Identifying Reasons for Small & Medium-Sized Firm Closures in North Carolina:

An Exploratory Framework Leveraging Administrative Data

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ABOUT THIS REPORT

Carolina Small Business Development Fund believes research is essential to our mission of empowering and uplifting North Carolina's small business ecosystem. This report and brief are reflective of our ongoing commitment to identify evidence-based solutions to North Carolina's most pressing community economic development challenges.

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NOTE

As of the date of publication, Jamie McCall is Research & Insights Manager at the Deloitte Center for Board Effectiveness. The views and opinions expressed herein do not represent nor reflect those of Deloitte & Touche (M.E.) LLP (DME). Opinions, conclusions, and other information in this report have not been delivered by way of the business of Deloitte & Touche (M.E.) LLP (DME) are neither given nor endorsed by it. Jamie can be reached at info@jamiermccall.com.

Research Question & Methods

FOR NORTH CAROLINA TO HAVE A ROBUST SMALL BUSINESS ECOSYSTEM, THERE MUST BE A BALANCE BETWEEN FIRM CREATION AND INVOLUNTARY CLOSURE.

Business failure is a natural part of the development lifecycle and critical to the maintenance the state's economy. The formations and dissolutions of small firms cultivate innovation through the process of creative destruction. However, an excessive level of involuntary firm dissolutions lowers both economic mobility and community social capital. We propose a method to isolate factors behind involuntary closures utilizing administrative data provided by the North Carolina Secretary of State's Office (NCSOS). The cornerstone of our recommended approach is an exploratory open-ended survey instrument which targets dissolved firm owners. While our recommendations are only a starting point, we believe they would aid the NCSOS in crafting strategies to improve the resiliency of North Carolina's small business ecosystem.

The unit of analysis for this research is the NCSOS's data on firm registrations and dissolutions. We use this as a proxy measure for business formations and closures. New corporations, LLCs, and limited liability partnerships are required by statute to register and submit annual reports to the NCSOS. But critically for small and medium-sized businesses, state regulations do not require registrations from sole proprietorships and certain types of partnerships. This is a major limitation, but we believe the data can still be leveraged to identify factors contributing to involuntary firm closures.

# Trends in Firm Registrations and Dissolutions

WE ANALYZED 92,227 RECORDS OF BUSINESSES REGISTERING FROM 2009 TO 2022 AND DISSOLUTIONS OCCURRING BETWEEN 2015 AND 2022.

Counterintuitively, dissolutions were on the rise and peaked before the pandemic in 2019. In tandem with the worst waves of COVID-19, registrations show a dramatic decline in 2020 and 2021. Given the economic upheaval happening during this period, a decline in registrations may not seem unusual. But the pattern is a notable divergence from national trends. For the United States as a whole, new firm creations surged during this period and set all-time records. This may be due to the larger universe of firms included in national business formation statistics, which is broader than the subset of firms that register with NCSOS.

Business Registrations and Dissolutions by Year, 2015-2021

Legend: Registrations, Dissolutions
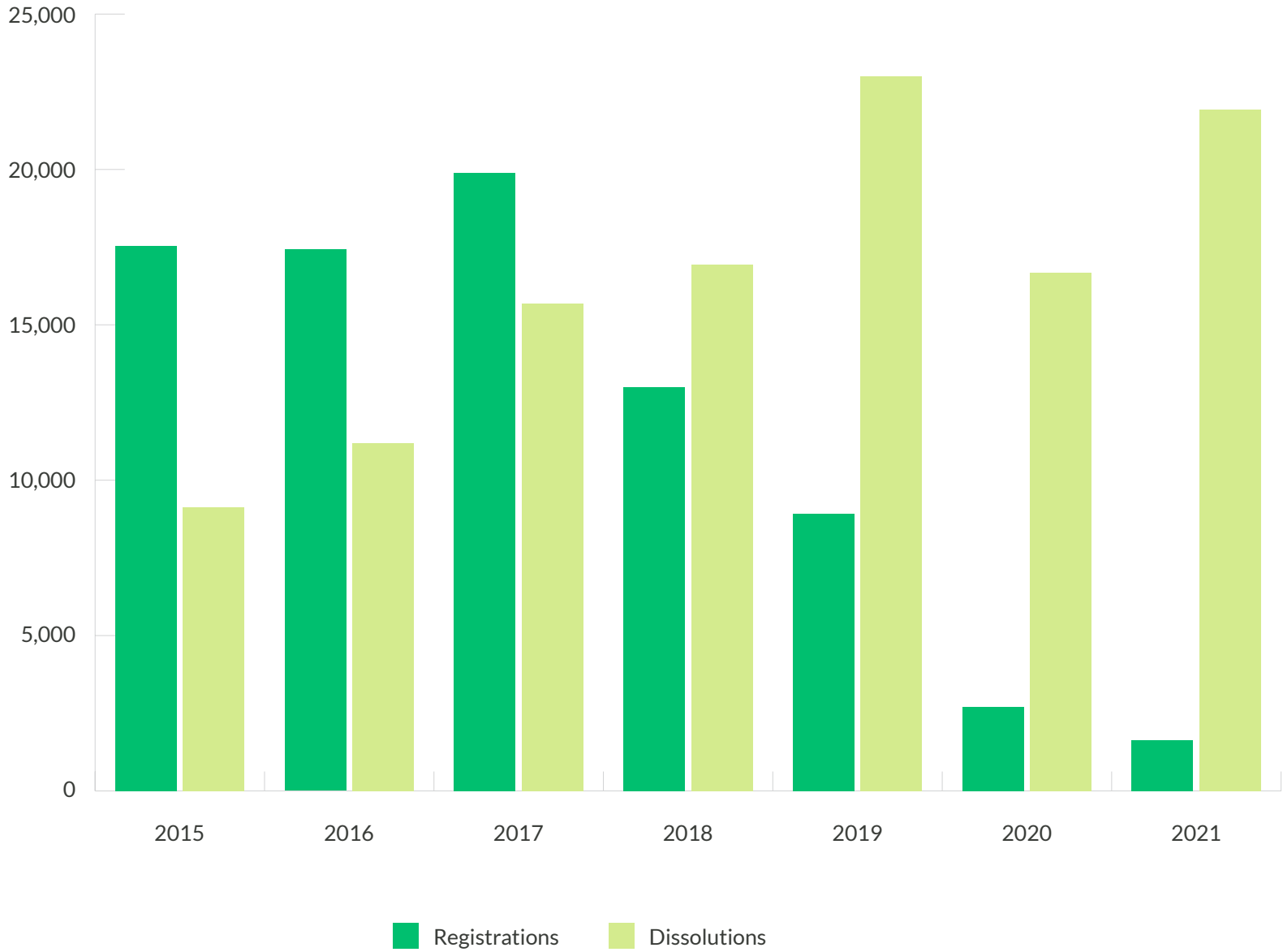
Exploratory Survey Field Test

We designed a qualitative open-ended survey instrument to measure micro and macro-level variables related to involuntary closures. Micro-level variables include any firm or owner-level factor that could be altered and tested for effectiveness. Conversely, macro-level factors refer to inflation, the prevailing business climate, and similar external forces that cannot be easily manipulated by state policy levers.

