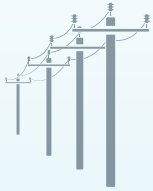

PUERTO RICO

SMALL BUSINESSES

AND THE 2017 HURRICANES



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PREFACE

The Federal Reserve Bank of New York conducts an annual survey of Puerto Rico small businesses¹ to provide stakeholders, including business leaders and policymakers, with relevant and timely information on this important economic sector. The 2018 survey was fielded from March through May 2018 and asked firms to report on their business experiences in 2017, including the impacts of hurricanes Irma and Maria. Those results are available in [Puerto Rico Small Business Sector Trends: Evidence from the 2018 New York Fed Survey](#).

Each survey has a special issues section. The 2018 survey asked firms to report in-depth about their hurricane losses. This report focuses on the 77% of the sector that self-identified as having incurred a loss directly from the hurricanes;² an additional 12% reported adverse impacts that were hurricane-related, possibly due to the aftermath.³ This report focuses on the former group to understand their challenges and responses; hurricane-related impacts for the entire sector are included in the main report.⁴ While media coverage has described the hardships and challenges faced by firms on the island, this report provides systematically collected data to supplement the anecdotal evidence.

A note about the data: The survey data are weighted to be representative of the small business sector on the island (see [About the Data](#)). However, all data are subject to survivor bias, in that the experiences of firms that went out of business are not systematically included in the survey. As a consequence, the results may not be representative of the sector's full experience, but do provide a portrait of the firms that are currently operating. In this situation, the survey results most likely understate the adverse impact of the hurricanes on the sector, though it is unclear by how much. In addition, the sample size for some of the questions is relatively small. These caveats must be kept in mind when interpreting the results. Even so, we are confident that the information will be useful to the public conversation and recovery efforts.

We thank our local partners who help field the survey; without their efforts, this survey would not be possible. And, we thank the small businesses of Puerto Rico who took the time to participate during very challenging circumstances. Almost all firms were affected by the hurricanes. Some firms even ceased operations yet made the effort to participate. Other firms responded while managing electricity problems and overseeing their own recovery challenges. We thank them all. We hope that this information will help build an even stronger and revitalized small business sector in Puerto Rico.

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Claire Kramer Mills, PhD | AVP

Javier Silva | Associate Director

Jessica Battisto | Senior Analyst

The views presented here are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

1 Small businesses have fewer than 500 paid full- or part-time employees.

2 Only firms that answered affirmatively to Question 30 of the survey are included in this report. See the [2018 Questionnaire](#) for more detail.

3 These firms reported adverse financial impacts on their revenues or assets from the hurricanes (Question 31), but answered 'no' to Question 30. See the [2018 Questionnaire](#) for more detail.

4 See [Puerto Rico Small Business Sector Trends: Evidence from the 2018 New York Fed Survey](#).

TAKEAWAYS FROM THE 2018 SURVEY

77% of small firms reported incurring a loss directly due to the hurricanes in 2017. The storms affected firms across the size, age, and revenue spectrums.

The financial impact of the hurricanes took various forms. The most frequently mentioned impacts were decreased revenues (71% of firms) and increased expenses (66%). Damage to firms' assets and property was reported by a majority of firms (53%), and increased indebtedness was also common (48%).

A majority of affected firms held some type of insurance, but few were fully covered. Most held property insurance; wind, flood, and business disruption insurance were each held by just one in five firms. 37% of affected firms held no insurance. Unfortunately, only 4% of firms with insurance had losses that were fully covered; an additional 23% were partially covered by their insurance. Nearly one-third had claims pending at the time of the survey in early 2018, and the remainder were not covered or had not filed a claim.

Only 22% of affected firms applied for financing to address hurricane losses. Of these firms, most included government entities among their financing sources. Unlike the eased availability of credit for the sector more generally (75% of all applicants received full or partial funding), financing specifically to address hurricane damage was lower, with 65% of firms that applied receiving full or partial funding. Sample sizes are too small to statistically compare approval rates among lenders. Moreover, if a firm applied to more than one type of lender, we do not know which lender(s) approved the financing. Given these caveats, the data show 58% full or partial financing approval rates for firms that applied to a government entity, either alone or in addition to other lenders.

Firms used a combination of insurance and financing to cover hurricane losses with varying degrees of success. Firms using insurance or financing in order to cover hurricane losses most often had funding shortfalls. Only 6% of affected firms may be characterized as having their insurance claims and/or financing applications fully met. 38% of affected firms received partial funding or outright denial of claims and applications. 19% of affected firms had pending insurance claims or applications at the time of the survey.

Demand for financing continues. Most affected firms that applied for financing in the aftermath of the hurricanes still seek additional financing to restore business operations. Micro-loans of \$50,000 or less are in demand.

Business confidence is high for 2018. Most surviving firms—those open or only temporarily closed in 2017—are highly confident that they will be open for business in 2018.

Entrepreneurial energy for 2018 is high among surviving firms. A majority of affected firms plan to update their offerings, with new or different goods or services in 2018. One-third of affected firms plan to restructure their business processes. And over one-quarter of affected firms plan to expand their business outside Puerto Rico.

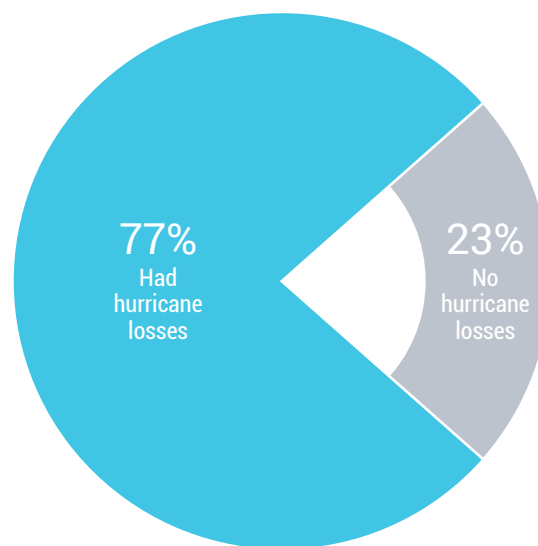
FIRMS WITH HURRICANE LOSSES

77% of firms reported losses directly due to the 2017 hurricanes.

Most of the **affected firms were very small**, whether measured by employment size or by revenues, because they comprise the vast majority of Puerto Rico's small business sector.

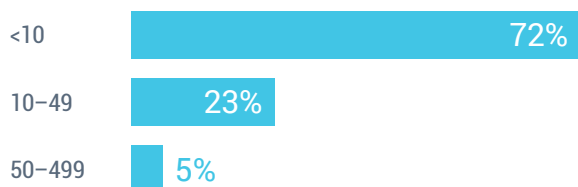
PERCENT OF FIRMS WITH LOSSES DUE TO THE HURRICANES

N=392



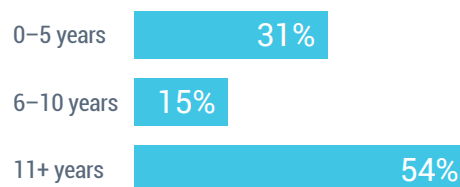
NUMBER OF EMPLOYEES

(% of firms with losses), N=302



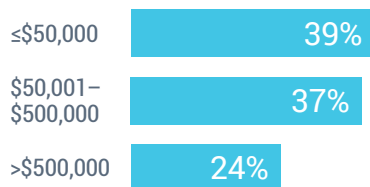
AGE OF FIRM

(% of firms with losses), N=302



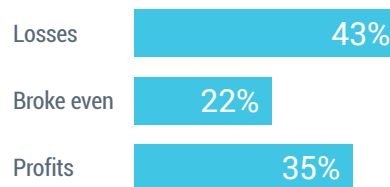
REVENUE SIZE OF FIRM

(% of firms with losses), N=299



PROFITABILITY IN 2017

(% of firms with losses), N=286



HURRICANE-RELATED CHALLENGES

Limited electricity was a big challenge.

51% of firms cited dealing with limited electricity as one of their top challenges following the hurricanes.

