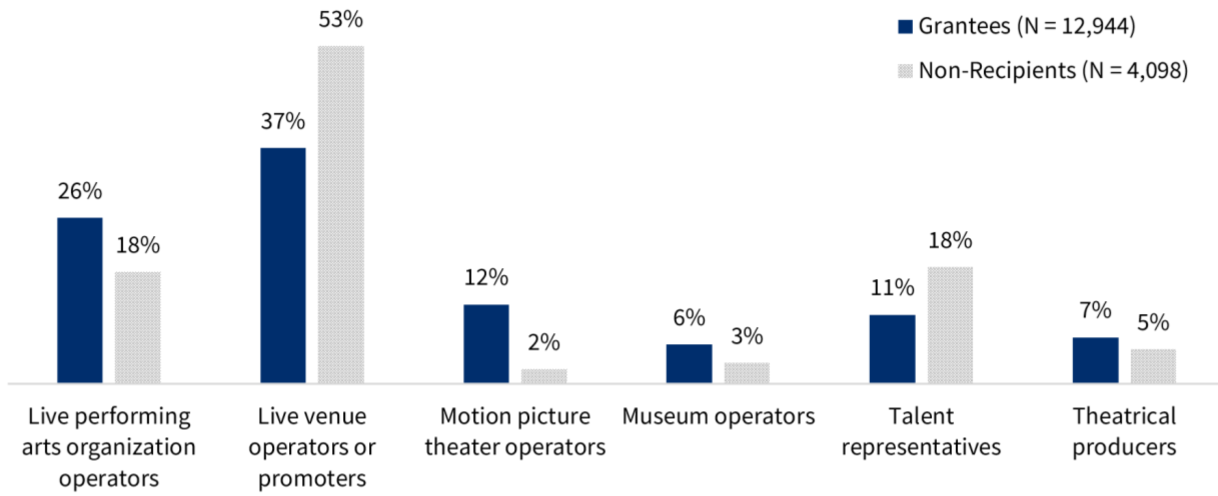
The Shuttered Venue Operators Grant (SVOG) program was established in 2021 to support the ongoing operations of eligible live venues and operators, live venue promoters, theatrical producers, talent representatives, live performing arts organization operators, museums, and motion picture theaters that were financially affected by social distancing and other prevention measures due to the COVID-19 pandemic. Established by the 2020 Economic Aid to Hard-Hit Small Businesses, Nonprofits, and Venues Act, the program was administered by the U.S. Small Business Administration (SBA) Office of Disaster Assistance (now named the Office of Disaster Recovery and Resilience) and included over $16 billion in grants to eligible venues. Eligible applicants to the program could qualify for grants equivalent to 45 percent of their gross earned revenue, up to a maximum single grant amount of $10 million.[1]

This report describes the key findings from a program evaluation conducted by 2M Research (2M) to better understand grantee characteristics, the allocation and spending of their funds, and the key outcomes of SVOG. The evaluation used a combination of SVOG applicant data, grantee closeout survey information, data collected by 2M from a grantee web survey and grantee interviews, and extant data from Dun & Bradstreet.

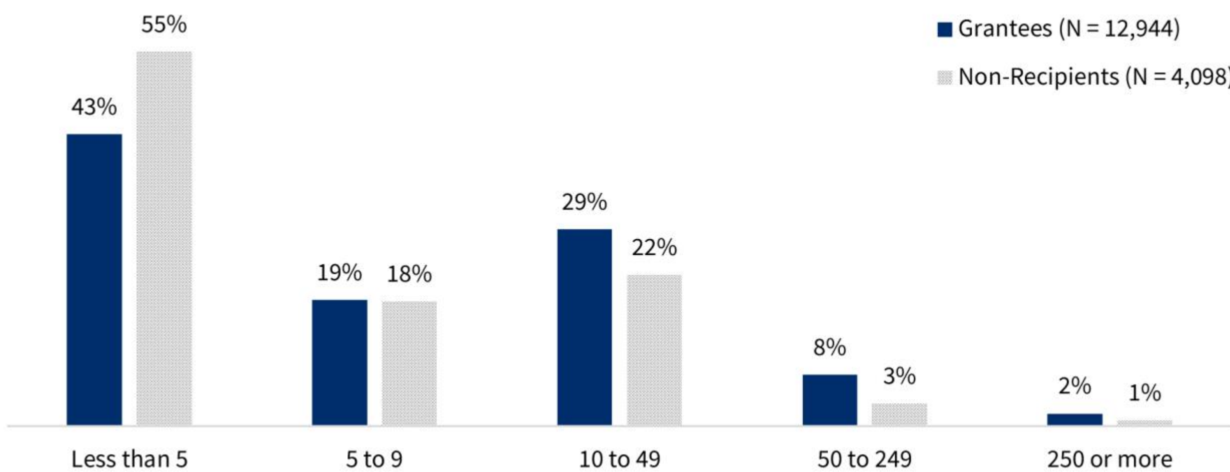
The figures below present key findings from the evaluation.

[1] For more information on the SVOG program, please see: https://www.sba.gov/funding-programs/loans/covid-19-relief-options/shuttered-venue-operators-grant/about-svog.

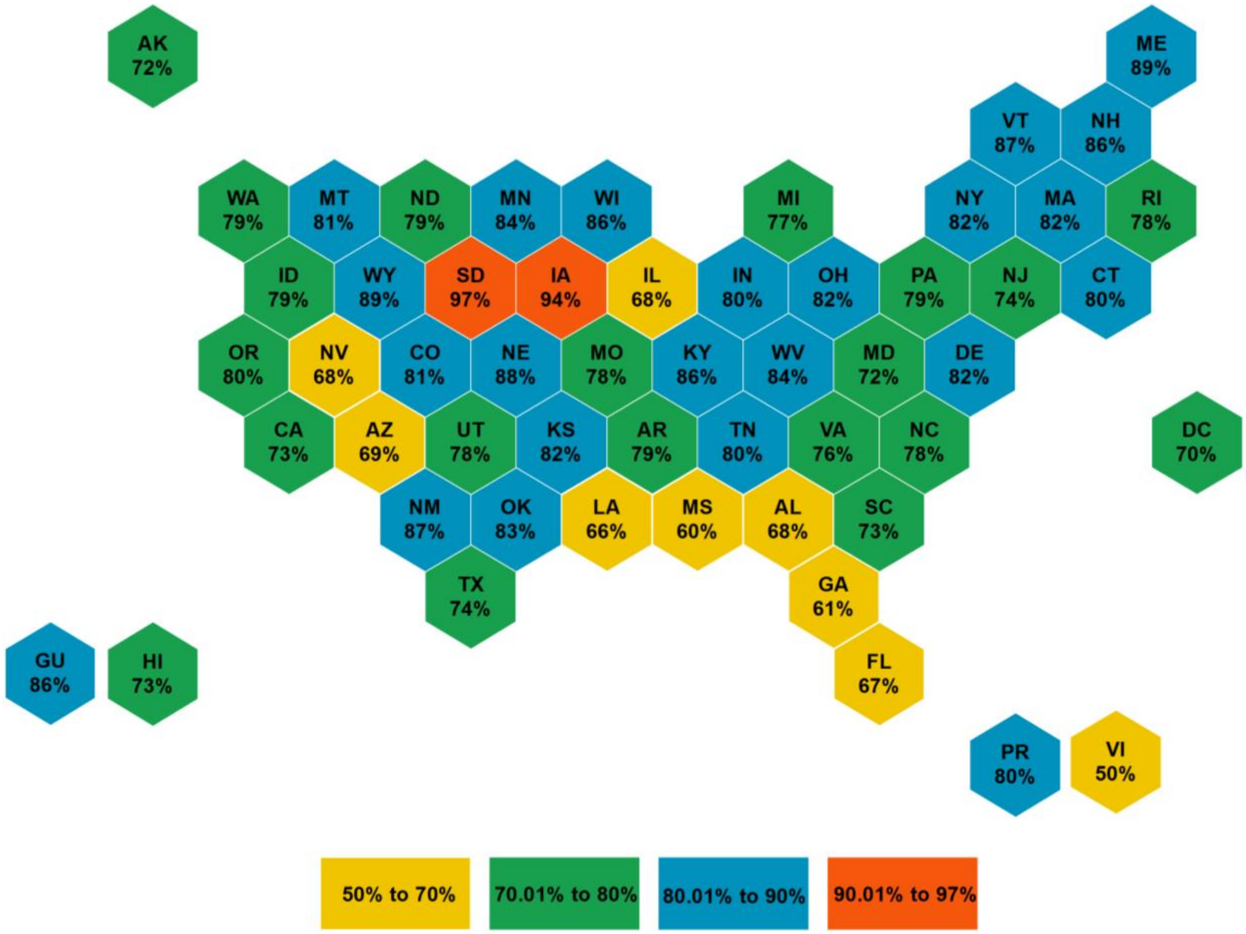
Key Finding 1: SVOG grantees and non-recipients varied in terms of venue type.



Key Finding 2: Most SVOG grantees were small businesses with less than 50 employees, but small businesses also made up a large share of non-recipients.

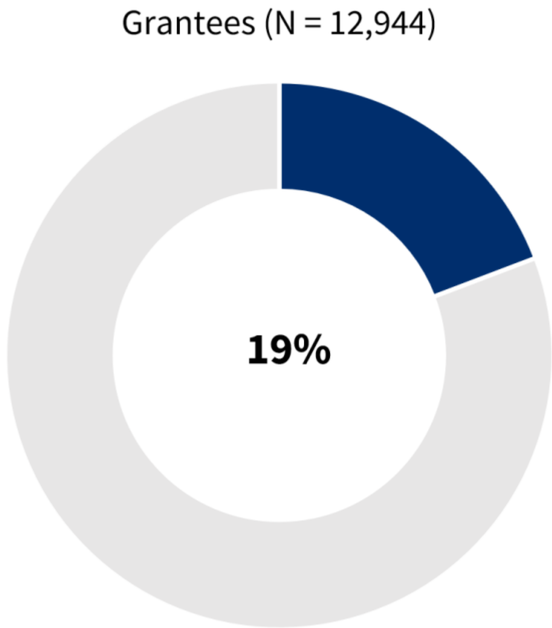


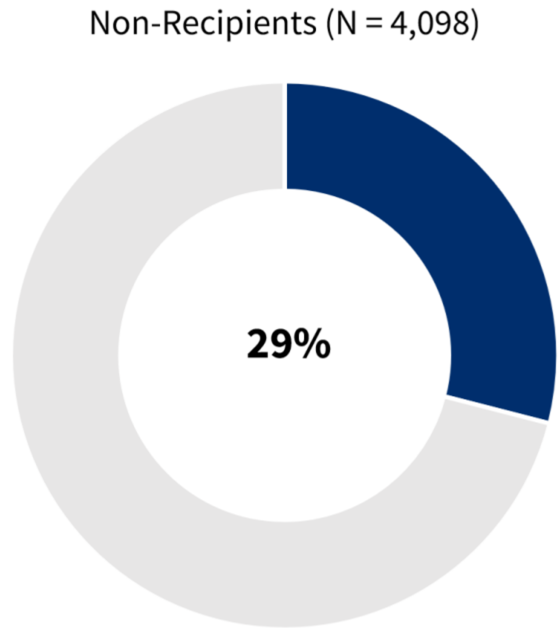
Key Finding 3: Awards went to businesses throughout the United States, but award rates were lower in Southern states.



Note: Award rate is defined as the number of grantees in the state divided by the total number of applications in the state, multiplied by 100.

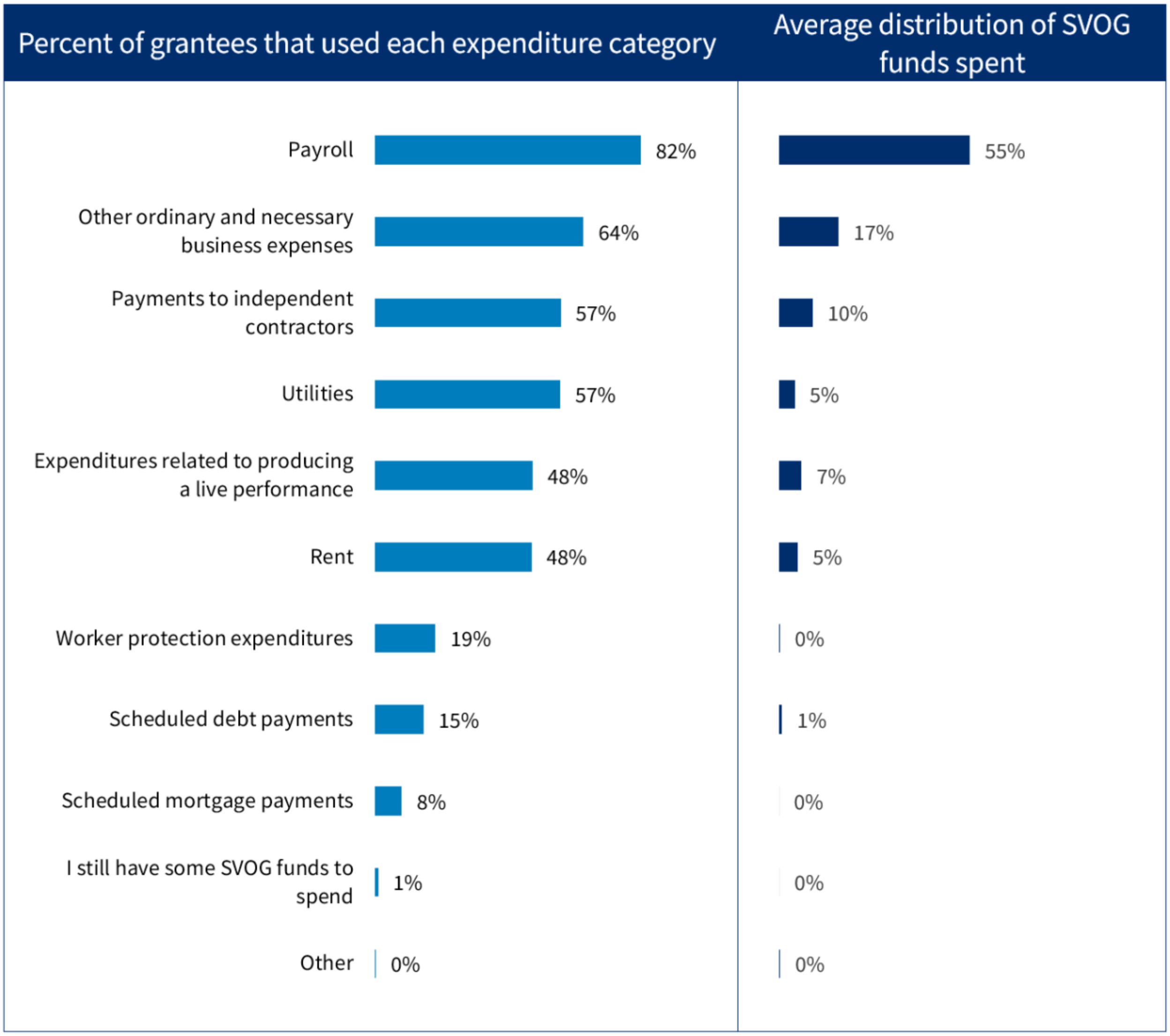
Key Finding 4: 19 percent of SVOG grantees (and 29 percent of non-recipients) were underserved businesses.





Note: The evaluation team used "underserved" to capture businesses identified in Dun & Bradstreet data as any of the following: disabled-owned, veteran-owned, women-owned, minority-owned, or small disadvantaged. The evaluation team retained the same naming convention from Dun & Bradstreet's data categories. We recognize that the underserved category does not fully capture all businesses that have historically experienced unequal treatment by the government.

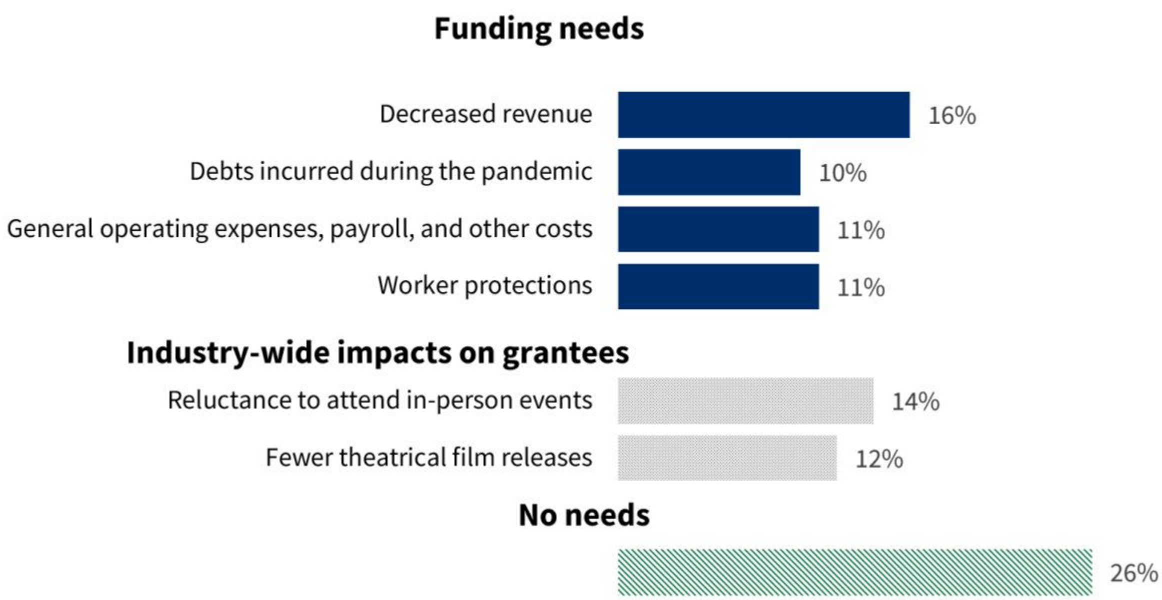
Key Finding 5: Grantees usually spent most of their funds on payroll.



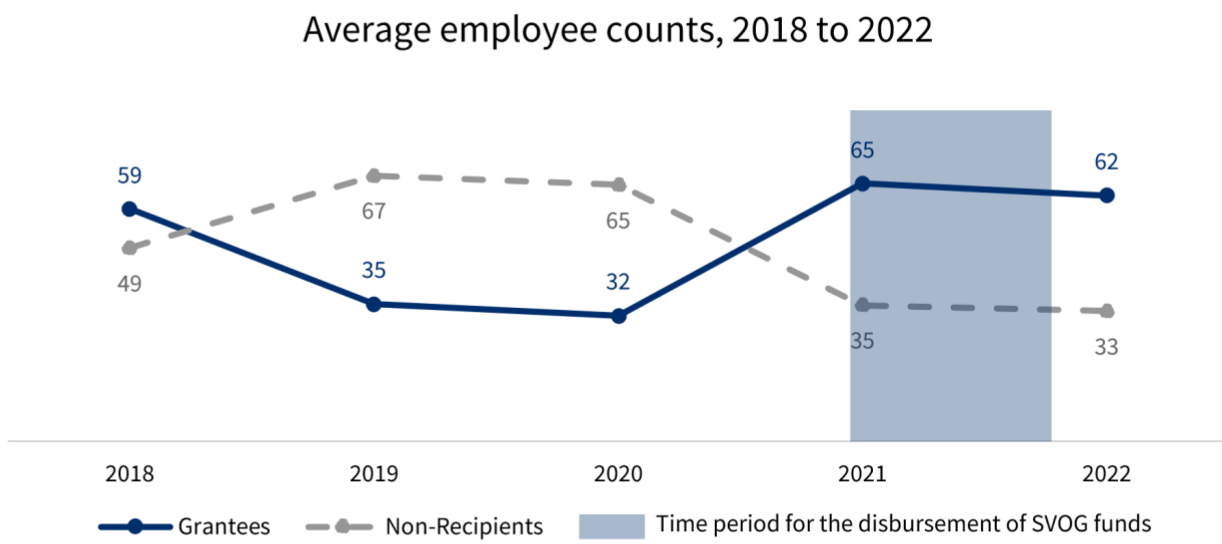
Key Finding 6: Many grantees reported that SVOG was important for the survival of their business during the pandemic.

- "This grant specifically allowed us to stay open. We are big fans of it. It was a very complex application. There was a lot of support on the website, and all of the webinars and the YouTube videos were so helpful that SBA put out… yes, very, very grateful." – **SVOG Grantee Interview Respondent**
- "This kind of support was absolutely amazing and made it able for us to survive and to come back and begin getting back-to-normal business paying artists and so on. If only some form of this support [was] always in place. Everybody's lives would be better!" – **SVOG Grantee Survey Respondent**

Key Finding 7: Grantees requested additional funding to address pandemic recovery needs and described industry-wide issues that still impact their businesses. About one-fourth of grantees indicated no remaining needs.

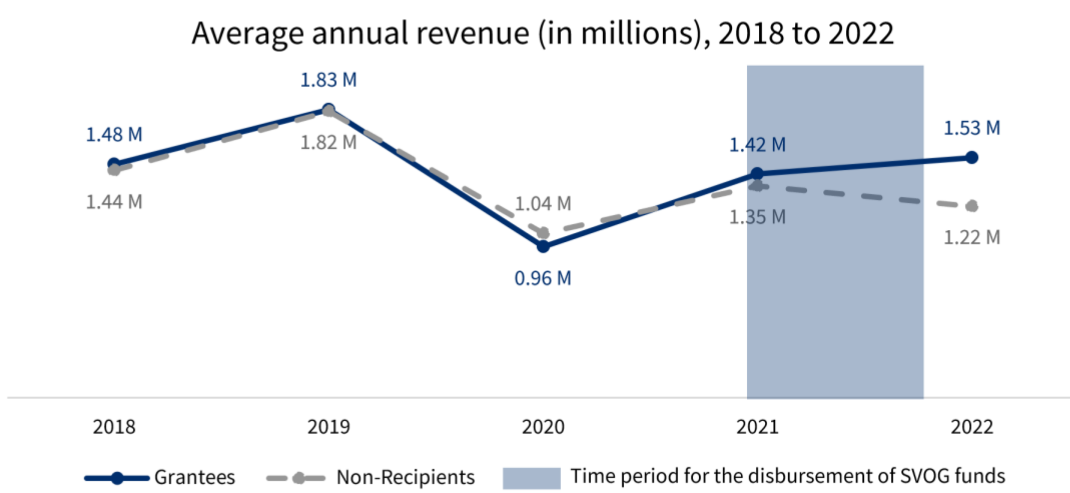


Key Finding 8: SVOG grantees experienced an increase in average employee counts compared to non-recipients after the disbursement of SVOG funds, but the increase was not statistically significant and cannot conclusively be attributed to SVOG funds.



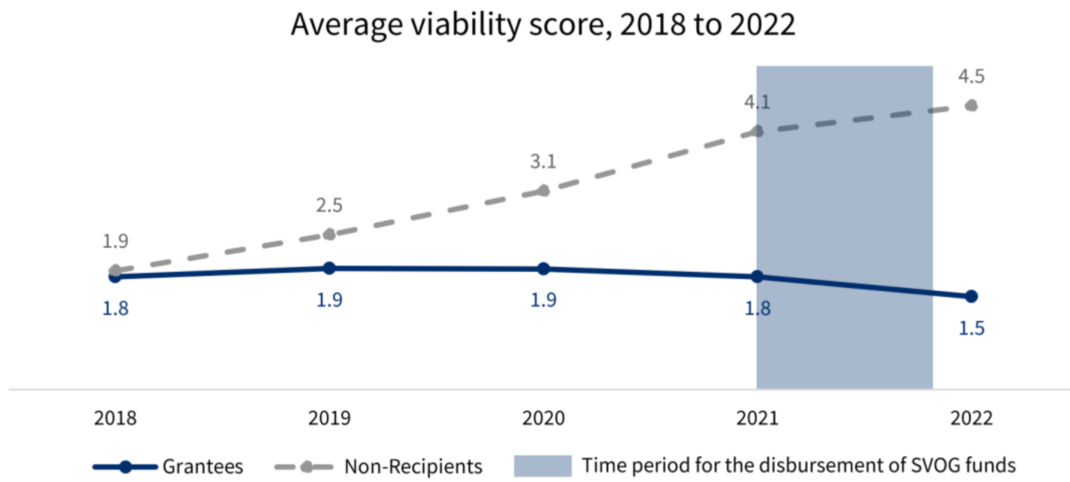
Note: The difference in the employee count trends between grantees and non-recipients was not statistically significant in the difference-in-differences regression model.

Key Finding 9: SVOG grantees experienced increased annual revenues compared to non-recipients after the disbursement of SVOG funds. There is conclusive evidence that SVOG had a positive impact on the annual revenue of grantees.



Note: The difference in the revenue trends for grantees and non-recipients was statistically significant (p <0.01) in the difference-in-differences regression model.

Key Finding 10: Grantees experienced a significant improvement in average business viability, with lower scores indicating better viability, compared to non-recipients after the disbursement of SVOG funds. There is conclusive evidence that SVOG had a positive impact on the business viability of grantees.



Note: The business viability score ranges from 1 to 9, with 9 representing businesses most likely to cease operations and 1 representing businesses least likely to cease operations. The difference in the viability trends between grantees and non-recipients was statistically significant ($p < 0.05$) in the difference-in-differences regression model.

Overall, the key findings from the SVOG Program Evaluation indicate that program funds went to a diverse set of businesses across the United States. Most grantees spent funds on payroll and general operating expenses related to their businesses. The grantee survey and interviews found evidence that grantees felt SVOG prevented their businesses from closure. The evaluation found conclusive evidence that SVOG funds increased annual revenues and improved the viability of grantees.

The report findings suggest several recommendations to consider when implementing similar emergency response and/or industry-specific grant programs in the future.

Recommendation 1: Regularly conduct analysis of client characteristics, comparing to those of applicants that were not admitted to the program.

- **Evidence.** The evaluation found smaller businesses, underserved businesses, businesses in some regions of the U.S., and certain venue types were less likely to receive an SVOG award.
- **Implementation.** To better understand differences or potential bias in award and lending patterns, SBA programs can implement real-time, interactive dashboards that display topline measures that compare clients to all applicants. If there are clear differences, programs can consider implementing outreach efforts to target groups that are receiving fewer awards, loans, certifications, and more. See Recommendation 3 for more evidence supporting outreach. A dashboard may also support track measures of impact on surrounding industries and economic impacts, to better facilitate evidence-building activities.

Recommendation 2: Support outreach that can identify needs and challenges from the perspective of the industry or area targeted by the grant program.

- **Evidence.** SVOG targeted the performing arts industry. The grantee survey responses and interviews found many grantees face larger industry-wide issues that the SVOG funds could not address on their own. These issues included decreases in attendance at in-person events and fewer theatrical releases in the era of streaming (an issue specific to motion picture theater operators).
- **Implementation.** Outreach efforts can be restricted by grant management practices which can be outside of a program's control, as was the case for SVOG. It is possible to design programs with integrated outreach and service resources to inform continuous quality improvement, however. SBA programs can further opportunities for client support and improved client experiences with built-in outreach mechanisms. Using support surveys, listening sessions, and other outreach, SBA programs can proactively identify issues and solutions to inform program implementation.

Recommendation 3: Support grantee connections to other sustainable sources of funding.

- **Evidence.** The evaluation found almost all grantees spent all their SVOG funds, and, in the interviewees, several grantees mentioned needs for more funding and their current challenges identifying sustainable sources of funding for their businesses.
- **Implementation.** Using improved mechanisms for outreach and understanding client characteristics, SBA programs can organize convenings that bring together customers based on eligibility for additional funding sources. At the convenings, SBA programs can make connections to other SBA resources, and facilitate discussions to help customers create networks from which they may learn about best practices to access available, sustainable funding.

Recommendation 4: Consider ways to streamline and ease the burden of the application process, improving customer experience.

- **Evidence.** In the web survey, a small number of grantees indicated a negative experience with the SVOG application process.
- **Implementation.** Often grant program staff face constraints in the degree to which they can interact with applicants and influence application requirements, especially in the case of grant programs established through legislation, like SVOG. That said, when flexibilities exist, SBA programs can dedicate staff to support questions or technical issues that arise during the application process; a critical component to providing meaningful support is to ensure collaboration between policymakers and communications personnel to develop guidance in plain language. In addition, SBA should look for ways to develop a centralized application that can determine eligibility for more than one program, so that applicants are not required to submit multiple applications.