Example Micro and Macro Firm Closure Factors

Micro-Level Factors	Macro-Level Factors
Insufficient Access to Capital	Location (Urban, Exurban, Rural)
Unaware of Support Resources	Inadequate Broadband Infrastructure
No or Inadequate Business Plan	Lack of Local Business Clusters
Low Participation in Peer Networks	Changing Market for Offered Services
Lack of Succession Plan for Owner(s)	Inflationary/Deflationary Pressures
Business Management Knowledge	Challenges with Hiring/Retaining Employees

Using contact information provided by NCSOS, we field tested the instrument by surveying 597 firms that had been involuntarily dissolved during the analysis period. The initial email invitation had a 22.3% bounce rate (n = 133) and 60% open rate (n = 464). Ultimately, 15 full responses and six partial responses were received,

equating to a response rate of 4.5% (n = 21). It is not possible to draw meaningful conclusions from such a low response rate, but for demonstration purposes we provide a brief analysis of the data. The survey's open-ended questions were designed to isolate the primary cause(s) of involuntary closures. Comments generally coalesced around two primary issues: (1) industry-specific competitive disadvantages and (2) being unable to access credit.

Themes for Involuntary Closures & Selected Representative Comments

Reason for Closure	Representative Comment Examples
Competitive Disadvantages	- Inventory decrease and backstock liquidation, regular seasonal clearance. - Profit and loss of other local coffee shops. - Drop in sales and keeping up with high food pricing.
Financing & Credit Access	- Tax related, sales use tax specifically. Small business counseling. - How to get financing to help start the business. - Learning how to grow my business and get funds for expansion - Not enough credit history according to banks and private lenders.

Recommendations

Within the sphere of community and economic development, low response rates to surveys are a common challenge. This is especially true with closed firms, since former owners are unlikely to answer surveys for a variety of reasons. Our survey test highlights the difficulty of collecting data on this topic, but the approach still has merit if sufficient resources are available to encourage participation. We recommend several strategies to manage these issues.

1. Use of Qualitative Analysis. With as little as 100 responses, an open-ended survey would allow for a hybrid-thematic analysis framework which combines a data-driven inductive approach with a deductive theoretical (a priori) template of codes. This analysis lens complements phenomenological qualitative inquiry by connecting open-ended answers to theories on why smaller firms fail.

2. Leveraging Data Triangulation. Future research might consider a triangulation approach by drawing on linked and proximate data sources. Triangulation uses complementary data sources to examine a common phenomenon. The technique is ideal for complex research questions which can only be answered through a narrow set of inferences. In this case, we recommend NCSOS consider linking its records with unemployment insurance filings held by the NC Department of Commerce.

3. Spatial Analysis. One way to immediately inform policy efforts would be overlaying existing NCSOS data on dissolutions with socioeconomic and demographic information. This may shed light on trends around dissolutions for geographies of strategic importance, including both rural areas and distressed communities.

4. Industry-Specific Analysis. Because regulations prohibit NCSOS from collecting industry data at registration, we recommend ongoing surveys of operating firms to gather this critical information. In the survey field test, several respondents noted industry-specific challenges. But without the ability to classify registrants by industry code, it is difficult to engage in any sort of causal analysis.

Conclusions & Next Steps

There are many ways to make progress in this area, but a starting point for future efforts might be deploying the survey created by CSBDF to collect robust qualitative data. If sufficient qualitative responses are received, it would be possible to analyze the open-ended responses using our recommended hybrid-thematic approach. Subsequently, those findings could inform the creation of a more robust quantitative survey instrument to identify micro-level causes for firm failure.

There is a strong need to identify factors driving involuntary firm closures, especially those that could theoretically be altered by state policy levers. The NCSOS is uniquely situated to help in this area by using data-driven business resiliency interventions. Our research on this topic is preliminary, but our findings demonstrate clear patterns that deserve additional analysis and consideration. However, due to the constraints of administrative data on firm dissolutions and the inherent complexities of this topic, additional resources are needed to support such efforts.

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EXECUTIVE SUMMARY

Business failure is a natural part of the development lifecycle and critical to the maintenance of a healthy economy. The formations and dissolutions of small firms cultivate innovation through the process of creative destruction. However, an excessive level of involuntary firm dissolutions lowers both economic mobility and community social capital. We propose a method to isolate factors behind involuntary closures utilizing administrative data provided by the North Carolina Secretary of State's Office (NCSOS). The cornerstone of our recommended approach is an exploratory open-ended survey instrument which targets dissolved firm owners. We believe this methodology is indicated due to the inherent challenges of getting survey data from this population. With a relatively small number of responses, an open-ended survey would allow for a hybrid-thematic analysis framework which combines a data-driven inductive approach with a deductive theoretical (a priori) template of codes. While our recommendations are only a starting point, we believe they would aid the NCSOS in crafting strategies to improve the resiliency of North Carolina's small business ecosystem.

Introduction and Overview

SMALL AND MEDIUM-SIZED BUSINESS GROWTH IS A FOUNDATIONAL STRATEGY

FOR EFFECTIVE COMMUNITY AND ECONOMIC DEVELOPMENT

When entrepreneurs start small firms or expand existing ventures (Neumark et al., 2006), they help create employment opportunities and promote a sense of place (Åstebro & Tåg, 2017; Birch, 1981). A certain threshold level of small and medium-sized firm failure is a natural part of the economic development process.[1] In a healthy economy, the cycle of business formation and dissolution is an integral part of economic dynamism and drives innovation through creative destruction (Aquilina et al., 2006; Aydin et al., 2018; Bennett, 2019; Kirchhoff et al., 2013; Komlos, 2016; Schumpeter, 2008).

Concurrently, an excessive level of involuntary closures lowers both economic mobility and community social capital (Agnitsch et al., 2006; N. Miller et al., 2007). This is especially true when closures occur for "preventable" reasons like lack of awareness about freely available small business resources. For example, many enterprises close after being declined for financing. In some instances, these entrepreneurs could have received capital through community development financial institutions (CDFIs) or similar entities, but they often did not know this type of aid was available. Failures occurring for this reason are theoretically avoidable, and in aggregate, this type of closure has been linked to an array of negative

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[1] Dissolutions of registered firms may not always signify operations ceased involuntarily. This analysis uses it as proxy for involuntary firm closure, and we interchangeably use terms like "involuntary closure," "ceasing operations," and "firm failure." Admittedly these phrases can have starkly different meanings (Justo et al., 2015). For example, a business which stops operating because the owners wish to change careers is ceasing operations, but the firm did not fail.

development outcomes (Becchetti & Trovato, 2002; Runyan, 2006). Minimizing involuntary closures requires proactive strategies that improve the resiliency of North Carolina's entrepreneurial ecosystem (Roundy et al., 2017).

In pursuit of that goal, the North Carolina Secretary of State (NCSOS) partnered with Carolina Small Business Development Fund (CSBDF) to research why small and medium-sized firms might involuntarily cease operations. We proposed a methodology to identify major factors contributing to dissolutions in the first seven years after a business registers with the NCSOS. About 25% of new NCSOS business registrants cease operating by year three. But by year seven that number doubles to 50%. As a point of comparison, Bureau of Labor Statistics (BLS) data for North Carolina show firms starting in March 2015 had a 31% failure rate by year three and 52% by year seven in March 2021 (Business Employment Dynamics, 2021).[2]

Thus, NCSOS-registered entities appear less likely to cease operating early on, but by year seven they match rates of closure estimated by BLS.

