

SBU

# Survey of Business Uncertainty



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Stanford  
University

July 2022

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Kevin Foster, Brent H. Meyer, and Emil Mihaylov

The logo for the Survey of Business Uncertainty (SBU) features the letters "SBU" in a bold, blue, serif font, enclosed within a white rectangular border.

# Survey of Business Uncertainty



FEDERAL RESERVE BANK *of* ATLANTA



Stanford  
University

## About the Survey

The Survey of Business Uncertainty (SBU) is fielded by the Federal Reserve Bank of Atlanta. It was designed, tested, and refined in cooperation with Nick Bloom of Stanford University and Steven Davis of the Chicago Booth School of Business and the Hoover Institution. Bloom and Davis received research support from the Sloan Foundation and the U.S. National Science Foundation. Davis also received research support from Chicago Booth.

Our monthly Survey of Business Uncertainty (SBU) goes to about 1,300 panel members (as of August 2021), who occupy senior finance and managerial positions at U.S. firms. We contact panel members each month by email, and they respond via a web-based instrument.

Survey questions pertain to current, past, and future outcomes at the respondent's firm. Our primary objective is to elicit the respondent's subjective probability distributions over own-firm future sales growth rates and employment levels.

For more information on survey design and methodology please refer to the resources on the [SBU page](#).

# Computing Moments of the Firm-Level Subjective Probability Distributions

- We calculate first and second moments of the subjective growth rate distributions of employment and sales revenue over the next 12 months or four quarters, as appropriate. Following standard practice in the literature on business-level dynamics, we calculate the growth rate of  $x$  from  $t-1$  to  $t$  as  $g_t = 2(x_t - x_{t-1}) / (x_t + x_{t-1})$ .\*

## Employment

$CEmp$  = firm's current employment level, as reported by the respondent

$FEmp_i$  = employment 12 months hence,  $i = 1, 2, 3, 4, 5$

$p_i$  = the associated probabilities,  $i = 1, 2, 3, 4, 5$

## Scenario-Specific Growth Rates

$$EGr_i = 2(FEmp_i - CEmp) / (FEmp_i + CEmp), i = 1, 2, 3, 4, 5$$

## First and Second Moments of the Subjective Growth Rate Distribution

$$Mean(EGr) = \sum_{i=1}^5 p_i EGr_i$$

$$Var(EGr) = \sum_{i=1}^5 p_i (EGr_i - Mean(EGr))^2$$

$$SD(EGr) = \sqrt{Var(EGr)}$$

## Sales Revenue

$CSale$  = firm's sales revenue in the current quarter, as reported by the respondent

$FSaleGr_i$  = respondent's scenario-specific sales growth rate from now to four quarters hence,  $i = 1, 2, 3, 4, 5$

$p_i$  = the associated probabilities,  $i = 1, 2, 3, 4, 5$

## Implied Future Sales Level

$$FSale_i = \left(1 + \frac{FSaleGr_i}{100}\right) CSale, i = 1, 2, 3, 4, 5$$

## Scenario-Specific Growth Rates (re-expressing respondent growth rates to our growth rate measure)

$$SaleGr_i = 2(FSale_i - CSale) / (FSale_i + CSale) = 2FSaleGr_i / (FSaleGr_i + 2), i = 1, 2, 3, 4, 5$$