Introduction

Background

In December 2020, the Shuttered Venue Operators Grant (SVOG) was established by Section 324 of the Economic Aid to Hard-Hit Small Businesses, Nonprofits and Venues Act (15 U.S.C. 9009a), as part of H.R. 133 Consolidated Appropriations Act, and was amended by Section 5005 of the American Rescue Plan Act of 2021. The program was designed to support the ongoing operations of eligible live venues and operators, live venue promoters, theatrical producers, talent representatives, live performing arts organization operators, museums, and motion picture theaters that were financially affected by social distancing and other prevention measures due to the COVID-19 pandemic. The program was administered by the U.S. Small Business Administration (SBA) Office of Disaster Assistance, now the Office of Disaster Recovery and Resilience, and included over $16 billion in grants to eligible venues. Eligible applicants to the program could quality for grants equivalent to 45 percent of their gross earned revenue, up to a maximum single grant amount of $10 million.

As of September 2022, the SVOG program awarded funds to 12,944 businesses. After the initial round of awards, the SBA invited grantees that received less money than they requested to apply for a reconsideration of their award amount. Grantees who accepted reconsideration invitations were required to provide supporting documentation that demonstrated sustained revenue loss of 70 percent or greater, as well as documentation that may have been missing from their initial application. In August 2021, SVOG grantees were encouraged to apply for a supplemental award. This award provided additional funding up to 50 percent of the original award amount with a cap at $10 million in total grant awards. Of the 12,944 businesses that received funds, 3,739 received higher award amounts after reconsideration and 10,581 received supplemental awards. The funds were distributed from May 2021 through August 2022, with most funds (95 percent) distributed by December 2021.

Exhibit 1. Most SVOG funds were distributed in 2021.

Month and Year of Award	Number of Awards	Cumulative Percent
May 2021	31	0.24
June 2021	3,097	24.17
July 2021	6,871	77.25
August 2021	1,205	86.56
September 2021	487	90.32
October 2021	369	93.17
November 2021	255	95.14
December 2021	44	95.48
January to August 2022	192	96.96
Missing award date	393	100

N = 12,944

Source: SVOG Application Data.

Evaluation Objectives and Questions

To better understand grantee characteristics, the allocation and spending of their funds, and the key outcomes of SVOG, the SBA Office of Program Performance, Analysis, and Evaluation contracted with 2M Research (2M), an SBA HUBZone-certified, minority-owned, and small disadvantaged business, to conduct a mixed methods evaluation of the program. 2M's evaluation team designed the evaluation to answer the following evaluation questions which are organized into four key domains:

Domain 1: Characteristics of SVOG Grantees and Non-Recipients.

- What are the characteristics of SVOG grantees? How do SVOG grantees compare to business owners who applied but failed to receive SVOG funds?

Domain 2: Implementation of SVOG.

- How have SVOG grantees spent their grant funds?
- How did the actual use of funds compare to the approved allowable costs following budget review(s)?

Domain 3: Impacts of SVOG.

- What is the change in number of jobs for SVOG venues before and after the receipt of grant funds? What is the change for venues that applied and failed to receive SVOG funds during the same time frame? How does the change in number of jobs vary by venue type, industry, geography, number of employees, socioeconomic designation, and owner demographics, among other variables?
- What is the average change in revenue earned by SVOG venues before and after the receipt of grant funds? What is the change for venues that applied and failed to receive SVOG funds during the same time frame? How does the average change in revenue vary by key business characteristics?
- How many SVOG grantees are still in operation three months, six months, and twelve months after the final disbursement of all funds (including funds from reconsiderations and supplementations)?
- What are the characteristics of SVOG grantees still in operation today and how do they compare to applicants who failed to receive SVOG funds? How do they compare to SVOG grantees that are no longer in operation? How does operating status vary by key business characteristics?

Domain 4: Perceptions of SVOG and Remaining Pandemic Recovery Needs.

- What are grantees' perceptions of the SVOG grant's relationship to business survival? Do SVOG grantees associate the grant with business outcomes?
- What are the remaining pandemic recovery needs of SVOG grantees?

Evaluation Data Sources

The SVOG Program Evaluation includes five data sources:

1. **SVOG Application Data:** Data provided by the SBA that included information on the characteristics of program applicants, identified which businesses received a grant (grantees) and those that applied but failed to receive a grant (non-recipients), and included details on approved award amounts of all grantees.
2. **SVOG Closeout Survey:** Data provided by SBA that included responses to key questions about grantees' perceptions of the program and its relationship to business survival. Only 82 grantees had responded to the closeout survey by the time the evaluation team received the data.
3. **Grantee Survey:** Data collected by the evaluation team through a web survey delivered to a random sample of 4,000 SVOG grantees. The survey included information on how grantees spent the funds they received and an open-ended question about the remaining pandemic recovery needs of grantees. The evaluation team received 1,829 survey responses, a response rate of 46 percent.
4. **Follow-On Interviews:** Data collected by the evaluation team through follow-on semi-structured interviews with 36 grantees that responded to the grantee survey; these interviews gathered more in-depth information about the remaining pandemic recovery needs of grantees.
5. **External Data from Dun & Bradstreet:** Data purchased from Dun & Bradstreet that included information on trends for number of employees, sales, and business viability of both grantees and non-recipients from 2018 to 2022. The evaluation team planned to use this data to also capture trends in annual revenue, but the information source was unavailable for SVOG applicants. The evaluation team estimated annual revenue based on revenue figures from the SVOG application data for 2019 and 2020 and the available data from Dun & Bradstreet using a multiple imputation process.

Evaluation Analysis Methods

The evaluation team studied each data source with different analytical methods:

1. **Descriptive Statistics:** The evaluation team analyzed characteristics of grantees and non-recipients in the SVOG application data; information on program perceptions from the closeout survey and grantee survey; and trends in revenue, employee counts, and business survival for grantees and non-recipients from Dun & Bradstreet using descriptive statistics.
2. **Logistic Regression:** The evaluation team used logistic regression to understand the key characteristics of successful applications that received SVOG funds.
3. **Difference-in-Differences (DID) Regression Modeling with Propensity Score Matching (PSM):** The evaluation team matched grantees to non-recipients based on their key characteristics using PSM and then estimated a DID that determined if grantees experienced larger increases in revenue, employee counts, and business viability compared to non-recipients. The evaluation team estimated a DID overall and a DID for key business characteristics to determine if findings changed for different business types.
4. **Topic Modeling:** The evaluation team performed topic modeling of open-ended grantee survey data to identify the remaining pandemic recovery needs of grantees.
5. **Thematic Analysis:** The evaluation team conducted thematic analysis of the follow-on interview transcripts to identify additional information on the pandemic recovery needs of grantees.

Organization of the Report

The remainder of this report is organized into sections for each of the four domains of the SVOG Program Evaluation. Domain 1 provides a summary of the characteristics of SVOG grantees and non-recipients. Domain 2 discusses how grantees spent their funds. Domain 3 reports on the impact of the SVOG program on business survival, revenue, and number of employees. Domain 4 presents a discussion on the perceptions of the SVOG program and the remaining pandemic recovery needs of grantees. Finally, the conclusion highlights recommendations based on the study's key findings and discusses the study's limitations.

Exhibit 2. The evaluation team used a mixed methods approach to implement the SVOG Program Evaluation.

Domains and Evaluation Questions	Data Sources					Analysis Methods				
	SVOG Application Data	SVOG Closeout Survey	Grantee Survey	Follow-On Interviews	Dun & Bradstreet	Descriptive Statistics	Logistic Regression	DID Regression with PSM	Topic Modeling	Thematic Analysis
Domain 1: Characteristics of SVOG Grantees and Non-Recipients	✓				✓	✓	✓			
What are the characteristics of SVOG grantees? How do SVOG grantees compare to business owners who applied but failed to receive SVOG funds?	✓				✓	✓	✓			
Domain 2: Implementation of SVOG			✓			✓				
How have SVOG grantees spent their grant funds?			✓			✓				
How did the actual use of funds compare to the approved allowable costs following budget review(s)?			✓			✓				
Domain 3: Impacts of SVOG	✓		✓		✓	✓		✓		
What is the change in number of jobs for SVOG venues before and after the receipt of grant funds? What is the change for venues that applied and failed to receive SVOG funds during the same time frame? How does the change in number of jobs vary by venue type, industry, geography, number of employees, socioeconomic designation, and owner demographics, among other variables?	✓				✓	✓		✓		
What is the average change in revenue earned by SVOG venues before and after the receipt of grant funds? What is the change for venues that applied and failed to receive SVOG funds during the same time frame? How does the average change in revenue vary by key business characteristics?	✓				✓	✓		✓		
How many SVOG grantees are still in operation three months, six months, and twelve months after the final disbursement of all funds (including funds from reconsiderations and supplementations)?			✓			✓				
What are the characteristics of SVOG grantees still in operation today and how do they compare to applicants who failed to receive SVOG funds? How do they compare to SVOG grantees that are no longer in operation? How does operating status vary by key business characteristics?	✓				✓	✓		✓		
Domain 4: Perceptions of SVOG and Remaining Pandemic Recovery Needs		✓	✓	✓		✓			✓	✓
What are grantees' perceptions of the SVOG grant's relationship to business survival? Do SVOG grantees associate the grant with business outcomes?		✓	✓	✓		✓			✓	✓
What are the remaining pandemic recovery needs of SVOG grantees?				✓					✓	✓

Domain 1: Characteristics of SVOG Grantees and Non-Recipients

This section presents information on the award amounts and characteristics of grantees and non-recipients of the SVOG program, including venue type, number of employees, annual revenue in 2020, geography, industry, and underserved business status.[2] The primary data source for this domain is the SVOG application data. The evaluation team also used information from Dun & Bradstreet to capture the industry and underserved business status of each grantee and non-recipient. The evaluation team applied descriptive statistics and a logistic regression to develop the findings presented in this section. More information on the data sources and analytical methods is available in the Technical Appendix.

What are the characteristics of SVOG grantees? How do SVOG grantees compare to business owners who applied but failed to receive SVOG funds?

Key Insights

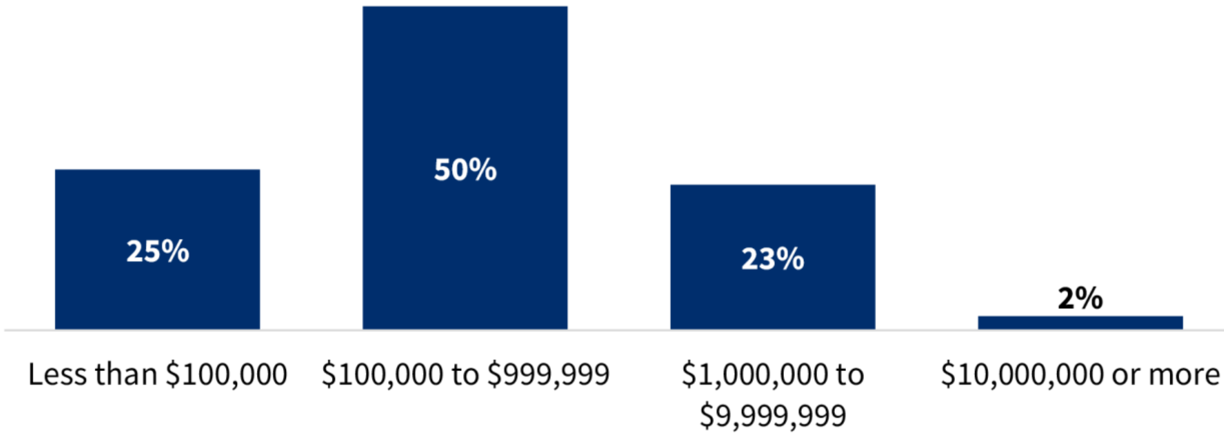
- SVOG grantees and non-recipients varied in terms of venue type.
- Most SVOG grantees were small businesses with less than 50 employees, but small businesses also made up a large share of non-recipients.
- Awards went to businesses across the United States, but businesses in Southern states like Louisiana, Mississippi, Alabama, Georgia, and Florida were less successful in securing SVOG funds than businesses in other parts of the country.
- 19 percent of SVOG grantees (and 29 percent of non-recipients) identified as an underserved business.

Award Amount

SVOG provided awards of different sizes to American businesses during the pandemic. Most businesses (75 percent) received an award of less than $1 million. A smaller number (23 percent) received an award of $1 million or more (but less than $10 million). Only about two percent of grantees received an award of $10 million or more.

[2] The evaluation team uses “underserved” to capture businesses identified in Dun & Bradstreet data as any of the following: disabled-owned, veteran-owned, women-owned, minority-owned, or small disadvantaged. The evaluation team retained the same naming convention from Dun & Bradstreet’s data categories. We recognize that the underserved category does not fully capture all businesses that have historically experienced unequal treatment by the government.

Exhibit 3. Most SVOG grantees received an award of less than $1 million.



N = 12,944

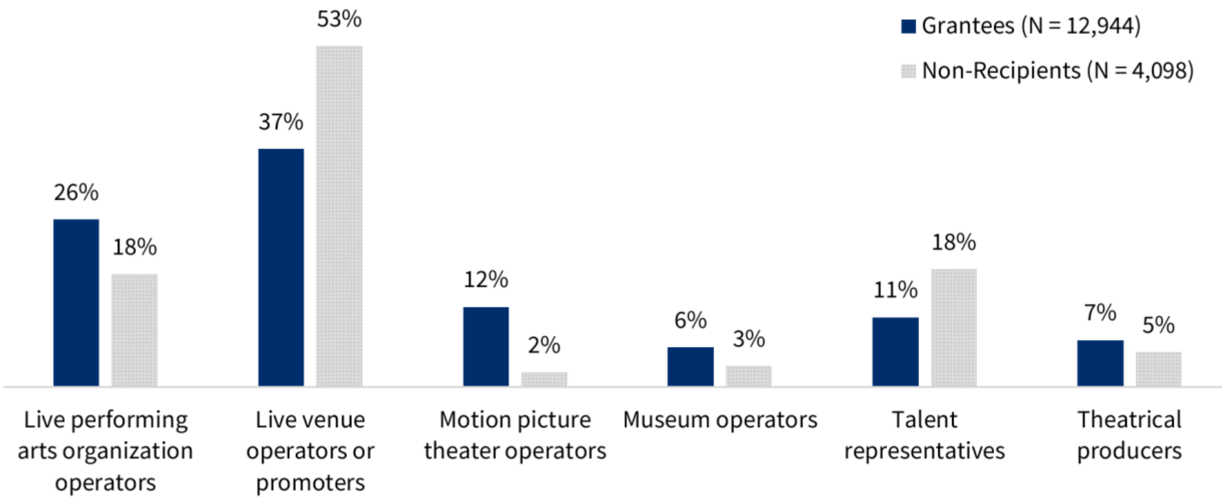
Note: Reconsidered and supplemental award amounts were used when available.

Source: SVOG Application Data.

Venue Type

SVOG grantees and non-recipients had a range of venue types. Although many grantees were live venue promoters, SVOG application data shows that 53 percent of non-recipients were also live venue promoters. This suggests that live venue promoters were more likely to be unsuccessful than other venue types at securing SVOG funds. This also holds true of talent representatives although the finding is less pronounced (11 percent of grantees compared to 18 percent of non-recipients). Motion picture theater operators, by contrast, were most successful at securing SVOG funds. Although the overall number of grantees is small (12 percent), the percent of grantees is six times the percent of non-recipients (2 percent), which is the largest difference of any venue type.

Exhibit 4. SVOG grantees and non-recipients varied in terms of venue type.



Note: Differences between grantees and non-recipients by venue type are statistically significant based on a chi-squared test.

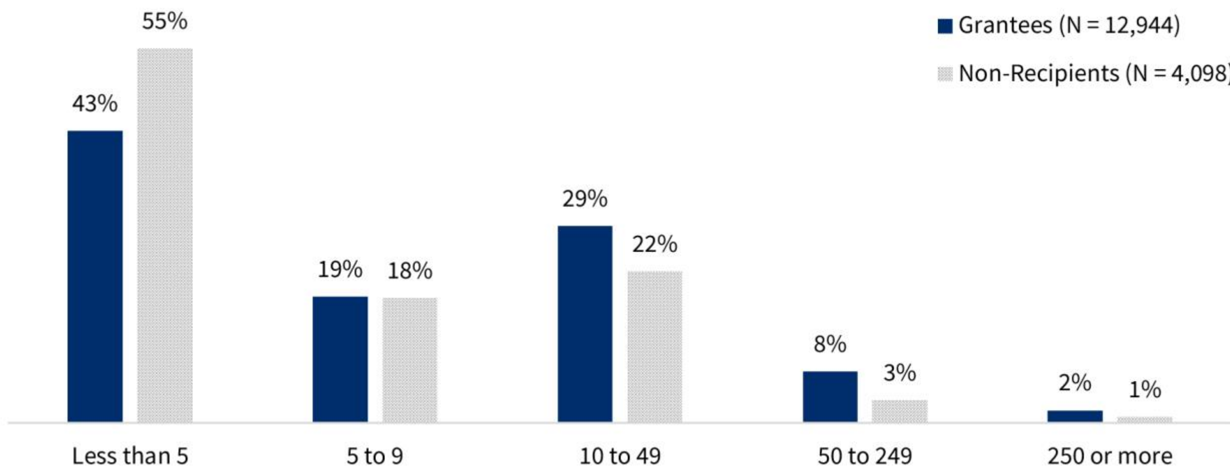
Source: SVOG Application Data.

Number of Employees

SVOG grantees were most often small businesses with less than 50 employees (90 percent), and many were very small with less than five employees (43 percent). This highlights an important success of the SVOG program as SBA aims to support the "smallest of the small" businesses[3]; however, about 55 percent of non-recipients were very small businesses as well. While many very small businesses received SVOG funds, this business size was also the least successful at securing funds.

[3] Please refer to Objective 1.1: Ensure all entrepreneurs have access to capital to start and grow their business in SBA Strategic Plan FY 2022-2026

Exhibit 5. Most SVOG grantees and non-recipients were small businesses with less than 50 employees.



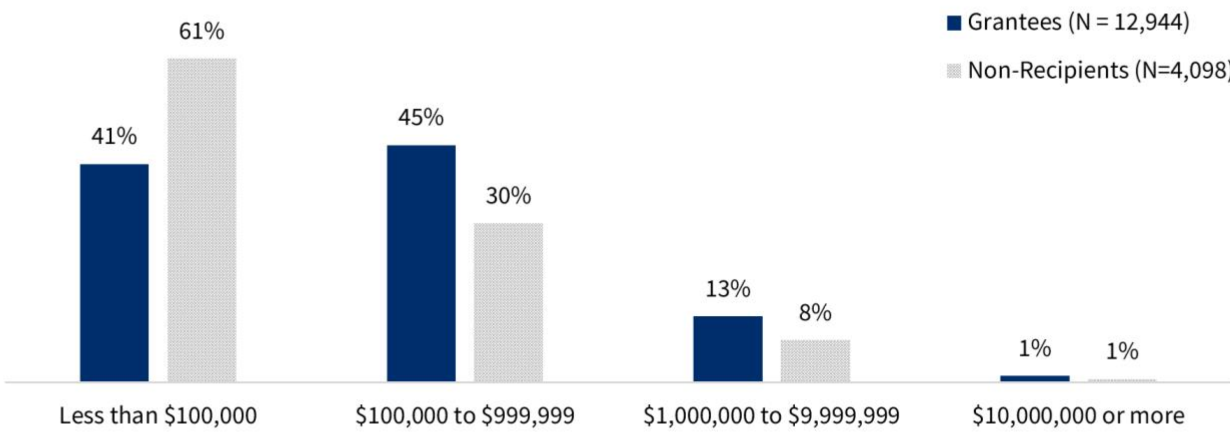
Note: Differences between grantees and non-recipients by number of employees are statistically significant based on a chi-square test.

Source: SVOG Application Data.

Annual Revenue in 2020

Annual revenue findings mirror those for number of employees above. Many businesses with small annual revenues (less than $100,000 in 2020) received SVOG funds (41 percent of grantees), but these businesses also made up a large share of non-recipients (61 percent).

Exhibit 6. Most SVOG grantees and non-recipients had 2020 annual revenues less than $1 million.



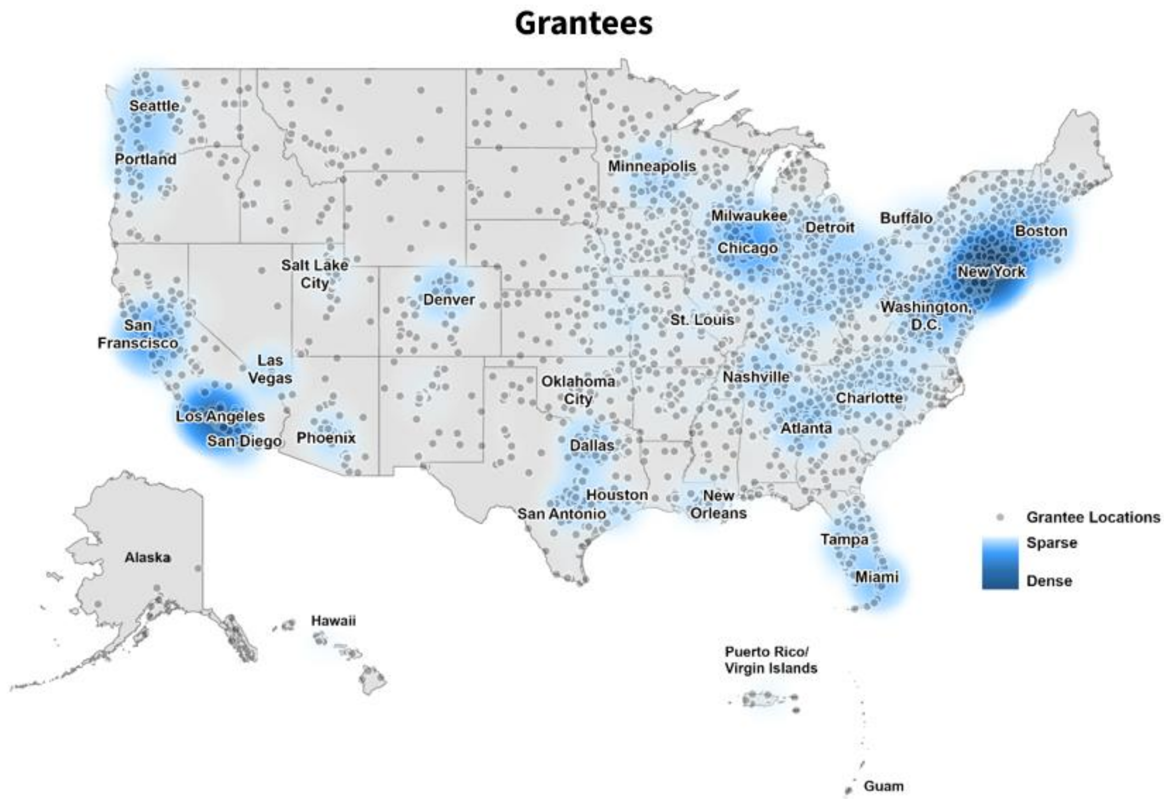
Note: Differences between grantees and non-recipients by annual revenue are statistically significant based on a chi-square test.

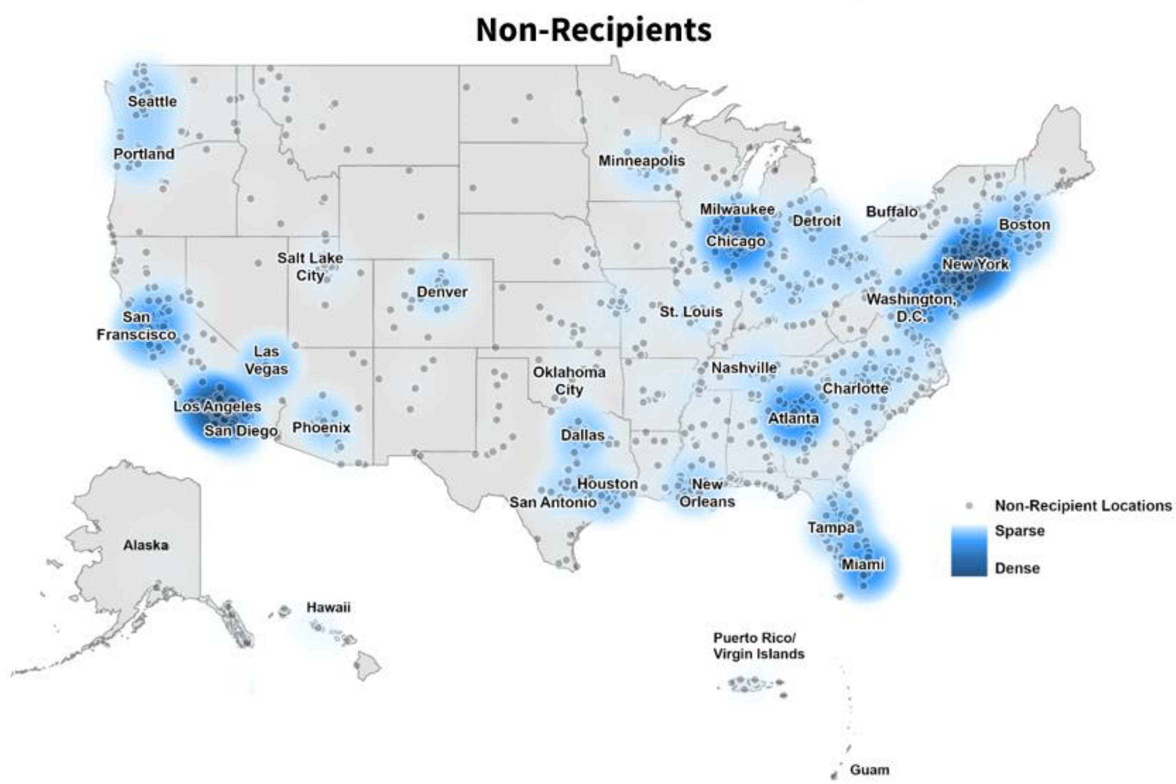
Source: SVOG Application Data.

Geography

SVOG grantees were geographically dispersed across the country in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. Most grantees' businesses were in large metropolitan areas like New York, Chicago, and Los Angeles, and fewer were in more rural areas and smaller metropolitan areas and cities. Non-recipient businesses shared a similar distribution.

Exhibit 7. SVOG grantee and non-recipient businesses were dispersed throughout the country, with higher concentrations in major metropolitan areas.



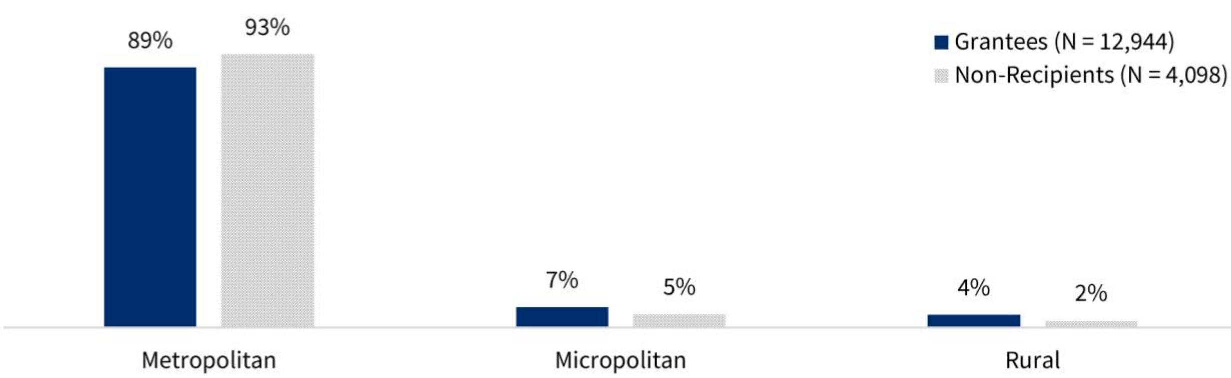


Notes: In the heat map, a lack of color indicates areas of the country with few or no grantees/non-recipients. Darker shades indicate more density, with the darkest blue indicating locations that have the largest density of grantees/non-recipients.

Sources: SVOG Application Data, Cartographic Boundary Files from the U.S. Census Bureau.

About 90 percent of both grantees and non-recipients were in metropolitan areas. The percentage of grantees in smaller micropolitan and rural areas was slightly higher than non-recipients, though not by a substantial amount (7 percent compared to 5 percent for micropolitan and 4 percent compared to 2 percent for rural).

Exhibit 8. Almost all SVOG grantees and non-recipients were in metropolitan areas.