While we use firm registrations as a proxy measure of firm births and dissolutions as a proxy measure of firm closure, the data have several major limitations. First, many firms operate for some time before registering with NCSOS. Other firms, including sole proprietors and some types of partnerships, are not required to register. Second, not all firms that close notify the NCSOS. This can happen when the owner(s) believe the NCSOS would be notified of a firm's closure from court records or tax filings. Third, there are instances where dissolutions are recorded because an entity does not file statutorily-mandated annual reports with the agency. This is an administrative requirement, and the entity is reinstated later when the reports are received. But the data are not granular enough to identify these cases and avoid double counting formations. Fourth,

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[2] Direct comparisons between this data and NCSOS data must be made with some caution. NCSOS firm start dates reflect when the firm registers, while the BLS data registers the creation of the firm only when it reports having employees.

it is not possible to know key details about registered firms as the records do not contain data on employment, revenues, or industry type. It is thus unknown whether sampled firms are representative of the overall small and medium-sized business population in North Carolina. For all these reasons, our analysis is necessarily confined to descriptive data and contextual analysis about firm dynamics.

This report proceeds as follows. We first summarize the data limitations and previous research conducted by NCSOS on this topic. Next, we then briefly provide a descriptive analysis of trends over time for firm registrations and dissolutions based on administrative records provided to CSBDF. In the following section, we propose an exploratory survey methodology for identifying clusters of factors that may be driving involuntary closures. Finally, we conclude with some recommendations for how to improve future research that attempts to utilize NCSOS data.

Previous Agency Research

BETWEEN JANUARY AND MARCH 2021, NCSOS CONDUCTED A SURVEY THAT INCLUDED QUESTIONS ON FIRM FAILURE.

The NCSOS survey instrument asked a cohort of registered firms if they were still operating at the time of survey. Of the 497 respondents, only 22 (5%) indicated they were not operating. Due to nonresponse bias, it is unlikely that this proportion of former firm owners is representative of the overall population of involuntary closures (Headd, 2003). When asked why they ceased operations, the top selected issues were inadequate funding (36%), lack of customers (23%), a change or plans (18%), or simply that their business idea did not work (18%).

Firms still operating (n = 436) were asked to indicate their top barriers for success. The NCSOS has limited ability to assist with some of the top cited obstacles, including concerns around regulations/taxes (31%) and having an insufficient customer base (23%). But respondents also noted challenges that may lie within the scope of the agency or its partners including lack of capital (32%), insufficient information (24%), accounting help (24%), and lack of support/advice (20%). Because there are existing small business support structures in place for these items, it would be possible for the agency to assist without creating a large administrative burden. For example, CDFIs like CSBDF can help with all these obstacles as providers of low-cost financing and free training.
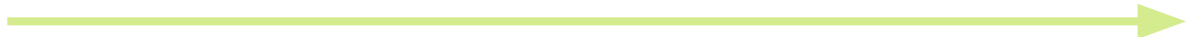
NCSOS Administrative Data

WE ANALYZED 92,227 RECORDS THAT INCLUDES DATA BUSINESSES REGISTERING FROM 2009 TO 2022 AND DISSOLUTIONS OCCURRING BETWEEN 2015 AND 2022.[3]

The longer period for the registration data (2009 - 2022) is because a registered firm could subsequently be dissolved outside the seven-year analysis period. The data provided by NCSOS include variables on location, creation date, dissolution date, and type of dissolution.

Timeframe of Provided Administrative Records

Registrations from 2009 to 2022 ➤

Dissolutions from 2015 to 2022 ➤

Dissolution is defined as registered firms that have been (1) administratively dissolved by the NCSOS, (2) those who voluntary filed articles of dissolution, (3) entities placed into revenue suspension status by the NC Department of Revenue, or (4) were judicially dissolved as the result of adverse legal proceedings. Overall, the bulk of the records involve administrative dissolutions (66.9%) and articles of dissolution (31.1%). Most dissolved firms are in urban areas, which is consistent with the fact that most new registrants are from urban areas.

[3] This time period included is January 2009 to June 2022, which was the latest data available at the time of analysis..

Method of Firm Dissolution, 2015-2022

Dissolution Category	Count	Percent
Administrative Dissolution	61,689	66.9%
Articles of Dissolution	28,695	31.1%
Revenue Suspension	1,815	2.0%
Judicial/PA Suspension	28	0.0%
Total	**92,227**	**100.0%**

Location[4] of Dissolutions, 2015 - 2022

Location of Registrant	Count	Percent
Rural	11,723	12.7%
Urban	80,503	87.3%
Total	**92,226**	**100.0%**

[4] A record's status as urban or rural was set by NCSOS based on county-level classifications from the NC Department of Health and Human Services (2015). While there are numerous definitions of rural and urban, this source was preferred by the agency.
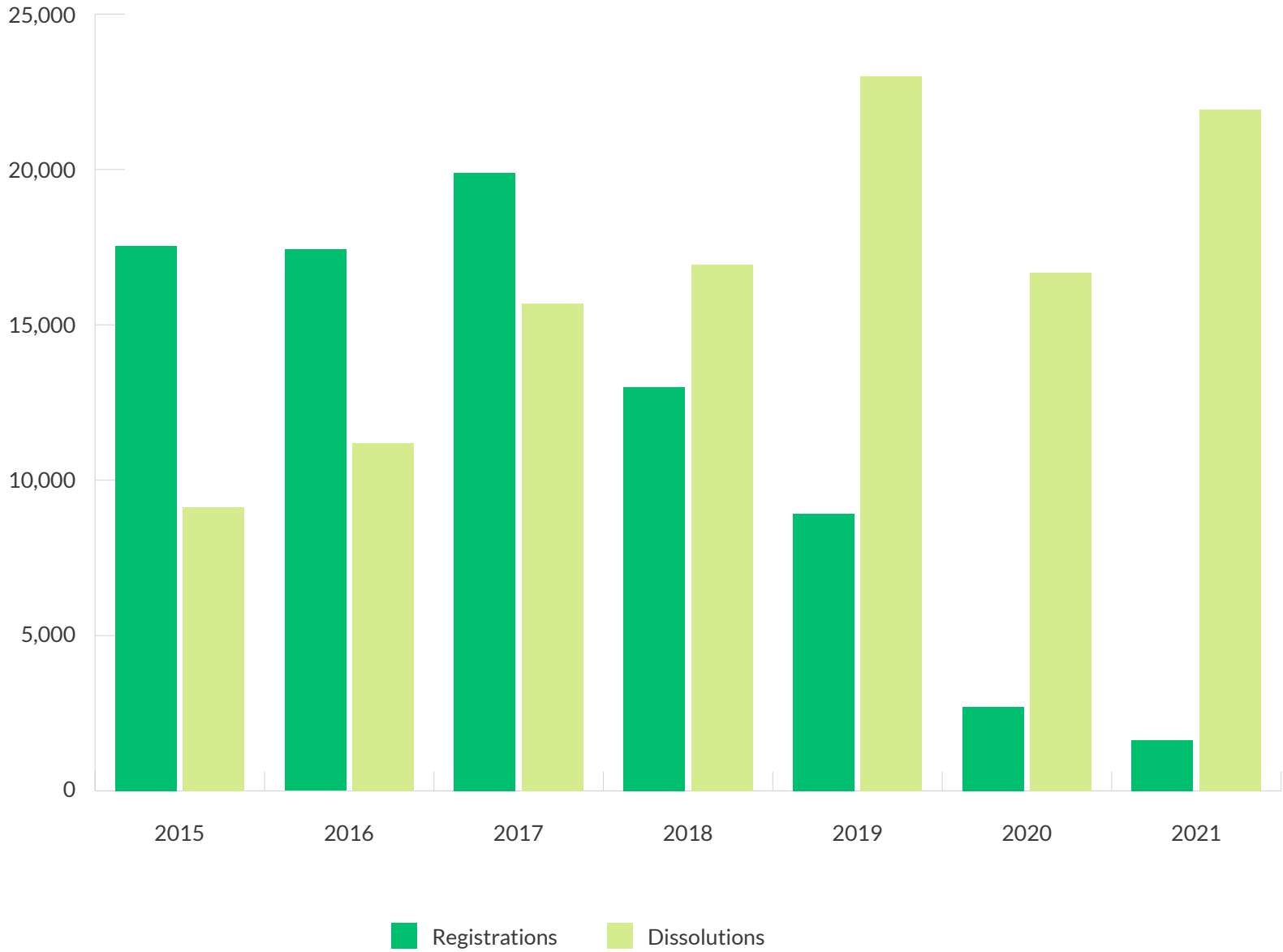
Business Registrations by Year, 2009-2021