## First and Second Moments of the Subjective Growth Rate Distribution

$$Mean(SaleGr) = \sum_{i=1}^5 p_i SaleGr_i$$

$$Var(SaleGr) = \sum_{i=1}^5 p_i (SaleGr_i - Mean(SaleGr))^2$$

$$SD(SaleGr) = \sqrt{Var(SaleGr)}$$

# Subjective Expectations and Uncertainty Indices

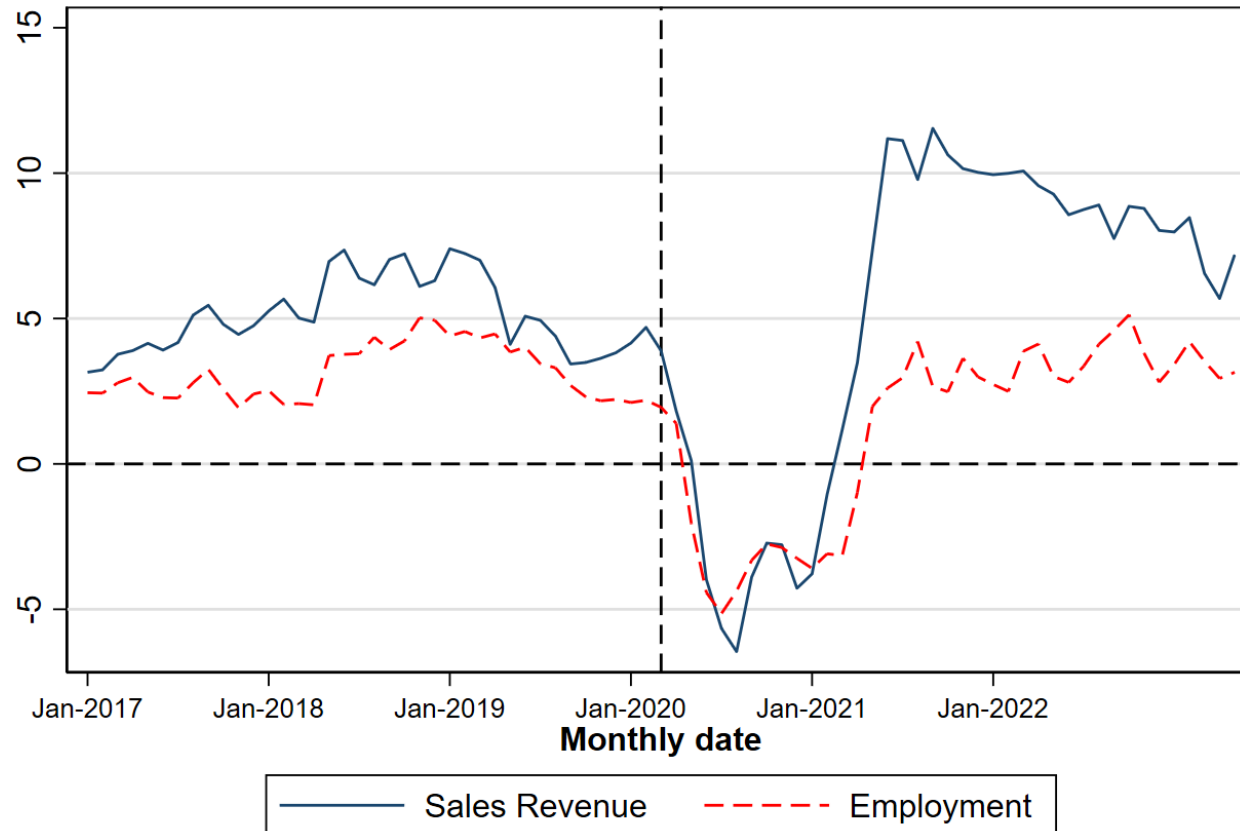
We construct a monthly activity-weighted expectations (first-moment) index for employment growth and sales growth looking one year ahead. We also construct a monthly activity-weighted uncertainty (second-moment) index for the employment growth and sales growth looking one year ahead.

- In month  $t$ , the index for employment (sales) takes a value equal to the activity-weighted average of subjective mean employment (sales) growth rates looking one year hence (  $Mean(Gr)$  ), averaging across all firms responding that month. We compute these subjective mean growth rates as described on slide 2, and winsorize them at the first and 99th percentiles before using them to construct the index.
- The month- $t$  index of year-ahead subjective uncertainty for employment (sales) growth is the activity-weighted mean of (  $SD(Gr)$  ) values across firms responding in month  $t$ . We compute these subjective standard deviations over growth rates as described on slide 2, and winsorize them at the first and 99th percentiles before inputting them into the index construction formula.
- For employment in month  $t$ , we weight firm  $i$ 's subjective mean growth rate expectation and uncertainty by the average of its month- $t$  employment (  $CEmp_{it}$  ) and its expected employment level (  $EEmp_{it}$  ). We top-code these weights at 500 to diminish the influence of outliers among very large firms.
- For sales revenue in month  $t$ , we weight firms  $i$ 's subjective mean growth rate expectation and uncertainty by the average of its month- $t$  sales revenue (  $CSale_{it}$  ) and its expected sales level (  $ESale_{it}$  ). We winsorize these activity-weights at the 1<sup>st</sup> and 80<sup>th</sup> percentile.
- Finally, we smooth our topic-specific indices by taking a moving average. We set the window for the moving average to match the panel structure of our survey. While we have tried in the past to pool responses together over the same periods, this practice does not produce meaningfully different results than the smoothing procedure.

# Survey of Business Uncertainty: Realized Growth Rates over the Past Year

## Survey of Business Uncertainty (January 2017–July 2022)

### Realized Growth Rates over the Past Year



NOTE: Calculated using monthly data through July 2022. Realized growth rate series for sales revenue and employment are activity-weighted averages of firms' reported (look-back) growth rates over the past year (specifically, the previous four quarters for sales revenue and previous 12 months for employment).