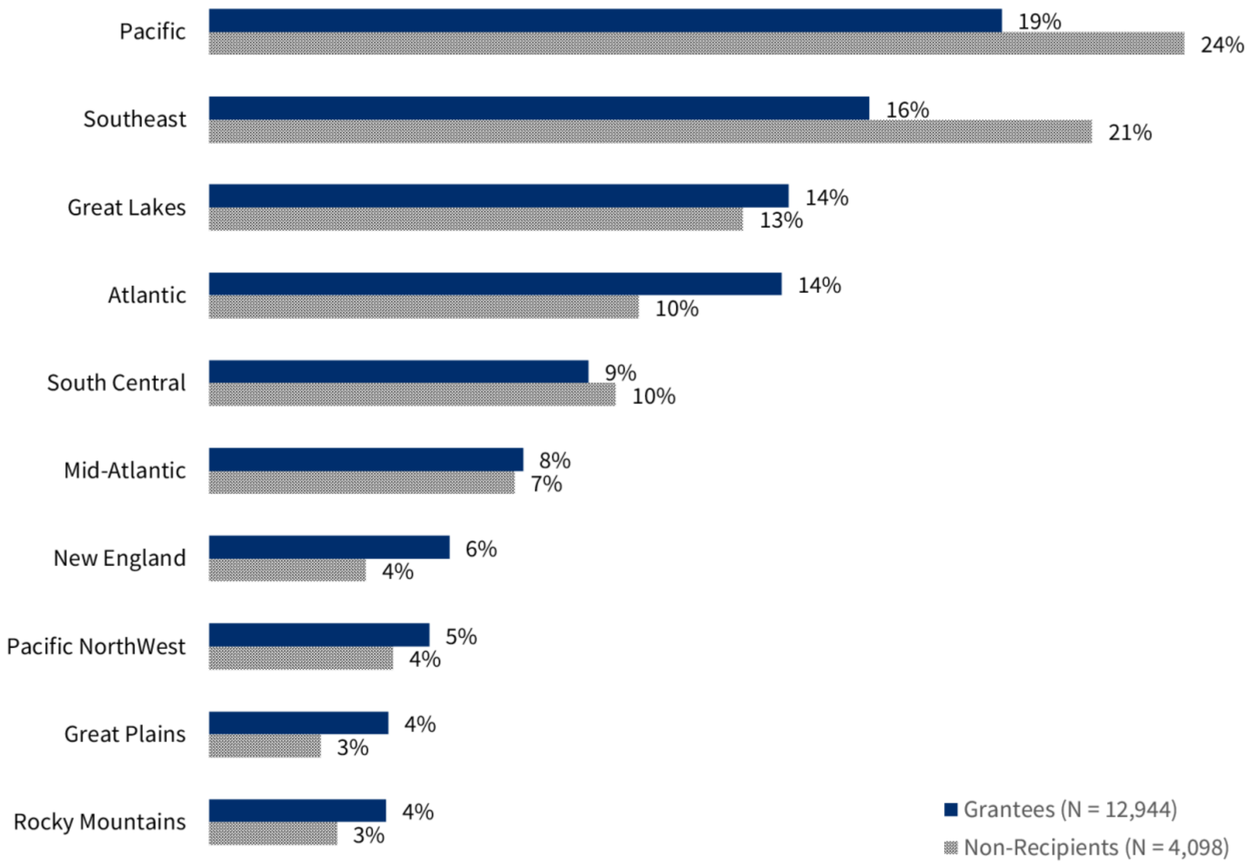


Notes: This evaluation uses U.S. Census Bureau definitions for Metropolitan and Micropolitan. For more information, please visit: https://www.census.gov/programs-surveys/metro-micro/about/glossary.html. Rural is any location outside a metropolitan or micropolitan area as defined by the Census. Differences between grantees and non-recipients by urbanicity are statistically significant based on a chi-square test.

Source: SVOG Application Data and Census Bureau metropolitan definitions.

Grantees and non-recipients were also dispersed across SBA's 10 regions. There were larger percentages of non-recipients, however, in the Pacific and Southeast regions.

Exhibit 9. SVOG grantees and non-recipients were in all 10 SBA regions.

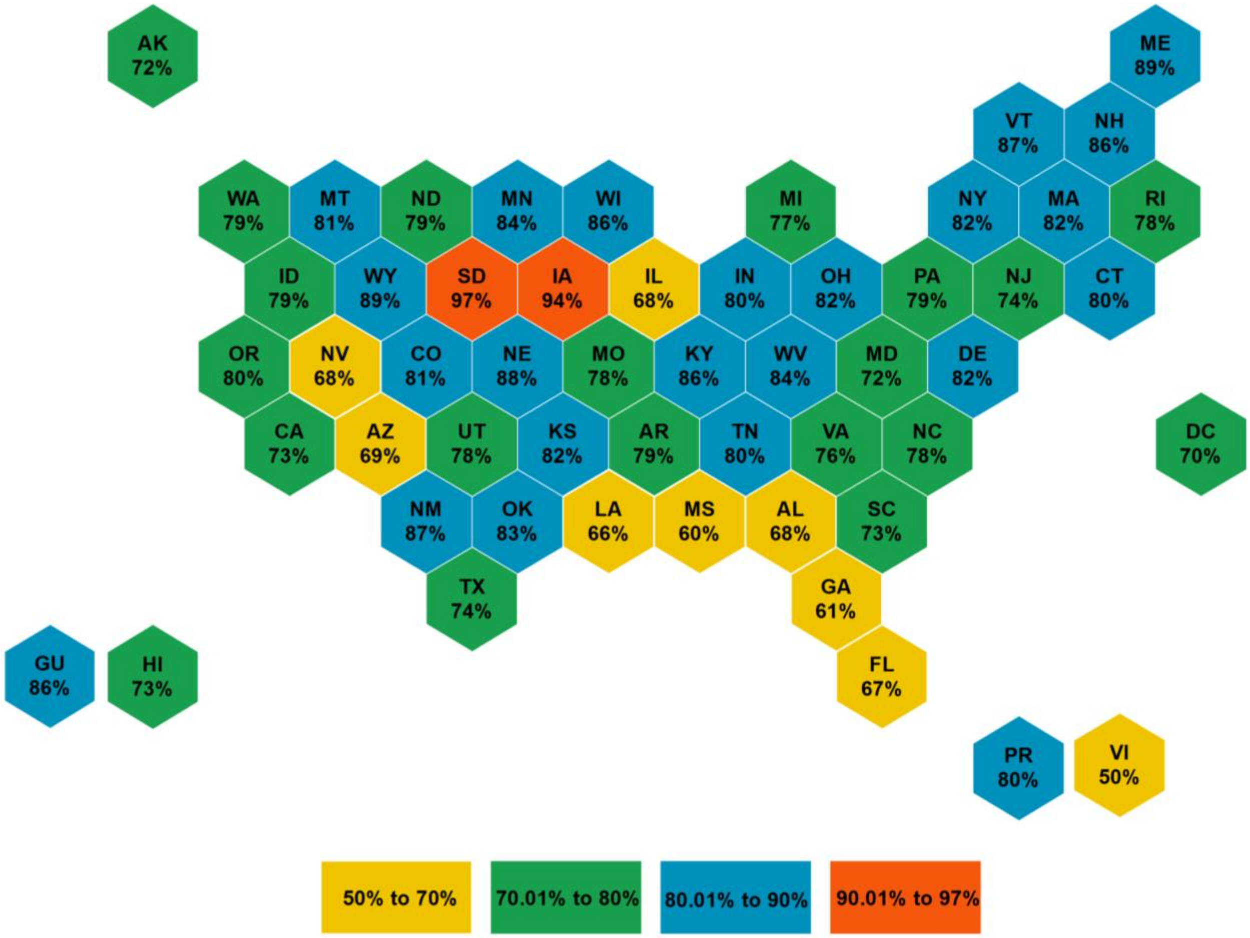


Notes: SBA regions are collections of states. They are defined here: https://advocacy.sba.gov/regional-advocates/. Differences between grantees and non-recipients by SBA region are statistically significant based on a chi-square test.

Source: SVOG Application data.

When examining the award rate by state, differences between grantees and non-recipients become clearer. In Southern states like Louisiana, Mississippi, Alabama, Georgia, and Florida, the percentage of awarded applications is smaller (between 50 and 70 percent) than in other parts of the country. This also holds true in Nevada, Arizona, Illinois, and the U.S. Virgin Islands. In contrast, the SBA awarded funds to over 90 percent of applications in Iowa and South Dakota. Award rates in the rest of the states and territories ranged from 70 to 90 percent.

Exhibit 10. Southern states had lower award rates than other parts of the country.



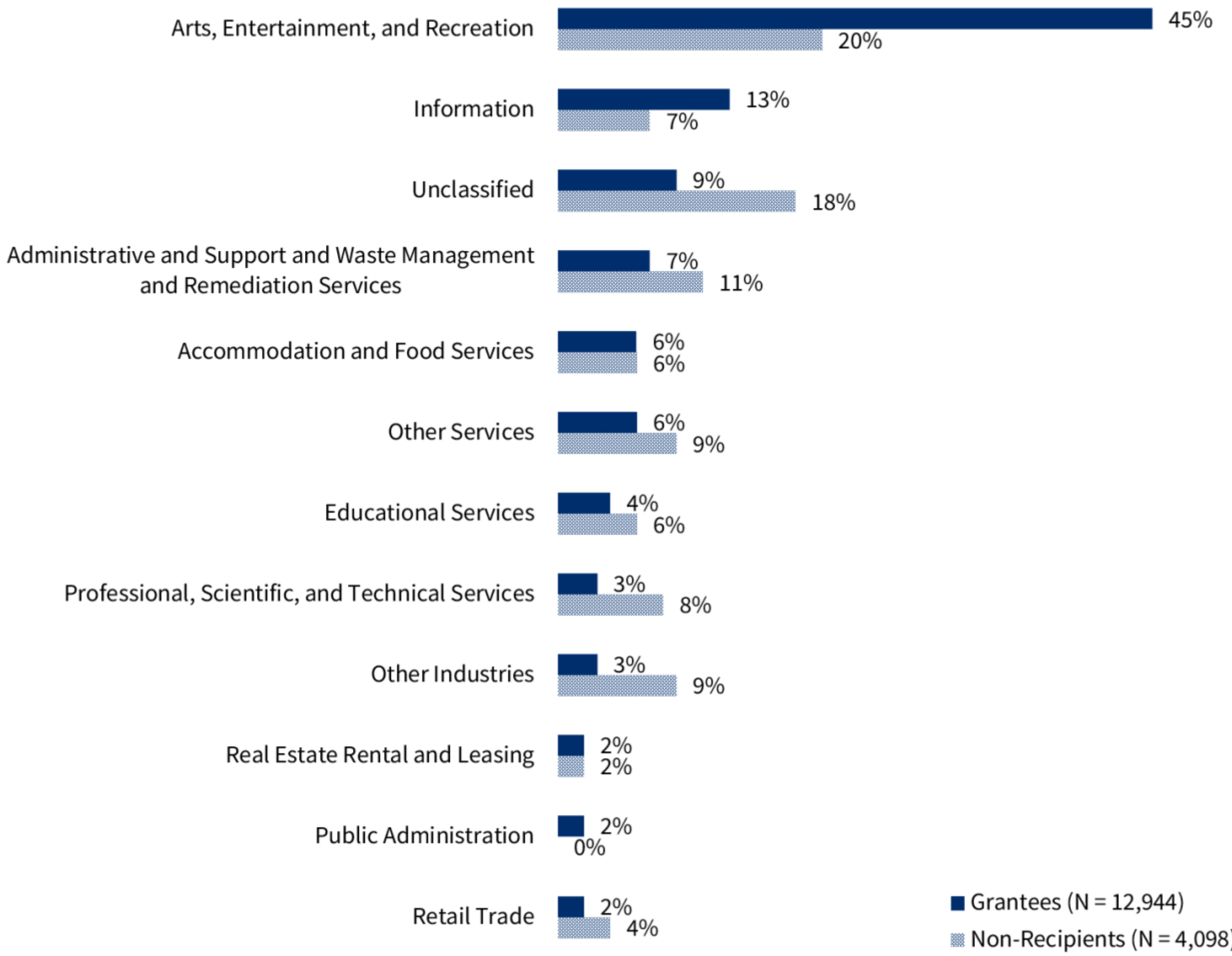
Note: Award rate is defined as the number of grantees in the state divided by the total number of applications in the state, multiplied by 100.

Sources: SVOG Application Data; State hexagon shapefile obtained from https://vizpainter.com/wp-content/uploads/Hex-States-Shapefile.zip

Industry

SVOG grantees operated in many different industries as well. Most were in the Arts, Entertainment, and Recreation (44 percent) or the Information (13 percent) industry. Non-recipients had a smaller percentage in these two industries and in most cases had larger percentages in other industries. Since SVOG targets arts and cultural businesses (which align well with the Arts, Entertainment, and Recreation and the Information industries), this finding may indicate that non-recipients were sometimes unsuccessful because they came from outside the program's target industries.

Exhibit 11. SVOG grantees and non-recipients varied by industry, though most grantees were in either the Arts, Entertainment, and Recreation or the Information industry.



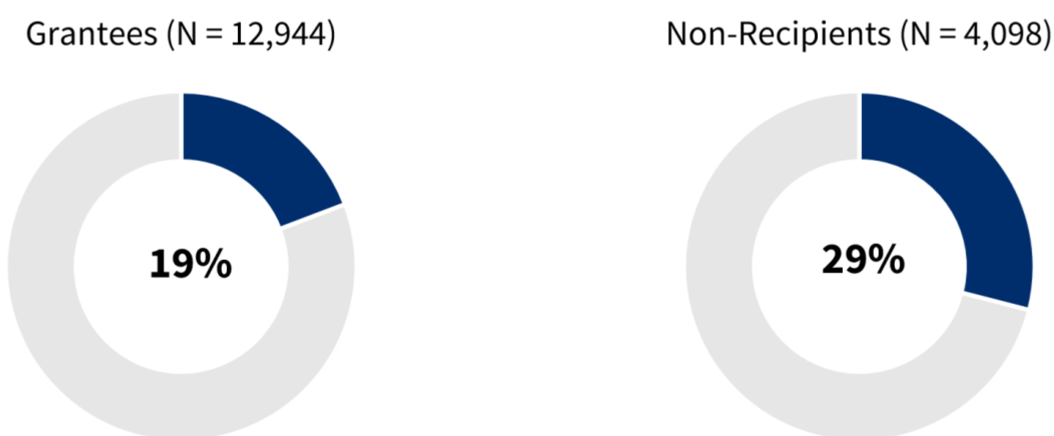
Note: Percentages in the figure were rounded to the nearest whole number. The industry was defined from the first two digits of the business NAICS in the SBA application data. For more information on NAICS, please visit https://www.census.gov/naics/?58967?yearbck=2022. The Other Industries category includes 10 industries, which are Mining; Utilities; Transportation and Warehousing; Agriculture, Forestry, Fishing, and Hunting; Construction; Wholesale Trade; Management of Companies and Enterprises; Manufacturing; Finance and Insurance; and Health Care and Social Assistance. Differences between grantees and non-recipients by industry are statistically significant based on a chi-square test.

Source: SVOG Application Data and Dun & Bradstreet.

Underserved Business Types

In addition to very small businesses discussed above, the SBA also has a specific focus on businesses that historically have received fewer federal supports than other types of businesses. In this evaluation, the evaluation team used "underserved" to capture businesses identified in Dun & Bradstreet data as any of the following: disabled-owned, veteran-owned, women-owned, minority-owned, or small disadvantaged. The evaluation team retained the same naming convention from Dun & Bradstreet's data categories.[4] Nineteen percent of SVOG grantees identified as at least one of these business types. Through SVOG, the SBA provided funds to 2,486 underserved businesses during the pandemic. This highlights an important finding given the SBA's mission to support America's underserved businesses, but the SVOG Application data also shows that about 29 percent of non-recipients identified as an underserved business. Comparing these figures for grantees and non-recipients, underserved applicants were more likely to be rejected than businesses that did not identify as one of the categories within our underserved definition.

Exhibit 12. More non-recipients identified as an underserved business than SVOG grantees.



Note: Differences between grantees and non-recipients by underserved business status are statistically significant based on a chi-square test.

Sources: SVOG Application Data and Dun & Bradstreet.

[4] The evaluation team recognizes that the underserved category does not fully capture all businesses that have historically experienced unequal treatment by the government.

Among the underserved businesses that received SVOG funds, about 54 percent identified as women-owned, 46 percent identified as minority-owned, 18 percent identified as small disadvantaged, 9 percent identified as veteran-owned, and 1 percent identified as disabled-owned. Among the underserved businesses that applied but failed to receive funds, the percentages identifying as each type were similar. The largest differences were for small disadvantaged and minority-owned businesses; these two types were less likely to successfully apply compared to other types of underserved businesses.

Exhibit 13. Among SVOG grantees and non-recipients that were underserved businesses, most were women-owned, minority-owned, and small disadvantaged businesses.

	Women-Owned	Minority-Owned	Small Disadvantaged	Veteran-Owned	Disabled-Owned
Grantees (N = 2,486)	54%	46%	18%	9%	1%
Non-Recipients (*N* = 1,207)	59%	53%	26%	8%	4%

Note: The denominator for all percentages is the number of underserved businesses that received (grantees) or failed to receive (non-recipients) funds from SVOG. Percentages across the business types do not add up to 100 because a business can identify as more than one type. Businesses may also identify as HUBZone or 8(a); however, virtually no SVOG grantees or non-recipients identified as these types and therefore are not included in the exhibit.

Sources: SVOG Application Data and Dun & Bradstreet.

Key Characteristics

Exhibit 14 below summarizes findings for Domain 1 by the average probability of successfully applying and receiving funds from SVOG for businesses with the different characteristics examined in this section. Overall, the most important characteristic for increasing the probability of securing an award was being a motion picture theater operator. This venue type had a 95 percent average probability of award. The exhibit shows other characteristics that were important (85 percent probability or greater) highlighted in blue. These include being a large business with 250 or more employees; being in a rural location; being in the Atlantic SBA region; and being in the Arts, Entertainment, and Recreation or the Public Administration industries. The exhibit shows characteristics with decreased probability (75 percent probability or lower) of successfully applying for SVOG funds highlighted in yellow. Characteristics that decrease the probability of an award include being a live venue operator or promoter or talent representative; having a small 2020 annual revenue of less than $100,000; and being in a non-target industry such as Educational Services.

Exhibit 14. Motion picture theater operators, larger businesses with more than 250 employees, businesses with large annual reviews, rural businesses, and businesses located in the Atlantic SBA region all had higher probabilities of receiving an award when applying for SVOG funds.

Category	Subcategory	Average Probability of Successful SVOG Application
Venue Types	Live performing arts organization operator	84%
	Live venue operator or promoter	74%
	Motion picture theater operator	95%
	Museum Operator	80%
	Talent representative	72%
	Theatrical producer	82%
Number of Employees	Less than 5	80%
	5-9	78%
	10-49	80%
	50-249	84%
	250 or more	86%
2020 Annual Revenue	Less than $100,000	73%
	$100,000 to $999,999	85%
	$1,000,000 to $9,999,999	84%
	$10,000,000 or more	85%
Urbanicity	Metropolitan	80%
	Micropolitan	83%
	Rural	85%
SBA Region	Atlantic	85%
	Great Lakes	81%
	Great Plains	84%
	Mid-Atlantic	80%
	New England	84%
	Pacific	78%
	Pacific Northwest	82%
	Rocky Mountains	82%
	South Central	79%
	Southeast	77%
Industry	Accommodation and Food Services	80%
	Administrative and Support and Waste Management and Remediation Services	74%
	Arts, Entertainment, and Recreation	89%
	Educational Services	69%
	Information	81%
	Other Services	73%
	Professional, Scientific, and Technical Services	62%
	Public Administration	92%
	Real Estate Rental and Leasing	70%
	Retail Trade	62%
	Other Industries	54%
	Unclassified	68%
Underserved Business Status	No	81%
	Yes	77%

N = 17,042

Notes: Blue shading indicates a probability of 85 percent or higher. Yellow shading indicates a probability of 75 percent or lower. The overall average probability of receiving SVOG funding was 80 percent. The evaluation team estimated the probabilities based on results from a logistic regression where grantee status (yes/no) was the dependent variable and the characteristics above were independent variables.

Source: SVOG Application Data, Dun & Bradstreet, and U.S. Census Bureau metropolitan definitions.

Domain 2: Implementation of SVOG

This section presents information from the grantee survey about how grantees spent their SVOG funds. More information on this survey is available in the Technical Appendix.

How have SVOG grantees spent their grant funds?

Key Insights

- Payroll costs and other ordinary business expenses were the most common uses of SVOG funds.
- On average, businesses spent over half of their SVOG funds on payroll.
- Virtually all grantees that responded to the survey spent all their funds; only one percent indicated that they had leftover funds.

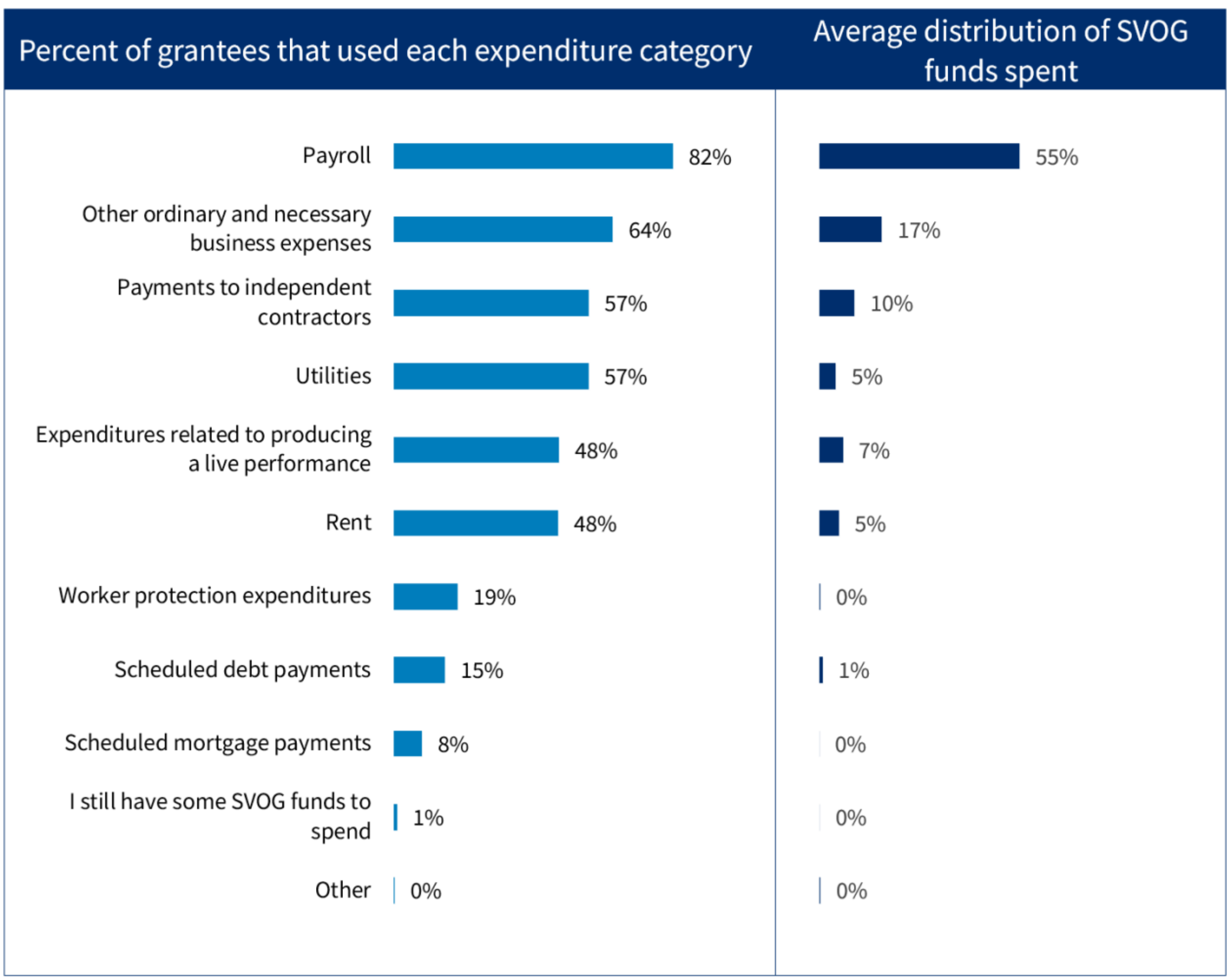
SVOG grantees used the funds they received to address a variety of business expenses. The grantee survey included a question that asked grantees whether they used their funds for the following categories (respondents could check more than one category):

- Payroll costs.
- Rent payments.
- Utility payments.
- Scheduled mortgage payments.
- Scheduled debt payments on any indebtedness incurred in the ordinary course of business prior to February 15, 2020.
- Worker protection expenditures (for example, costs incurred to implement health and safety measures to protect employees from COVID-19 exposure, including face masks, gloves, sanitization supplies, touchless payment devices, and plexiglass shields).
- Payments to independent contractors.
- Other ordinary and necessary business expenses such as maintenance costs; administrative fees and service subscriptions; state and local taxes and licensing fees; operating leases as of February 15, 2020; and insurance payments.
- Expenditures related to producing a theatrical or live performing arts production, concert, exhibition, or comedy show.
- Other (respondents were asked to specify what funds were used for if they selected this option).
- Grantees could also select “I still have some SVOG funds to spend.”

The most common expense categories were payroll costs (82 percent); other ordinary and necessary business expenses (64 percent); payments to independent contractors (57 percent); utility payments (57 percent); rent payments (48 percent); and expenditures related to producing live performances/shows (48 percent). Almost all grantees that responded to the survey spent all their funds; only one percent indicated that they had leftover funds.

Grantees who responded to the survey also indicated the percentage of funds they dedicated to each selected category below (as illustrated in **Exhibit 15**). On average, grantees spent over half of their funds on payroll expenses; 17 percent on other ordinary and necessary business expenses; 10 percent on payments to independent contractors; 5 percent on utilities; 7 percent on expenditures related to producing a live performance; and 5 percent on rent. Almost no funds were spent on worker protection, scheduled debt payments, or scheduled mortgage payments, on average.

Exhibit 15. Grantees typically spent most of their SVOG funds on payroll.



N = 1,829

Source: SVOG Grantee Survey, Item 2: How did you use the SVOG grant funds? (Check all that apply) (chart on the left) and Item 3: Estimate, as best you can, the percentage of total SVOG funds used on each of the categories below. Your entries will total at the bottom. The total across all spent and unspent funds should add up to 100% (chart on the right).

How did the actual use of funds compare to the approved allowable costs following budget review(s)?

Key Insights

- The survey did not find any evidence that grantees used their funds for unapproved costs.

When responding to the survey, about 12 percent of grantees selected the "Other" category, which could potentially indicate unapproved uses of funds. Upon closer examination, however, the descriptions matched the approved allowable costs. The evaluation team recoded almost all responses to the approved costs (see **Exhibit A.9** in the Technical Appendix for more detail). The survey did not find any evidence that grantees used their funds for unapproved costs.

Domain 3: Impacts of SVOG

This section presents the impacts of SVOG on the number of employees, annual revenue, and business survival by venue type, geography, industry, and underserved business status. The data source for the findings in this section included SVOG application data and Dun & Bradstreet data. The evaluation team used trends in the number of employees as a proxy for jobs. Since virtually all businesses (both grantees and non-recipients) remained in or resumed operations according to the SVOG Grantee Survey data, the evaluation team used the Dun & Bradstreet viability score as a proxy to examine differences in business survival. The evaluation team also used propensity score matching (PSM) to match the grantees to non-recipients based on their characteristics and evaluated the impact of SVOG using a difference-in-differences (DID) analysis. More information on the data sources and analysis methods is available in the Technical Appendix.