NCSOS Registration And Dissolution Data

Year	Value
2009	910
2010	2,103
2011	3,328
2012	4,907
2013	11,419
2014	15,413
2015	17,528
2016	17,422
2017	19,882
2018	12,983
2019	8,930
2020	2,702
2021	1,633
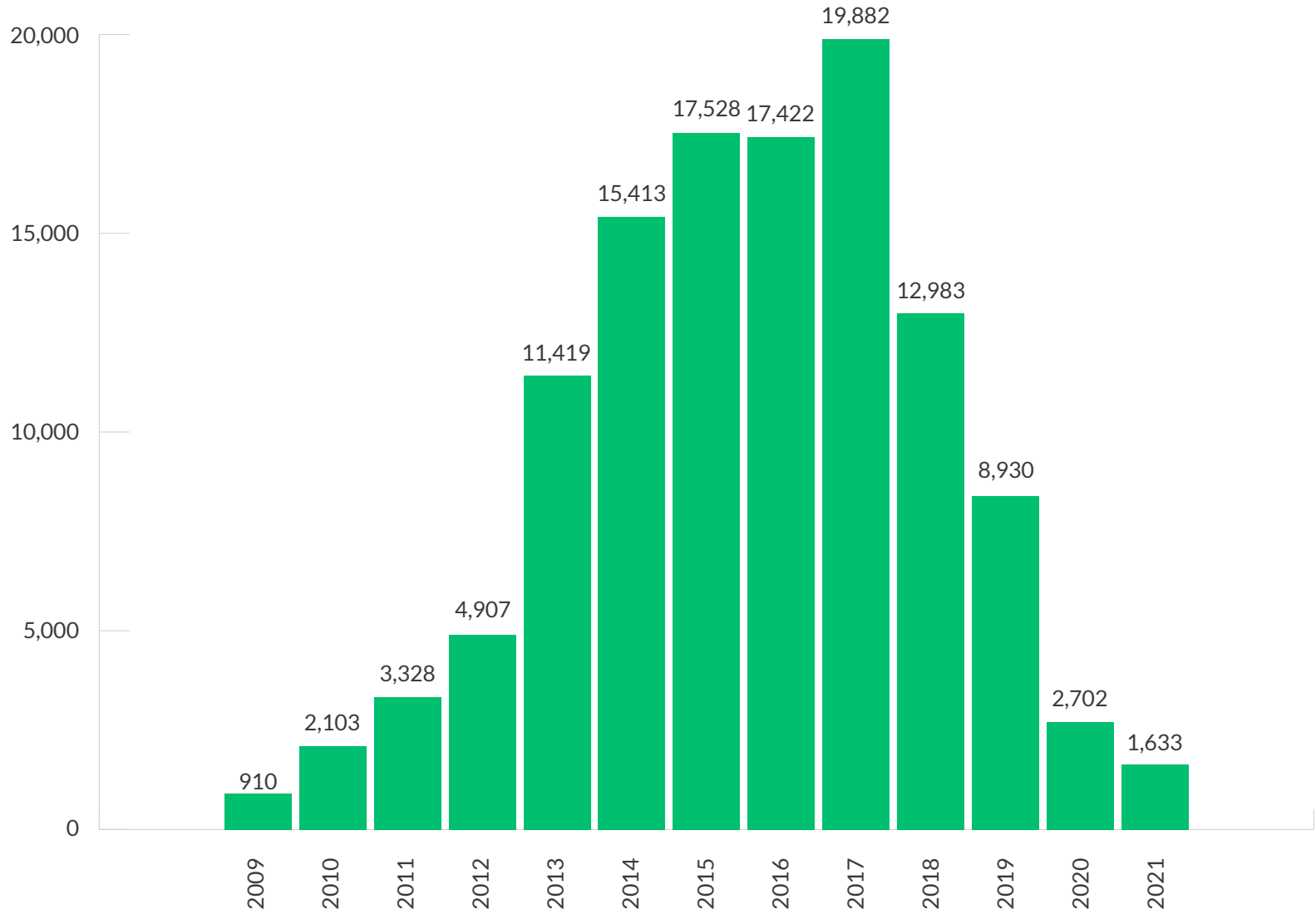
Business Registrations and Dissolutions by Year, 2015-2021

NCSOS Registration And Dissolution Data

Legend: Registrations, Dissolutions

Counterintuitively, dissolutions were on the rise and peaked before the pandemic in 2019. In tandem with the worst waves of COVID-19, registrations show a dramatic decline in 2020 and 2021. Given the economic upheaval happening during this period, a decline in registrations may not seem unusual. But the pattern is a notable divergence from national trends. For the United States as a whole, new firm creations surged during this period and set all-time records (Decker & Haltiwanger, 2022). This may be due to the larger universe of firms included in national business formation statistics, which is broader than the subset of firms that register with NCSOS.[5] These differences are additional evidence that caution should be taken in generalizing trends in NCSOS data as a proxy for firm formation/closure.

There also appears to be some seasonality to registrations and dissolutions, although the pattern is not what we might expect. Registrations are at their highest in January and slope downward for the remainder of the year, but there is a notable peak in activity during August. Meanwhile dissolutions peak in February and spike in the summer (June) and fall (October). This predictable pattern might be a good starting point for assessing when firms could benefit from promotional and educational marketing campaigns.

[5] Of the universe of new businesses in North Carolina, only a portion are captured via NCSOS data because structures like sole proprietorships are not required to register. But national business formations are usually tracked via applications for employment identification numbers – a measure that will capture a different scope of activity.