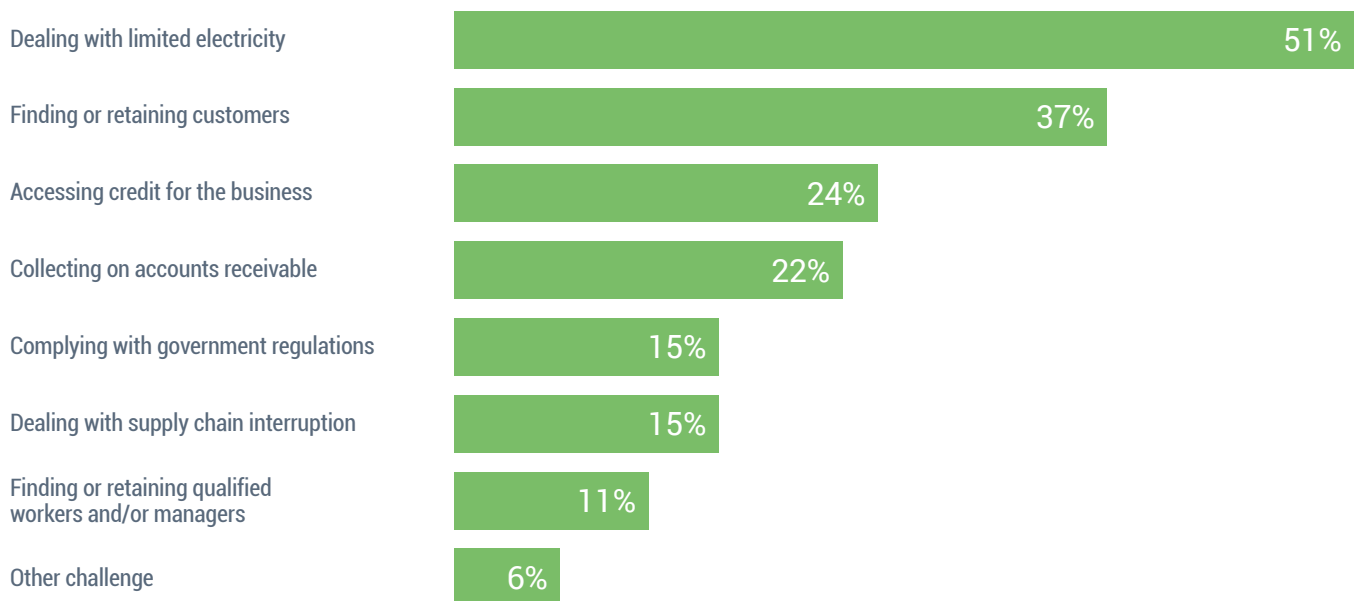
37% of firms cited finding or retaining customers as a major challenge.

Financial challenges took the form of **accessing credit for the business (24%)** and **collecting on accounts receivable (22%)**.

Other challenges, such as **supply chain interruption (15%)** and **finding and retaining qualified workers and/or managers (11%)**, while frequently mentioned in the media coverage of the hurricanes, were not reported as often.

TOP CHALLENGES AS A RESULT OF THE HURRICANES¹

(% of firms with losses), N=297



¹ Respondents could select multiple options.

FIRM CLOSURES

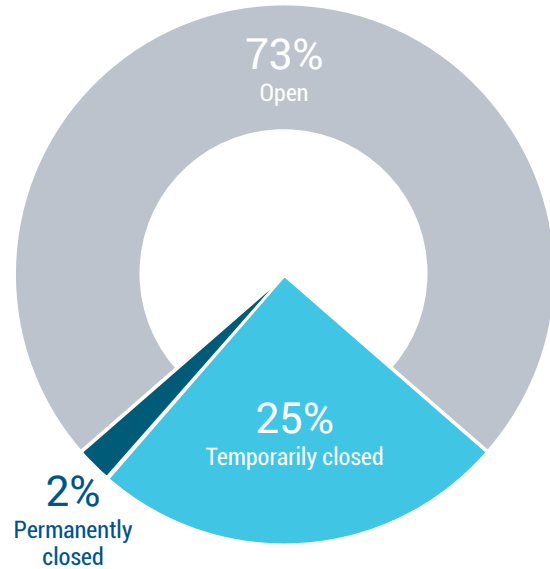
Most firms resumed operations; most closures were temporary.

73% of firms fully resumed operations. Only 2% of firms in the survey reported closing permanently. However, due to survivor bias, we acknowledge that we are not fully capturing the voices of businesses that have closed.

Most firms that closed (temporarily or permanently) did so because they **lacked access to power, water, or transportation**. Structural damage to the business and lack of customers were the next most common reasons.

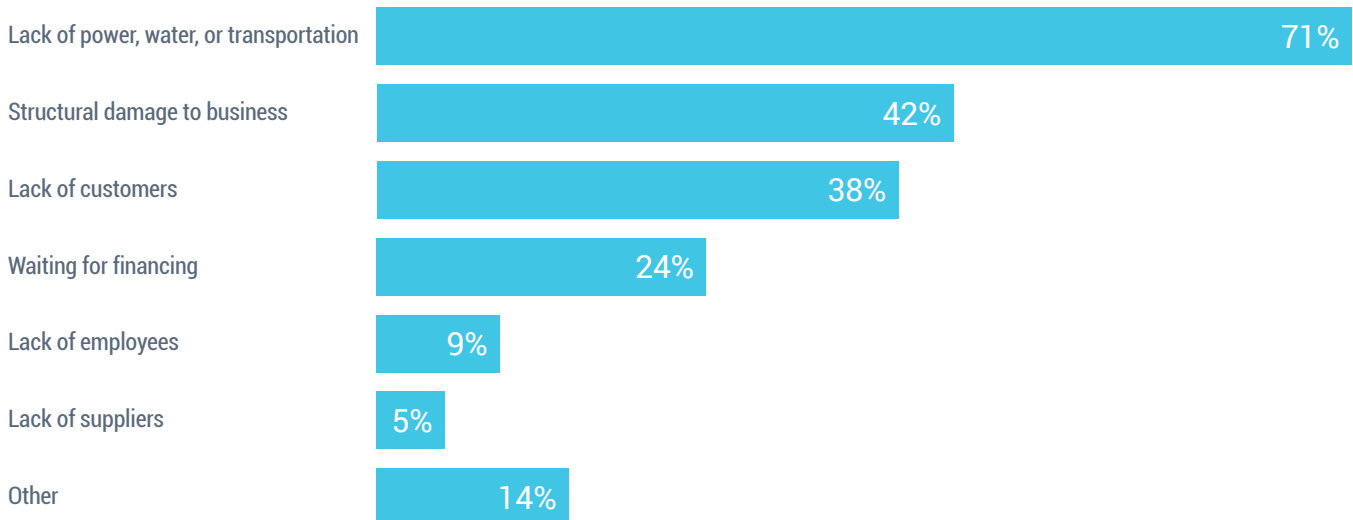
OPERATING STATUS

(% of firms with losses), N=295



REASONS FOR CLOSURE¹

(% of firms temporarily or permanently closed), N=80



¹ Respondents could select multiple options.

FINANCIAL IMPACTS OF HURRICANES

The 2017 hurricanes resulted in lower revenues and higher expenses for a majority of affected firms.

71% of firms with losses reported decreased revenues due to the hurricanes. However, 15% of firms saw a positive impact on revenues.

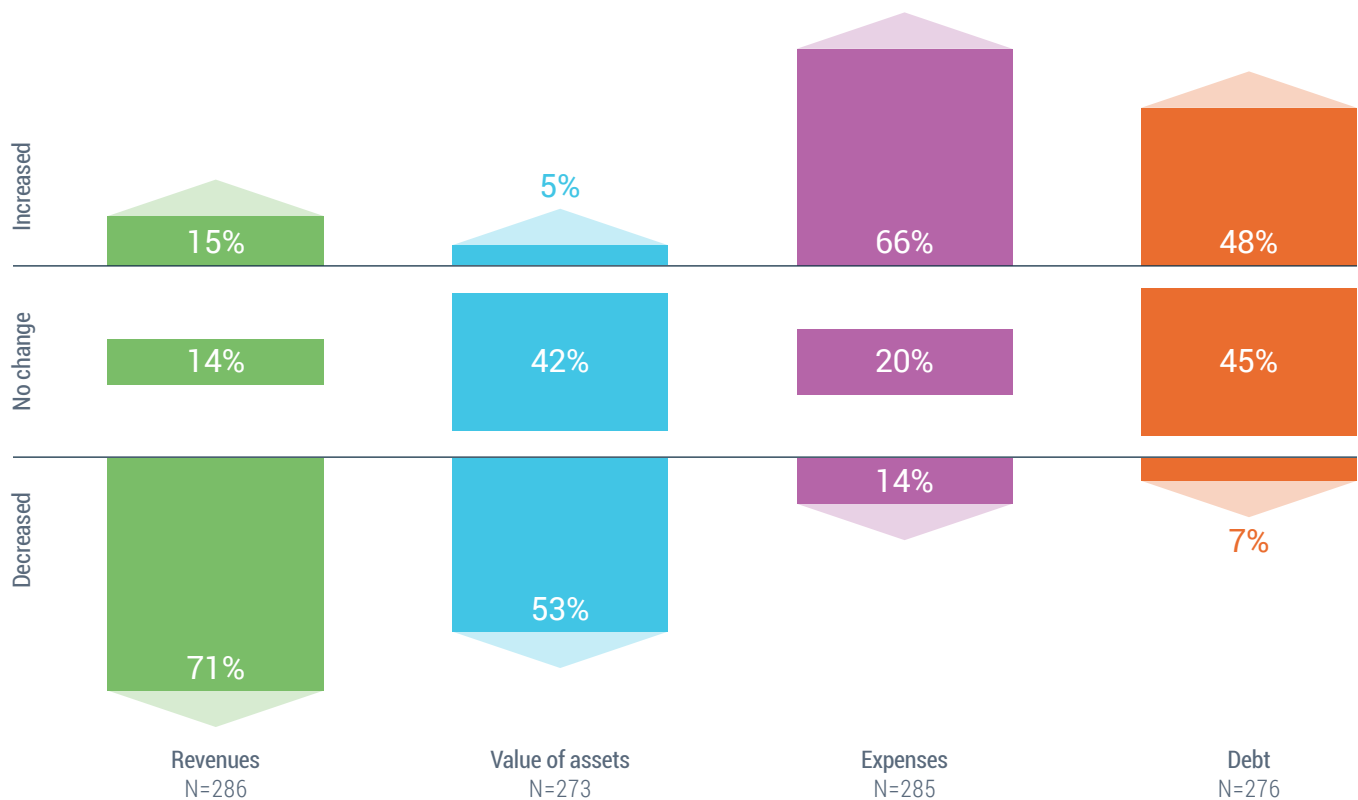
66% of firms with losses reported increased expenses because of the hurricanes, while 14% of firms saw decreased expenses.