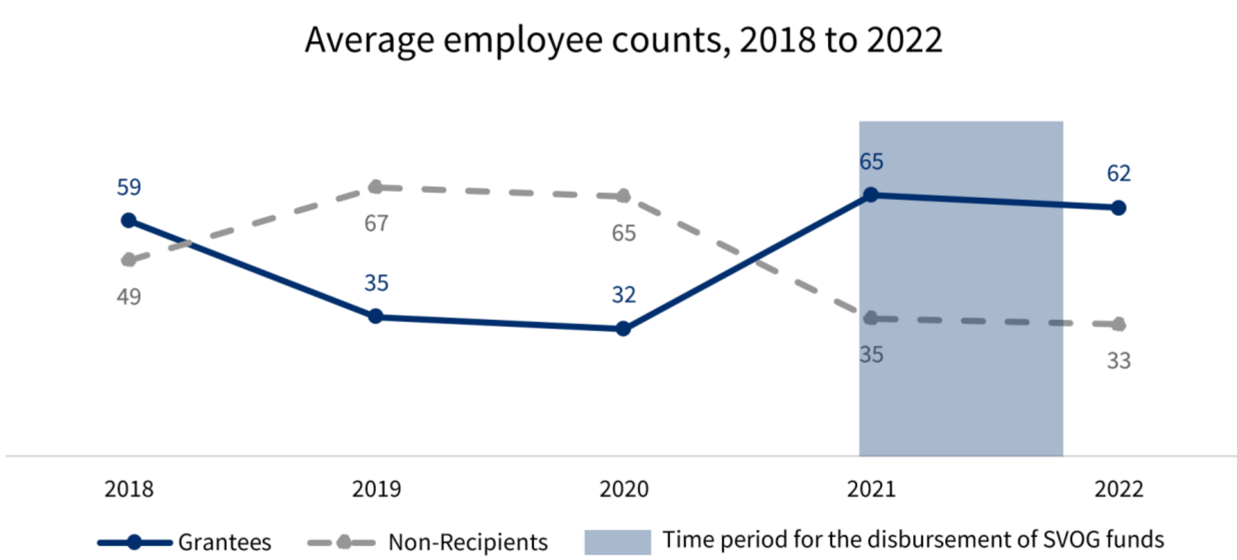
What is the change in number of jobs for SVOG venues before and after the receipt of grant funds? What is the change for venues that applied and failed to receive SVOG funds during the same time frame?

Key Insights

- Employee count did not vary significantly for grantees and non-recipients after the SVOG program was launched.

The evaluation team did not find any substantial differences between grantees and non-recipients regarding employee counts. Furthermore, the evaluation did not find any evidence that SVOG increased the number of employees and by extension the number of jobs among grantees' businesses. Since grantees stated they spent most of their funds on payroll, it is likely that SVOG supported employee retention rather than workforce growth.

Exhibit 16. SVOG grantees experienced an increase in average employee counts compared to non-recipients after the disbursement of SVOG funds, but the increase was not statistically significant and cannot conclusively be attributed to SVOG funds.



Note: The difference in the employee count trends between grantees and non-recipients was not statistically significant in the difference-in-differences regression model.

Source: Dun & Bradstreet data; SVOG Application data.

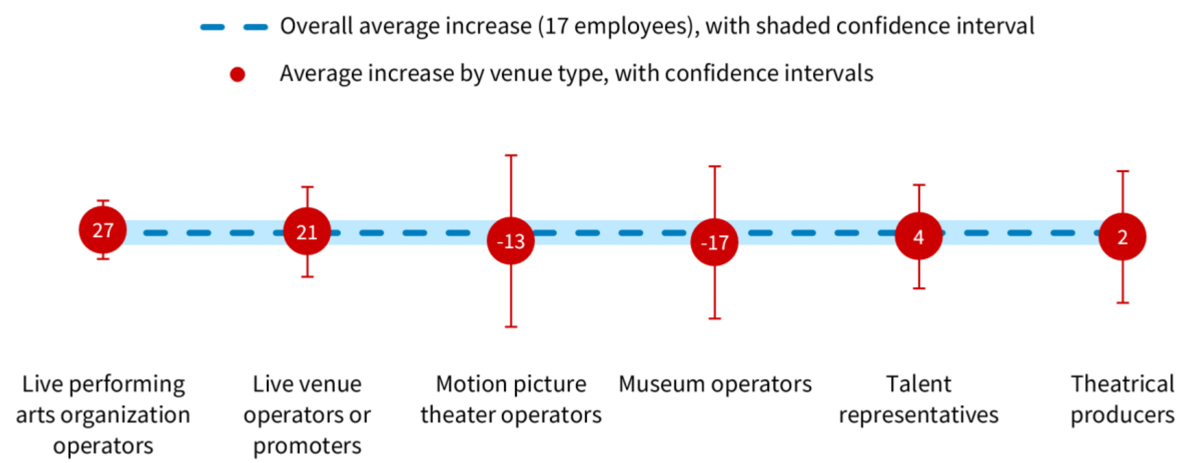
How does the change in number of jobs vary by venue type, number of employees, annual revenue, geography, industry, and socioeconomic status, among other variables?

Key Insights

- There was no substantial variation in the employee count by venue type, geography, industry, or underserved business status.

The DID model estimated that grantees experienced an average increase of 17 more employees because of SVOG funds (though the finding was not statistically significant). The average change in the number of employees varied by some characteristics of venue type, region, industry, and underserved business status, but the differences were minor and not statistically different from the overall average increase in the number of employees.

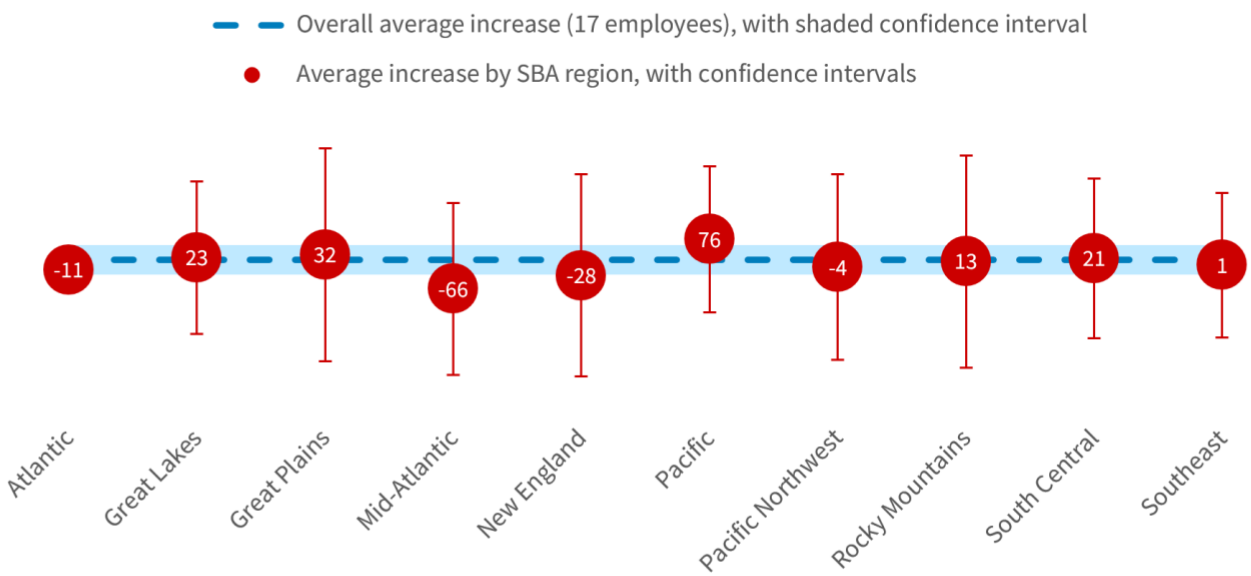
Exhibit 17. The average increase in the number of employees for grantees compared to non-recipients did not vary significantly by venue type.



Note: The dashed blue line shows grantees had, on average, 17 more employees than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the increase in employees after disbursement of SVOG funds for grantees compared to non-recipients of each venue type. Negative values indicate grantees experienced a decrease in employees compared to non-recipients. For every venue type, the increase in the number of employees for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application data.

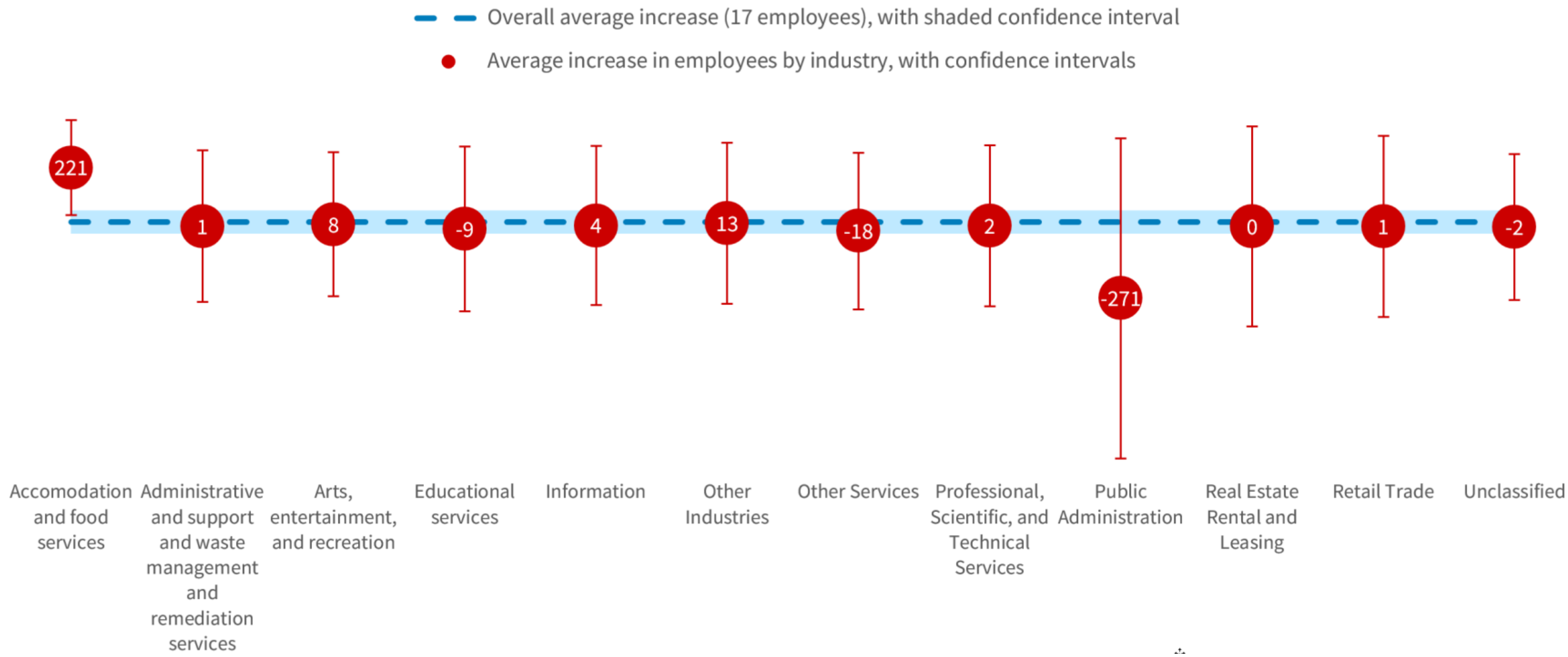
Exhibit 18. The average increase in the number of employees for grantees compared to non-recipients did not vary substantially by region.



Note: The dashed blue line shows grantees had, on average, 17 more employees than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the increase in employees after disbursement of SVOG funds for grantees compared to non-recipients in each SBA region. Negative values indicate grantees experienced a decrease in employees compared to non-recipients. For every SBA region, the increase in the number of employees for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application data.

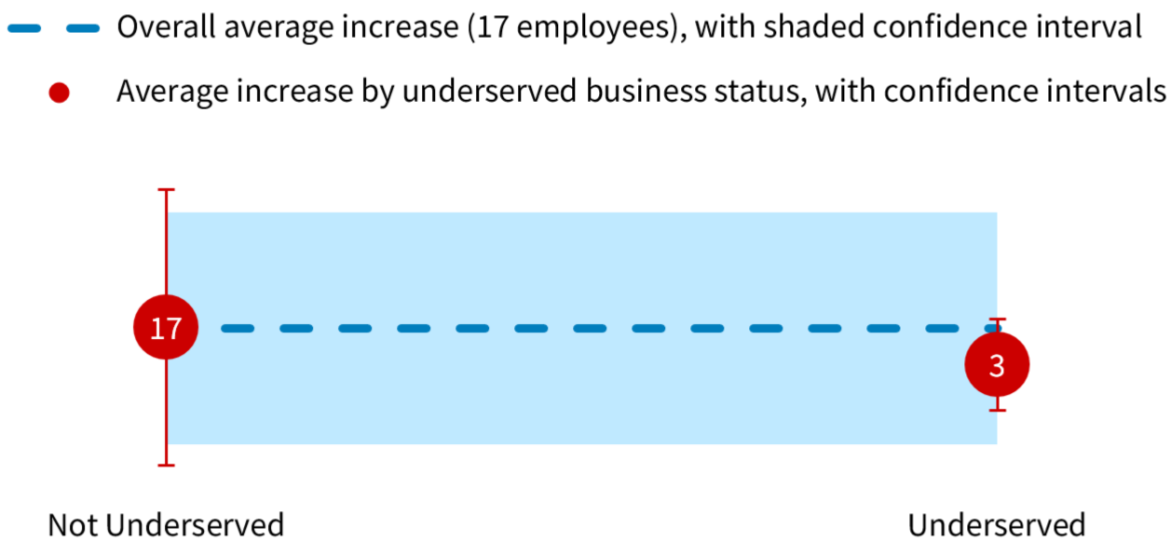
Exhibit 19. The average increase in the number of employees for grantees compared to non-recipients varied some by industry, but findings were not statistically different than the overall average increase.



Note: The dashed blue line shows grantees had, on average, 17 more employees than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the increase in employees after disbursement of SVOG funds for grantees compared to non-recipients in each industry. Negative values indicate grantees experienced a decrease in employees compared to non-recipients. For every industry, the increase in the number of employees for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application data.

Exhibit 20. The average increase in the number of employees for grantees compared to non-recipients did not vary substantially by underserved business status.



Note: The dashed blue line shows grantees had, on average, 17 more employees than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the increase in employees after disbursement of SVOG funds for grantees compared to non-recipients by underserved business status. Underserved business are businesses identified in Dun & Bradstreet data as any of the following: disabled-owned, veteran-owned, women-owned, minority-owned, or small disadvantaged. For underserved and not underserved businesses, the increase in the number of employees for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application data.

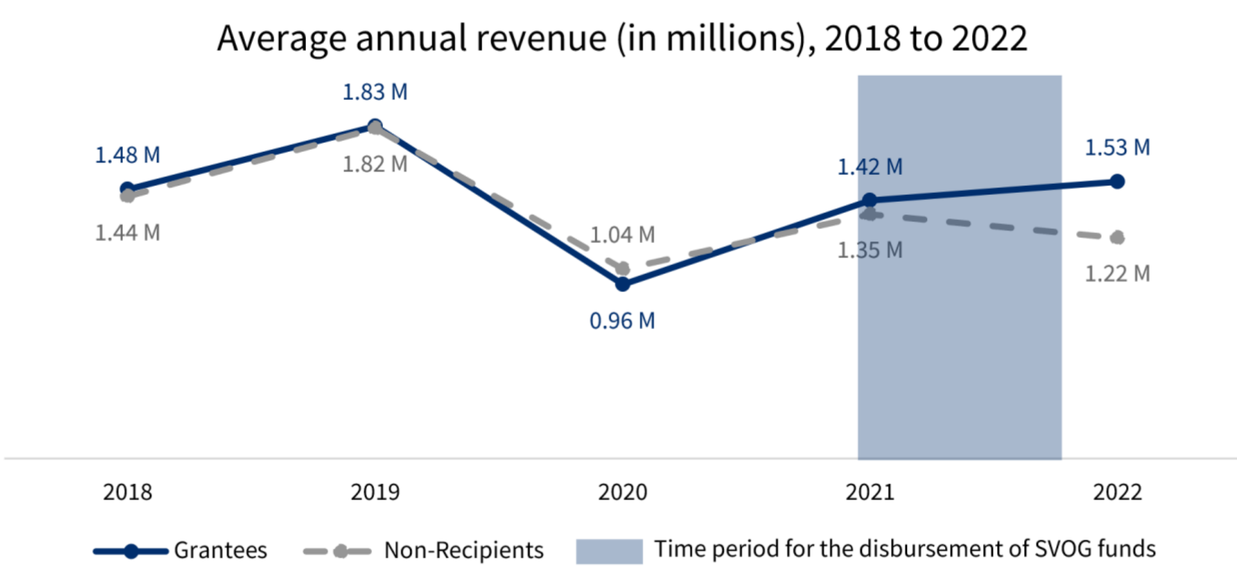
What is the average change in revenue earned by SVOG venues before and after the receipt of grant funds? What is the change for venues that applied and failed to receive SVOG funds during the same time frame?

Key Insights

- SVOG grantees experienced increased annual revenues compared to non-recipients after the disbursement of SVOG funds.
- There is conclusive evidence, based on the DID regression results, that SVOG increased the annual revenues of grantees more than what they would have without the program.

Annual revenue for grantees was about the same as non-recipient revenue between 2018 and 2021, but grantee revenue increased significantly from 2021 to 2022. The DID model estimated that grantees experienced a 28 percent greater increase in annual revenue compared to non-recipients. Since the DID model matches non-recipients to grantees based on key characteristics and identifies non-recipients as a comparison group that represented what would have happened to grantees in the absence of SVOG funds, there is conclusive evidence that the revenue increase for grantees from 2021 to 2022 would not have occurred in the absence of SVOG. The grantee survey data shows these funds helped to offset further losses for grantees and kept them from closing operations.

Exhibit 21. SVOG grantees experienced increased annual revenues compared to non-recipients after the disbursement of SVOG funds.



Note: The difference in the revenue trends for grantees and non-recipients was statistically significant ($p < 0.01$) in the difference-in-differences regression model.

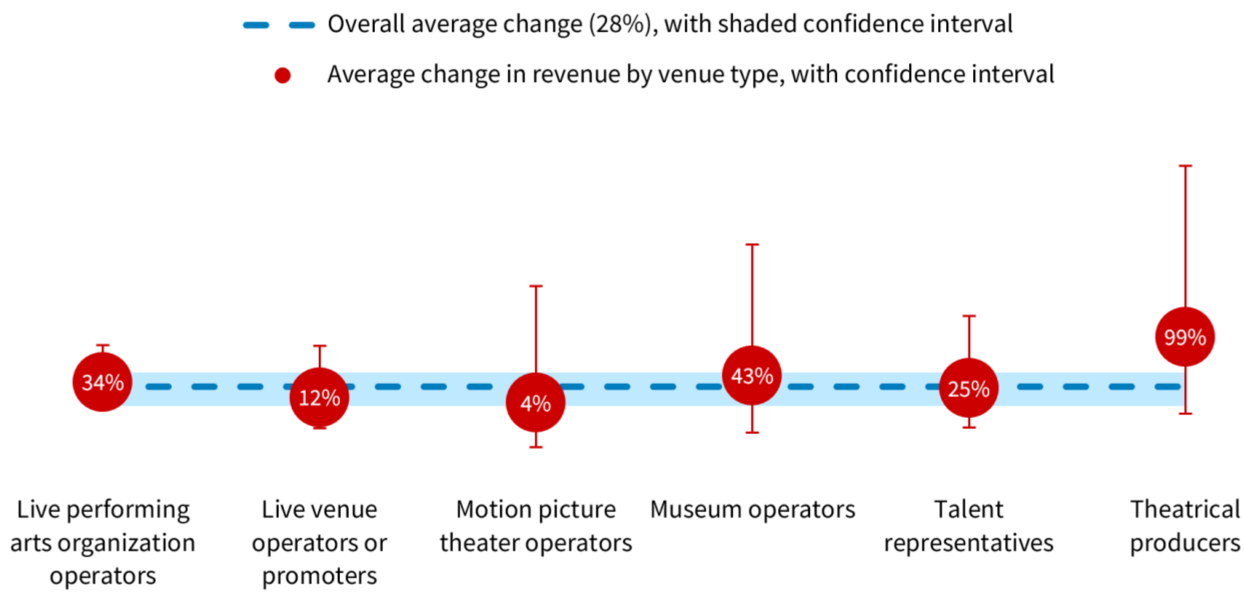
Source: Dun & Bradstreet data; SVOG Application data.

How does the average change in revenue vary by venue type, number of employees, annual revenue, geography, industry, and socioeconomic status?

Key Insights

- There was no substantial variation in the revenue by venue type, geography, industry, or underserved business status.

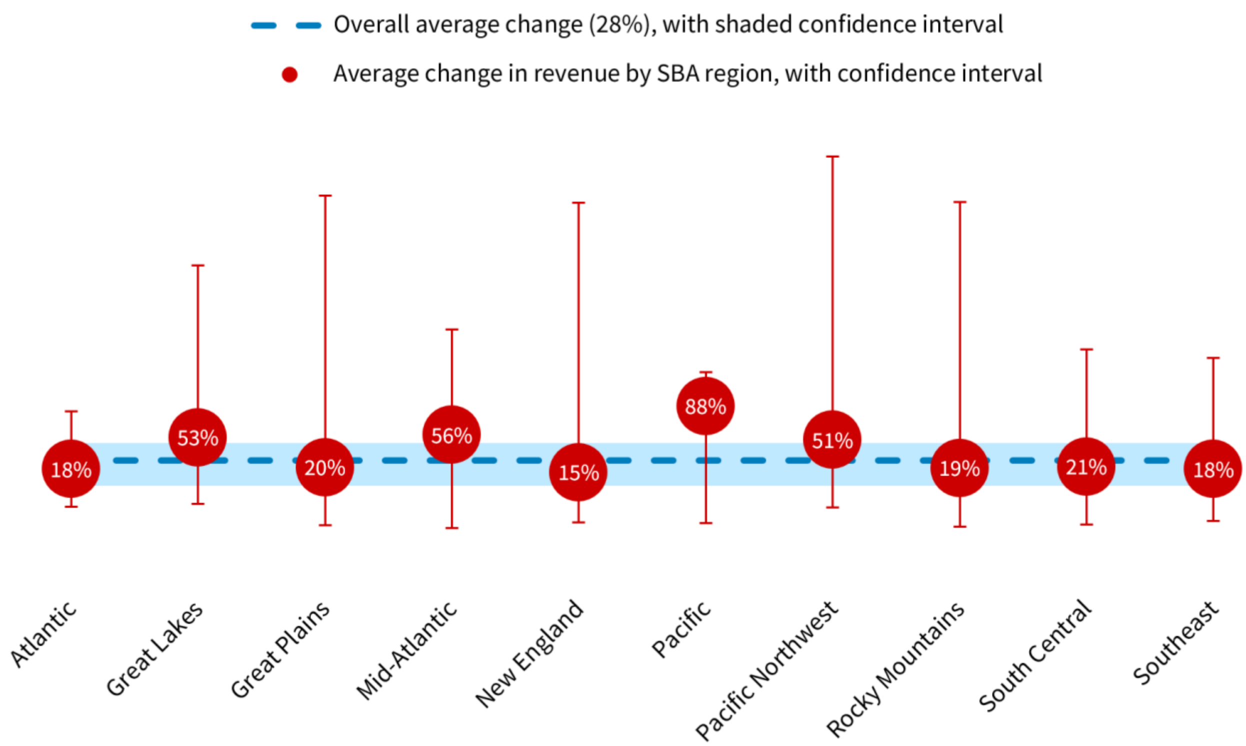
Exhibit 22. The average percent change in annual revenue did not vary substantially by venue type.



Note: The dashed blue line shows grantees had, on average, 28% more annual revenue than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the percent change in revenue after disbursement of SVOG funds for grantees compared to non-recipients of each venue type. For every venue type, the percent change in annual revenue for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application data.

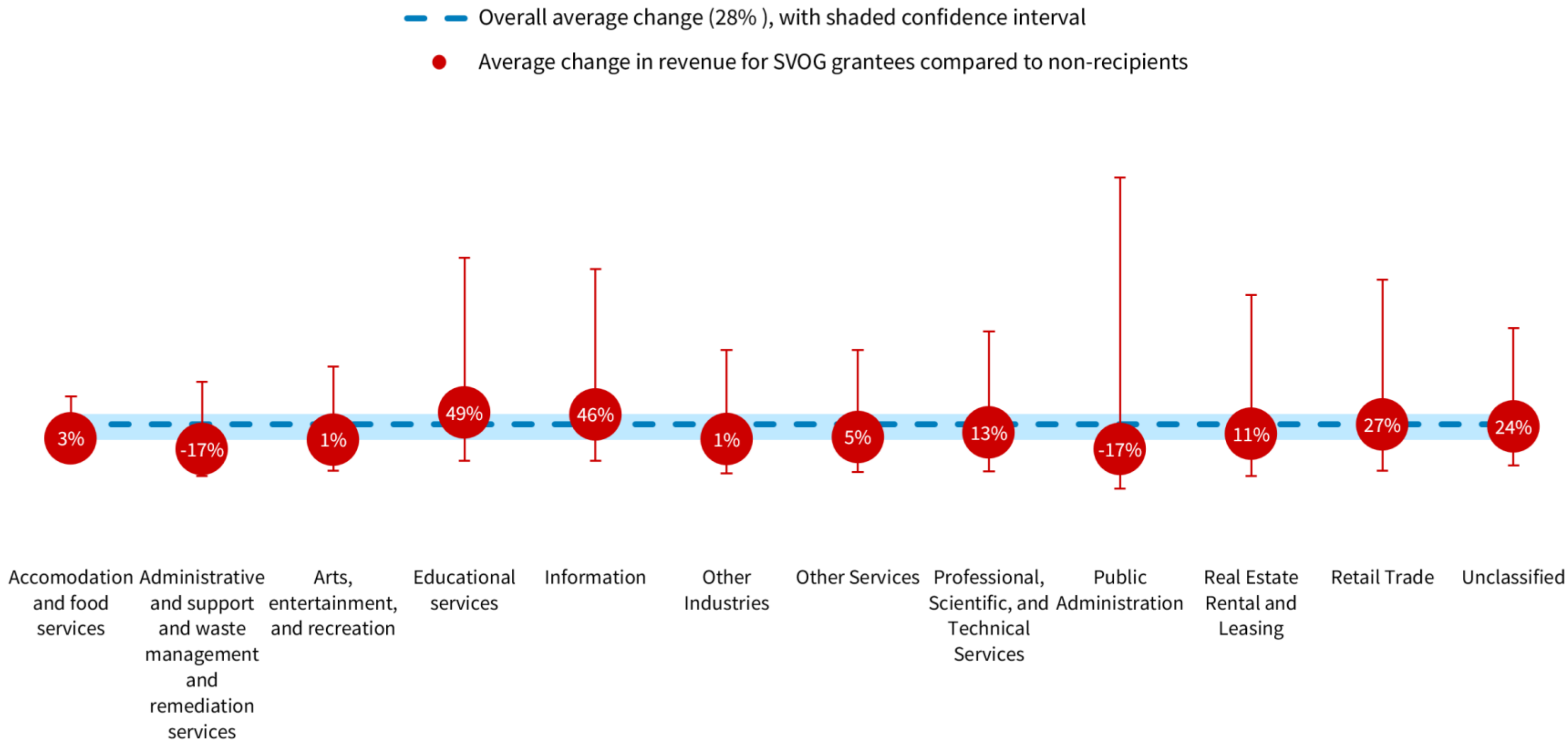
Exhibit 23. The average percent change in annual revenue did not vary substantially by SBA region.



Note: The dashed blue line shows grantees had, on average, 28% more annual revenue than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the percent change in revenue after disbursement of SVOG funds for grantees compared to non-recipients of each SBA region. For every SBA region, the percent change in annual revenue for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application data.

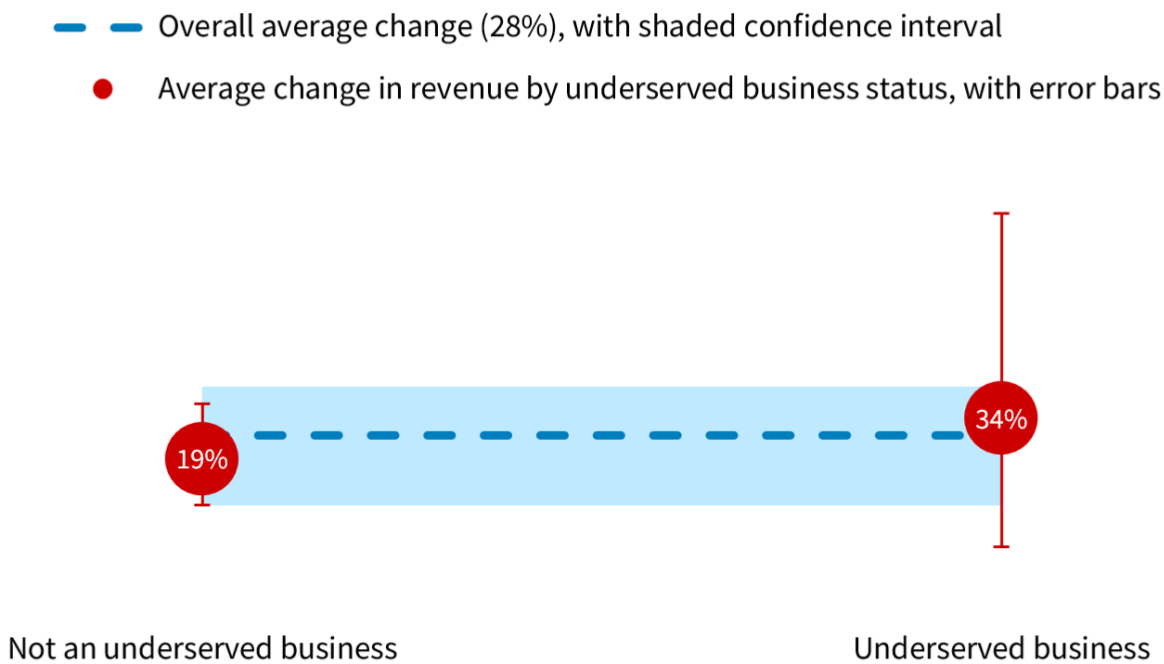
Exhibit 24. The average percent change in annual revenue did not vary by industries.