Business Registrations and Dissolutions by Month, 2015-2021

NCSOS Registration And Dissolution Data
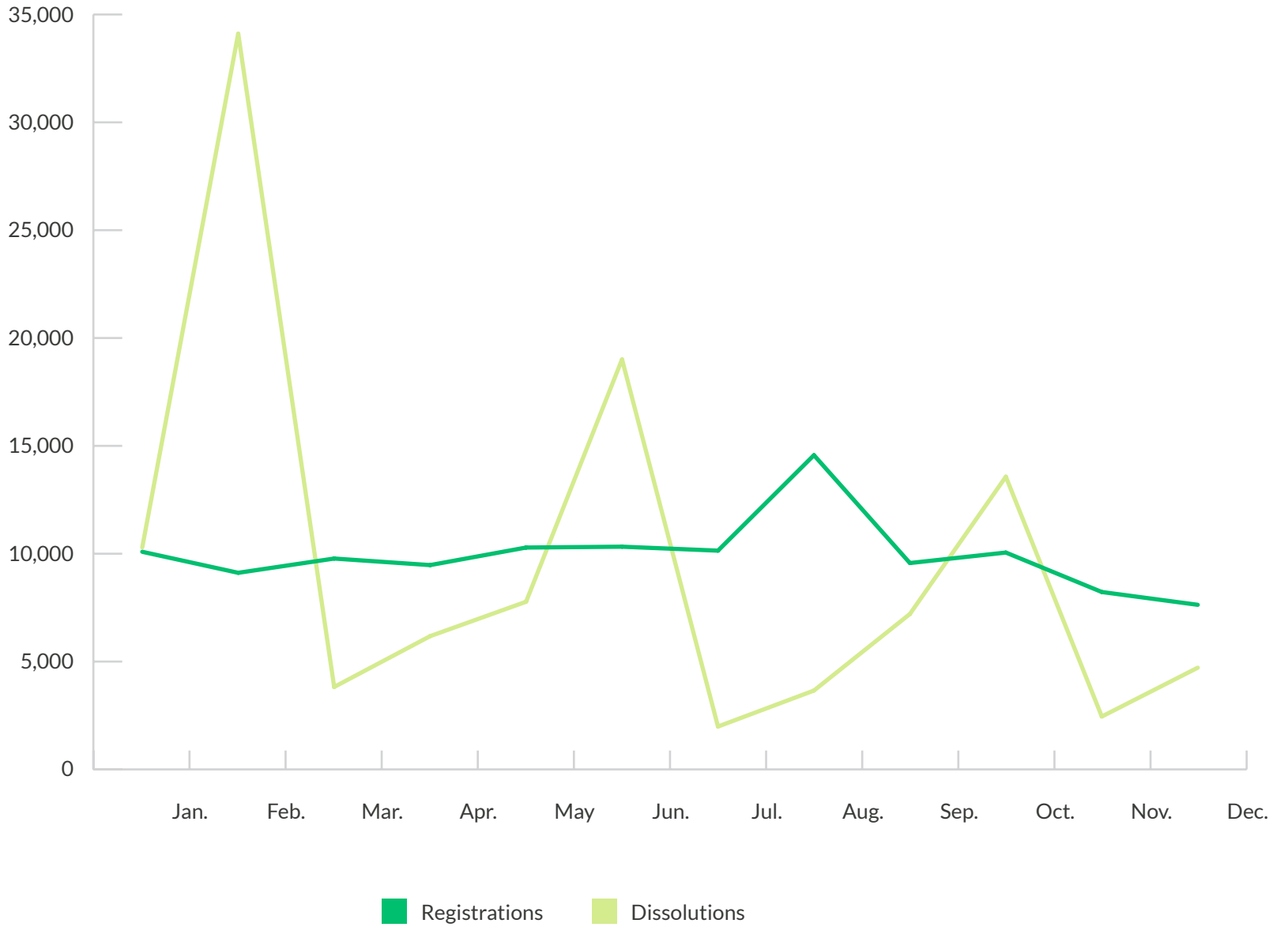
Proposed Exploratory Survey Methodology

OUR ASSESSMENT SEEKS TO FIND FACTORS WHICH ARE CORRELATED WITH THE INVOLUNTARY AND PERMANENT CESSATION OF FIRM OPERATIONS.

Due to the type of data available, isolating factors that contribute to involuntary firm closure is difficult. To the extent possible, the intention is to exclude firms that voluntarily close due to owner preferences or similar considerations (Walker & Brown, 2004; Wu et al., 2007). We recommended an exploratory cross-sectional survey design as a first step to identify the array of factors coantributing to involuntary firm closures.[6] An exploratory survey is indicated because numerous factors, including many of which are place-based, could contribute to business closures (Dreier et al., 2013; Howard et al., 2022; Wach, 2020). While there is an emerging body of scholarship on why firms ultimately fail, it is limited and tends to draw heavily on small subsets of firms (Jenkins & McKelvie, 2017).

We drafted a qualitative open-ended survey instrument to measure *micro* and *macro-level* variables related to involuntary closures.[7] *Micro-level* variables include any firm or owner-level factor that could be altered and tested for effectiveness. For example, NCSOS could observe if there

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[6] By their very nature most exploratory studies are cross-sectional, meaning they collect data from a single point in time. This is in contrast to longitudinal analysis, which involves the collection of data at different points in time (Babbie, 2015).

[7] A list of survey questions and email templates used are included as appendices.

were changes in the rate of involuntary closures after making educational resources available on the agency's website.[8] Conversely, *macro-level* factors refer to inflation, the prevailing business climate, and similar external forces that cannot be easily manipulated by state policy levers.

While these forces are not within the agency's span of control, understanding their role is important because they can interact with micro-level concerns in ways that influence firm resiliency (Bartlett & Morse, 2020).

Example Micro and Macro Firm Closure Factors

Micro-Level Factors	Macro-Level Factors
Insufficient Access to Capital	Location (Urban, Exurban, Rural)
Unaware of Support Resources	Inadequate Broadband Infrastructure
No or Inadequate Business Plan	Lack of Local Business Clusters
Low Participation in Peer Networks	Changing Market for Offered Services
Lack of Succession Plan for Owner(s)	Inflationary/Deflationary Pressures
Business Management Knowledge	Challenges with Hiring/Retaining Employees

[8] There is a broad and expanding category of scholarship which assesses the effectiveness of educational resources as a form of small business technical assistance. For example, small firms that received counseling on marketing plans are were more likely to report positive outcomes versus a control group (Solomon et al., 2013).

Because the goal of this research was to gather rich open-ended response data for a more robust closed-ended survey instrument, we did not recommend a targeted confidence interval or margin of error. Closed firms are not an easy population to reach, for both logistical reasons and because of social desirability bias[9]. A good starting point is 100 completed surveys from failed firms. This may seem like a low number, but due to the qualitative design the data would be generalizable if there were no evidence of nonresponse bias. Additionally, the sample for the exploratory survey should be purposive and weighted toward including older dissolutions, as this subset of the population would be less likely to answer the survey[10].

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[9] Involuntarily closed firms are likely to have out of date contact information or are no longer actively checking the email they provided when registering with the NCSOS. Additionally, because these entrepreneurs might perceive that having a failed business is not a desirable quality, they are hesitant to answer surveys around this topic.

[10] Purposive or judgmental sampling is a type of nonprobability sampling in which the units to be observed are selected based on the researcher's judgment concerning what might be most useful or representative. This type of sampling is frequently used in exploratory surveys and is indicated when the respondent list is informed by detailed knowledge of the study population (Babbie, 2015).

Findings and Analysis

USING CONTACT INFORMATION PROVIDED BY NCSOS, WE SURVEYED 597 FIRMS THAT HAD BEEN INVOLUNTARILY DISSOLVED DURING THE ANALYSIS PERIOD.

The survey was deployed on June 10, 2022, and a follow-up reminder was sent to non-respondents on June 17, 2022.[11] To encourage participation, the sample was offered $20 gift cards that would be awarded upon completion of the survey.[12] The initial email invitation had a 22.3% bounce rate (n = 133) and 60% open rate (n = 464). Ultimately, 15 full responses and six partial responses were received, equating to a response rate of 4.5% (n = 21). Of course, with 21 responses it is not possible to draw meaningful conclusions from the data. But for purposes of showing how future surveys might be analyzed with sufficient responses, a brief breakdown of the major characteristics of respondent firms is provided in the appendix.