53% of firms with losses saw their assets decrease in value, while 42% saw no change in the value of their assets.

48% of firms with losses took on debt due to the hurricanes.

FINANCIAL IMPACTS ON HURRICANE-DAMAGED FIRMS¹

(% of firms with losses)



¹ This chart shows results for firms that were damaged directly by the hurricanes; a similar chart in [Puerto Rico Small Business Sector Trends: Evidence from the 2018 New York Fed Survey](#) shows the results for all respondent firms.

INSURANCE COVERAGE

A majority of hurricane-damaged firms held some type of insurance, but few were fully covered.

63% of firms had some type of insurance in place at the time of the hurricanes.

52% had property insurance. Flood insurance, business disruption insurance, and wind insurance were each held by about 1 in 5 firms.

37% of firms held no relevant insurance.

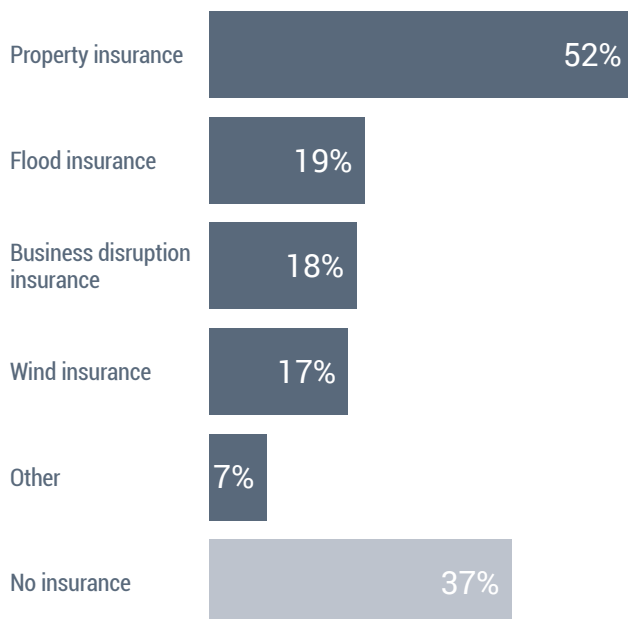
Only **4%** of firms were fully covered by their insurance claims, and another 23% were partially covered.

29% of affected firms reported that their claims were still pending as of the first and second quarters of 2018 (when the survey was fielded).

16% of firms did not file a claim.

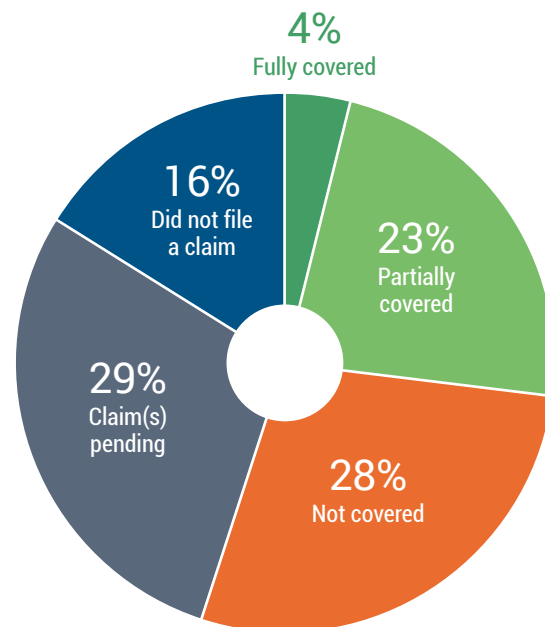
TYPES OF INSURANCE HELD TO COVER HURRICANE DAMAGES¹

(% of firms with losses), N=294



EXTENT THAT INSURANCE COVERED LOSSES

(% of firms with insurance), N=183



¹ Respondents could select multiple options.

FINANCING TO ADDRESS HURRICANE LOSSES

Few firms applied for financing to address hurricane losses.

Only **22%** of firms applied for financing to one or more sources to address hurricane losses.

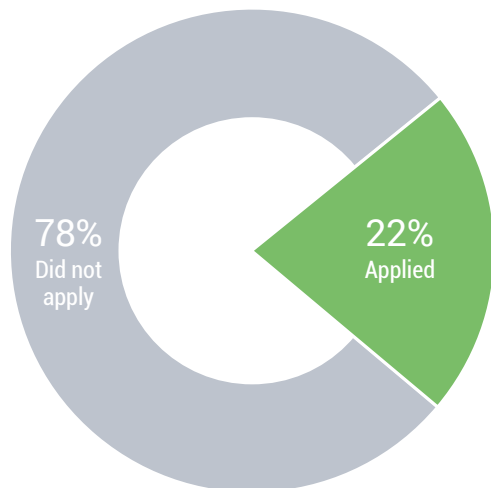
Most of these firms (**84%**) applied to a government entity, either alone or in addition to other lenders. (Survey respondents could select multiple options.)

Firms saw a range of outcomes: 27% received all funding applied for, and 25% was denied financing. 38% of firms received partial funding; another 10% had approvals pending at the time of the survey.

Sample sizes are too small to statistically compare approval rates among lenders. Moreover, if a firm applied to more than one type of lender, we do not know which lender(s) approved the financing. Given these caveats, we provide data for the largest lender group with sample sizes to assist interpretation: 58% of firms that applied to a government entity, either alone or in addition to other lenders, received full or partial financing (N=53); the approval rate was also 58% for the subset of firms that applied only to a government entity (N=40).

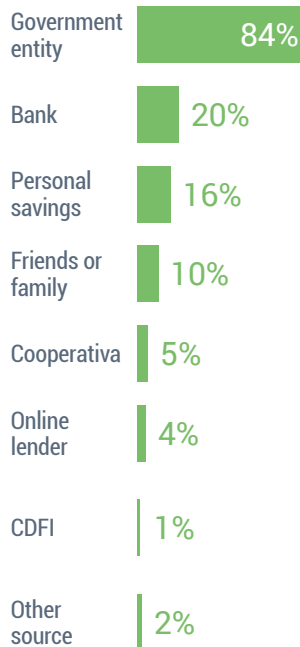
DEMAND FOR FINANCING TO ADDRESS HURRICANE LOSSES

(% of firms with losses), N=298



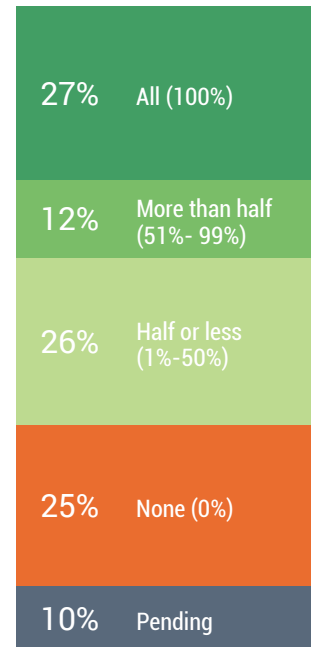
SOURCES APPLIED TO¹

(% of firms that applied), N=64



FINANCING RECEIVED

(% of firms that applied), N=64



¹ Respondents could select multiple options.

NON-APPLICANTS

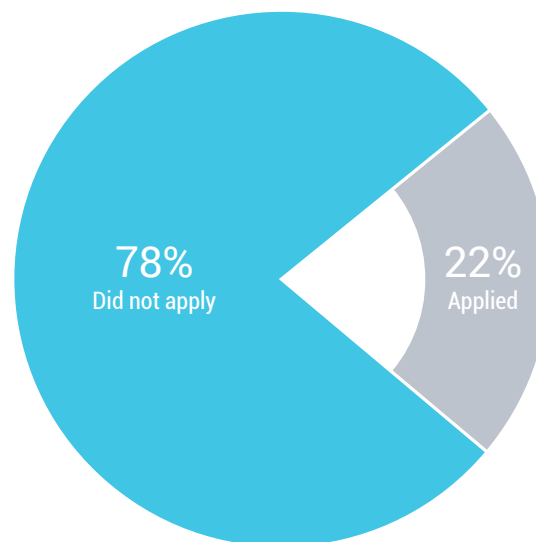
Most firms did not apply for financing to address hurricane losses.

78% of firms did not apply for financing to address hurricane damage.

These firms were mostly small, in business for 11+ years, and were profitable or broke even in 2017. Overall, these shares closely resemble the makeup of the Puerto Rico small business sector. In other words, non-applicants did not differ demographically from the overall sector.