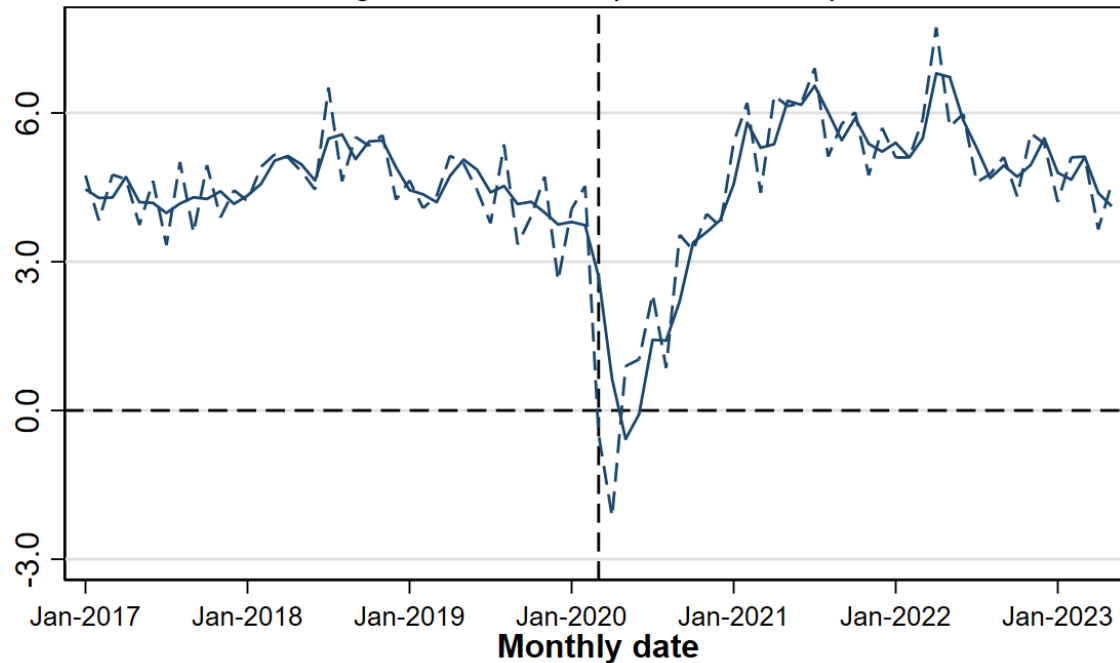
Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business. For more information, see "[Surveying Business Uncertainty](#)" by David Altig, Jose Maria Barrero, Nick Bloom, Steven J. Davis, Brent Meyer, and Nick Parker, NBER Working Paper No. 25956, February 2020.

# Survey of Business Uncertainty: Sales Revenue Growth Rate Expectations and Uncertainty

## Survey of Business Uncertainty (January 2017–July 2022)

### Year-Ahead Sales Growth Rate Expectations

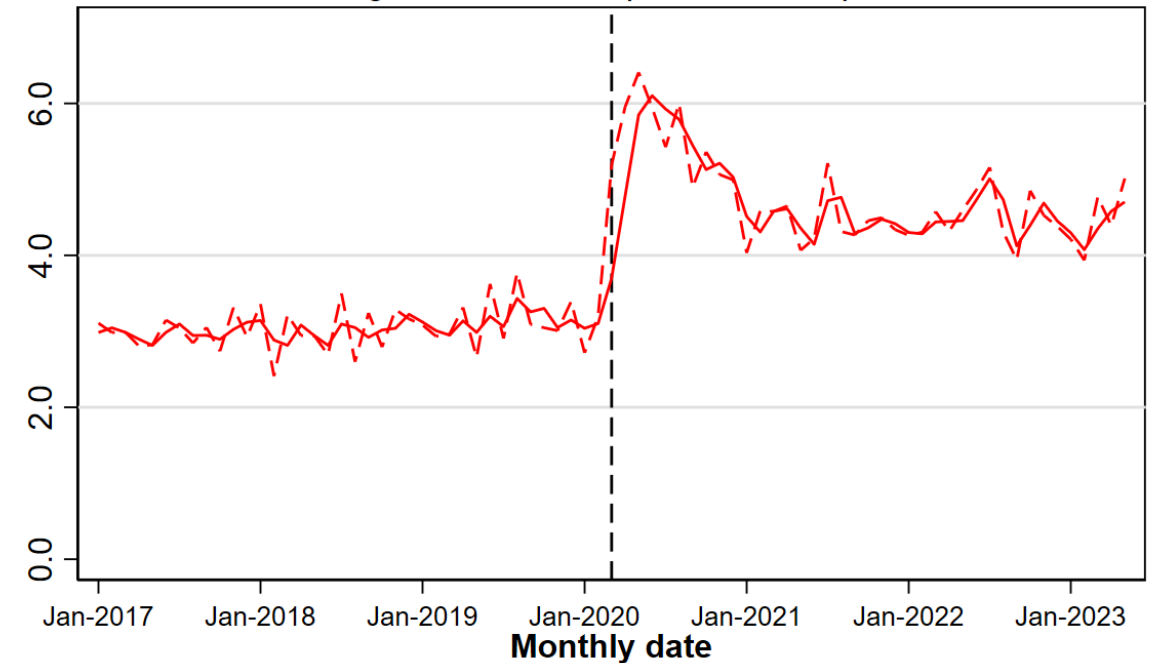
Percent changes from current quarter to four quarters hence



--- Sales Growth (unsmoothed)  
— Sales Growth (smoothed)

### Year-Ahead Uncertainty about Sales Growth Rates

Percent changes from current quarter to four quarters hence



--- Sales Uncertainty (unsmoothed)  
— Sales Uncertainty (smoothed)