The survey contained a series of open-ended questions that were designed to identify the primary cause(s) of involuntary closures. The open-ended comments generally coalesced around two primary issues: industry-specific competitive disadvantages and being unable to access business credit.[13] Beyond these two primary categories, other responses reflected an array of

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[11] Survey methods research has shown that response rates increase when email reminders (Millar & Dillman, 2012) and participation deadlines are utilized (S. Porter & Whitcomb, 2003).

[12] Strategic use of survey incentives has been well established as a method to improve response rates (Geer, 1988; A. L. Miller & Lambert, 2014; Su et al., 2008).

[13] It is important to note that the 3 minority respondents cited issues around credit access. This may indicate an opportunity for NCSOS and state agencies to work with CDFIs and other community lenders that focus on serving historically marginalized constituencies.

disparate issues including being unable to recover after a natural disaster. While the goal of the survey was not statistical generalizability, a larger number of responses would be needed for any kind of meaningful qualitative data analysis. To demonstrate how this issue might be approached, a summary of the two identified themes and sample comments are provided below.

Themes for Involuntary Closures & Selected Representative Comments

Reason for Closure	Representative Comment Examples
Competitive Disadvantages	• Inventory decrease and backstock liquidation, regular seasonal clearance. • Profit and loss of other local coffee shops. • Drop in sales and keeping up with high food pricing.
Financing & Credit Access	• Tax related, sales use tax specifically. Small business counseling. • How to get financing to help start the business. • Learning how to grow my business and get funds for expansion • Not enough credit history according to banks and private lenders.

Recommendations

LOW SURVEY RESPONSE RATES IN COMMUNITY ECONOMIC DEVELOPMENT ARE COMMON, BUT THERE ARE SEVERAL WAYS TO ADDRESS THIS.

Our survey test highlights the difficulty of collecting data on this topic, but the approach still has merit if sufficient resources are available to support additional exploratory research. We recommend the below strategies to manage these issues in future attempts to analyze firm dissolution trends:

Qualitative Analysis Methods. If a sufficient number of closed firm responses can be collected, we recommend a hybrid-thematic analysis framework that combines a data-driven inductive approach with a deductive theoretical (a priori) template of codes (Fereday & Muir-Cochrane, 2006). Open-ended text responses should be assessed by at least two independent coders to identify clusters of factors related to business failures. The coding schema could be constructed through an assessment of the business failure literature (Gramigna, 2017; Nikolić et al., 2019). This recommended analysis approach complements phenomenological qualitative inquiry by connecting the firm respondent's open-ended answers to theories in the extant literature (Creswell & Creswell, 2017; Heinze, 2013).

Use of Triangulation. Future research might consider a triangulation approach by drawing on linked and proximate data sources. Triangulation leverages complementary data sources to examine a common phenomenon, and is often used by researchers to narrow and specify inferences

related to complex research questions (Lesniewski & Doussard, 2017; Lewis et al., 2020; Loukaitou-Sideris et al., 2019; Reosti, 2020; Yin, 2017). By drawing on converging evidence from multiple sources, complex research questions may be answered with higher confidence than only relying on one method or data source. For example, triangulation in this case might include linking NCSOS records with unemployment insurance filings held by the NC Department of Commerce.[14] Additionally, NCSOS could survey currently operating registrants to collect information about revenues and other key variables. In the event of a dissolution, data from those surveys could be used to help isolate precursor factors and inform future strategies to improve firm resiliency.

Spatial Analysis. One way to immediately inform policy efforts would be overlaying existing NCSOS data on dissolutions with socioeconomic and demographic information. This may shed light on trends around dissolutions for geographies of strategic importance, including both rural areas and economically distressed communities. A similar approach that combines existing data with the location of bank branches might also prove useful for estimating correlations between dissolutions and capital access gaps. While a great deal of banking and financing activity occurs online, there is still a strong correlation between credit availability and the physical presence of lending institutions (Ergungor, 2010).

Industry-Specific Analysis. While our proposed exploratory method can help inform a more robust survey instrument, it is limited by a lack of information about the registrant's industry. Without the ability to disaggregate by industry, it is very difficult to engage in any sort of causal analysis (Chandler, 1962; Essletzbichler, 2015; M. E. Porter, 1998). Notably even our limited survey data

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14 Based on our conversations with staff in NC Commerce's Labor and Economic Analysis Division (LEAD), a lack of common identifier between unemployment insurance records and NCSOS data would mean manually linking records. We are cognizant that the process would require a large amount of time, but such efforts would greatly enhance the ability of NCSOS data to provide actionable insights.

had many respondents citing industry-specific challenges. Preventing firm closure often involves industry-specific strategies like more effective production methods, finding ways of improving organizational management, and techniques to enhance relationships with upstream and downstream suppliers (Eisenburger et al., 2019; Markusen & Schrock, 2009; Schrock et al., 2019).

Conclusions & Next Steps

OUR ANALYSIS AND RECOMMENDATIONS ARE ONLY A STARTING POINT.

There are many ways to make progress in this area, but a starting point for future efforts might be deploying the survey created by CSBDF to collect robust qualitative data. If sufficient qualitative responses are received, it would be possible to analyze the open-ended responses using our recommended hybrid-thematic approach. Subsequently, those findings could inform the creation of a more robust quantitative survey instrument to identify micro-level causes for firm failure.

There is a strong need to identify factors driving involuntary firm closures, especially those that could theoretically be altered by state policy levers. The NCSOS is uniquely situated to help in this area by using data-driven business resiliency interventions. Our research on this topic is preliminary, but our findings demonstrate clear patterns that deserve additional analysis and consideration. However, due to the constraints of administrative data on firm dissolutions and the inherent complexities of this topic, additional resources are needed to support such efforts.

Appendix I.

EXPLORATORY SURVEY FIELD TEST RESPONDENT CHARACTERISTICS

Selected Characteristics of Respondent Dissolved Firms (n = 21)

Category	Count	Percent
Type of Dissolution		
Administrative Dissolution	7	33.3%
Articles of Dissolution	7	33.3%
Revenue Suspension	7	33.3%
Judicial/PA Suspension	0	0.0%
Location of Dissolved Firms		
Rural	14	66.6%
Urban	7	33.3%
Respondent Race Classification		
Minority	3	14.3%
Non-Minority	15	71.4%
Decline to State	3	14.3%

Selected Characteristics of Respondent Dissolved Firms (n = 21)

Category	Count	Percent
Revenues in Last Year of Operations		
No Revenues	6	28.5%
Less than $75,000	9	42.9%
$75,001 to $150,000	0	0.0%
$150,000 to $250,000	3	14.3%
$250,001 to $500,000	3	14.3%
More than $500,000	0	0.0%
Industry Sector[15] (2-Digit NAICS)		
Utilities	1	4.7%
Retail Trade	2	9.5%
Real Estate, Rentals, & Leasing	5	23.8%
Healthcare & Social Assistance	1	4.7%
Arts, Entertainment, & Recreation	1	4.7%
Accommodation & Food Services	3	14.3%
Other Services	5	23.8%
Unknown	3	14.3%

[15] Respondents self-identified the industry of their dissolved firm, as this information was not otherwise available from administrative data.

Appendix II.