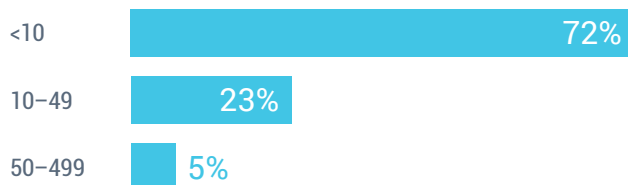
DEMAND FOR FINANCING TO ADDRESS HURRICANE LOSSES

(% of firms with losses), N=298



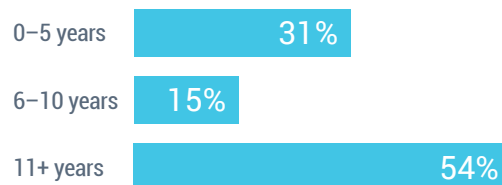
NUMBER OF EMPLOYEES

(% of non-applicants), N=232



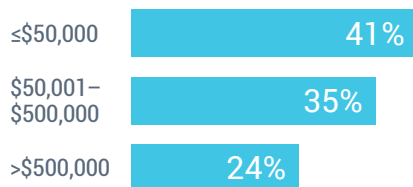
AGE OF FIRM

(% of non-applicants), N=232



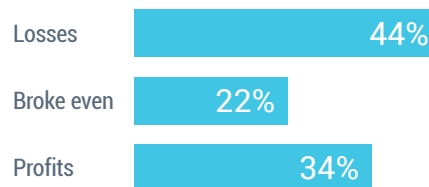
REVENUE SIZE OF FIRM

(% of non-applicants), N=230



PROFITABILITY

(% of non-applicants), N=219



FUNDING SUCCESS OR SHORTFALLS

Firms used a combination of insurance and financing to cover hurricane losses with varying degrees of success.

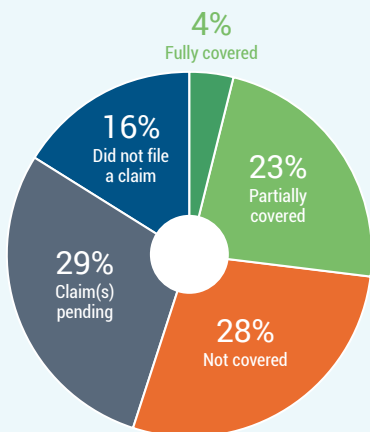
To gauge funding success and shortfalls, we look at both insurance coverage and financing received, and categorize firms by their least successful outcome. For example, when either the insurance claim or financing application was pending, we

consider them to be waiting for funding even if the other outcome was fully favorable. If a firm used only financing or only insurance, then the outcome of that funding mechanism is used to categorize the firm.

Insurance coverage

EXTENT THAT INSURANCE COVERED LOSSES

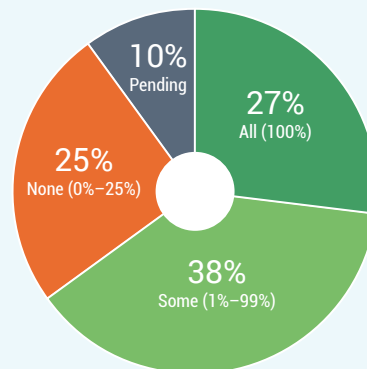
(% of firms with insurance), N=183



Financing outcomes

FINANCING RECEIVED TO ADDRESS HURRICANE LOSSES

(% of firms that applied), N=64



Funding shortfalls



Fully funded



Partially funded



Not funded



Waiting for funding



Did not use financing or insurance

FUNDING SUCCESS OR SHORTFALLS (CONTINUED)

Few firms fully covered their hurricane losses through insurance claims and financing applications. Most firms experienced a funding shortfall.

Only **6%** of firms directly affected by the hurricanes fully recovered their hurricane losses, meaning those who filed for insurance claims and those who applied for financing received the full amounts sought.

17% of affected firms were partially funded.

21% of affected firms had insurance claims or financing applications denied.

19% of affected firms had claims or applications pending.

37% of affected firms did not apply for financing and either did not file an insurance claim or did not have relevant insurance.

OVERALL FUNDING OUTCOME TO COVER HURRICANE LOSSES

(% of firms with losses), N=294

Funding shortfalls



6%

Fully funded



17%

Partially funded



21%

Not funded



19%

Waiting for funding



37%

Did not use financing or insurance

FUTURE FUNDING NEEDS

Most applicant firms seek additional financing to restore business operations. Micro-loans are in demand.

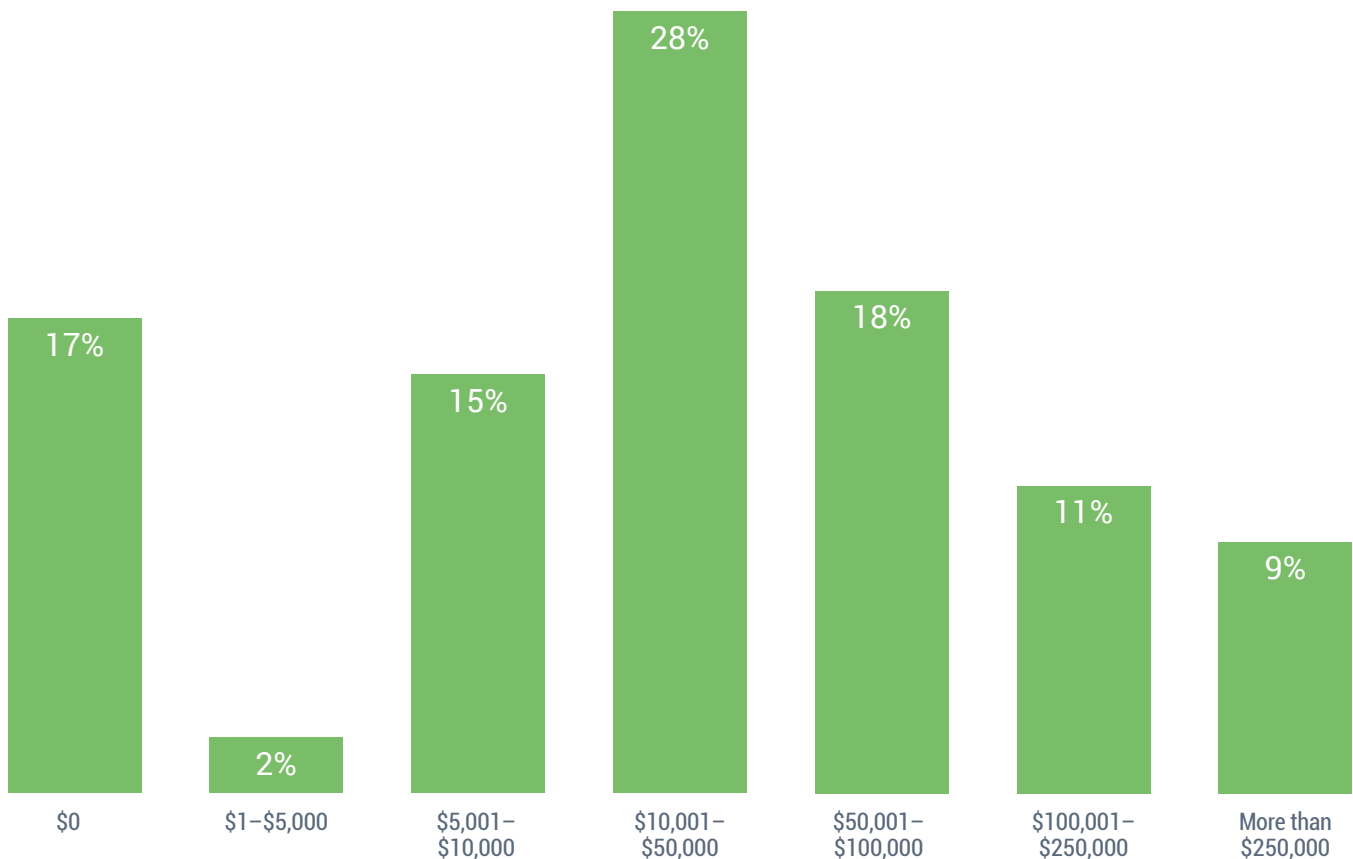
17% of applicant firms do not need additional financing to restore operations.

The most frequently mentioned financing need was \$10,001 to \$50,000 (28%).

17% of applicant firms need only an additional \$10,000 or less.

AMOUNT OF FINANCING STILL NEEDED TO RESTORE OPERATIONS

(% of firms that applied), N=62



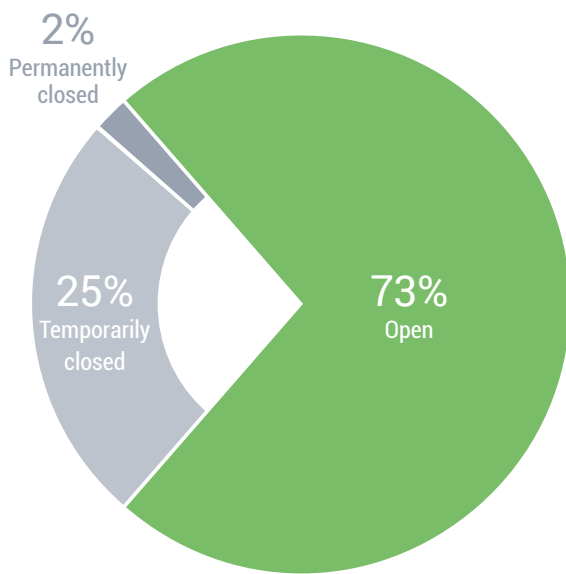
FUTURE DIRECTIONS

Most firms plan to be open for business in 2018.