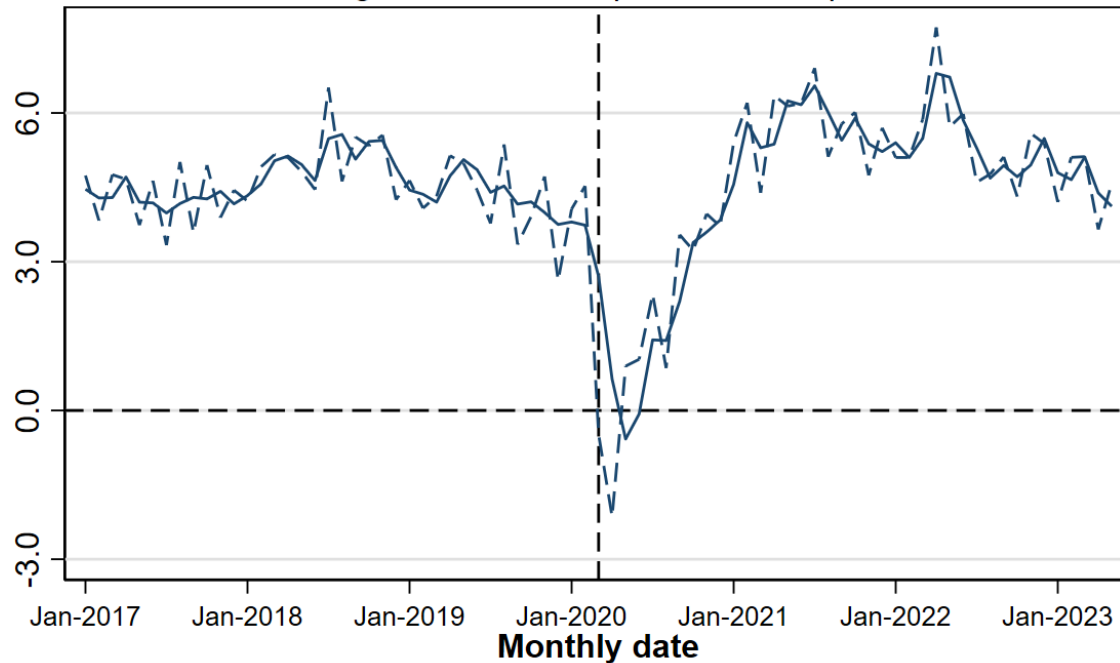
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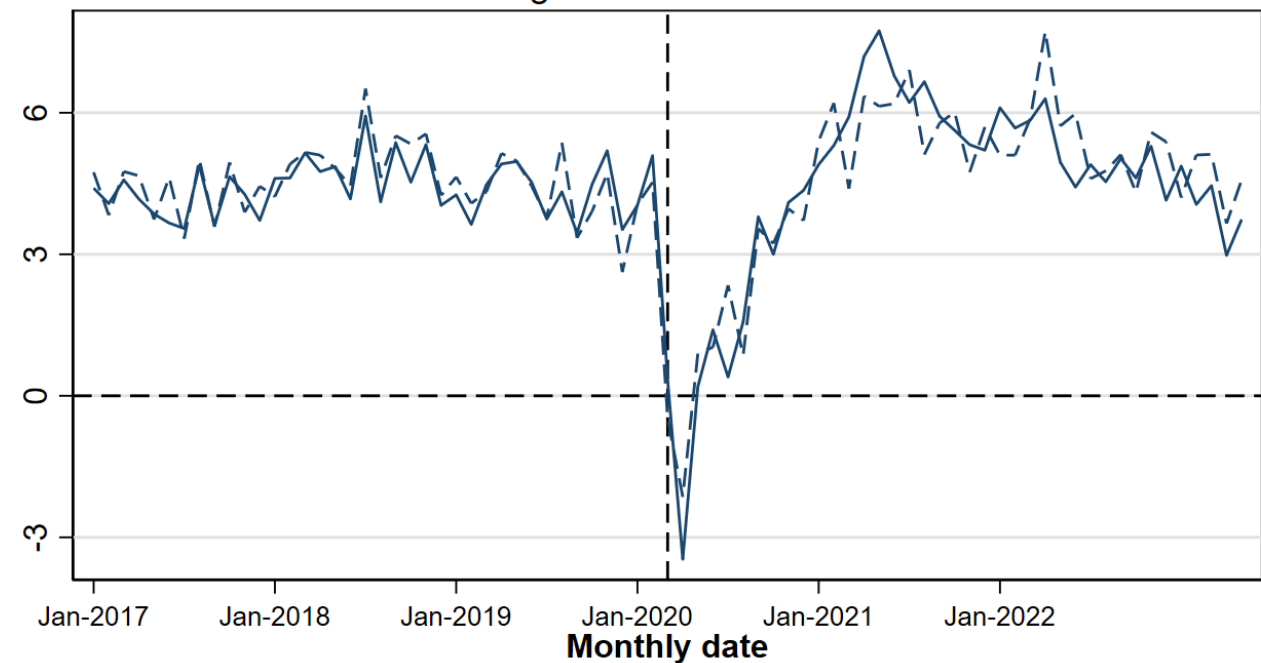
Percent changes from current quarter to four quarters hence



----- Sales Growth (unsmoothed)  
—— Sales Growth (smoothed)

### Sales Growth Expectations

Unweighted and unsmoothed



----- Sales Growth (unsmoothed)  
—— Sales Growth (unweighted)

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business. For more information, see “[Surveying Business Uncertainty](#)” by David Altig, Jose Maria Barrero, Nick Bloom, Steven J. Davis, Brent Meyer, and Nick Parker, NBER Working Paper No. 25956, February 2020.