LIST OF EXPLORATORY SURVEY QUESTIONS

Depending on firm characteristics and how questions were answered, certain parts of the survey may not be seen by certain respondents due to ⚐ **Display Logic**. Additionally, some questions had ✓ **Validation Checks** which required entered values to be within certain ranges. To prevent bias that might occur from showing all respondents answer choices in the same order, where

possible questions used ⌘ **Randomization.** The survey instrument was personalized and displayed information to each respondent. The questions below indicate when this occurred with brackets. For example, ${e://Field/BusinessName}, means the respondent's firm name was displayed to them.

Q1.1 INTRODUCTION

Why am I being contacted? You are listed as the contact for ${e://Field/BusinessName}, which was registered with the North Carolina Secretary of State on ${e://Field/StartDate} and later ${e://Field/DissolvedorSuspended} on ${e://Field/DissolvedorSuspendedDate}.

How will my answers be used? Your responses will be used to help assess how the North Carolina Secretary of State can assistant small and medium-sized business owners. All information you provide is confidential. At no time will your answers be shared in a manner that could identify you or the business, directly or indirectly.

Why are you doing this? The North Carolina Secretary of State has selected us to help them conduct this research. We're Carolina Small Business Development Fund (CSBDF), a statewide nonprofit organization which serves entrepreneurs through low cost financing, technical assistance, and evidence-based research.

Q1.2 OPERATIONS STATUS

Is ${e://Field/BusinessName} operating as a business as of ${date://CurrentDate/FL}?

Yes
No
Don't Know

Q1.3 BUSINESS PRIMARY ACTIVITY

Please select the industry category, industry sub-sector, and primary activity that best represents the nature of ${e://Field/BusinessName}'s primary line of business:

NAICS 2/4/6 Digit Dropdown

Q1.4 FINANCING APPLICATIONS

Did ${e://Field/BusinessName} apply for financing of any type? This includes: Applications for credit cards, term loans, lines of

credits, and home equity loans for business purposes. It also includes financing provided by friends/family for business purposes.

Yes
No
Don't Know

Q1.5 FINANCING SOURCES

⌘ **Randomization:** Answer choice order was randomized.

⚑ **Display Logic:** Not shown if the answer to Q1.4 is No or Don't Know.

Where did ${e://Field/BusinessName} apply for financing? Check all that apply.

Banks
Credit Unions
Peer-to-Peer Lenders (e.g. Upstart.com)
Friends and Family
Pawnshop Lenders
Online Lenders (e.g. Prosper.com)
Non-Profit Lenders
Don't Know

Q1.6 APPLICATION RESULTS

⌘ **Randomization:** Answer choice order was randomized.

⚑ **Display Logic:** Not shown if the answer to Q1.5 is Don't Know.

⚑ **Display Logic:** If Q1.6 is shown, carry forward selections from Q1.5.

What was the outcome of the most recent application for credit from the below places?

	Approved	Declined	Don't Know
Banks	○	○	○
Credit Unions	○	○	○
Peer-to-Peer Lenders (e.g. Upstart.com)	○	○	○
Friends and Family	○	○	○
Pawnshop Lenders	○	○	○
Online Lenders (e.g. Prosper.com)	○	○	○
Non-Profit Lenders	○	○	○

Q1.7 COVID-19 AID APPLICATIONS

⌘ **Randomization:** Answer choice order was randomized.

⚐ **Display Logic:** Not shown registration date was on or after January 1, 2022.

Did ${e://Field/BusinessName} apply for COVID-19 assistance from any of the below programs? Check all that apply.

Paycheck Protection Program
Economic Injury Disaster Loan
Restaurant Revitalization Grant
Rapid Recovery Loan
Job Retention Grant
Business Recovery Grant
Mortgage, Utility, and Rate Relief Program
Local Government COVID-19 Relief Loan Program
Local Government COVID-19 Relief Grant
Any Other (Please Describe): Open-Ended Text Box
We Didn't Apply for Any Pandemic Aid

Q1.8 COVID-19 AID OUTCOMES

⌘ **Randomization:** Answer choice order was randomized.

� **Display Logic:** Not shown if the answer to Q1.7 is We Didn't Apply for Aid.

⏥ **Display Logic:** Not shown registration date was on or after January 1, 2022.

⏥ **Display Logic:** If Q1.8 is shown, carry forward selections from Q1.7.

What was the outcome of ${e://Field/BusinessName}'s applications for the below programs?

	Approved	Declined	Don't Know
Paycheck Protection Program	○	○	○
Economic Injury Disaster Loan	○	○	○
Restaurant Revitalization Grant	○	○	○
Rapid Recovery Loan	○	○	○
Job Retention Grant	○	○	○
Business Recovery Grant	○	○	○
Mortgage, Utility, and Rate Relief Program	○	○	○
Local Government COVID-19 Relief Loan Program	○	○	○
Local Government COVID-19 Relief Grant	○	○	○
Any Other (Please Describe):	○	○	○

Q1.9 TRAINING & CONSULTING

Have you ever received training or consulting on topics related to business operations and/or management? This might include,

for example, working with a third party on a business plan.

Yes
No

Q1.10 SOURCES OF INFORMATION

⌘ **Randomization:** Answer choice order was randomized.

Which of the below organizations would you say is likely to provide you with the right information about business operations

and/or financing? Select all that apply.

Banking Institutions
Government Agencies
Community Colleges
Nonprofit Organizations
Chambers of Commerce
None of the Above

Q1.11 BUSINESS REVENUES

What was ${e://Field/BusinessName}'s highest level of annual gross revenues?

No Revenues Reported
$1 to $75,000
$75,001 to $150,000
$150,001 to $250,000
$250,001 to $500,000
$500,001 to $1,000,000
More than $1,000,000,000

Q2.1 PEAK EMPLOYMENT

✓ **Validation Check:** Entered values for each category must range between 0 and 100.

Thinking back to when ${e://Field/BusinessName} was operating, what was the highest number of individuals it employed? Enter employment totals for the below categories. Enter "0" if a field does not apply because the business did not have any employees in the listed category during the peak employment timeframe. An employed individual means:

- All individuals receiving payroll compensation from the business.

- The owner(s) of the firm if they receive any compensation from the business.

- Do not count any contract positions.

Individual(s) employed full-time (35+ hours/week): | Number Entry Box |

Individual(s) employed part-time (1-34 hours/week): | Number Entry Box |

Individual(s) employed seasonally (1-11 months/year): | Number Entry Box |

Q2.2 FULL-TIME EMPLOYEE HOURS

⚑ **Display Logic:** Not shown unless the Q2.1 full-time number is > 0.

✓ **Validation Check:** Entered value must range between 35 and 80.

During the peak employment period, about how many hours did ${e://Field/BusinessName}'s permanent full-time employee(s) work on average each week?

| Number Entry Box |

Q2.3 PART-TIME EMPLOYEE HOURS

⚐ **Display Logic:** Not shown unless the Q2.1 part-time number is > 0.

✓ **Validation Check:** Entered value must range between 1 and 34.

During the peak employment period, about how many hours did ${e://Field/BusinessName}'s permanent part-time employee(s) work on average each week?

Number Entry Box

Q2.4 SEASONAL EMPLOYEE TIME PERIOD

⚐ **Display Logic:** Not shown unless the Q2.1 seasonal number is > 0.

✓ **Validation Check:** Entered value must range between 1 and 11.

During the peak employment period, about how many months of the year did ${e://Field/BusinessName}'s temporary employee(s) work on average?

Number Entry Box

Q2.5 SEASONAL EMPLOYEE HOURS

⚐ **Display Logic:** Not shown unless the Q2.1 seasonal number is > 0.