75% of firms that were open, or only temporarily closed in 2017, were very confident that they would remain open in 2018.

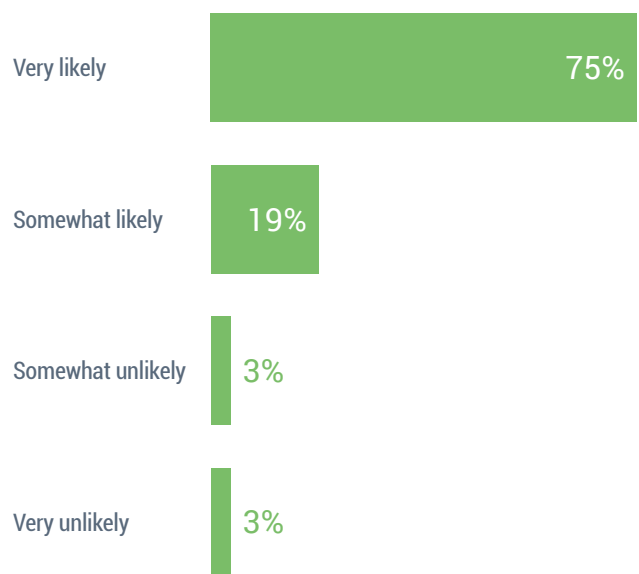
OPERATING STATUS

(% of firms with losses), N=295



CONTINUED OPERATIONS IN 2018

(% of firms open or temporarily closed), N=290



FUTURE DIRECTIONS (CONTINUED)

New business opportunities are planned for 2018.

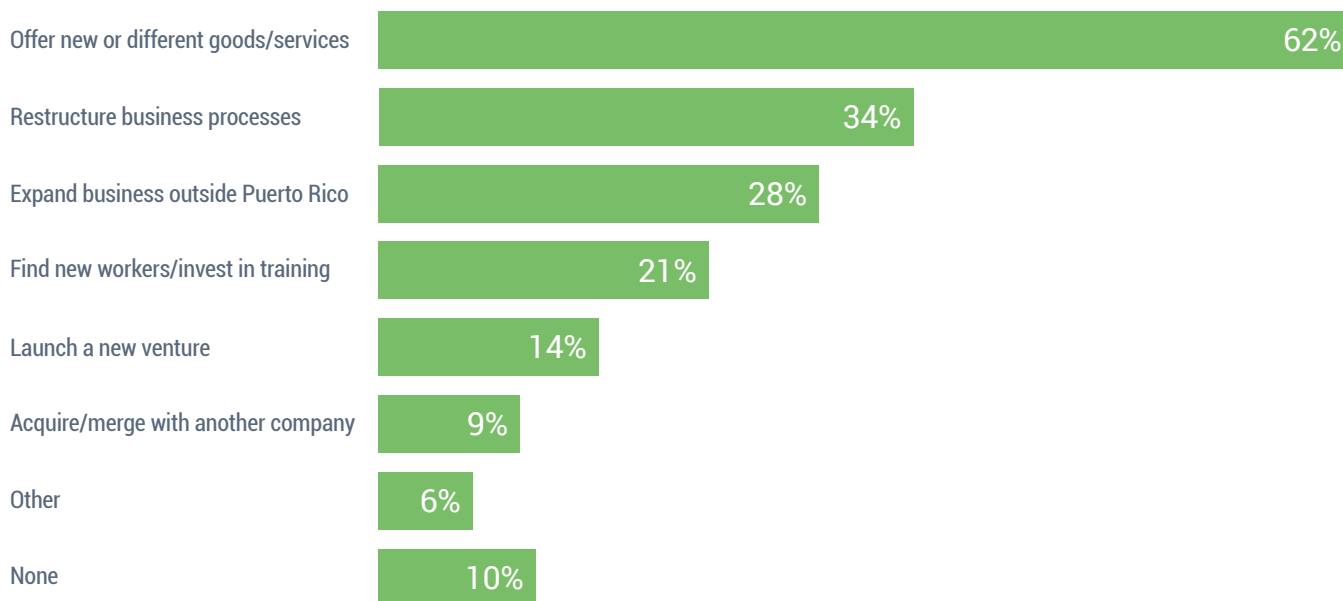
62% of affected firms plan to update their offerings, with new or different goods or services in 2018.

Another **28%** plan to expand their business outside Puerto Rico.

34% plan to restructure their business processes.

OPPORTUNITIES BEING ACTIVELY PURSUED FOR 2018¹

(% of firms with losses), N=294



¹ Respondents could select multiple options.

ACKNOWLEDGMENTS

We wish to thank the many individuals in Puerto Rico who helped make the Puerto Rico Small Business Survey a reality. They generously shared their time and expertise to sharpen the focus on local needs, and helped recruit respondents from their membership, whom without, this survey would not have been possible. The conversations allowed us to deepen our knowledge of the island; make new friends and partners; and better understand the challenges being faced by the business community. That said, in no way do these individuals or their organizations bear responsibility for any remaining shortcomings.

We particularly wish to thank the following people and their organizations for valuable input into the survey questionnaire and assistance in recruiting respondents from their membership:

Banco de Desarrollo Económico para Puerto Rico

- Luis Burdiel Agudo, President
- Nelly J. Colón Ortiz, Executive Vice President
- Eric J. Boneta Marrero, Manager of New Business

Cámara de Comercio de Puerto Rico

- Kenneth Rivera-Robles, President and Chairman of the Board
- Alicia Lamboy-Mombille Esq., past-President
- David A. Rodríguez-Ortiz, past-President

Colegio de Contadores Públicos Autorizados de Puerto Rico

- CPA Cecilia Colón Ouslán, President
- CPA Edna Jimenez, Executive Director
- CPA Luis A. Zayas Garcia, past-President

LenDreams

- Giovanna Piovanetti, President

Parallel18

- Sebastian Vidal, Executive Director

Pathstone Enterprise Center

- Javier Zapata, Deputy Director

Puerto Rico Industrial Development Company

- Eng. Manual Laboy Rivera, Executive Director

Puerto Rico Science, Technology, and Research Trust

- Lucy Crespo, CEO
- Denisse Rodríguez Colón, Colmena66 Director and Executive Advisor to the CEO

We also thank our colleagues at the Federal Reserve Bank of New York who are members of the Puerto Rico Working Group for their input, especially Jason Bram, Research Officer; and we thank Namrata Kalola for creating the design, graphics, and layout of the volume. An e-version of this volume is available at www.nyfed.org/puertorico.

ABOUT THE SURVEY

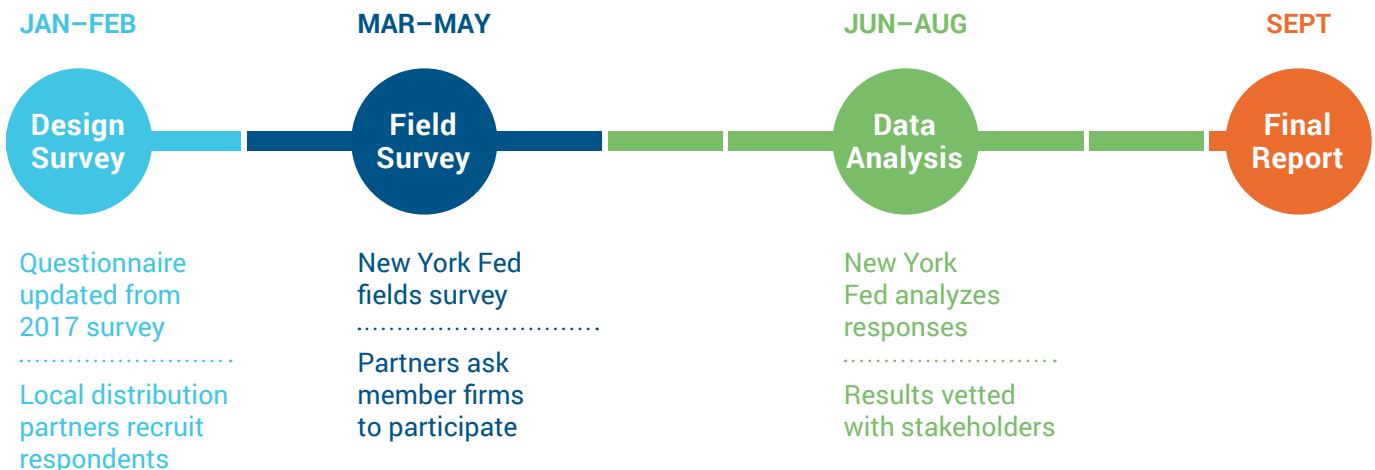
Overview

The Puerto Rico Small Business Survey (PRSBS) is an annual survey of firms in Puerto Rico with fewer than 500 employees. The survey is designed to provide new and timely data that will fill knowledge gaps, most likely on the formal economy, given our distribution process. Respondents are asked to report information about their business performance and financing needs and choices. The survey is administered online and generally takes respondents less than 10 minutes to complete. The PRSBS is not a random sample, so the data are weighted to reflect the small business population in Puerto Rico. Still, results should be analyzed with awareness of potential

biases that are associated with convenience samples. For detailed information about the weighting methodology, please see the [About the Data](#) section.