# Survey of Business Uncertainty: Sales Revenue Growth Rate Expectations and Uncertainty

## *Average sales revenue growth rate expectations and uncertainty*

|   | 2017–2019 |                     |      |                     |      | Mar 2020–Dec 2020 |                     |      |                     |      | 2021–Present |                     |      |                     |      |
|---|-----------|---------------------|------|---------------------|------|-------------------|---------------------|------|---------------------|------|--------------|---------------------|------|---------------------|------|
|   | N         | Average expectation | SE   | Average uncertainty | SE   | N                 | Average Expectation | SE   | Average uncertainty | SE   | N            | Average expectation | SE   | Average uncertainty | SE   |
| Overall   | 5405      | 4.5                 | 0.09 | 3.0                 | 0.04 | 1639              | 1.9                 | 0.26 | 5.4                 | 0.11 | 3642         | 5.7                 | 0.16 | 4.5                 | 0.07 |
| Construction, Real Estate, and Mining and Utilities | 921       | 4.1                 | 0.24 | 3.8                 | 0.12 | 225               | 2.3                 | 0.89 | 6.8                 | 0.33 | 471          | 6.6                 | 0.48 | 5.3                 | 0.17 |
| Manufacturing                                       | 1334      | 5.0                 | 0.21 | 3.4                 | 0.08 | 364               | 1.9                 | 0.50 | 5.7                 | 0.23 | 755          | 4.8                 | 0.40 | 5.2                 | 0.18 |
| Retail and Wholesale Trade                          | 897       | 3.8                 | 0.20 | 2.9                 | 0.08 | 299               | 1.0                 | 0.57 | 6.0                 | 0.30 | 640          | 5.9                 | 0.36 | 4.5                 | 0.15 |
| Business Services                                   | 1563      | 5.4                 | 0.13 | 2.6                 | 0.06 | 587               | 2.7                 | 0.37 | 4.0                 | 0.14 | 1437         | 5.6                 | 0.21 | 3.7                 | 0.09 |
| Other Services                                      | 689       | 3.3                 | 0.17 | 2.1                 | 0.07 | 164               | 0.3                 | 0.93 | 5.2                 | 0.31 | 339          | 5.7                 | 0.44 | 3.7                 | 0.15 |
| <50   | 1240      | 4.5                 | 0.27 | 4.2                 | 0.13 | 732               | 1.8                 | 0.48 | 7.0                 | 0.22 | 1763         | 6.9                 | 0.26 | 5.4                 | 0.11 |
| 50–99   | 903       | 4.4                 | 0.18 | 3.1                 | 0.08 | 251               | 1.7                 | 0.75 | 5.9                 | 0.32 | 569          | 4.9                 | 0.43 | 4.7                 | 0.17 |
| 100–249   | 1502      | 4.2                 | 0.20 | 3.5                 | 0.08 | 358               | 2.6                 | 0.65 | 5.7                 | 0.22 | 709          | 6.7                 | 0.33 | 5.1                 | 0.16 |
| 250+  | 1760      | 4.7                 | 0.13 | 2.7                 | 0.05 | 297               | 1.6                 | 0.47 | 4.8                 | 0.24 | 601          | 5.0                 | 0.37 | 3.9                 | 0.15 |

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business. For more information, see “[Surveying Business Uncertainty](#)” by David Altig, Jose Maria Barrero, Nick Bloom, Steven J. Davis, Brent Meyer, and Nick Parker, NBER Working Paper No. 25956, February 2020.