✓ **Validation Check:** Entered value must range between 1 and 80.

During the peak employment period, how many hours did ${e://Field/BusinessName}'s temporary employee(s) work per week on average during the seasonal employment period?

Number Entry Box

Q3.1 ENTITY CREDIT SUFFICIENCY

⚐ **Display Logic:** Not shown unless at least 1 credit approval is indicated in Q1.6.

Do you believe the credit extended to ${e://Field/BusinessName} was sufficient to meet its operational needs? Why or why not?

Open Ended Text Box

Q3.2 ENTITY CREDIT NEEDS

⚐ **Display Logic:** Not shown unless the answer to Q1.4 is No.

What was the primary reason why ${e://Field/BusinessName} did not apply for credit?

Open Ended Text Box

Q3.3 ENTITY FINANCIAL OBLIGATIONS

In the 12 months preceding the date ${e://Field/BusinessName} was dissolved, how would you generally describe the entity's ability to meet its financial obligations?

Open Ended Text Box

Q3.4 COVID-19 PANDEMIC

⏸ **Display Logic:** Not shown registration date was on or after January 1, 2022.

What was the primary negative impact caused by the COVID-19 pandemic on ${e://Field/BusinessName}?

Open Ended Text Box

Q3.5 REASON FOR CEASING OPERATIONS

⏸ **Display Logic:** Not shown if the answer to Q1.2 is Yes.

In your opinion, what was the primary reason that ${e://Field/BusinessName} is no longer in operations?

Open Ended Text Box

Q3.6 USE OF TRAINING & CONSULTING

⏸ **Display Logic:** Not shown if the answer to Q1.9 is No.

What management or operational changes did you make to ${e://Field/BusinessName} after receiving business-related training or consulting? If no changes were made, why not?

Open Ended Text Box

Q3.7 BUSINESS TRAINING & CONSULTING

⏸ **Display Logic:** Not shown if the answer to Q1.9 is No.

Thinking about the management and operations of ${e://Field/BusinessName}, what types of business-related training and consulting would have been most useful?

Open Ended Text Box

Q4.1 DEMOGRAPHIC INFORMATION INTRODUCTION

We request that you provide the below demographic data so that we can better understand the needs of the state's small and medium-sized business owners. For more information about the demographic terms below, please see our website. Remember your answers are confidential.

Q4.2 GENDER

⌘ **Randomization:** Male and female choice order was randomized.

What is your gender?

Male
Female
Other
Decline to State

Q4.3 RACE

What is your race?

American Indian	Native Hawaiian or other Pacific Islander
Alaska Native	White
Asian	Other
Black or African American	Decline to State

Q4.4 ETHNICITY

⌘ **Randomization:** Hispanic and Latino and Not Hispanic or Latino choice order was randomized.

What is your ethnicity?

Not Hispanic or Latino
Hispanic or Latino
Decline to State

Q4.5 VETERAN STATUS

What is your veteran status?

Non-Veteran
Veteran
Service-Disabled Veteran
Spouse of Veteran
Decline to State

Q4.6 EDUCATION

What is the highest level of school you have completed or the highest degree you have received?

Less than high school degree
High school graduate (high school diploma or equivalent including GED)
Some college but no degree
Associate degree in college (2-year)
Bachelor's degree in college (4-year)
Master's degree
Doctoral degree
Professional degree (JD, MD)
Decline to State

Q4.7 AGE

✓**Validation Check:** Entered value must be less than or equal to 2004.

What is your birth year (YYYY)?

Number Entry Box

Appendix III.

INITIAL SURVEY INVITATION TEMPLATE

Dear ${m://FirstName},

You are listed as the contact for ${e://Field/BusinessName}, an entity which was registered with the North Carolina Secretary of State's office and later was ${e://Field/DissolvedorSuspended} on ${e://Field/DissolvedorSuspendedDate}. We're hoping to learn more about challenges the business may have encountered.

We are Carolina Small Business Development Fund, a nonprofit Community Development Financial Institution (CDFI), and we're sending this message as a partner of the North Carolina Secretary of State.

Can you help by taking this 10 minute survey about issues contributing to ${e://Field/BusinessName}'s closure? **After submission, you will receive a $20 gift card to a retailer of your choice as a "thank you" for your time.** Any information you choose to provide is strictly confidential.

Sincerely,

Carolina Small Business Development Fund
A Partner of the North Carolina Secretary of State
carolinasmallbusiness.org

3128 Highwoods Blvd, Suite 170   //   Raleigh, NC 27604
Main Office: **(919) 803-1437**   //   Fax: **(919) 896- 8612**

FIRST SURVEY REMINDER TEMPLATE

Dear ${m://FirstName},

A few days ago we reached out about ${e://Field/BusinessName}. The North Carolina Secretary of State partnered with us to learn more about any challenges you encountered leading up to the entity being ${e://Field/DissolvedorSuspended} on ${e://Field/DissolvedorSuspendedDate}.

We know how valuable your time is, but could you help by taking a brief survey on this topic? **You will receive a $20 gift card to a retailer of your choice after finishing the survey.** Remember, any information you choose to provide is 100% confidential.

Thank you for considering,

Carolina Small Business Development Fund
A Partner of the North Carolina Secretary of State
carolinasmallbusiness.org

3128 Highwoods Blvd, Suite 170 // Raleigh, NC 27604
Main Office: **(919) 803-1437** // Fax: **(919) 896- 8612**

Your contact information has been provided by our partner and will only be used for research purposes. You can click here if you wish to opt-out of emails like this in the future.

SECOND SURVEY REMINDER TEMPLATE

Dear ${m://FirstName},

The North Carolina Secretary of State's Office has received numerous responses from other entrepreneurs, and we're just waiting on yours! Take the brief 10-minute survey on challenges you made have faced before ${e://Field/BusinessName} closed. The period for feedback **ends in 3 days**. Remember, you will receive a **$20 gift card to a retailer** you choose (including Amazon, Best Buy, etc.) after finishing the survey. We appreciate you taking the time to give us your feedback!

Sincerely,

Carolina Small Business Development Fund
A Partner of the North Carolina Secretary of State
carolinasmallbusiness.org

3128 Highwoods Blvd, Suite 170   //   Raleigh, NC 27604
Main Office: **(919) 803-1437**   // Fax: **(919) 896- 8612**

Your contact information has been provided by our partner and will only be used for research purposes. You can click here if you wish to opt-out of emails like this in the future.

SURVEY COMPLETION INCENTIVE TEMPLATE

Carolina Small Business
DEVELOPMENT FUND

Hi {{recipient_name}},

Thank you giving feedback to the North Carolina Secretary of State. We know your time is valuable, and as a small gesture of appreciation we're happy to provide the enclosed reward!

{{the amount will appear here}}

Card image

Code: {code will appear here}

To Redeem

Here you will find redemption instructions for the eGift card. The instructions will vary between brand.

Sincerely,

Carolina Small Business Development Fund
A Partner of the North Carolina Secretary of State
carolinasmallbusiness.org

3128 Highwoods Blvd, Suite 170 // Raleigh, NC 27604
Main Office: (919) 803-1437 //   Fax: (919) 896-8612

If you have any problems or questions, please visit help.tangocard.com.

Rewards Powered By:
TANGO
CARD

Here you will find the brand disclaimer.
Reference ID: {{reference order number}} **(ID used only for troubleshooting purposes.)**

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