Note: The dashed blue line shows grantees had, on average, 28% more annual revenue than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the percent change in revenue after disbursement of SVOG funds for grantees compared to non-recipients in each industry. For every industry, the percent change in annual revenue for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application.

Exhibit 25. The average percent change in annual revenue did not vary substantially by underserved business status.



Note: The dashed blue line shows grantees had, on average, 28% more annual revenue than non-recipients after disbursement of SVOG funds (i.e., in 2022). The red circles show the percent change in revenue after disbursement of SVOG funds for grantees compared to non-recipients by underserved business status. Underserved business are businesses identified in Dun & Bradstreet data as any of the following: disabled-owned, veteran-owned, women-owned, minority-owned, or small disadvantaged. For underserved and not underserved businesses, the percent change in annual revenue for grantees compared to non-recipients was not statistically different than the overall increase (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data; SVOG Application data.

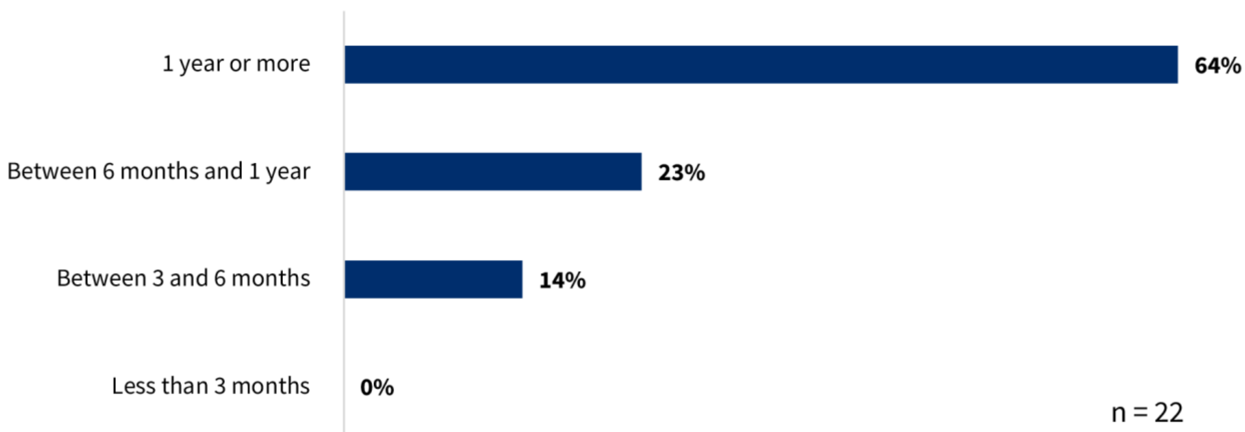
How many SVOG grantees are still in operation three months, six months, and twelve months after the final disbursement of all funds (including funds from reconsiderations and supplementations)?

Key Insights

- Very few businesses (one percent of the grantee survey sample) closed operations after the receipt of SVOG funds.
- Most businesses that closed stayed open at least one year after the receipt of SVOG funds.

Only 22 grantees that responded to the grantee survey indicated they were no longer in operation. In the Dun & Bradstreet data, there were also very few businesses that had evidence of closure. Of the 22 grantees that indicated they closed operations, most (64 percent) did not close until one year or more after the receipt of SVOG funds.

Exhibit 26. Of the grantees that closed operations, most stayed open a year or longer after the receipt of SVOG funds.



Source: SVOG Grantee Survey, Item 1a: About how long after you received the last of the SVOG funds did your business close?

What are the characteristics of SVOG grantees still in operation today and how do they compare to applicants who failed to receive SVOG funds? How do they compare to SVOG grantees that are no longer in operation?

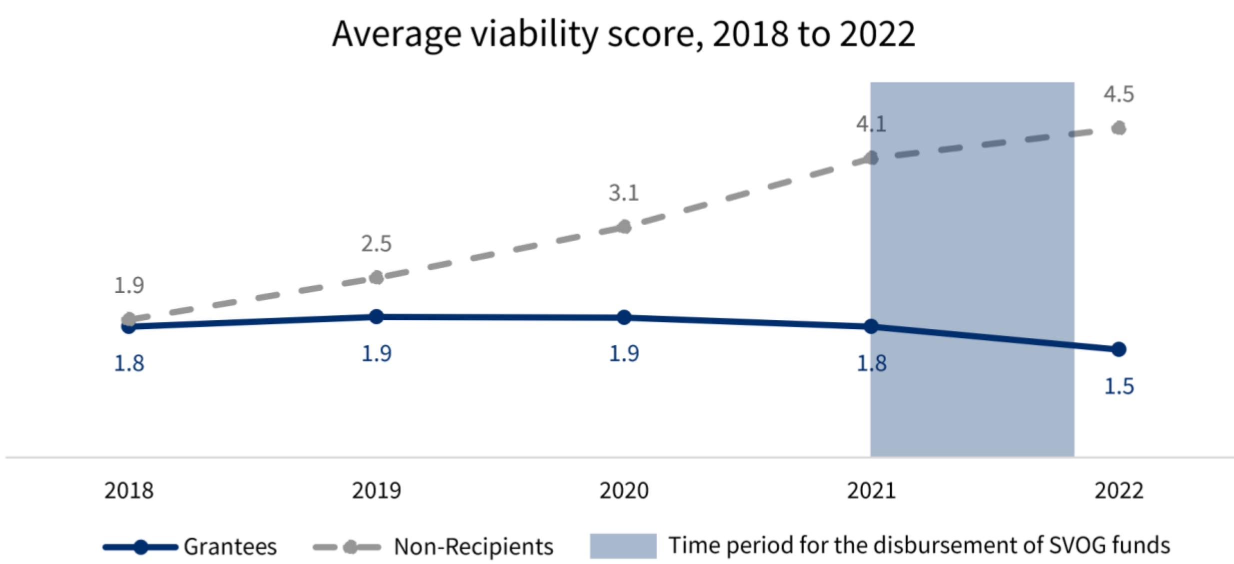
Key Insights

- SVOG significantly improved the viability of grantee businesses.

The administrative and collected data did not show a substantial number of business closures, so statistical comparisons between grantees whose businesses remained open and those that closed could not be made. The Dun & Bradstreet viability rating provided a means to compare grantees with non-recipients. The rating or viability score predicts the likelihood that a company would go out of business, become inactive, or file for bankruptcy over the next 12 months. The viability score is a rating from 1-9 where 1 is the lowest probability of going out of business or becoming inactive over the next 12 months and 9 is the highest probability of going out of business or becoming inactive. Reductions in the score indicate an improvement in business viability.

After the SVOG program was launched, the viability score of grantees improved significantly for grantees compared to non-recipients. Overall, the DID regression predicted that grantees improved their viability by 0.3 points more than they would have experienced without SVOG funds.

Exhibit 27. Grantees experienced a significant improvement in average business viability, with lower scores indicating better viability, compared to non-recipients after the disbursement of SVOG funds.



Note: The business viability score ranges from 1 to 9, with 9 representing businesses most likely to cease operations and 1 representing businesses least likely to cease operations. The difference in the viability trends between grantees and non-recipients was statistically significant ($p < 0.05$) in the difference-in-differences regression model.

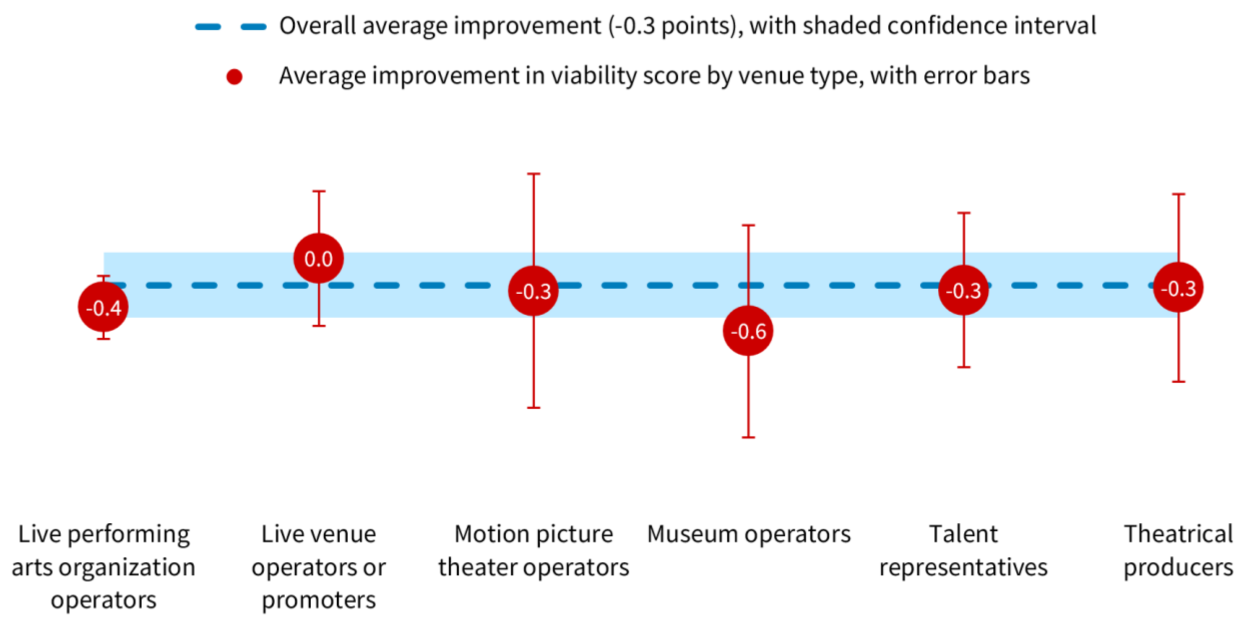
Source: Dun & Bradstreet data.

How does operating status vary by venue type, number of employees, annual revenue, geography, industry, and socioeconomic status?

Key Insights

- Average improvement in viability score did not vary significantly by venue type, SBA region, industry, or underserved business status.

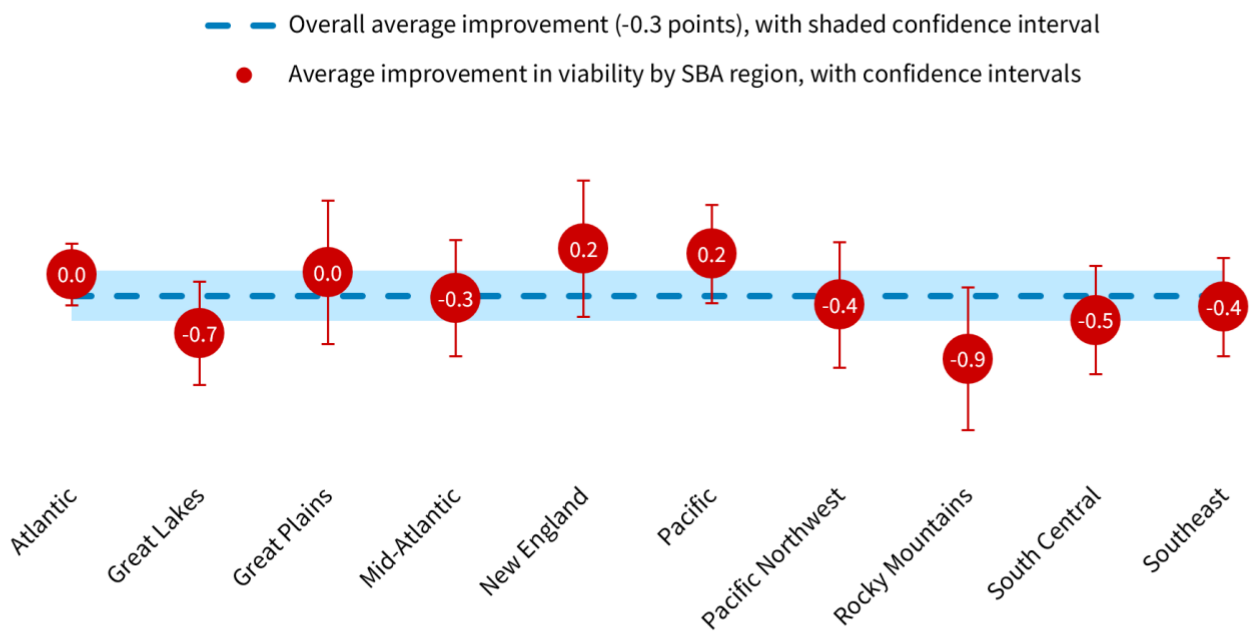
Exhibit 28. The average improvement in the viability score for SVOG grantees compared to non-recipients did not vary by venue type.



Note: The dashed blue line shows grantees had, on average, a decrease of 0.3 points more in the viability score than non-recipients after disbursement of SVOG funds (i.e., in 2022). Decreases in the score indicate better business viability. The red circles show the change in the score after disbursement of SVOG funds for grantees compared to non-recipients of each venue type. For every venue type, the change in the viability score for grantees compared to non-recipients was not statistically different than the overall change (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data.

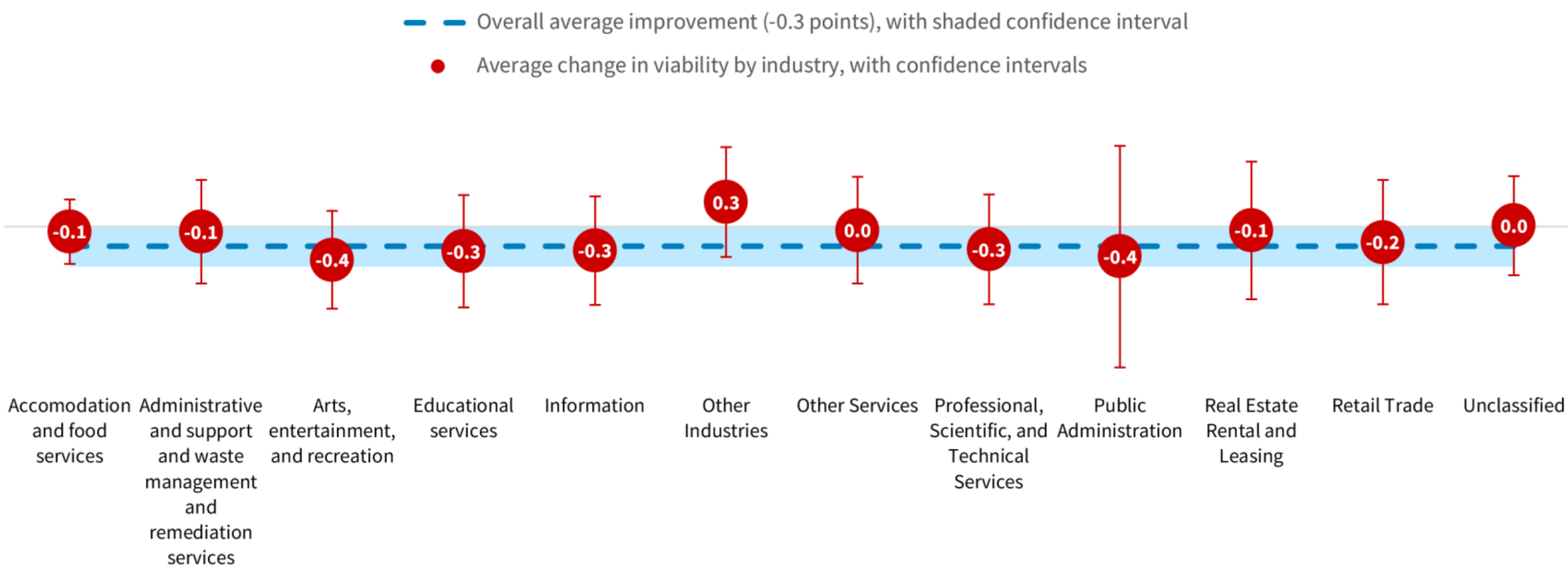
Exhibit 29. The average improvement in the viability score for SVOG grantees compared to non-recipients did not vary substantially by SBA region.



Note: The dashed blue line shows grantees had, on average, a decrease of 0.3 points more in the viability score than non-recipients after disbursement of SVOG funds (i.e., in 2022). Decreases in the score indicate better business viability. The red circles show the change in the score after disbursement of SVOG funds for grantees compared to non-recipients in each SBA region. For every region, the change in the viability score for grantees compared to non-recipients was not statistically different than the overall change (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data.

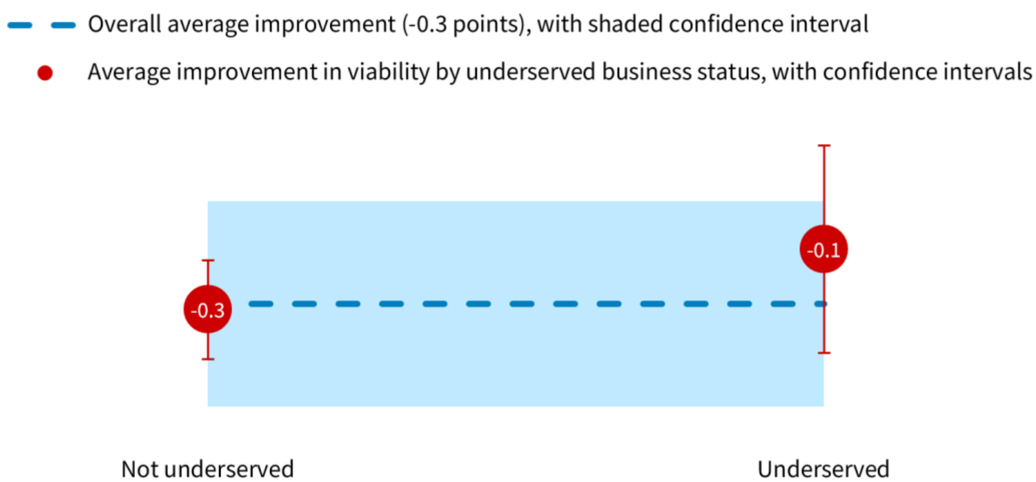
Exhibit 30. The average improvement in the viability score of grantees compared to non-recipients did not vary substantially by industry.



Note: The dashed blue line shows grantees had, on average, a decrease of 0.3 points more in the viability score than non-recipients after disbursement of SVOG funds (i.e., in 2022). Decreases in the score indicate better business viability. The red circles show the change in the score after disbursement of SVOG funds for grantees compared to non-recipients in each industry. For every industry, the change in the viability score for grantees compared to non-recipients was not statistically different than the overall change (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data.

Exhibit 31. The average improvement in the viability score of grantees compared to non-recipients did not vary by underserved business status.



Notes The dashed blue line shows grantees had, on average, a decrease of 0.3 points more in the viability score than non-recipients after disbursement of SVOG funds (i.e., in 2022). Decreases in the score indicate better business viability. The red circles show the change in the score after disbursement of SVOG funds for grantees compared to non-recipients by underserved business status. Underserved business are businesses identified in Dun & Bradstreet data as any of the following: disabled-owned, veteran-owned, women-owned, minority-owned, or small disadvantaged. For underserved and not underserved businesses, the change in the viability score for grantees compared to non-recipients was not statistically different than the overall change (the confidence interval line crosses the shaded confidence interval of the dashed blue line).

Source: Dun & Bradstreet data.

Domain 4: Perceptions of SVOG and Remaining Pandemic Recovery Needs

This section presents findings on perceptions of SVOG and remaining pandemic recovery needs. The source for these findings comes primarily from the grantee closeout survey, grantee web survey, and follow-on interviews. To develop these findings, the evaluation team applied topic modeling and thematic analysis of text-based data (from the open-ended survey item and interview transcripts) and descriptive statistics of closeout survey data. More information on the data sources and analysis methods is available in the Technical Appendix.

What are grantees' perceptions of the SVOG grant's relationship to business survival? Do SVOG grantees associate the grant to business outcomes?

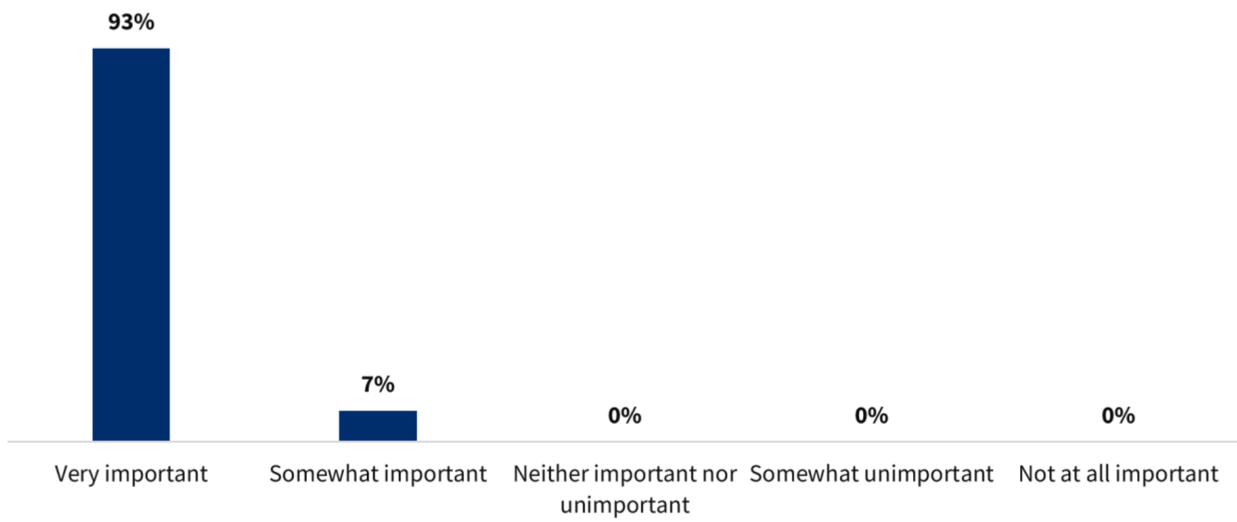
Key Insights

- Almost all (93 percent) of the closeout survey respondents, a third (33 percent) of the grantee survey respondents, and virtually all interview respondents reported that SVOG helped their business survive during the pandemic.
- A small number (1 percent or less) of grantee survey respondents indicated a negative experience with the SVOG application process.

Closeout Survey Responses

SVOG grantees responding to the closeout survey agreed that the funds were very important in keeping their business open or reopening their business.

Exhibit 32. Almost all closeout survey respondents said SVOG played a very important role in keeping their business open or reopening their business.

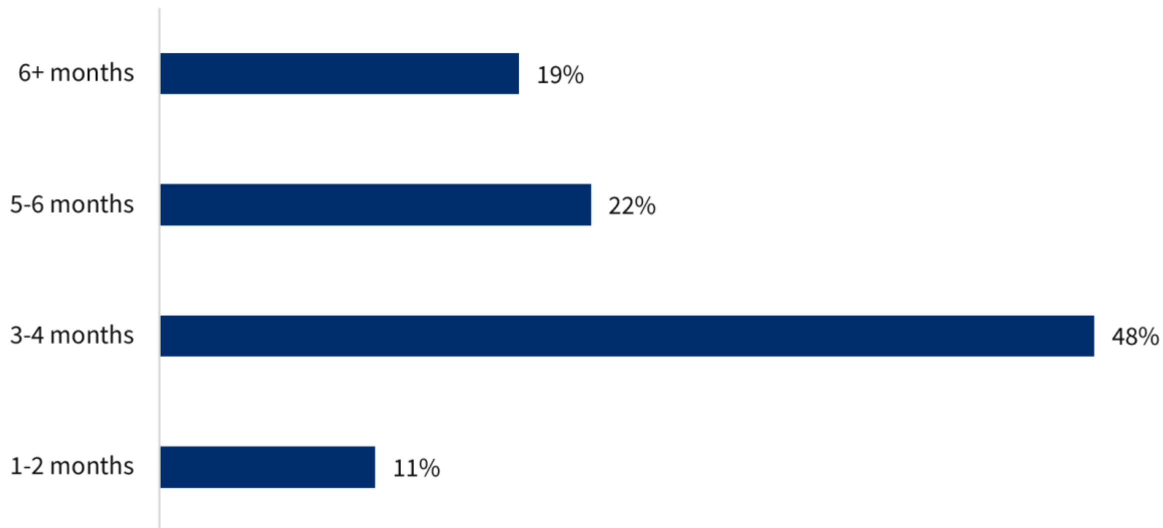


N = 82

Source: SVOG Closeout Survey, Item 1: In your opinion, how important was the SVOG grant to keeping your business open or reopening your business?

Closeout survey respondents (33 percent) also reported that SVOG helped them to reopen their business sooner.

Exhibit 33. Of the closeout survey respondents that said SVOG helped them to reopen sooner, more than half said the grant helped them to reopen between 1 and 4 months sooner.

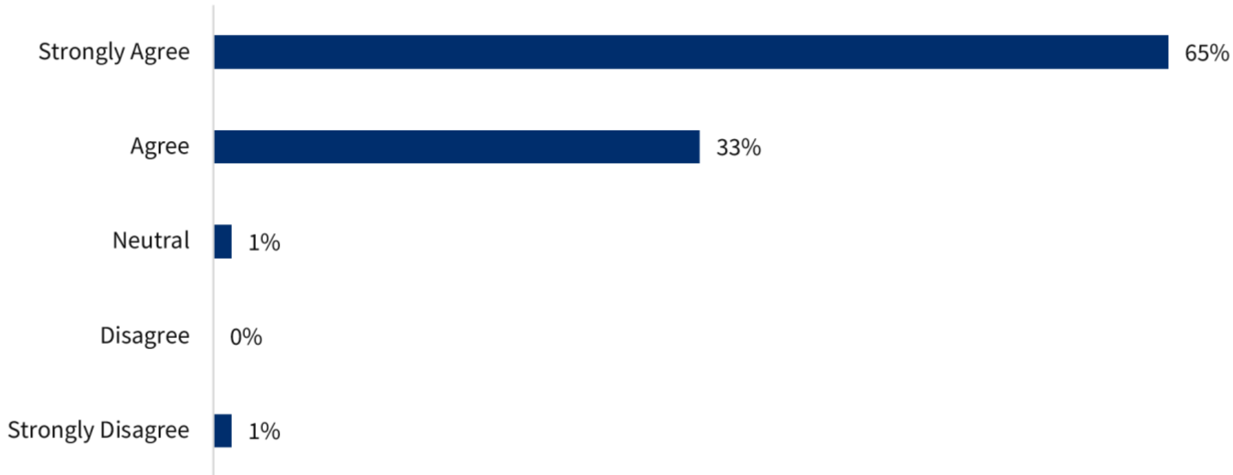


N = 27

Source: SVOG Closeout Survey, Follow-Up to Item 3: If yes, how much sooner did your business reopen?

Finally, 98 percent of the closeout survey respondents agree, some strongly, that SVOG addressed their needs.

Exhibit 34. Most closeout survey respondents agreed that SVOG addressed their needs.



N = 82

Source: SVOG Closeout Survey, Item 5: My need was addressed by SVOG.

Grantee Survey and Interview Discussions

In the web survey and follow-on interviews, grantees noted the importance of supporting art in the community and expressed gratitude that the SBA steered funding to the arts industry. Some interviewees noted frustrations with the close-out and auditing processes, describing them as unclear and time-consuming. Others preferred a longer period during which they could have spent their funds. Nevertheless, respondents expressed gratitude for the funds and the speed of the program's launch.