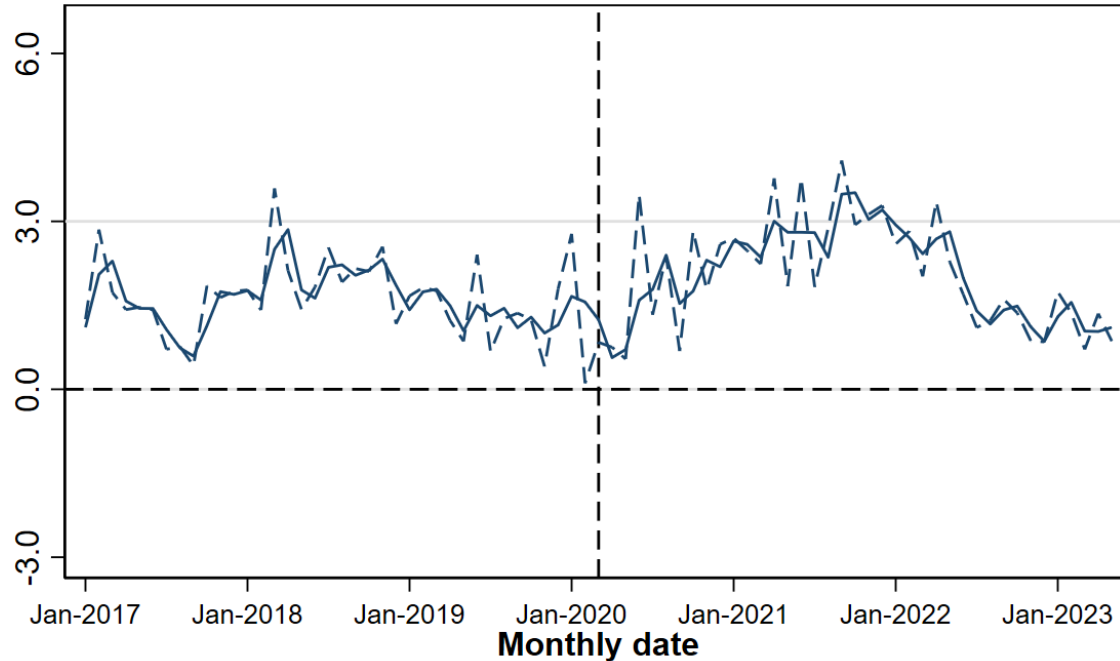


# Survey of Business Uncertainty: Employment Growth Rate Expectations and Uncertainty

## Survey of Business Uncertainty (January 2017–July 2022)

### Year-Ahead Employment Growth Rate Expectations

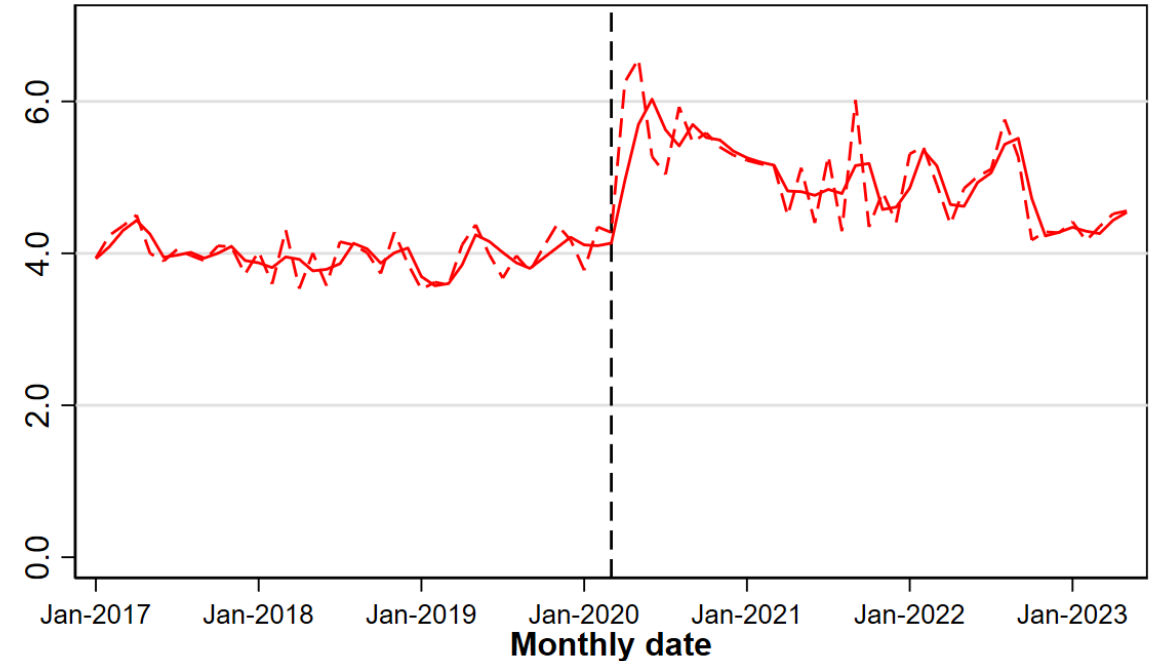
Percent changes from current month to twelve months hence



--- Employment Growth (unsmoothed)  
— Employment Growth (smoothed)

### Year-Ahead Uncertainty about Employment Growth Rates

Percent changes from current month to twelve months hence



--- Employment Uncertainty (unsmoothed)  
— Employment Uncertainty (smoothed)

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business. For more information, see “[Surveying Business Uncertainty](#)” by David Altig, Jose Maria Barrero, Nick Bloom, Steven J. Davis, Brent Meyer, and Nick Parker, NBER Working Paper No. 25956, February 2020.