The unique aspect of the Puerto Rico Small Business Survey is that it is a volunteer effort. The New York Fed fields the survey and undertakes the data analysis. But local organizations—our network of distribution partners—circulate the survey to their membership and encourage members to participate by filling out the questionnaire. Without them, this survey would not be possible. See [Acknowledgments](#) for a list of our 2018 partners.

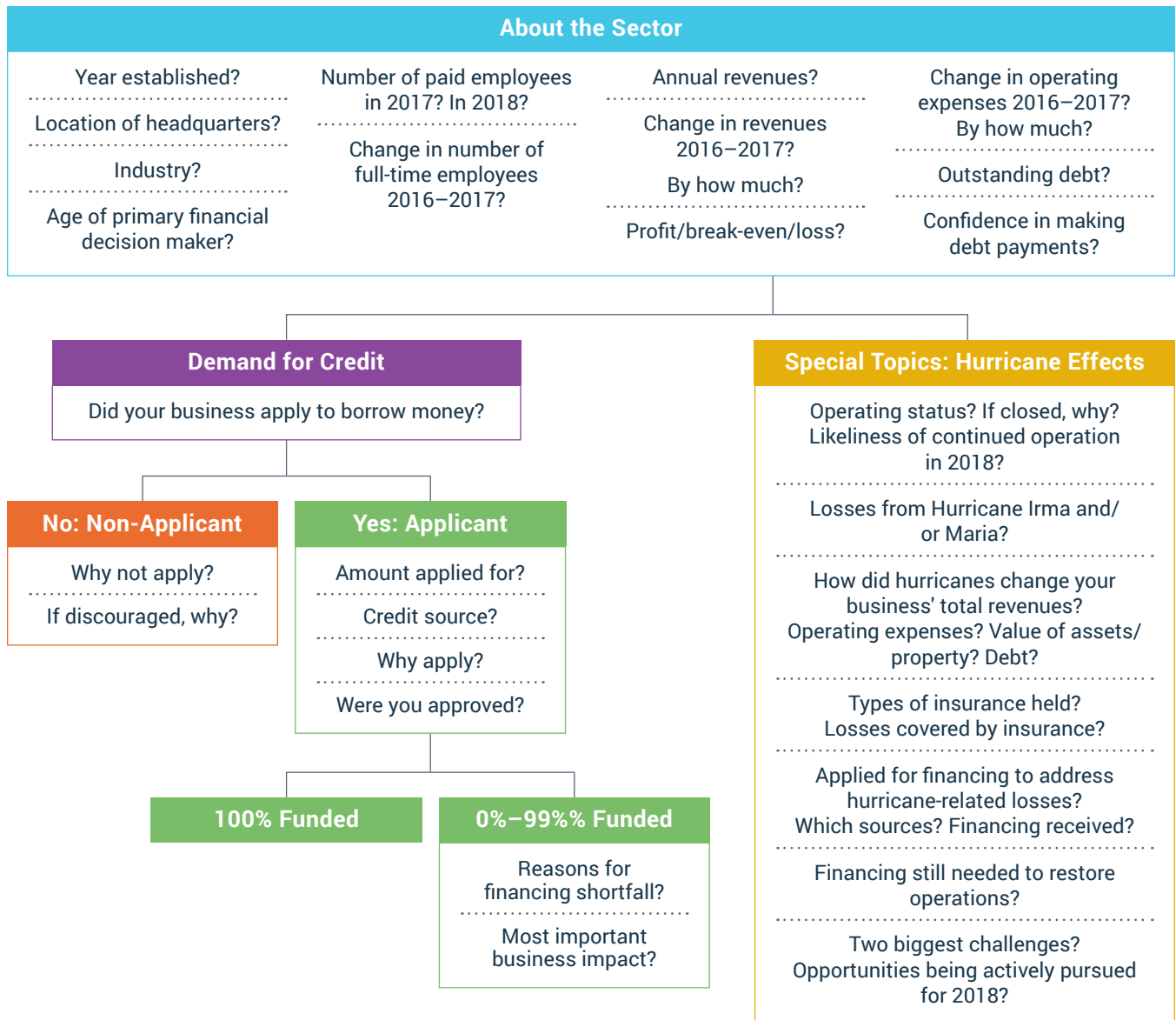
SURVEY PROCESS



ABOUT THE SURVEY (CONTINUED)

Architecture of Survey Questions

The survey questionnaire focused on three broad areas: information about the respondents; demand for credit; and a special topics section addressing the impacts of the 2017 hurricanes. See the [2018 Survey Questionnaire](#) for specific questions.



ABOUT THE DATA

The Puerto Rico Small Business Survey (PRSBS) is modeled after the Federal Reserve Banks' Small Business Credit Survey for the U.S. mainland,¹ and is customized to address local issues and interests in the Commonwealth. See [About the Survey](#) for details.

Data Collection

The survey is a voluntary collaboration that results in a convenience sample of business establishments with fewer than 500 employees. The New York Fed fields the survey and undertakes the data analysis. Puerto Rican organizations—our network of distribution partners (see [Acknowledgments](#) for the list)—distribute the survey to their members and ask them to participate. The New York Fed may also contact businesses directly through publicly available email lists. The survey is conducted online and the number of responses varies according to the number of firms that receive and complete a particular question. 407 firms responded to the survey, which was fielded between March 2018 and May 2018.

Data Weighting

To control for biases and to ensure the survey closely matches the distribution of the small business population in Puerto Rico, we weight the survey responses on four dimensions: industry, employment size, age of firm, and geographic location of establishments. As with all surveys, there may remain some degree of selection, recall, and non-response bias. Moreover, the 2018 survey results are likely

subject to survivor bias to a greater extent, since the experiences of firms that went out of business following the 2017 hurricanes are not systematically included in the survey. As a result, the results likely understate the adverse impact of the hurricanes on the sector, though it is unclear by how much. Instead, these results should be interpreted to reflect the experiences of firms currently operating in Puerto Rico.

The Federal Reserve Bank of New York collaborated with the National Opinion Research Center (NORC), a nationally recognized survey organization, to create the weighting methodology. For the 2018 survey, the weighting data for industry and geography come from the US Census Bureau's County Business Patterns (CBP) Series, 2016. The CBP excludes most government employees, railroad employees, and self-employed persons. Weighting data for employment size come from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW), 2017Q1, and data for firm age come from the Bureau of Labor Statistics' Business Employment Dynamics (BED), 2017Q1.² Because age of small firms (fewer than 500 employees) data are not currently available, the BED data used for weighting represent all private sector establishments in Puerto Rico. Although not optimal, we do not anticipate a deleterious effect from including the large firms, as we estimate they account for 0.3% of all Puerto Rican private sector establishments.³ All other weighting variables are specific to the small firm population in Puerto Rico.

¹ See www.fedsmallbusiness.org/survey.

² All survey years use the same data sources for weighting variables. All efforts are made to use weighting data from the same year in which respondents were asked to reflect. However, when this data is not available, we use the most recently published data. For example, because the 2017 CBP is not yet available, the 2018 survey data (reflecting on 2017 business information) use industry and geography data from the 2016 CBP for weighting.

³ Using data from the Bureau of Labor Statistics' QCEW, we estimate the share of large firms (500+ employees) was 0.31% in 2015, 0.34% in 2016, and 0.32% in 2017.

ABOUT THE DATA (CONTINUED)

In order to provide the most accurate time-series comparisons, we have applied a time-consistent weighting approach to the data from previous surveys. For the 2017 survey data (reflecting on 2016 business information) presented in the 2017 Puerto Rico Small Business Survey Report, the weighting data for industry and geography were based on 2015 CBP data. Because 2016 CBP data are now available, we have updated our weighting scheme to more closely reflect the time in which respondents were asked to reflect. We provide new estimates of the 2017 survey data where time-series comparisons are possible and appropriate. The weighting scheme for the 2016 survey data (reflecting on 2015 business information) was updated in 2017 (reflected in the 2017 report)⁴ and did not change again this year.

Data for both survey years are weighted using the following categories:

- For the industry weights, respondents are sorted into one of three general categories: Agriculture, Manufacturing, and Trades (NAICS: 11, 23, 31-33, 42, 44-45); Services (NAICS: 51, 52, 53, 54, 55, 61, 62, 71, 72); and Other.
- For the employment size weights, respondents were asked to provide the number of full- and part-time employees, and are sorted into one of three size categories: Fewer than 10, 10 to 49, and 50 to 499 full- and part-time employees.
- For the age weights, respondents were asked to provide the year their business was established, and are sorted into one of three age categories: 0 to 5 years, 6 to 10 years, and 11 or more years.
- For the geographic location weights, respondents were asked to provide a business ZIP code, and are sorted into one of two categories: the greater North Central Metro area, defined as the San Juan municipio and the 22 surrounding municipios (Aguas Buenas, Barranquitas, Bayamón, Caguas, Canóvanas, Carolina, Cataño, Cayey, Cidra, Comerío, Corozal, Dorado, Guaynabo, Gurabo, Loíza, Naranjito, San Juan, San Lorenzo, Toa Alta, Toa Baja, Trujillo Alto, Vega Baja, Vega Alta); and the Rest of Puerto Rico, or the 55 Puerto Rican municipios not included in the North Central Metro area.