"This grant specifically allowed us to stay open. We are big fans of it. It was a very complex application. There was a lot of support on the website, and all of the webinars and the YouTube videos were so helpful that SBA put out… yes, very, very grateful." - Interview Respondent

Virtually all interview respondents believed that SVOG was instrumental to their businesses' survival. Many respondents expressed their gratitude and described how SVOG funds kept their businesses operating during the pandemic and shutdown in a challenging economic climate of lower revenues, decreasing donations, and increasing costs. These funds helped to compensate for lost revenue and fewer donations, allowing businesses to continue to pay their bills during the economic shutdown. Respondents noted that they likely would have sunk into greater debt or closed their businesses altogether without SVOG funds. Most respondents stated that SVOG funds were generally sufficient to meet their needs and that their businesses' remaining recovery needs stemmed from the prolonged effects of the pandemic on the arts industry, including a need for ongoing financial support over time.

"This kind of support was absolutely amazing and made it able for us to survive and to come back and begin getting back to normal business paying artists and so on. If only some form of this support [was] always in place. Everybody's lives would be better!"- Grantee Survey Respondent

"We would like to see the federal government elevate the arts and culture sector. This is not a bail out… it would both stimulate the economy… and reduce acts of crime. We are extremely thankful for this program and are impressed with the platform that the SBA put together in such a short period of time. - Grantee Survey Respondent

About 26 percent[5] of survey respondents indicated no or few remaining pandemic recovery needs after receipt of SVOG funds. Several respondents used the open-ended survey item as an opportunity to thank the SBA and emphasized its importance for their businesses' survival. Many respondents also reflected on SVOG's effectiveness and expressed hope that future government grants (federal, state, or local) would support their venue should the need ever arise again. Overall, these respondents associated the role, influence, and impact of government programs providing funding and supports with the vibrant arts scene and thriving cultural life in American society.

[5] The percentage reported is an estimate based on results from topic modeling of the survey data. For more information on the topic modeling, please see the Technical Appendix.

Despite the praise, some grantee survey respondents shared their frustration with SVOG and the process of applying for and receiving grant funds. Fewer than one percent of survey respondents indicated a negative experience with the SVOG process.

"I had to appeal multiple times ... It was a tedious, horrifying process, and I think the most egregious thing is I wasn't able to actually talk to the person working on the account."- Grantee Survey Respondent

"We asked a very specific question that wasn't answered in the FAQs and the person pointed us to the FAQs. I missed a deadline, and the person keeps reaching out to me to go back and do it, but the system won't let me." - Grantee Survey Respondent

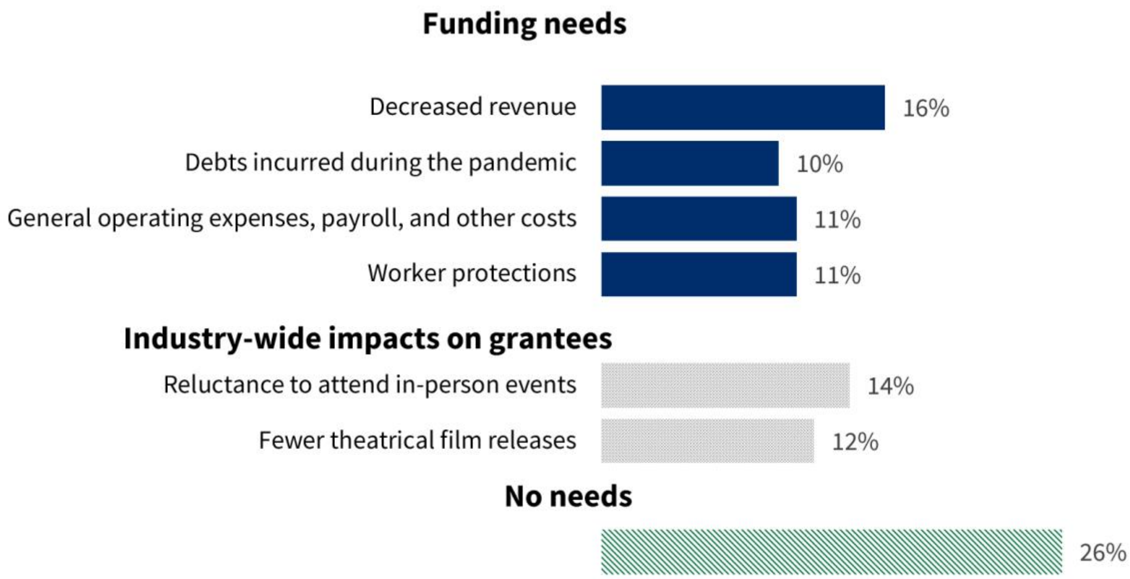
What are the remaining pandemic recovery needs among SVOG grantees?

Key Insights

- SVOG grantees requested additional funding to cover decreased revenues; debts incurred during the pandemic; general operating expenses, payroll, and other costs; and worker protections.
- SVOG grantees also noted key issues and changing behaviors impacting their recovery, including reduced attendance of in-person events and fewer theatrical film releases.

Topic modeling of the grantee survey data identified six different categories of remaining pandemic recovery needs. The first four categories relate to needs which grantees felt additional funding could address. These include general operating expenses, payroll, and other costs; debts incurred during the pandemic; worker protection needs; and decreased revenues due to fewer ticket sales and reduction in earned income. The last two are larger issues that continue to impact grantee industries. These include lingering reluctance to attend in-person performances and events and, specific to the film industry, fewer theatrical releases.

Exhibit 35. Grantee survey respondents requested additional funding to address pandemic recovery needs and described industry-wide issues that still impact their businesses.



N = 1,518

Notes: The percentages reported in **Exhibit 35** above are estimates based on topic modeling results of the survey data. For more information on the topic modeling, please see the Technical Appendix. The evaluation team removed grantees that did not respond to the open-ended item prior to conducting the topic modeling analysis.

Source: Grantee survey, Item 4: What are the needs, related to recovery from the COVID-19 pandemic, your business is currently experiencing?

Funding Needs

Many survey and interview respondents discussed challenges they continue to face given decreased revenues from fewer ticket sales, fewer donations and sponsors, and drops in other sources of income. Respondents stated that without additional support from programs like SVOG, they will continue to struggle to cover general operating expenses, payroll costs, and rent payments, among other costs. Several survey respondents also expressed their need for maintenance and capital improvements like repairs to HVAC systems, carpet replacements, and equipment upgrades, particularly for venues that were shuttered for a long period during the pandemic. Finally, many respondents highlighted the need for greater worker protections, such as better ventilation systems, masks, and other personal protective equipment.

In follow-on interviews, respondents said they have seen increases in staff turnover and payroll costs since the pandemic. While there exists a clear need for businesses to hire qualified and reliable staff, current funding levels are insufficient to cover the cost of these human resources with businesses are still recovering financially. In the interviews, respondents also mentioned that some expenses have increased in price due to inflation associated with the pandemic. They saw a substantive increase in the price of goods and materials, rent, utilities, insurance costs, and rates for vendors and performers. Taken together, these costs substantiate significant remaining needs.

"We just had to transfer money from our cash reserve fund or very carefully hoarded cash reserve fund for the first time. For us … even when we sell out with the rising cost of doing business, our profit margin or profit, our net is much smaller, and that's the net that we take to pay everyone else ... It's really scary. I'm not sure what we're going to do and it's really difficult right now, to be honest with you." - Interview Respondent

Survey and interview respondents also expressed a need for relief from paying off emergency loans that were taken out during the pandemic such as the Economic Injury Disaster Loan (EIDL). Some felt unsure about how they would meet needs without federal support. SVOG funds were critical in ensuring their business survival during the pandemic shutdown, but without ongoing support, they would likely need to take on more debt, access their personal savings to cover costs, or ultimately close their business.

"Prior to receiving funds from SVOG, I like so many hundreds or thousands of my colleagues in the entertainment industry took out SBA EIDL loans. On top of our performance income not yet returning to normal, our SVOG funds are now low or gone and now the payments have come due on our EIDL loans. I am sure some will struggle, even with the best of intentions, to make these payments with their continued reduced income. It would be helpful to see a loan forgiveness program introduced to congress for consideration or at the very least a payment moratorium on EIDL loans." - Grantee Survey Respondent

Other respondents leaned into their creativity to manage their remaining pandemic recovery needs without federal support. Their strategies for securing financial support included seeking out local and state grants and increasing fundraising efforts to find new partners and/or donors. To stay afloat against the rising costs of running their businesses, respondents often had to cut costs through measures like reducing employee hours, reducing artist and performer pay, and scaling back programming by hosting fewer shows, canceling events, or postponing programs.

Larger Issues Impacting Grantees' Industries

Both survey and interview respondents frequently mentioned that their audience at in-person events and performances reduced significantly since the pandemic. They observed that their customers' entertainment habits were changing with many now preferring to stream movies and performances from the comfort of their own home. The respondents also recognized a growing reluctance among their customers to attend events and performances in person due to health concerns.

"I know streaming has definitely affected my business in a hard way… It's costing me a lot more money to rent the movie, but it's also streaming for a one pay price… Between the inability to get to my market to advertise… and also having to deal with the streaming, it's just making it really difficult to survive." - Interview Respondent

Along with changing preferences, many respondents noted that movie studios are releasing films at a slower rate compared to pre-pandemic levels. Many movie theaters are therefore struggling to remain open and often lack a sufficient pipeline of films to generate enough revenue that sustains their business.

In response to these challenges, interview respondents expressed the importance of identifying successful marketing strategies to increase audience levels. Despite this recognition, they struggle to adapt as technology and advertising have changed over time and shifted from traditional media like TV, radio, or newspaper to social media. As a result, their usual means of advertising through traditional media are no longer effective and they are struggling to navigate the nuances of social media marketing.

Some interview respondents described how they were now trying to strategically plan shows and programming to increase audience turnout. For example, several theatres have shifted to focus only on popular, well-known titles to entice new audiences. Additionally, some respondents were able to ramp up their marketing and advertising efforts by hosting events, bolstering their community involvement, and increasing their spending on marketing and advertising.

Conclusion

Summary

Overall, the SVOG evaluation found that grantees felt the funds were instrumental to the survival of their business. The evaluation team found conclusive evidence that the annual revenue and viability of grantees' businesses improved due to the receipt of SVOG funds. SVOG funds went to a diverse range of businesses, both large and small, with different key characteristics across various locations in the United States. Very small businesses experienced more difficulty securing awards, although the grant awarded funds to many businesses with fewer than five employees. Certain venue types and industries (for example, motion picture theaters and arts, entertainment, and recreation businesses) had different likelihoods of securing an award.

Finally, the grantee survey showed that most grantees spent their funds on payroll and general operating expenses. Only one percent had leftover funds at the time of the survey. Most grantees also indicated the presence of remaining pandemic recovery needs resulting from decreased revenues, increased operating costs, worker protections, and debts incurred during the pandemic. They requested additional funds from the government to meet these financial needs. Grantees also observed key trends that are negatively impacting the arts and entertainment industry, specifically less in-person attendance at events and fewer theatrical film productions.

Recommendations

The report findings suggest several recommendations to consider when implementing similar emergency response and/or industry-specific grant programs in the future.

Recommendation 1: Regularly conduct analysis of client characteristics, comparing to those of applicants that were not admitted to the program.

- **Evidence.** The evaluation found smaller businesses, underserved businesses, businesses in some regions of the U.S., and certain venue types were less likely to receive an SVOG award.
- **Implementation.** To better understand differences or potential bias in award and lending patterns, SBA programs can implement real-time, interactive dashboards that display topline measures that compare clients to all applicants. If there are clear differences, programs can consider implementing outreach efforts to target groups that are receiving fewer awards, loans, certifications, and more. See Recommendation 3 for more evidence supporting outreach. A dashboard may also support track measures of impact on surrounding industries and economic impacts, to better facilitate evidence-building activities.

Recommendation 2: Support outreach that can identify needs and challenges from the perspective of the industry or area targeted by the grant program.

- **Evidence.** SVOG targeted the performing arts industry. The grantee survey responses and interviews found many grantees face larger industry-wide issues that the SVOG funds could not address on their own. These issues included decreases in attendance at in-person events and fewer theatrical releases in the era of streaming (an issue specific to motion picture theater operators).
- **Implementation.** Outreach efforts can be restricted by grant management practices which can be outside of a program's control, as was the case for SVOG. It is possible to design programs with integrated outreach and service resources to inform continuous quality improvement, however. SBA programs can further opportunities for client support and improved client experiences with built-in outreach mechanisms. Using support surveys, listening sessions, and other outreach, SBA programs can proactively identify issues and solutions to inform program implementation.

Recommendation 3: Support grantee connections to other sustainable sources of funding.

- **Evidence.** The evaluation found almost all grantees spent all their SVOG funds, and, in the interviewees, several grantees mentioned needs for more funding and their current challenges identifying sustainable sources of funding for their businesses.
- **Implementation.** Using improved mechanisms for outreach and understanding client characteristics, SBA programs can organize convenings that bring together customers based on eligibility for additional funding sources. At the convenings, SBA programs can make connections to other SBA resources, and facilitate discussions to help customers create networks from which they may learn about best practices to access available, sustainable funding.

Recommendation 4: Consider ways to streamline and ease the burden of the application process, improving customer experience.

- **Evidence.** In the web survey, a small number of grantees indicated a negative experience with the SVOG application process.
- **Implementation.** Often grant program staff face constraints in the degree to which they can interact with applicants and influence application requirements, especially in the case of grant programs established through legislation, like SVOG. That said, when flexibilities exist, SBA programs can dedicate staff to support questions or technical issues that arise during the application process; a critical component to providing meaningful support is to ensure collaboration between policymakers and communications personnel to develop guidance in plain language. In addition, SBA should look for ways to develop a centralized application that can determine eligibility for more than one program, so that applicants are not required to submit multiple applications.

Limitations

It is possible that the grantees that responded to both the web survey and follow-on interviews had more positive experiences with SVOG than those that declined to respond. Respondents may also have felt the need to agree with statements about the positive impacts of SVOG regardless of their personal options (i.e., acquiescence bias). This bias could cause findings to be more positive than the reality. The evaluation team did attempt to mitigate this bias by encouraging frank answers, ensuring the anonymity of responses, and selecting a large survey sample (4,000 grantees).

A second limitation is that the evaluation lacked data on an extended period of time after the SVOG program. It is possible that some program effects may continue to materialize into 2023 and beyond. In this case, the evaluation findings may potentially underreport the full long-range impact of the SVOG program.

Thirdly, the SVOG program gave an award preference to businesses with significant declines in revenue. Although the evaluation team attempted to correct for differences between grantees and non-recipients using PSM, it is possible that not all variables correlated with revenue decline were included in the matching process. In this case, it is possible that the evaluation underreported the program's effects as grantees should have been worse off than the non-recipients. While less likely, it is also possible that bias in the matching process caused the evaluation team to miss unanticipated negative effects of SVOG, though none of the evaluation team's data supports this conclusion.

Despite these limitations, the SVOG Program Evaluation found that the program generally helped businesses during the pandemic and played a key role in keeping businesses from closure. Future research might consider examining whether the SVOG impacts were better realized in 2023 or later over time. Future research might also seek to better understand why some businesses failed to receive funds. Understanding whether these businesses were legitimately ineligible and/or better off than their grantee counterparts or not may inform lessons learned for future industry-specific, disaster recovery programs that the SBA or other federal/state agencies implement.

Technical Appendix

Data Sources

SVOG Application Data

The SVOG application data included a list of DUNS numbers that served as unique identifiers of businesses that applied for funds from the SVOG. The data also identified whether each business ultimately received an award (grantee) or not (non-recipient). All information the evaluation team used from this data source is presented in the table below.

Exhibit A.1 SVOG application data variables used by the evaluation team.

Variables	Description/Notes
DUNS	The unique identifier of all businesses in the data.
Applicant Name, Email, Phone	Identifying information needed for the Grantee Survey administration.
Venue	The venue type of each business, which included live performing arts organization operators, live venue operators or promoters, motion picture theater operators, museum operators, talent representatives, and theatrical producers.
Street 1, Street 2, City, State, Zip	The evaluation team used this information to determine the geography of the business, specifically the SBA region, and whether the business was in a metropolitan area or not.
Number Of Employees	The evaluation team used the number of employees reported at the time of application to develop business size categories including less than 5 employees, 5 to 9 employees, 10 to 49 employees, 50 to 249 employees, and 250 or more employees.
Annual Revenue	The evaluation team used the annual earned revenue in 2020 to create categories including less than $100,000; $100,000 to 999,999; $1,000,000 to $9,999,999; and $10,000,000 or more. The application data also included annual revenue for 2019 and partial revenue data for 2021 (through the first quarter).
Award Amount	The evaluation team used the approved award amount to create categories including less than $100,000; $100,000 to 999,999; $1,000,000 to $9,999,999; and $10,000,000 (awards were capped at $10 million).
Award Date	The evaluation team used the award date to determine when awards were given to the grantees. This variable helped to identify 2022 as the period “after” the SVOG in the DID regression models, as most awards were given from May to December of 2021.

SVOG Closeout Survey

At the conclusion of their grant, the SVOG grantees were asked to complete a closeout survey that included questions about their perception of the program and its relationship to business survival. The table below describes the items the evaluation team used from the closeout survey.

Exhibit A.2 SVOG closeout survey items used by the evaluation team.

SVOG Closeout Survey Items	Response Options
1. In your opinion, how important was the SVOG grant to keeping your business open or reopening your business?	Very important; Somewhat important; Neither important nor unimportant; Somewhat unimportant; Not at all important (and an "Explain" text box)
2. Before you received the grant, did you have a timeline for reopening?	Yes, but we had not yet reopened; Not applicable, we were already open; No
3. Did the SVOG grant help reopen your business sooner than you would have otherwise?	Yes; No
3. If yes, how much sooner did your business reopen?	1-2 months; 3-4 months; 5-6 months; 6+ months
4. Was the amount of the SVOG grant sufficient to help meet your obligations?	Yes; No
5. My need was addressed by the SVOG	Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree

Only 82 grantees responded to the closeout survey at the time the evaluation team received the data. The closeout survey sample thus differed some from the overall sample of SVOG grantees; however, the differences were not extreme.

Exhibit A.3. Comparison of all SVOG grantees to the grantees that responded to the closeout survey.

Category	Subcategory	Percent of all grantees	Percent of closeout survey respondents
Venue type	Live performing arts organization operators	26%	21%
	Live venue operators or promoters	37%	23%
	Motion picture theater operators	12%	27%
	Museum operators	6%	17%
	Talent representatives	11%	6%
	Theatrical producers	7%	6%
Number of employees	Less than 5	43%	37%
	5 to 9	19%	22%
	10 to 49	29%	30%
	50 to 249	8%	5%
	250 or more	2%	6%
Annual revenue in 2020	Less than $100,000	41%	37%
	$100,000 to $999,999	45%	51%
	$1,000,000 to $9,999,999	13%	10%
	$10,000,000 or more	1%	2%
SBA Region	Atlantic	14%	11%
	Great Lakes	14%	15%
	Great Plains	4%	11%
	Mid-Atlantic	8%	5%
	New England	6%	4%
	Pacific	19%	11%
	Pacific Northwest	5%	4%
	Rocky Mountains	4%	7%
	South Central	9%	16%
	Southeast	16%	17%
Urbanicity	Metropolitan	89%	79%
	Micropolitan	7%	12%
	Rural	4%	9%
Industry	Accommodation and Food Services	6%	9%
	Administrative and Support and Waste Management and Remediation Services	7%	4%
	Arts, Entertainment, and Recreation	44%	46%
	Educational Services	4%	2%
	Information	13%	16%
	Other Services	6%	7%
	Professional, Scientific, and Technical Services	3%	1%
	Public Administration	2%	0%
	Real Estate Rental and Leasing	2%	2%
	Retail Trade	2%	1%
	Other Industries	3%	4%
	Unclassified	9%	7%
Underserved business status	Not a underserved business	84%	84%
	Underserved business	16%	16%

SVOG Grantee Survey

The evaluation team administered a web survey to a random sample of 4,000 SVOG grantees to collect information on how grantees spent funds they received. The survey also included an open-ended question about the remaining pandemic recovery needs grantees face. The evaluation team designed the survey to take about 10 minutes to complete. The table below shows the items included in the survey.

Exhibit A.4. SVOG grantee survey items.

SVOG Grantee Survey Item	Response Options
1. First, is the business that was supported by the SVOG funds still in operation?	Yes; No
1a. [if 1 was "no"] About how long after you received the last of the SVOG funds did your business close?	Less than 3 months; Between 3 and 6 months; Between 6 months and 1 year; 1 year or more
2. For which of the following expense categories did you use SVOG grant funds? (Check all that apply)	Payroll costs; Rent payments; Utility payments; Scheduled mortgage payments; Scheduled debt payments on any indebtedness incurred in the ordinary course of business prior to February 15, 2020; Worker protection expenditures; Payments to independent contractors; Other ordinary and necessary business expenses, including maintenance costs, administrative costs (including fees and licensing costs); state and local taxes and licensing fees; operating leases in effect as of February 15, 2020, and insurance payments; Advertising, production transportation, and capital expenditures related to producing a theatrical or live performing arts production, concert, exhibition, or comedy show; Other 1; Other 2; Some portion of unspent funds remain
3. Estimate, as best you can, the dollar distribution of funding to the uses listed in the table below. Your entries will total at the bottom. Your objective in answering the question is to include the percentage of all spent and unspent funds so that the total at the bottom is 100 percent.	Categories that were selected for question 3
4. What remaining pandemic recovery needs do you have for your business?	Open text

2M received 1,829 responses to the survey, a response rate of 46 percent. The survey sample had similar characteristics to grantees overall.

Exhibit A.5 SVOG grantee survey sample characteristics.

Category	Subcategory	Percent of all grantees	Percent of grantee survey respondents
Venue type	Live performing arts organization operators	26%	32%
	Live venue operators or promoters	37%	32%
	Motion picture theater operators	12%	11%
	Museum operators	6%	8%
	Talent representatives	11%	9%
	Theatrical producers	7%	7%
Number of employees	Less than 5	43%	38%
	5 to 9	19%	21%
	10 to 49	29%	30%
	50 to 249	8%	9%
	250 or more	2%	2%
Annual revenue in 2020	Less than $100,000	41%	34%
	$100,000 to $999,999	45%	49%
	$1,000,000 to $9,999,999	13%	16%
	$10,000,000 or more	1%	1%
SBA Region	Atlantic	14%	13%
	Great Lakes	14%	15%
	Great Plains	4%	5%
	Mid-Atlantic	8%	7%
	New England	6%	6%
	Pacific	19%	19%
	Pacific Northwest	5%	7%
	Rocky Mountains	4%	5%
	South Central	9%	9%
	Southeast	16%	14%
Urbanicity	Metropolitan	89%	87%
	Micropolitan	7%	8%
	Rural	4%	6%
Industry	Accommodation and Food Services	6%	5%
	Administrative and Support and Waste Management and Remediation Services	7%	6%
	Arts, Entertainment, and Recreation	44%	49%
	Educational Services	4%	7%
	Information	13%	12%
	Other Services	6%	6%
	Professional, Scientific, and Technical Services	3%	2%
	Public Administration	2%	2%
	Real Estate Rental and Leasing	2%	2%
	Retail Trade	2%	1%
	Other Industries	3%	2%
	Unclassified	9%	6%
Underserved business status	Not an underserved business	84%	81%
	Underserved business	16%	19%

SVOG Grantee Interviews

The evaluation team conducted follow-on semi-structured interviews with 36 grantees who responded to the grantee survey to collect more in-depth information on the remaining pandemic needs of the grantees. The interviews lasted between 15 and 30 minutes. During the interview, grantees were asked to expand on the answer they provided to the web survey's open-ended question and discuss whether the felt they could meet their remaining needs without additional Federal support. They were also asked what needs they felt the SVOG addressed well.

The interview respondents reflected diversity in terms of venue type, business size, and underserved business status.

Exhibit A.6. Grantee interview sample characteristics.

Category	Subcategory	Percent of interviewees
Venue Type	Live performing arts organization operators	36%
	Live venue operators or promoters	39%
	Motion picture theater operators	11%
	Museum operators	0%
	Talent representatives	6%
	Theatrical producers	8%
Number of employees	Less than 5	39%
	5 to 9	0%
	10 to 49	25%
	50 to 249	11%
	250 or more	3%
Underserved business status	Not a underserved business	69%
	Underserved business	31%

Dun & Bradstreet Data

The evaluation team received annual data from 2018 to 2022 on total sales, employee count, socioeconomic status and viability score from Dun & Bradstreet for the 17,042 businesses that applied for SVOG. Dun & Bradstreet produces a multi-dimensional rating called the Viability Rating that includes two predictive components and two descriptive components. The predictive components include a viability score and a portfolio comparison, while the descriptive components include a data-depth indicator and a company profile indicator. The viability score is a predictive rating of 1-9 where 1 is the lowest probability of going out of business or becoming inactive over the next 12 months compared to approximately 30 million U.S. businesses in the Dun & Bradstreet Data Cloud and 9 is highest probability of going out of business or becoming inactive. The portfolio comparison is a predictive rating of 1-9 where 1 is the lowest probability of going out of business or becoming inactive over the next 12 months compared to other businesses within the same model segment and 9 is the highest probability of going out of business or becoming inactive.

Exhibit A.7. D&B Business Characteristics.

Variable	Description	Average				
		2018	2019	2020	2021	2022
Annual Sales	The details of the total income attributable to product and services sold by an organization annually.	$6,111,312	$7,069,670	$6,392,859	$4,110,340	$3,775,261
Employee Count	The number of individuals engaged by a business to perform its various purposes, e.g., business operations, and can include directors, principals and full or part time employees.	68	74	68	52	46
Viability Score	A score ranging from 1-9 that predicts the likelihood that a company will go out of business, become inactive, or file for bankruptcy over the next 12 months. A score of 1 suggests a lower probability of a company going out of business, and 9 indicates the highest probability of going out of business.	2	2	3	4	4

SVOG Grantee Survey Sampling

The evaluation team developed a simple random sample of 4,000 grantees from a contact list with grantee phone numbers and emails provided by SBA. After drawing the initial sample, the evaluation team had to draw replacements for some records. Specifically, the evaluation team drew replacements for the following:

1. 590 records that demonstrated duplicate contact data.
    a. In the initial survey random sample, 590 of the records had duplicates on phone number, email address, or business names. For these duplicated records, the evaluation team randomly selected one to represent that contact. Since some contacts had more than one duplicate, this resulted in keeping 235 of the 590 records, leaving 355 records to replace.
2. 131 records that did not have a match the application dataset.
3. 13 records that had duplicate DUNS in the applicant data (see more on the process to handle duplicates in the applicant data in the Data Cleaning and Process section below).

The evaluation team randomly selected 499 (355+131+13) replacement records from the valid record sampling frame (after removing the 4,000 drawn in the initial sample and any duplicated records based on contact information). The final survey sample included 4,000 records, 3,501 from the initial random sample and 499 replacement records.

Data Cleaning and Processing

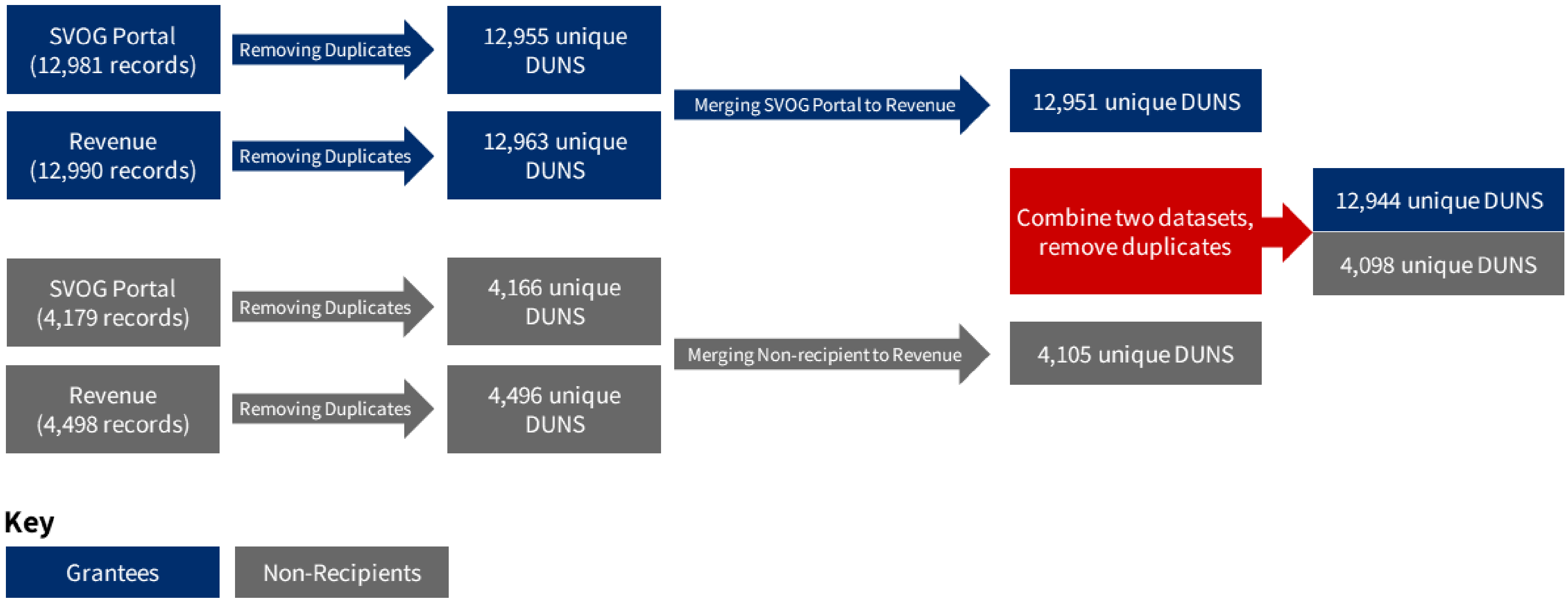
SVOG Application Data

SBA provided the SVOG application data to the evaluation team in four separate datasets:

1. Business characteristics and award amounts of grantees from the SVOG portal.
2. Business characteristics of non-recipients from the SVOG portal.
3. Earned annual revenue information on grantees provided by SVOG program staff.
4. Earned annual revenue information on non-recipients provided by SVOG program staff.