# Survey of Business Uncertainty: Employment Growth Rate Expectations and Uncertainty

## *Average employment growth rate expectations and uncertainty*

|   | 2017–2019 |                     |      |                     |      | Mar 2020–Dec 2020 |                     |      |                     |      | 2021–Present |                     |      |                     |      |
|---|-----------|---------------------|------|---------------------|------|-------------------|---------------------|------|---------------------|------|--------------|---------------------|------|---------------------|------|
|   | N         | Average expectation | SE   | Average uncertainty | SE   | N                 | Average expectation | SE   | Average uncertainty | SE   | N            | Average expectation | SE   | Average uncertainty | SE   |
| Overall   | 5277      | 1.6                 | 0.09 | 4.0                 | 0.06 | 1728              | 1.8                 | 0.21 | 5.5                 | 0.13 | 3915         | 2.7                 | 0.12 | 4.9                 | 0.08 |
| Construction, Real Estate, and Mining and Utilities | 865       | 1.3                 | 0.28 | 6.6                 | 0.21 | 218               | 2.9                 | 0.81 | 7.5                 | 0.46 | 492          | 2.7                 | 0.45 | 7.3                 | 0.31 |
| Manufacturing                                       | 1324      | 1.4                 | 0.17 | 4.1                 | 0.11 | 377               | 1.0                 | 0.42 | 5.7                 | 0.33 | 763          | 2.8                 | 0.25 | 4.7                 | 0.19 |
| Retail and Wholesale Trade                          | 878       | 0.9                 | 0.20 | 3.7                 | 0.13 | 301               | 2.4                 | 0.51 | 6.1                 | 0.29 | 680          | 2.7                 | 0.31 | 4.8                 | 0.15 |
| Business Services                                   | 1533      | 2.7                 | 0.14 | 3.2                 | 0.08 | 628               | 1.6                 | 0.24 | 4.0                 | 0.16 | 1576         | 2.6                 | 0.15 | 3.9                 | 0.09 |
| Other Services                                      | 676       | 1.0                 | 0.25 | 3.7                 | 0.15 | 204               | 1.5                 | 0.78 | 5.9                 | 0.40 | 404          | 2.5                 | 0.43 | 5.9                 | 0.33 |
| <50   | 1150      | 0.4                 | 0.29 | 7.9                 | 0.25 | 780               | 0.9                 | 0.47 | 9.7                 | 0.33 | 1875         | 1.7                 | 0.25 | 9.2                 | 0.19 |
| 50–99   | 880       | 1.4                 | 0.26 | 5.4                 | 0.17 | 262               | 1.7                 | 0.69 | 7.6                 | 0.51 | 622          | 3.3                 | 0.34 | 6.3                 | 0.22 |
| 100–249   | 1491      | 1.2                 | 0.17 | 4.4                 | 0.11 | 383               | 1.7                 | 0.44 | 6.4                 | 0.33 | 770          | 3.0                 | 0.28 | 5.1                 | 0.17 |
| 250+  | 1756      | 1.8                 | 0.14 | 3.6                 | 0.09 | 303               | 1.9                 | 0.45 | 4.2                 | 0.18 | 648          | 2.6                 | 0.26 | 4.0                 | 0.17 |

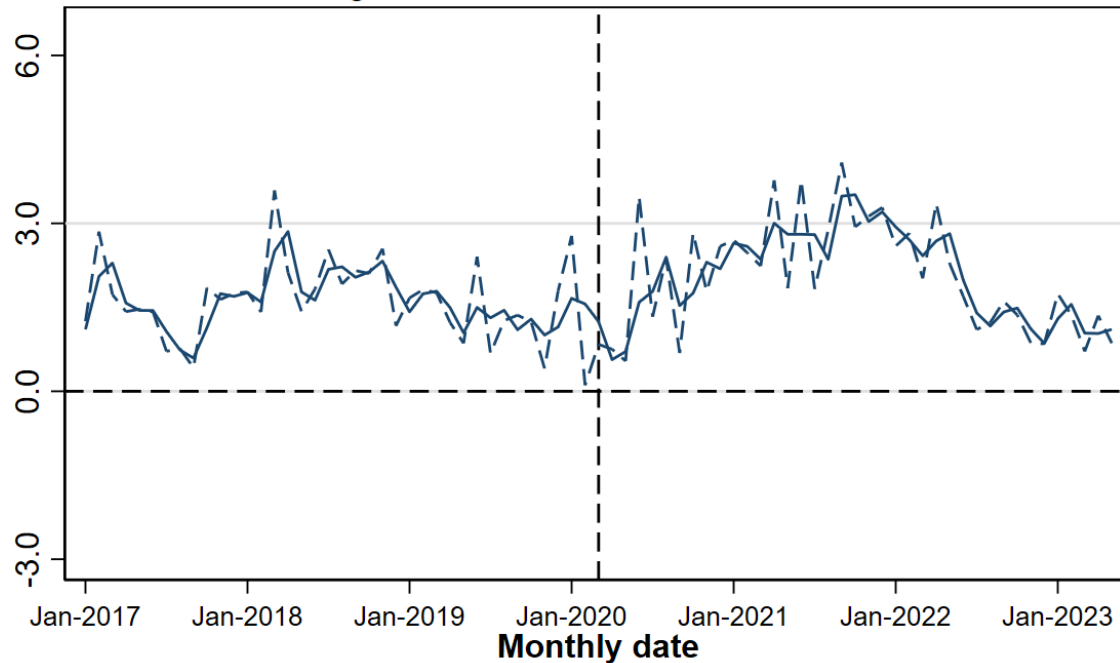
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# Survey of Business Uncertainty: Employment Growth Rate Expectations and Uncertainty