As population totals are not consistent across the four weighting dimensions, counts by employment size, age of firm, and geographic location are calibrated to the count by industry. The following charts show how the 2018 survey responses compare, before and after the adjustments.

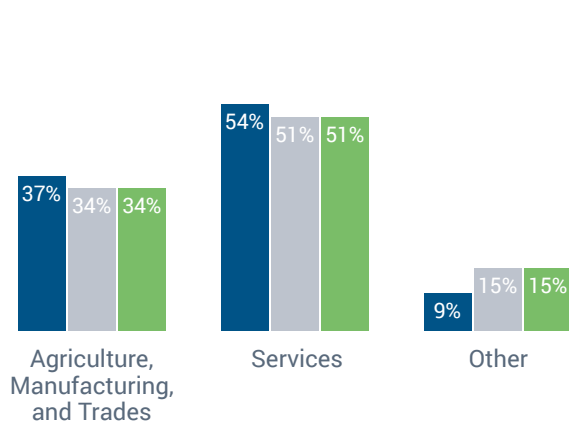
⁴ See the [About the Data](https://www.newyorkfed.org/medialibrary/media/outreach-and-education/puerto-rico/PR_SmallBusinessSurvey_2017_FINAL.pdf) section of the 2017 Puerto Rico Small Business Report at https://www.newyorkfed.org/medialibrary/media/outreach-and-education/puerto-rico/PR_SmallBusinessSurvey_2017_FINAL.pdf.

ABOUT THE DATA (CONTINUED)

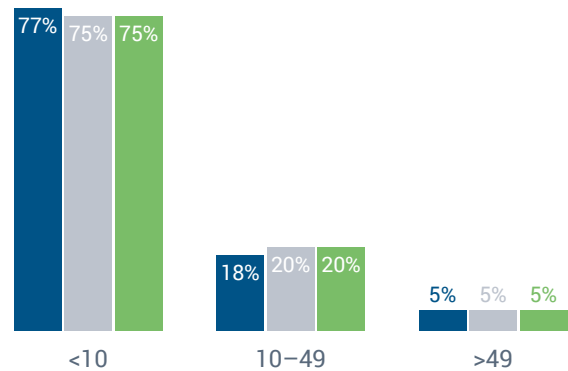
WEIGHT-ADJUSTED 2017 DATA

N=407

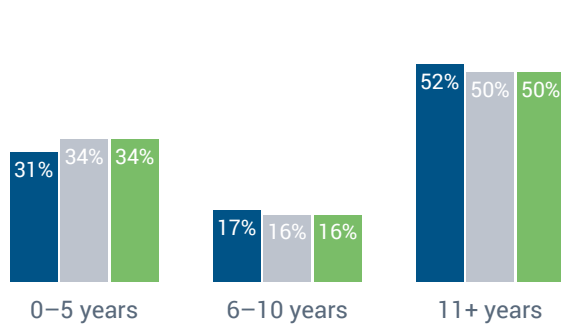
INDUSTRY



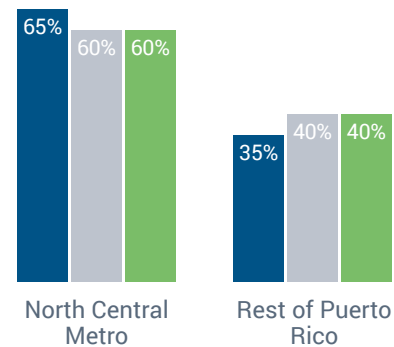
NUMBER OF EMPLOYEES



YEARS IN BUSINESS



GEOGRAPHIC LOCATION



■ Raw Survey Responses ■ Census ■ Adjusted Survey Responses

ABOUT THE DATA (CONTINUED)

Credibility Intervals & Significance

The analysis in this report is aided by the use of credibility intervals. Where there are large differences in estimates between survey years, we perform additional checks on the data to determine whether the difference appears significant. The results of these tests help guide our analysis and help us decide what ultimately is included in the report. In order to determine whether a difference is significant, we develop credibility intervals using a balanced half-sample approach.⁵ Because this survey does not come from a probability-based sample, the credibility intervals we develop should be interpreted as model-based measures of deviation from the true national population values.⁶

Data Presentation & Definitions

The data in this report are presented as whole numbers, rounded based on the first decimal place. For example, a value of 5.49% would be reported as 5%, whereas a value of 5.51% would be reported as 6%. As a result, the rounded values will, in some cases, not sum exactly to 100%. When this occurs, we scale up or down the number with a decimal place nearest to 0.5 so that the shares of each answer choice sum to 100%. For example, respondents may be distributed within one variable as follows: 15.49% select Option A, 30.21% select Option B, and 54.30% select Option C. The sum of the rounded whole numbers is 99%, even though the actual percentages sum to 100%. In this case, 15.49% would be scaled up to 16% (instead of rounded down to 15%) be-

cause its decimal place is the closest to 0.5. When respondents are asked to select all options that apply, such an adjustment is not made.

Micro-revenue firm: A firm with \$250,000 or less in annual revenues.

Number of employees: The sum of full-time employees plus part-time employees.

Change in operating expenses: The increase, decrease, or lack thereof in a firm's operating expenses in the year in question relative to the prior year.

Revenue change: The increase, decrease, or lack thereof in a firm's revenue in the year in question relative to the prior year.

Applicant: A firm that applied for any type of credit in the year in question.

Credit approvals: The share of applicants that received at least some of the credit applied for.

Non-applicant: A firm that did not apply for any type of credit in the year in question.

Discouraged borrower: A firm that did not apply for any type of credit in the year in question because the prospective applicant did not think the application would be approved.

Firm with hurricane losses: A firm that reported losses from Hurricanes Irma and/or Maria.

⁵ Wolter (2007). "Introduction to Variance Estimation."

⁶ AAPOR (2013). "Task Force on Non-probability Sampling."

SURVEY QUESTIONNAIRE

The Puerto Rico Small Business Survey asks about your firm's business conditions and financing experiences **in 2017**, as well as business impacts suffered from Hurricanes Irma and Maria. The questions are best answered by the **business owner or a key decision maker**. The survey takes approximately 10 minutes to complete.

The survey is conducted by the Federal Reserve Bank of New York, working in collaboration with local business and civic groups. Your survey responses will be anonymous. The answers you provide will be combined with other responses to this survey and used to support research on Puerto Rican small businesses. This anonymous survey data may be shared with third parties for research purposes.

By taking this survey, you agree to these uses.

Section 1: General Questions about Your Business

We would like to start with some general questions about your business, sales, and employees as of December 31, 2017. Please include the impact of the hurricanes in your answers to the best of your ability. There will also be special section on hurricane damages later in the survey.

1. Which ZIP code is your headquarters located in? _____

2. In what year was your business established? _____

3. Which of the following **BEST** describes your business's primary activity?

- a. Retail trade
- b. Healthcare and social services
- c. Accommodation and food services (for example: hotels and restaurants)
- d. Wholesale trade
- e. Construction
- f. Manufacturing
- g. All other industries
- h. Unsure

Ask if "Which of the following BEST describes your business' primary activity?" All other industries or Unsure is selected:

4. Do any of the following best describe your business activities?

- a. Real estate & rental
- b. Agriculture, forestry, hunting, fishing
- c. Arts, entertainment, and recreation
- d. Information services (for example: publishing, video, telecommunications, data processing)
- e. Professional services (for example: legal, accounting, engineering, finance and insurance)
- f. Business operations (for example: facilities support & landscaping, security, employment services, waste collection & disposal)
- g. All other

5. Regardless of your answer to the previous question, please describe what your business does in your own words (for example: barbershop, law firm, insurance agency, construction, etc.):

Continued...

Survey was fielded exclusively in Spanish.

SURVEY QUESTIONNAIRE (CONTINUED)

6. How old is the primary decision maker of the business?

- a. Under 25
- b. 25-35
- c. 36-45
- d. 46-55
- e. 56-65
- f. Over 65

7. As of December 31, 2017, was your business operating?

- a. Yes
- b. No, business was temporarily closed
- c. No, business was permanently closed

Ask if “As of December 31, 2017, was your business operating?” Temporarily closed or Permanently closed is selected:

8. Why was your business closed? Check all that apply.

- a. Structural damage to business
- b. Lack of power, water, or transportation
- c. Lack of employees
- d. Lack of suppliers
- e. Lack of customers
- f. Waiting for financing
- g. Other. Please specify: _____

Ask if “As of December 31, 2017, was your business operating?” Yes or Temporarily closed is selected:

9. How likely is your business to continue operating for the rest of 2018?

- a. Very likely
- b. Somewhat likely
- c. Somewhat unlikely
- d. Very unlikely

10. As of December 31, 2017, how many people did your business employ, including owners?

Type of employees	Number of employees
Owners	
Non-owner full-time employees (30+ hours per week)	
Non-owner part-time employees (less than 30 hours per week)	
Unsure. Please explain: _____	

11. As of today (2018), how many people does your business currently employ, including owners?

Type of employees	Number of employees
Owners	
Non-owner full-time employees (30+ hours per week)	
Non-owner part-time employees (less than 30 hours per week)	
Unsure. Please explain: _____	

Continued...

Survey was fielded exclusively in Spanish.