Each of these data sources included a DUNS, which uniquely identifies a business; however, each source also had duplicated DUNS. To avoid issues merging the application data with the Dun & Bradstreet data and to ensure a consistent sample across all analyses of SVOG grantees and non-recipients, records with duplicate DUNS were removed from the data prior to analysis. In addition, a small number of DUNS in the SVOG portal data and the revenue data (for both grantees and non-recipients) did not match. These records were also removed prior to analysis. Exhibit A.8 shows the number of cases dropped at each stage of the data processing of the application data. The final dataset included 17,042 records (12,944 grantees and 4,098 non-recipients).

Exhibit A.8. Process to remove duplicates from the SVOG application data.



Finally, in the case of the revenue data, most grantees had more than one revenue value for each year, as SBA asked them to update their revenue when applying for reconsideration and/or supplemental awards. Following guidance from SVOG program staff, the evaluation team used the reconsideration 2.0 revenue when available as that was the most recent estimated provided by businesses. If that was not available, the team used the updated earned revenue provided at the time grantees applied for a supplemental award. If that was not available, the third option the team used was the earned revenue from the first round of reconsideration. When all three of those options were not available for a specific business, the team used the earned revenue provided at the time of the original application.

SVOG Closeout Survey

SBA provided the evaluation team with a cleaned dataset with information from the closeout survey. The only operation required was to reshape the data from long to wide format (in long format, each survey item represents a row in the data for each grantee; in wide format, there is only one row per grantee and each column represents a different survey item response).

SVOG Grantee Survey

The evaluation team closed the grantee survey on May 19, 2023. At the time of closing, the team had a total of 1,745 completed responses and another 505 responses that began the survey but did not finish it. Of the 505 in progress responses, the evaluation team removed 374 responses that did not answer the first three questions in the survey. The evaluation team considered the remaining 131 responses as complete because the only question missing was the open-ended item in the survey.

The SVOG grantee web survey included an item asking grantees select expense categories that they used to spend the SVOG funds. The survey item included categories of allowable costs described by the SVOG FAQ.[6] The item also included two "other" options that grantees could write in expenses that did not fit into the categories provided in the survey item. The purpose of the "other" options was to identify additional expenses that grantees spent funds on. After examining the responses to the "other" option, the evaluation team recoded most of them to allowable costs. Exhibit A.9 below provides the responses to the "other" category and how they were recoded.

Exhibit A.9. Recoding of the "Other" funding expenses.

Recoded category	"Other" item responses (provided exactly as they were inputted into the survey)
Payroll costs	Payroll Fees, Bank Fees, Dividend*
Utility payments	Utilities
Worker protection expenditures	workers protection
Payments to independent contractors	Contract Workers
Other ordinary and necessary business expenses	▪ 8f Other Business Expenses - depreciation ▪ acquisition of furniture and equipment ▪ Admin Costs, Property Taxes, Credit Card Fees, etc ▪ Administrative ▪ Administrative Costs ▪ Administrative costs & insurance ▪ Administrative Costs & Insurance ▪ Administrative Costs-Professional Fees, Taxes and Licenses for business ▪ Administrative, taxes, fees, etc.. ▪ Administrative/Taxes ▪ All other production costs (costumes, set, light & sound rental) ▪ Amortization ▪ Benefits ▪ Building Improvements ▪ Business Travel ▪ Charter Party Agreements With the Venues (Cruise Ship) ▪ Computer equipment ▪ Concessions Supplies ▪ Construction Costs ▪ construction supplies ▪ Construction to get space usable ▪ Contracted Artistic Services and Supplies

[6] See page 9 of https://www.sba.gov/sites/default/files/2022-02/2022-2-16%20SBA%20SVOG%20Post%20Award%20Frequently%20Asked%20Questions-508.pdf.

Recoded category	"Other" item responses (provided exactly as they were inputted into the survey)
	▪ contractual ▪ Critical Equipment Costs ▪ Depreciation ▪ Depreciation ▪ Depreciation Expense ▪ Depreciation Expense ▪ Employee benefit ▪ Employee Health Insurance ▪ Equipment ▪ equipment ▪ Equipment - A Van and a snowblower ▪ Equipment (computers); travel ▪ Equipment- after being off so long, many things just didn't work anymore, we also pivoted our business model- more outdoors, and needed different gear than we had ▪ equipment and supplies ▪ Equipment and Supplies ▪ Equipment for facility ▪ Equipment Maintenance/Copier - Postage/Shipping - Office Maintenance - Professional Expense (Accounting, Payroll, Computer) ▪ equipment purchase ▪ Equipment Purchase ▪ equipment purchases and installations of them using construction supplies ▪ Equipment rental to produce events ▪ Equipment Replacement ▪ Equipment to increase the quality of the shows we put on. ▪ Equpment ▪ Expand seating ▪ Facility usage fees, cafeteria fees ▪ Fringe ▪ Fringe Benefits ▪ fringe benefits ▪ Fringe Benefits (Health Insurance) ▪ Funds were also spent towards Insurance expenses, custodial services, waste removal expenses ▪ General operating expenses ▪ Grounds maintenance, Insurance expense, Janitorial expense ▪ health insurance ▪ HR Fees ▪ Ice Machine, capital expenditure ▪ Insurance ▪ insurance ▪ Insurance Payment ▪ Insurance Payments ▪ Insurance payments ▪ Insurance Payments and Supplies ▪ Insurance Payments, Equipment, Supplies, Other Business Expenses ▪ Insurance, IS licenses, Computer Services, Supplies ▪ Insurance/Business Costs

Recoded category	"Other" item responses (provided exactly as they were inputted into the survey)
	▪ Legal fees to get the SVOG ▪ Lighting Equipment ▪ Maintaining our ticket and donation platform, Patron Manager CRM. ▪ Materials & Supplies ▪ Materieals ▪ movie rental expenses ▪ Music rental ▪ needed maintenance from lack of use during shutdown ▪ New equipment for the business ▪ Office Supplies ▪ office supplies and artist development tools ▪ Operating Leases ▪ Other Ordinary Maintenance Costs ▪ Payed the state of MN because they taxed me on this grant ▪ Payroll Fees, Bank Fees, Dividend* ▪ pos system so we could do order by phone for contactless ordering ▪ Production costs: backline rentals, tech fees, movie rights costs, materials/supplies ▪ Production Supplies ▪ Production Transportation ▪ Professional services ▪ Program costs ▪ Programming costs for artwork exhibitions and education programs, which are ordinary and necessary costs for the mission of our non profit. ▪ Property Taxes ▪ purchase of lighting for stage ▪ Purchases ▪ Rental fees for lighting, backdrops ▪ Replacement of perishable inventory (beer, etc.) that spoiled while closed during COVID. ▪ sound equipment ▪ sound equipments ▪ Sound system improvements ▪ Sound System upgrade ▪ Supplies ▪ supplies ▪ Supplies - small equipment ▪ Supplies such as music stands, purchasing/renting music, stand lights, etc ▪ Supplies & Advertising ▪ supplies costs ▪ Supplies Expenses ▪ Supplies such as Concession Purchases ▪ Transportation ▪ transportation ▪ Travel ▪ travel ▪ Travel (Transportation) ▪ Travel / Transportation ▪ Travel costs for attending music Industy conferences

Recoded category	"Other" item responses (provided exactly as they were inputted into the survey)
	▪ Travel(Transportation) ▪ Travel/Supplies ▪ union fees ▪ Visa expenses
Expenditures related to producing a theatrical or live performing arts production, concert, exhibition, or comedy show	▪ artist costs, venue rent, stagehands, security ▪ Artist fees and guarentees, ▪ Artist guarantees ▪ artist guarantees ▪ Artists/Production expenses ▪ As a promoter, we had to cancel or reschedule 109 performances when the venues were dark. That means communicating, re-tooling and re-launching advertising campaigns for ALL shows. Communicating with ALL ticket holders and accounts on either new dates or refunds. Re-contracting with ALL services for every show including venue, labor, artist, production, ticketing and media. With no revenues coming in, the SVOG funds allowed our staff to continue this tremendous amount of work until the events were back. ▪ Capital ▪ Capital expenditures ▪ Capital Expenditures - Sound Board ▪ Capital expenditures related to producing a theatrical or live performing arts production (Upgrade lighting Concert Hall) ▪ Capital Improvements ▪ Event expenses ▪ Event Refunds ▪ Event related expenses including janitorial, event staffing and security ▪ General Advertising ▪ Livestreaming Costs ▪ Marketing ▪ New concert productions ▪ Online SEO, Wed advertising ▪ performance fees for artists ▪ Performing Artists ▪ Production Cost ▪ Production costs for a stage production ▪ production costs for our opera ▪ Refund patrons for tickets they bought before Covid-19. ▪ Refunded tickets for cancelled shows ▪ Refunds ▪ Refunds for non concerts ▪ Refunds for shows that were cancelled ▪ Refunds to ticket holders due to COVID related event cancellation ▪ Reimbursement for refunded income due to the pandemic ▪ Show expenses like sets, costumes and props ▪ Stagehand expenses ▪ The money was used extensively for marketing purposes and for travel, to personally visit venue operators and to go to trade shows. ▪ Ticket purchase reimbursements ▪ Ticket Refunds

Recoded category	"Other" item responses (provided exactly as they were inputted into the survey)
	▪ ticket refunds ▪ ticket refunds for cancelled shows ▪ Venue rent ▪ Venue rentals

*Item recoded to more than one category

Prior to delivery of the data to SBA, the evaluation team developed labels for all responses to the survey items and removed grantee identifying information.

SVOG Grantee Interviews

The evaluation team recorded and transcribed all grantee interviews. Prior to delivery of the data to SBA, the evaluation team removed all identifying information from the interview transcripts.

Dun & Bradstreet Data

The evaluation team merged the Dun & Bradstreet data to the SVOG application data using DUNS. After completing the merge, the team conducted multiple imputation of missing data values and propensity score matching of grantees and non-recipients. Both processes are described in more detail below.

Multiple Imputation of Missing Data

Dun & Bradstreet provided sales, employee count, and viability score data for businesses from 2018 to 2022. Dun & Bradstreet also collects information on revenue of businesses; however, all 17,042 business in the SVOG applicant data had missing revenue information in Dun & Bradstreet. In addition, many businesses had missing info for employee counts, sales, and viability. **Exhibit A.10** reports the number of cases and percent of missing for each of these variables in the data. Importantly, the data was in long format, with records for each of the 17,042 business repeated by year, for a total of 85,210 (17,042 X 5) businesses. While revenue data was missing from Dun & Bradstreet, revenue was available in the SBA application data for 2019 and 2020 and partial data (first quarter only) was available for 2021.

Exhibit A.10. Number and percent missing by variable.

Variable	Number of cases missing	Percent missing
Number of employees	30,679	36
Annual sales	30,679	36
Business viability score	2,990	4
Annual revenue	34,084	40

Exhibit A.11 shows the pattern of missingness in the data. About 34 percent of the data was not missing any of the key variables needed for analysis. Another 30 percent was missing only the revenue variable. About 24 percent was missing both number of employees and sales. Smaller percentages were missing other variables. Importantly, 1 percent of the data is missing all four key variables. For these observations, the variables were imputed based on the key business characteristics (e.g., venue type) which are available for all observations.

Exhibit A.11. Pattern of missingness in the data.

Viability	Number of Employees	Sales	Revenue	Number of Variables Missing	Frequency of Cases	Percent of Cases
Not Missing	Not Missing	Not Missing	Not Missing	0	29,261	34
Not Missing	Not Missing	Not Missing	Missing	1	25,265	30
Not Missing	Missing	Missing	Not Missing	2	20,071	24
Not Missing	Missing	Missing	Missing	3	7,623	9
Missing	Not Missing	Not Missing	Not Missing	1	3	0
Missing	Not Missing	Not Missing	Missing	2	2	0
Missing	Missing	Missing	Not Missing	3	1,791	2
Missing	Missing	Missing	Missing	4	1,194	1

To correct for any bias in the analysis of the employee count and sales data and to make the analysis of trends in revenue from 2018 to 2022 possible, the evaluation team and SBA decided to use a multiple imputation process. The imputation occurred in two phases. First, the evaluation team imputed missing data for viability, number of employees, and sales. In this step, the team reshaped the data to wide format for imputation, with the DUNS number as the unique identifier and columns for each year of data for viability, number of employees, and sales. The wide format allowed the team to capture any between-year variation in the data. Then the evaluation team used the complete imputed information from the first set of variables to impute the revenue information in the long format. The second step was necessary because revenue is completely missing for the years 2018, 2021, and 2022.[7] In the wide format, columns for these years for revenue had all missing data, and it is not possible to impute a column that has all missing data; it must have at least some observed values that the model can use to infer the values for missing observations. Reshaping the data to long facilitated a dataset with a single column for revenue, which had observed values for some years. This two-phase approach to missing data is discussed more in the article by Harel & Schafer (2003): https://nces.ed.gov/FCSM/pdf/2003FCSM_Harel.pdf.

There is always error in the imputed values. To account for this, the multiple imputation employs a Bayesian estimation process that imputes values across several iterations. In the first step, the evaluation team specified 100 iterations. In the second step, the evaluation team did one additional imputation for revenue on each of the 100 imputed datasets from the first step. After imputation, the evaluation team thus had 100 imputed datasets with complete information for all variables. The evaluation team ran all DID analysis (see analysis methods below) on each imputed dataset separately and then pooled findings using Rubin's rules.

The evaluation team used the PcAux package in R to perform the two-stage multiple imputation, under the guidance of subject matter expert, Dr. Todd D. Little[8], who helped develop the PcAux package. Further details on the software package are available at https://github.com/PcAux-Package/PcAux/blob/master/documentation/PcAux_Field_Guide.pdf . The PcAux package first expands the data to include nonlinear terms (e.g., squared and cubic terms) and all possible interactions for all variables in the dataset. Then using the expanded dataset, the package conducts a single imputation to fill in all missing information. Next, the package extracts principal component scores from the expanded, single-imputed dataset. The program informs the user how many linear and non-linear principal components are required to explain at least 60 percent and 50 percent of the data, respectively. The user then includes those components as the predictors of the variables with missing information, which in the case of the SVOG Program Evaluation, included employee counts, revenue, and business viability. The package then imputes the values of each variable separately using multiple imputation

[7] Partial information for revenue was available in 2021, but SBA informed the team this information was only for the first quarter. We thus imputed revenue for 2021 as if it were missing for all businesses. The partial information was, however, used to inform the multiple imputation of missing values.

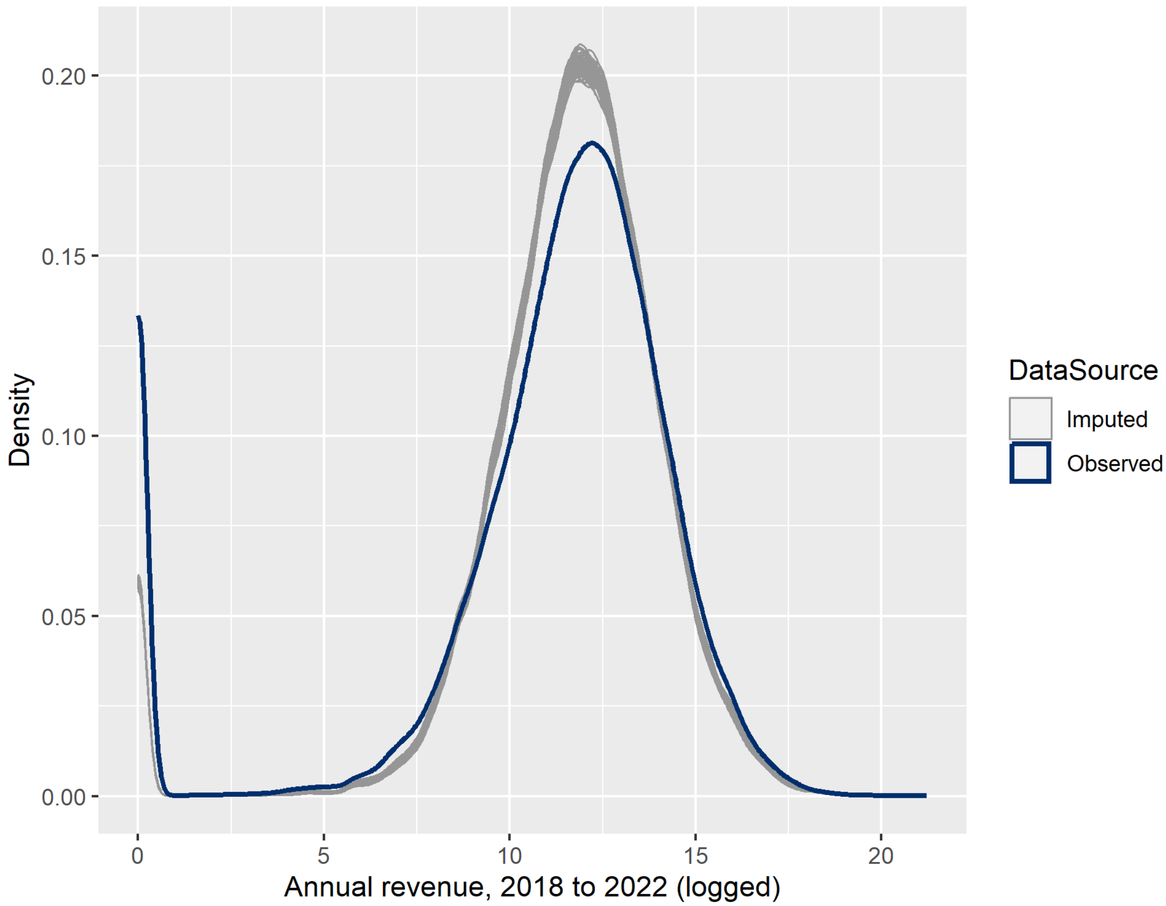
[8] https://www.depts.ttu.edu/education/our-people/Faculty/todd_little.php

by chained equations (MICE). The evaluation team forced PcAux to use predictive mean matching to impute values, to avoid imputation of negative revenue, employee count, and viability values; however, we compared results using the package default as well and found no substantial difference in the results.

Importantly, multiple imputation is unbiased only if the systematic difference between the missing values and the non-missing values can be modeled in the data (or if there is no systematic difference between missing values and non-missing values, which is not very common). There should certainly have been a systematic difference between the complete annual revenue values from 2019 and 2020 and annual revenue in 2021 and 2022 due to the COVID-19 pandemic. The year 2018 may have been more comparable to 2019 and 2020, but since the evaluation team used multiple imputation for 2021 and 2022, it was not additional effort to include 2018. Although there was a systematic difference, it was likely modeled in the data with the sales information and employee counts from Dun & Bradstreet and partial annual revenue data from SBA in 2021 because these values should also have been impacted by COVID in a similar way as revenue was. In addition, other information in the data, such as venue type, was also likely informative. For example, if certain venue types were more or less likely to be impacted than others by the pandemic, this variable contained useful information that allowed the evaluation team to better estimate annual revenue.

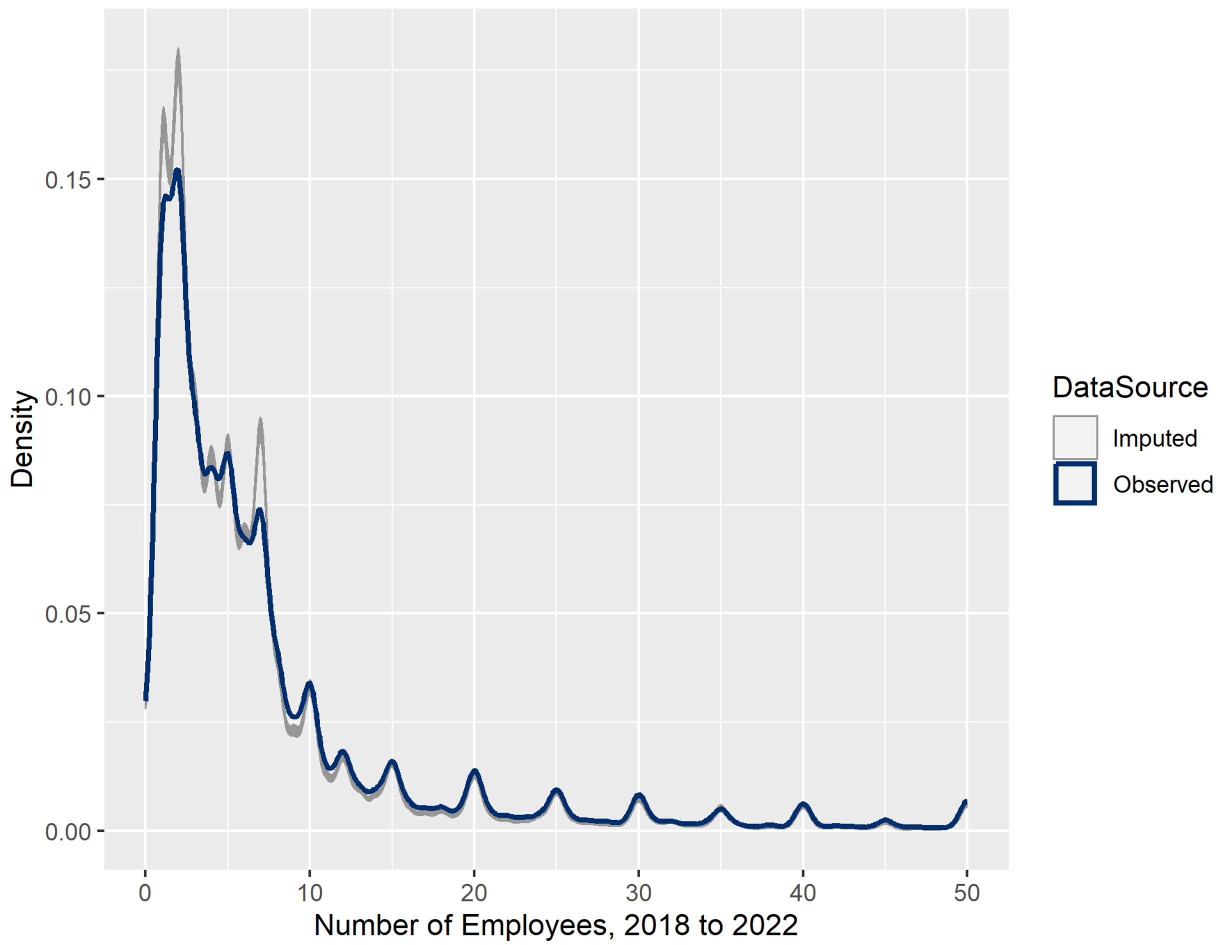
Exhibits A.12, A.13, and A.14 show density plots of the imputed vs. observed data for revenue, employee counts, and viability, respectively. Each density plot shows minimal differences between imputed and observed data. The evaluation team thus had confidence in the robustness of the DID results, which were produced using the multiply imputed datasets.

Exhibit A.12. Density plot of imputed and observed annual revenue values.



Sources: SVOG Application Data and Dun & Bradstreet.

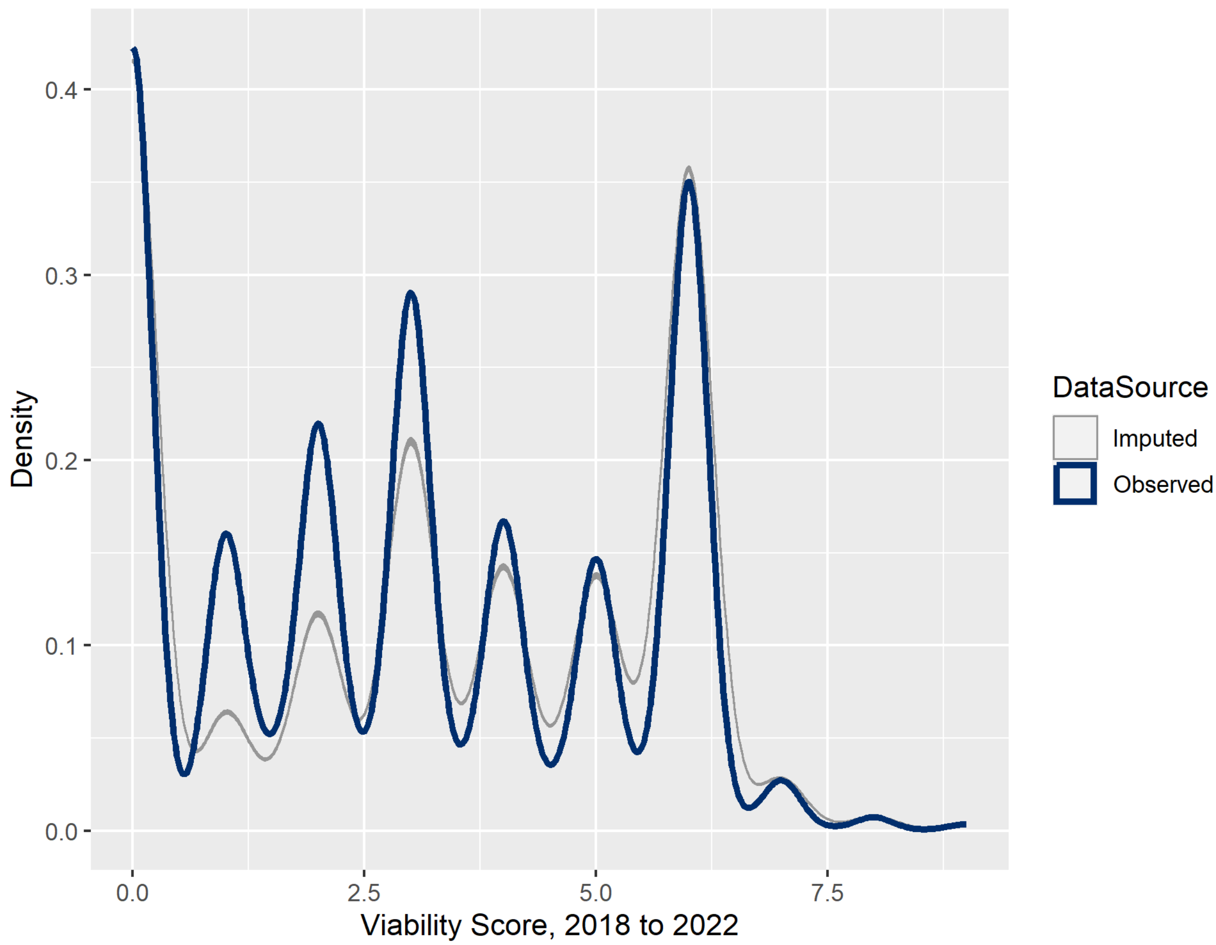
Exhibit A.13. Density plot of imputed and observed employee count values.



Note: The x-axis was restricted to a maximum of 50 employees to increase readability of the figure; there are a small number of businesses with very large employee counts. There is no discernable difference between imputed values and observed values for businesses with more than 50 employees.

Sources: SVOG Application Data and Dun & Bradstreet.