SURVEY QUESTIONNAIRE (CONTINUED)

Section 2: Firm Performance in 2017

Now, we would like to ask you some specific questions about your business' experiences in 2017 and how they compare to previous years. Please include the impact of the hurricanes, if any, in your answers.

12. In 2017, approximately what were your business' total revenues?

- a. \$50,000 or less
- b. \$50,001-\$250,000
- c. \$250,001-\$500,000
- d. \$500,001-\$1,000,000
- e. \$1,000,001-\$5,000,000
- f. More than \$5,000,000

13. From 2016 to 2017, how did your revenues change?

- a. Increased
- b. No change
- c. Decreased

Ask if "From 2016 to 2017, how did your revenues change?" Increased or Decreased is selected:

14. From 2016 to 2017, by how much did your revenues increase/decrease?

- a. Less than 6%
- b. 6%-10%
- c. 11%-20%
- d. 21%-30%
- e. More than 30%

15. From 2016 to 2017, how did your operating expenses change?

- a. Increased
- b. No change
- c. Decreased

Ask if "From 2016 to 2017, how did your operating expenses change?" Increased or Decreased is selected:

16. From 2016 to 2017, by how much did your operating expenses increase/decrease?

- a. Less than 6%
- b. 6%-10%
- c. 11%-20%
- d. 21%-30%
- e. More than 30%

17. From 2016 to 2017, how did the number of non-owner full-time employees change?

- a. Increased
- b. No change
- c. Decreased

Continued...

Survey was fielded exclusively in Spanish.

SURVEY QUESTIONNAIRE (CONTINUED)

18. From 2016 to 2017, did your business make a profit or have a loss?

- a. Profits
- b. Broke even
- c. Losses
- d. Unsure or decline to answer

Section 3: Firm Credit Needs in 2017

Businesses often need credit to cover expenses or to make investments. We would like to ask you about your experiences with credit in 2017. Even if you did not apply for any credit, please answer all of the questions.

19. In 2017, did your business APPLY to borrow money?

- a. Yes
- b. No

If "In 2017, did your business APPLY to borrow money?" No is selected, go to Section 5.

20. In 2017, from which of the following sources did your business apply for credit? Check all that apply.

- a. Bank
- b. Credit union (Cooperativa)
- c. Government entity
- d. Online lender (for example: Kiva, 1st Global Capital, One Park Financial)
- e. Friends and/or family
- f. CDFI (community development financial institution)
- g. Other (for example: title loan, pawnshop). Please specify: _____

21. In 2017, how much TOTAL financing, from all sources, did your firm APPLY for?

- a. \$10,000 or less
- b. \$10,001-\$25,000
- c. \$25,001-\$100,000
- d. \$100,001-\$250,000
- e. \$250,001-\$1,000,000
- f. \$1,000,001-\$5,000,000
- g. More than \$5,000,000

22. Of the total dollar amount of financing that your firm applied for, what percentage was approved in 2017?

- a. All (100%)
- b. More than half (51%-99%)
- c. Half or less than half (1%-50%)
- d. None (0%)

23. What was the PRIMARY PURPOSE for your firm seeking credit in 2017?

- a. Meet operating expenses (including hurricane disruption)
- b. Expand business (for example: new products or services, new location, upgrade equipment, etc.)
- c. Refinance or pay down debt
- d. Start a new business
- e. Repair hurricane damage
- f. Other. Please specify: _____

Continued...

Survey was fielded exclusively in Spanish.

SURVEY QUESTIONNAIRE (CONTINUED)

If “Of the total dollar amount of financing that your firm applied for, what percentage was approved in 2017?” More than half, Half or less than half, or None is selected, go to Section 4. If All is selected, go to Section 6.

Section 4: Less than 100% of Credit Approved

24. As of December 31, 2017, what was the MOST important business impact, if any, of not receiving the full amount of financing for which your business applied?

- Downsized business operations (for example: cut staff, reduced products and services, reduced commercial space, etc.)
- Delayed or passed on a business opportunity (for example: new products or services, new location, purchase of equipment)
- Funded business from personal sources, friends and/or family, pawnshops, high cost lenders, etc.
- No significant impact

25. As of December 31, 2017, what were the MOST likely reasons your business did not receive 100% of the financing applied for? Check all that apply.

- Low credit score
- Insufficient credit history
- Insufficient collateral
- Inadequate documentation
- Type of industry
- Weak business performance (for example: uneven cash flow, poor revenue)
- Unsure

Go to Section 6.

Section 5: Firms that Did Not Apply for Credit in 2017

26. What was the PRIMARY reason your business DID NOT apply for credit in 2017?

- Not needed; had sufficient funding
- Did not think application would be approved
- Did not want to accrue debt
- Credit cost was too high
- Loan search/application process was too difficult or confusing
- Other. Please specify: _____

Ask if “What was the PRIMARY reason your business DID NOT apply for credit in 2017?” Did not think application would be approved is selected:

27. What is the most likely reason that your credit application would not be approved?

- Low credit score
- Insufficient credit history
- Insufficient collateral
- Inadequate documentation
- Type of industry
- Weak business performance (for example: uneven cash flow, poor revenue)
- Unsure

Continued...

Survey was fielded exclusively in Spanish.

SURVEY QUESTIONNAIRE (CONTINUED)

Section 6: Existing Debt

28. Does your business currently have debt outstanding (for example: loans, credit card balances, trade credits)?

- a. Yes
- b. No

Ask if "Does your business currently have debt?" Yes is selected:

29. How confident are you that your business can make scheduled payments on this debt in 2018?

- a. Very confident
- b. Somewhat confident
- c. Somewhat unconfident
- d. Very unconfident
- e. N/A

Section 7: Special Topics

We would now like to ask you about the effects of Hurricanes Irma and/or Maria on your business. Please respond based on the current status of your business in 2018.

30. Did your business suffer any hurricane-related losses as a result of Hurricanes Irma and/or Maria?

- a. Yes
- b. No

31. How did the hurricanes change the following for your business in 2018 so far?

	Decreased	No Change	Increased
Total revenues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operating expenses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value of assets/property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Debt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If "Did your business suffer any hurricane-related losses as a result of Hurricanes Irma and/or Maria?" No is selected, go to "Which opportunities, if any, is your business actively pursuing for 2018?"

32. What are your TWO biggest business challenges so far, as a result of the hurricanes?

Check no more than two challenges.

- a. Collecting on accounts receivable
- b. Finding or retaining qualified workers and/or managers
- c. Complying with government regulations
- d. Accessing credit for your business
- e. Dealing with supply chain interruption
- f. Dealing with limited electricity
- g. Finding or retaining customers
- h. Other. Please specify: _____

Continued...

Survey was fielded exclusively in Spanish.

SURVEY QUESTIONNAIRE (CONTINUED)

33. Which types of insurance, if any, did your business have to help cover hurricane-related costs?

Check all that apply.

- a. Property insurance
- b. Flood insurance
- c. Wind insurance
- d. Business disruption insurance
- e. Other. Please specify: _____
- f. No insurance

Ask if "Which types of insurance did your business have to help cover hurricane-related costs?"

No insurance is not selected:

34. Were your business' losses covered by insurance?

- a. Yes, fully covered
- b. Yes, partially covered
- c. No, not covered
- d. Claim(s) pending
- e. Did not file a claim

35. Has your business applied for financing, other than insurance, to address the hurricane-related losses?

- a. Yes
- b. No

Ask if "Has your business applied for financing to address the hurricane-related losses?" Yes is selected:

36. From which sources did your business seek financing to address the hurricane-related losses?

Check all that apply.

- a. Bank
- b. Credit union (Cooperativa)
- c. Government entity (including FEMA, SBA)
- d. Online lender (for example: Kiva, 1st Global Capital, One Park Financial)
- e. Friends and/or family
- f. Personal savings
- g. CDFI
- h. Other. Please specify: _____

Ask if "Has your business applied for financing to address the hurricane related losses?" Yes is selected:

37. How much of the financing requested to address hurricane-related losses did your business receive?

- a. All (100%)
- b. Most (51%-99%)
- c. Some (1%-50%)
- d. None (0%)
- e. Pending

Continued...

Survey was fielded exclusively in Spanish.

SURVEY QUESTIONNAIRE (CONTINUED)

Ask if "Has your business applied for financing to address the hurricane related losses?" Yes is selected:

38. How much financing does your business still need to restore operations?

- a. \$1,000 or less
- b. \$1,001-\$5,000
- c. \$5,001-\$10,000
- d. \$10,001-\$50,000
- e. \$50,001-\$100,000
- f. \$100,001-\$250,000
- g. More than \$250,000
- h. None

39. Which opportunities, if any, is your business actively pursuing for 2018? Check all that apply.

- a. Offer new or different goods/services
- b. Acquire/merge with another company
- c. Find new workers/invest in training
- d. Launch a new venture
- e. Restructure business process (including new technology, payment systems)
- f. Expand business outside Puerto Rico
- g. Other. Please specify: _____
- h. None

40. We understand there are lingering effects to business operations from the hurricanes. Please describe how your business has adapted to post-storm conditions and describe any changes you have made to your business, as well as any remaining challenges:

41. Business name: _____

42. Email address (used only for survey-related purposes): _____

On behalf of the Federal Reserve Bank of New York, thank you for taking this survey. Please visit the New York Fed website at nyfed.org/puertorico to see how we are using the information.