Exhibit A.14. Density plots of imputed and observed viability score values.



Sources: SVOG Application Data and Dun & Bradstreet.

Propensity Score Matching

The evaluation team used Propensity Score Matching (PSM) to ensure that the grantees and non-recipients included in analyses of the impact of SVOG shared similar characteristics and baseline outcomes. The goal of the PSM was to match grantees to non-recipients so that the outcome trends of the grantees would have been the same as the non-recipients in the absence of SVOG. Any difference in the trends is thus attributable to receipt of the SVOG.

The PSM process used logistic regression to calculate the probability of each applicant to receive the SVOG grant based on venue type, SBA region, industry, and socio-economic status (i.e. underserved status) of the business. Then grantees were matched to the non-recipient with the most similar predicted value from the logistic model. This process was done on each imputed dataset. The PSM was performed in R using the package MatchThem. Details on the R package are available on https://cran.r-project.org/web/packages/MatchThem/MatchThem.pdf.

The evaluation team examined if the covariates using in the matching process were balanced, using a balance test. The across-imputation balance summary pools the raw difference in proportions between the grantees and non-recipients and produces summary statistics like the average, smallest, and largest balance statistic across all imputations. Ideally the balance is close to zero, indicating little difference between the grantees and non-recipients. The statistics below shows the balance on average across the imputations.

Exhibit A.15. Balance test between matched grantee and non-recipient characteristics.

Summary Statistic	Average Balance
Minimum	-8%
1st Quartile	0%
Median	0%
Mean	0%
3rd Quartile	1%
Maximum	4%

Analysis Methods

This section describes the analysis methods used by the evaluation team to produce the results for the SVOG Program Evaluation. The evaluation team used R to produce all statistical results except for the topic modeling, which was conducted using the statistical software Stata. The thematic analysis was performed using the qualitative data analysis software NVivo.

Descriptive Statistics

The evaluation team produced descriptive statistics such as tabulations of frequencies, percentages, means, and medians for variables in the SVOG application data, grantee survey, SVOG closeout survey, and Dun & Bradstreet data. The test differences between category frequencies/percentages, the evaluation team used a chi-square test.

Logistic Regression

The evaluation team used a logistic regression to examine the key characteristics from the SVOG application data and Dun & Bradstreet data associated with successfully applying for funding from the SVOG. The dependent variable in the model was the grantee status (1 = grantee; 0 = non-recipient) for each business in the data. The independent variables were key business characteristics (see Exhibit 14 in the main body of the report for a full list). For ease of interpretation, the evaluation team transformed the log odds coefficients into probabilities for reporting.

Topic modeling

The evaluation team conducted topic modeling of the open-ended grantee survey item to identify remaining pandemic recover needs described by the grantee survey respondents. To implement the topic modeling, the team followed several steps:

1. **Change all text to lowercase and remove special characters.** The evaluation team ensured no special characters impacted the analysis and also avoided differences in capitalization, which, if not corrected, can affect the results of the topic model.
2. **Define global stop words.** This step forced the topic model to exclude certain frequently occurring words (i.e., stop words) in the survey responses. First the evaluation team excluded the following frequent words that virtually all topic models exclude: a, able, about, across, after, all, almost, also, am, among, an, and, any, are, as, at, be, because, been, but, by, can, cannot, could, dear, did, do, does, either, else, ever, every, for, from, get, got, had, has, have, he, her, hers, him, his, how, however, i, if, in, into, is, it, its, just, least, let, like, likely, may, me, might, most, must, my, neither, no, nor, not, of, off, often, on, only, or, other, our, own, rather, said, say, says, she, should, since, so, some, than, that, the, their, them, then, there, these, they, this, through, tis, to, too, twas, us, wants, was, we, were, what, when, where, which, while, who, whom, why, will, with, would, yet, you, your. Next, after examining the most frequently occurring words in the item responses, the team further excluded the following words: funds, funding, still, pandemic, business, pre-pandemic, levels, covid, continue, return, recovery, during, increased, normal, returned, additional, grant. Finally, the team excluded all words less than 5 characters from the analysis.
3. **Drop records with no text information and records that indicated no remaining needs.** This step removed grantees that did not respond to the open-ended question as well as those that replied to the question with "nothing", "none", "n/a", or "no."

4. **Implement topic models, beginning with a model with 3 topics and increasing the number of topics in each additional model until a maximum of 10 topics.** To implement the topic models, the evaluation team used the user-written package in Stata ldagibbs (https://journals.sagepub.com/doi/10.1177/1536867X1801800107). The team used the default settings of the package regarding the number of burn-in iterations, the alpha and beta priors, and the number of samples and sample iterations. Interested readers may review the ldagibbs help file in Stata for more information.
5. **Examine the 20 most frequent words in each topic from each model and identify the most consistent topics across all models. Select one model in which the topics seem most clearly distinct and defined.** In this step, the evaluation team compared the frequent words of each topic across all models (ranging from a model with only 3 topics to a model with 10 topics). The same frequent words appeared across multiple models, indicating a consistent set of topics. Ultimately the team selected the model with 7 topics because this model had clearly distinct topics and the models with more topics did not.
6. **Estimate a probability of association with each topic for each survey respondent and categorize each respondent into the topic with the highest probability.** The evaluation team organized each respondent into the topic with the highest probability and reported the frequency and percent of respondents assigned to each topic. One topic in the model identified responses that indicated no remaining pandemic recovery needs. The evaluation team added grantees that responded to the survey item with “nothing,” “none,” “n/a,” or “no” to this topic (these responses were previously excluded in step 3 above).
7. **Have a separate analyst code 10 percent of the survey responses in NVivo and compare the topic model results to the NVivo analysis.** Two separate analysts not involved with the topic modeling coded 10 percent of the survey data in NVivo and identified very similar categories as the topic modeling, including themes related to reduced revenue, building audience, payroll expenses, increased general operating expenses, debt/loan relief, costs associated with continued COVID-19 restrictions (i.e., worker protections), and no remaining needs. The analysts also identified themes related to decreased tourism and labor and artist shortages, which the topic model did not explicitly identify. However, these themes had significant overlap with the themes in the topic model and were likely captured within the existing categories. The results of the coding served as confirmation that the topic model found the common themes represented in the open-ended survey item.

Exhibit A.16 shows the 20 most frequently occurring words in each topic of the model with 7 topics, which the evaluation team selected as the final model.

Exhibit A.16. Most frequent words in each topic for the final topic model.

Decreased revenue	Debts incurred during the pandemic	General operating expenses, payroll, and other costs	Worker protections	Reluctance to attend in-person events	Fewer theatrical film releases	No needs
revenue	years	costs	staff	audience	industry	support
sales	building	expenses	audiences	attendance	people	needs
ticket	months	payroll	costs	audiences	money	thank
support	income	cover	programming	people	trying	grateful
income	loans	employees	testing	patrons	movies	recovered
earned	recover	inflation	artists	numbers	coming	community
audiences	recovering	labor	needs	theatre	movie	operations
costs	capital	higher	organizations	marketing	theatre	program
operating	being	challenge	support	events	being	thanks
expenses	another	difficult	ongoing	getting	available	event
inflation	forced	needs	returning	theater	theater	assistance
financial	close	events	organization	advertising	things	allowed
donations	maintenance	production	performing	performances	again	received
fully	those	space	reduced	rebuilding	shows	survive
ongoing	received	prices	continued	going	enough	financial
revenues	struggling	increases	related	years	studios	helped
continued	getting	making	health	entertainment	recover	without
budget	slowly	everything	safety	returning	really	fully
operations	before	supplies	services	large	think	needed
significant	closed	rental	programs	venue	streaming	point

Thematic Analysis

The evaluation team conducted thematic analysis of the interview transcripts using NVivo. The team imported all transcripts into an NVivo server file and then, using an open coding system, coded text in the transcripts to nodes in the file. Throughout the coding process, the analysts maintained close contact to ensure consistency across nodes. After completing the coding, the analysts met with the evaluation team lead and discussed how to combine the nodes into larger themes to present in the report.

Difference in Differences

Using the matched data produced using PSM, the evaluation team used a Difference-in-Differences (DID) regression model to evaluate the causal impact of the SVOG program on the outcome variables of interest, namely, number of employees, gross revenue and business survival (represented as Y in the equation below). To prepare the data for analysis, the evaluation team constructed a variable ‘after’ (where 1 indicates time after SVOG funds disbursed in 2022; 0 indicates time before SVOG funds were disbursed, i.e. between 2018 and 2021). The estimation equation is provided below -

$$Y = \beta0 + \beta1 \times [\text{After}] + \beta2 \times [\text{SVOG Program Participation}] + \beta3 \times [\text{After} \times \text{SVOG Program Participation}] + \varepsilon$$

Exhibit A.17. Interpretation of each coefficient in the DID model.

Coefficient	Interpretation
β0	The average of the outcome for non-recipients (comparison group) before the SVOG program
β1	Time trend of non-recipients (comparison group)
β2	Difference in the outcome average between the two groups before program participation
β3	Difference in changes in the outcome average over time = Impact of the SVOG program

The exhibits below detail the DID regression findings for each outcome.

Exhibit A.18. Difference-in-differences estimation for employee count.

Term	Coefficient Estimate	p-value
Intercept (β_0)	54	0.0000
After SVOG (β_1)	-21	0.2108
Grantee (0 = Non-recipient; 1 = Grantee) (β2)	6	0.5582
After SVOG×Grantee (β3)	17	0.4395

Note: The table above provides difference-in-differences estimation for Employee count, where β3 provides the change in employee count for grantees compared to non-recipients after the SVOG program.

Exhibit A.19. Difference-in-differences estimation for revenue (in logs).

Term	Coefficient Estimate	p-value
Intercept (β0)	10.75	0.00E+00
After SVOG (β1)	0.10	0.0748
Grantee (0 = Non-recipient; 1 = Grantee) (β2)	1.41	0.000
After SVOG×Grantee (β3)	0.25	0.0008

Note: The table above provides difference-in-differences estimation for revenue, where β3 provides the change in revenue (in logs) for grantees compared to non-recipients after the SVOG program.

Exhibit A.20. Difference-in-differences estimation for viability score.

Term	Coefficient Estimate	p-value
Intercept (β0)	2.9	0.0000
After SVOG (β1)	1.6	0.0000
Grantee (0 = Non-recipient; 1 = Grantee) (β2)	-0.2	0.0000
After SVOG×Grantee (β3)	-0.3	0.0000

Note: The table above provides difference-in-differences estimation for Viability score of businesses, where β3 provides the change in employee count for grantees compared to non-recipients after the SVOG program.

The evaluation team also extended the DID model to examine if the impact of SVOG (β3) varied for key business characteristics. The extension of the model is provided below –

$$Y = \beta_0 + \beta_1 \times [\text{After}] + \beta_2 \times [\text{SVOG Program Participation}] + \beta_3 \times [\text{After} \times \text{SVOG Program Participation}] + \beta_4 [\text{Key Characteristic}] + \beta_5 \times [\text{After} \times \text{Key Characteristic}] + \beta_6 \times [\text{SVOG Program Participation} \times \text{Key Characteristic}] + \beta_7 \times [\text{After} \times \text{SVOG Program Participation} \times \text{Key Characteristic}] + \varepsilon$$

Each key characteristic is a categorical variable. Each category, excluding the reference category, which is captured in the other coefficients of the model, had its own β_4, β_5, β_6, and β_7.

Exhibit A.21. Interpretation of each coefficient in the extended DID model.

Coefficient	Interpretation
β0	The average of the outcome for non-recipients in the reference category (comparison group) before the SVOG program
β1	Time trend of non-recipients in the reference category (comparison group)
β2	Difference in the outcome average between the non-recipients and grantees in the reference category before program participation
β3	Difference in changes in the outcome average over time for businesses in the reference category = Impact of the SVOG program for the reference category
β4	Difference in the average of the outcome for non-recipients in each characteristic category compared to the reference category before the SVOG program (i.e., difference from β0)
β5	Difference in the time trend of non-recipients in each characteristic category compared to the reference category (i.e., difference from β1)
β6	Difference in the difference in the outcome average between the non-recipients and grantees in each characteristic category compared to the reference category before program participation (i.e., difference from β2)
β7	Difference in the difference in changes in the outcome average over time for businesses in each characteristic category (i.e., difference from β3, or how the impact of SVOG varies by the different categories)

The results below show the findings from the extended DID models. The coefficients for β4, β5, β6 are not reported as they are not important for understanding the varying effect of the SVOG.

Exhibit A.22. Difference-in-differences Estimation for Employee Count by Venue Type.

Term	Coefficient Estimate	p-value
Intercept (β0)	16.76	0.3446
After SVOG (β1)	-5.73	0.8848
Grantee (0 = Non-recipient; 1 = Grantee) (β2)	8.49	0.7487
After SVOG × Grantee (β3)	27.09	0.6079
After SVOG×Grantee×Live venue operator or promoter (β7_1)	-6.37	0.9167
After SVOG×Grantee×Motion picture theater operator (β7_2)	-39.61	0.7838
After SVOG×Grantee×Museum Operator (β7_3)	-44.05	0.7263
After SVOG× Grantee×Talent representative (β7_4)	-23.19	0.7627
After SVOG×Grantee×Theatrical producer (β7_5)	-25.01	0.8121

Note: The table above provides difference-in-differences estimation for employee count, where $\beta7\_i + \beta3$ (i=1 to 5) provides the change in employee count for grantees compared to non-recipients after the SVOG program. The reference category for this estimation is a life performance venue.

Exhibit A.23. Difference-in-differences Estimation for Employee Count by SBA Region.

Term	Coefficient Estimate	p-value
Intercept (β0)	16.94	0.4619
After SVOG (β1)	-2.66	0.9587
Grantee (0 = Non-recipient; 1 = Grantee) (β2)	37.95	0.2607
After SVOG×Grantee (β3)	-11.16	0.8682
After SVOG×Grantee×Great Lakes (β7_1)	34.28	0.7008
After SVOG×Grantee×Great Plains (β7_2)	43.20	0.7596
After SVOG×Grantee×Mid-Atlantic (β7_3)	-55.26	0.6048
After SVOG×Grantee×New England (β7_4)	-16.55	0.9002
After SVOG×Grantee×Pacific (β7_5)	87.12	0.2951
After SVOG×Grantee×Pacific Northwest (β7_6)	6.67	0.9552
After SVOG×Grantee×Rocky Mountains (β7_7)	23.80	0.8657
After SVOG×Grantee×South Central (β7_8)	32.41	0.7355
After SVOG×Grantee×Southeast (β7_9)	12.60	0.8790

Note: The table above provides difference-in-differences estimation for employee count, where $\beta 7\_i + \beta 3$ ($i=1$ to 9) provides the change in employee count for grantees compared to non-recipients after the SVOG program. The reference group for this estimation is the Atlantic region.

Exhibit A.24. Difference-in-differences Estimation for Employee Count by Industries.

Term	Coefficient Estimate	p-value
Intercept (β0)	429.92	0.0000
After SVOG (β1)	-228.67	0.0011
Grantee (β2)	-398.98	0.0000
After SVOG×Grantee (β3)	221.41	0.0158
After SVOG×Grantee×Administrative and Support and Waste Management and Remediation Services (β7_1)	-220.68	0.0512
After SVOG×Grantee×Arts, Entertainment, and Recreation (β7_2)	-213.80	0.0389
After SVOG×Grantee×Educational Services (β7_3)	-230.89	0.0731
After SVOG×Grantee×Information (β7_4)	-217.88	0.0754
After SVOG×Grantee×Other Industries (β7_5)	-208.65	0.0944
After SVOG×Grantee×Other Services (β7_6)	-238.92	0.0446
After SVOG×Grantee×Professional, Scientific, and Technical Services (β7_7)	-219.04	0.0787
After SVOG×Grantee×Public Administration (β7_8)	-492.52	0.0936
After SVOG×Grantee×Real Estate Rental and Leasing (β7_9)	-221.52	0.1895
After SVOG×Grantee×Retail Trade (β7_10)	-220.73	0.1363
After SVOG×Grantee×Unclassified (β7_11)	-223.02	0.0352

Note: The table above provides difference-in-differences estimation for employee count, where $\beta7\_i + \beta3$ (i=1 to 11) provides the change in employee count for grantees compared to non-recipients after the SVOG program. The reference category in this estimation is the accommodation and food services industry.

Exhibit A.25. Difference-in-differences Estimation for Employee Count by Underserved Business Status.

Term	Coefficient Estimate	p-value
Intercept(β0)	64.91	9.1E-13
After SVOG (β1)	-21.80	2.7E-01
Grantee (β2)	13.65	3.1E-01
After SVOG×Grantee (β3)	-37.79	2.2E-02
After SVOG×Grantee×Underserved business (β7)	17.25	5.1E-01

Note: The table above provides difference-in-differences estimation for employee count, where $\beta7 + \beta3$ provides the change in employee count for grantees compared to non-recipients after the SVOG program.

Exhibit A.26. Difference-in-differences Estimation for Revenue (in logs) by Venue Type.

Term	Coefficient Estimate	p-value
Intercept (β0)	10.75	0.0000
After SVOG (β1)	0.05	0.7028
Grantee (β2) (0 = Non-recipient; 1 = Grantee)	1.04	0.0000
After SVOG×Grantee (β3)	0.14	0.0370
After SVOG×Grantee×Live venue operator or promoter (β7_1)	0.99	0.0000
After SVOG×Grantee×Motion picture theater operator (β7_2)	1.19	0.0000
After SVOG×Grantee×Museum Operator (β7_3)	-0.41	0.0000
After SVOG× Grantee×Talent representative (β7_4)	-1.00	0.0000
After SVOG×Grantee×Theatrical producer (β7_5)	0.29	0.0863

Notes: The table above provides difference-in-differences estimation for revenue (in logs), where β7_i + β3 (i=1 to 5) provides the change in revenue for grantees compared to non-recipients after the SVOG program. The reference category for this estimation is a life performance venue.

Exhibit A.27. Difference-in-differences Estimation for Revenue (in logs) by SBA Region.

Term	Coefficient Estimate	p-value
Intercept (β0)	10.80	0.0E+00
After SVOG (β1)	0.01	9.3E-01
Grantee (β2) (0 = Non-recipient; 1 = Grantee)	1.43	9.7E-39
After SVOG×Grantee (β3)	-0.73	3.8E-12
After SVOG×Grantee×Great Lakes (β7_1)	-0.17	3.0E-01
After SVOG×Grantee×Great Plains (β7_2)	-0.27	2.1E-02
After SVOG×Grantee×Mid-Atlantic (β7_3)	0.09	5.5E-01
After SVOG×Grantee×New England (β7_4)	0.44	1.9E-06
After SVOG×Grantee×Pacific (β7_5)	-0.33	1.7E-02
After SVOG×Grantee×Pacific NorthWest (β7_6)	0.27	9.0E-02
After SVOG×Grantee×Rocky Mountains (β7_7)	-0.26	1.4E-02
After SVOG×Grantee×South Central (β7_8)	-0.01	8.7E-01
After SVOG×Grantee×Southeast (β7_9)	0.17	4.4E-01

Note: The table above provides difference-in-differences estimation for revenue (in logs), where $\beta7\_i + \beta3$ (i=1 to 9) provides the change in revenue for grantees compared to non-recipients after the SVOG program. The reference group for this estimation is the Atlantic region.

Exhibit A.28. Difference-in-differences Estimation for Revenue (in logs) by Industries.

Term	Coefficient Estimate	p-value
Intercept (β0)	11.44	0.0000
After SVOG (β1)	0.24	0.2690
Grantee (β2)	1.51	0.0000
After SVOG×Grantee (β3)	-0.85	0.0000
After SVOG×Grantee×Administrative and Support and Waste Management and Remediation Services (β7_1)	-0.43	0.0000
After SVOG×Grantee×Arts, Entertainment, and Recreation (β7_2)	-0.63	0.0000
After SVOG×Grantee×Educational Services (β7_3)	-0.20	0.1088
After SVOG×Grantee×Information (β7_4)	-0.61	0.0000
After SVOG×Grantee×Other Industries (β7_5)	-1.02	0.0000
After SVOG×Grantee×Other Services (β7_6)	-0.66	0.0000
After SVOG×Grantee×Professional, Scientific, and Technical Services (β7_7)	0.25	0.4969
After SVOG×Grantee×Public Administration (β7_8)	0.73	0.0000
After SVOG×Grantee×Real Estate Rental and Leasing (β7_9)	-1.01	0.0000
After SVOG×Grantee×Retail Trade (β7_10)	-1.38	0.0000
After SVOG×Grantee×Unclassified (β7_11)	0.03	0.9152

Note: The table above provides difference-in-differences estimation for revenue (in logs), where β7_i + β3 (i=1 to 11) provides the change in revenue for grantees compared to non-recipients after the SVOG program. The reference category in this estimation is the accommodation and food services industry.

Exhibit A.29. Difference-in-differences Estimation for Revenue (in logs) by Underserved Business Status.

Term	Coefficient Estimate	p-value
Intercept (β0)	10.87	0.0000
After SVOG (β1)	0.11	0.0888
Grantee (β2)	1.49	0.0000
After SVOG×Grantee (β3)	-0.39	0.0000
After SVOG×Grantee×Underserved business (β7)	0.17	0.0474

Note: The table above provides difference-in-differences estimation for revenue, where β7 + β3 provides the change in revenue for grantees compared to non-recipients after the SVOG program.

Exhibit A.30. Difference-in-differences Estimation for Viability Score by venue type.

Term	Coefficient Estimate	p-value
Intercept (β0)	2.99	0.0000
After SVOG (β1)	1.36	0.0000
Grantee (β2) (0 = Non-recipient; 1 = Grantee)	-0.33	0.0000
After SVOG×Grantee×Live venue operator or promoter (β7_1)	-0.02	0.6692
After SVOG×Grantee×Motion picture theater operator (β7_2)	-0.43	0.0008
After SVOG×Grantee×Museum Operator (β7_3)	-0.12	0.2809
After SVOG×Grantee×Talent representative (β7_4)	-0.39	0.0000
After SVOG×Grantee×Theatrical producer (β7_5)	-0.08	0.3562

Note: The table above provides difference-in-differences estimation for viability score, where β7_i + β3 (i=1 to 5) provides the change in employee count for grantees compared to non-recipients after the SVOG program. The reference category for this estimation is a life performance venue.

Exhibit A.31. Difference-in-differences Estimation for Viability Score by SBA Region.

Term	Coefficient Estimate	p-value
Intercept (β0)	2.89	0.0E+00
After SVOG (β1)	1.72	8.1E-42
Grantee (β2) (0 = Non-recipient; 1 = Grantee)	-0.24	3.6E-03
After SVOG×Grantee (β3)	-0.17	3.0E-02
After SVOG×Grantee×Great Lakes (β7_1)	0.04	7.7E-01
After SVOG×Grantee×Great Plains (β7_2)	0.05	5.5E-01
After SVOG×Grantee×Mid-Atlantic (β7_3)	0.11	2.9E-01
After SVOG×Grantee×New England (β7_4)	0.13	5.6E-02
After SVOG×Grantee×Pacific (β7_5)	-0.07	5.3E-01
After SVOG×Grantee×Pacific NorthWest (β7_6)	-0.11	3.6E-01
After SVOG×Grantee×Rocky Mountains (β7_7)	-0.10	2.3E-01
After SVOG×Grantee×South Central (β7_8)	0.01	8.6E-01
After SVOG×Grantee×Southeast (β7_9)	-0.04	8.1E-01

Note: The table above provides difference-in-differences estimation for viability score, where β7_i + β3 (i=1 to 9) provides the change in viability score for grantees compared to non-recipients after the SVOG program. The reference group for this estimation is the Atlantic region.

Exhibit A.32. Difference-in-differences Estimation for Viability Score by Industries.

Term	Coefficient Estimate	p-value
Intercept (β0)	3.23	0.0E+00
After SVOG (β1)	1.43	4.2E-19
Grantee (β2)	-0.17	1.5E-01
After SVOG×Grantee (β3)	-0.96	4.9E-27
After SVOG×Grantee×Administrative and Support and Waste Management and Remediation Services (β7_1)	-0.39	2.3E-06
After SVOG×Grantee×Arts, Entertainment, and Recreation (β7_2)	-0.09	4.1E-01
After SVOG×Grantee×Educational Services (β7_3)	-0.15	1.3E-01
After SVOG×Grantee×Information (β7_4)	0.13	1.6E-01
After SVOG×Grantee×Other Industries (β7_5)	-0.10	2.7E-01
After SVOG×Grantee×Other Services (β7_6)	-0.08	4.2E-01
After SVOG×Grantee×Professional, Scientific, and Technical Services (β7_7)	-1.63	1.3E-08
After SVOG×Grantee×Public Administration (β7_8)	-0.27	5.8E-02
After SVOG×Grantee×Real Estate Rental and Leasing (β7_9)	0.02	8.9E-01
After SVOG×Grantee×Retail Trade (β7_10)	-0.66	3.6E-15
After SVOG×Grantee×Unclassified (β7_11)	-0.07	7.5E-01

Note: The table above provides difference-in-differences estimation for viability score, where β7_i + β3 (i=1 to 11) provides the change in viability score for grantees compared to non-recipients after the SVOG program. The reference category in this estimation is the accommodation and food services industry.

Exhibit A.33. Difference-in-differences Estimation for Viability Score by Underserved Business Status.

Term	Coefficient Estimate	p-value
Intercept (β0)	2.84	0.0000
After SVOG (β1)	1.54	0.0000
Grantee (β2)	-0.31	0.0000
After SVOG×Grantee (β3)	0.16	0.0001
After SVOG×Grantee×Underserved business (β7)	-0.28	0.0000

Note: The table above provides difference-in-differences estimation for viability score, where $\beta7 + \beta3$ provides the change in viability score for grantees compared to non-recipients after the SVOG program.

Finally, to understand the full trends in each of the outcomes, the evaluation team examined DID models with dummy variables for each time point (with 2018 as the reference). The exhibits below provide the findings from those models.

Exhibit A.34. Estimated number of employees between 2018 and 2022.

Variable	Coefficient Estimate	p-value
(Intercept)	48.81	0.0011
2019	18.38	0.3921
2020	16.03	0.4546
2021	-14.49	0.4939
2022	-15.92	0.4504
Grantee (0 = Non-recipient; 1 = Grantee)	10.11	0.6261
Grantee×2019	-13.94	0.6445
Grantee×2020	-17.02	0.5824
Grantee×2021	16.54	0.5989
Grantee×2022	13.46	0.6333

Exhibit A.35. Estimated Revenue between 2018 and 2022.

Variable	Coefficient Estimate	p-value
Intercept ($\beta0$)	1443873.03	0.0000
2019 ($\beta1\_1$)	377438.05	0.0000
2020 ($\beta1\_2$)	-398936.22	0.0000
2021 ($\beta1\_3$)	-96193.52	0.3147
2022 ($\beta1\_4$)	-225866.10	0.0128
Grantee ($\beta2$) (0 = Non-recipient; 1 = Grantee)	39603.99	0.0000
Grantee×2019 ($\beta3\_1$)	387599.95	0.0003
Grantee×2020 ($\beta3\_2$)	-484249.02	0.0216
Grantee×2021 ($\beta3\_3$)	-22401.26	0.0293
Grantee×2022 ($\beta3\_4$)	83908.18	0.2704

Note: The table above provides the trends in revenue between 2018 and 2022. The estimated viability score for non-recipients in a specific year is given by the sum of $\beta0$ and $\beta1\_i$ ($i=1$ to 4). The estimated viability score for grantees in a specific year is given by the sum of $\beta0$, $\beta1\_i$, $\beta2$ and $\beta3\_i$. 2018 is the reference category.

Exhibit A.36. Estimated Viability Score between 2018 and 2022.

Variable	Coefficient Estimate	p-value
Intercept (β0)	1.88	0.0000
2019 (β1_1)	0.57	0.0000
2020 (β1_2)	1.26	0.0000
2021 (β1_3)	2.20	0.0000
2022(β1_4)	2.61	0.0000
Grantee (β2) (0 = Non-recipient; 1 = Grantee)	-0.10	0.0427
Grantee×2019 (β3_1)	0.03	0.6459
Grantee×2020 (β3_2)	0.03	0.6944
Grantee×2021 (β3_3)	-0.10	0.1626
Grantee×2022 (β3_4)	-0.41	0.0000

Note: The table above provides the trends in viability score between 2018 and 2022. The estimated viability score for non-recipients in a specific year is given by the sum of β0 and β1_i (i=1 to 4). The estimated viability score for grantees in a specific year is given by the sum of β0, β1_i, β2 and β3_i. 2018 is the reference category.