## Survey of Business Uncertainty (January 2017–July 2022)

### Year-Ahead Employment Growth Rate Expectations

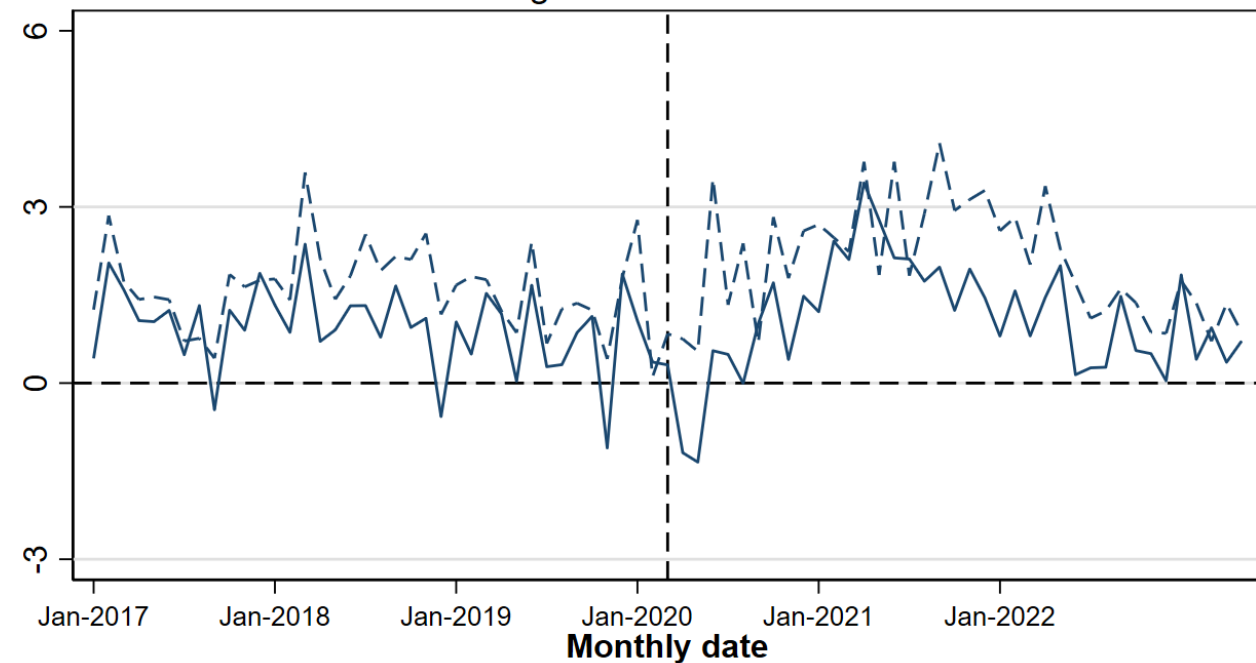
Percent changes from current month to twelve months hence



----- Employment Growth (unsmoothed)  
— Employment Growth (smoothed)

### Employment Growth Expectations

Unweighted and unsmoothed



----- Employment Growth (unsmoothed)  
— Employment Growth (unweighted)

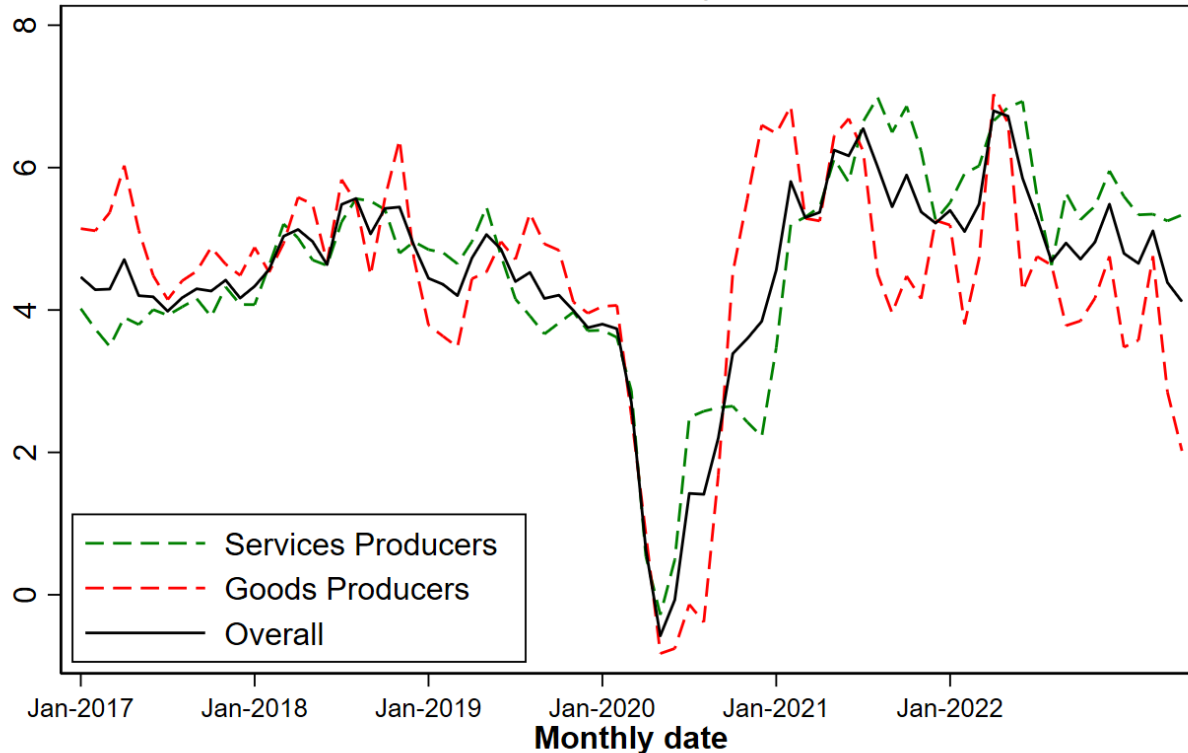
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# Survey of Business Uncertainty: Sales Revenue Growth Rate Expectations and Uncertainty

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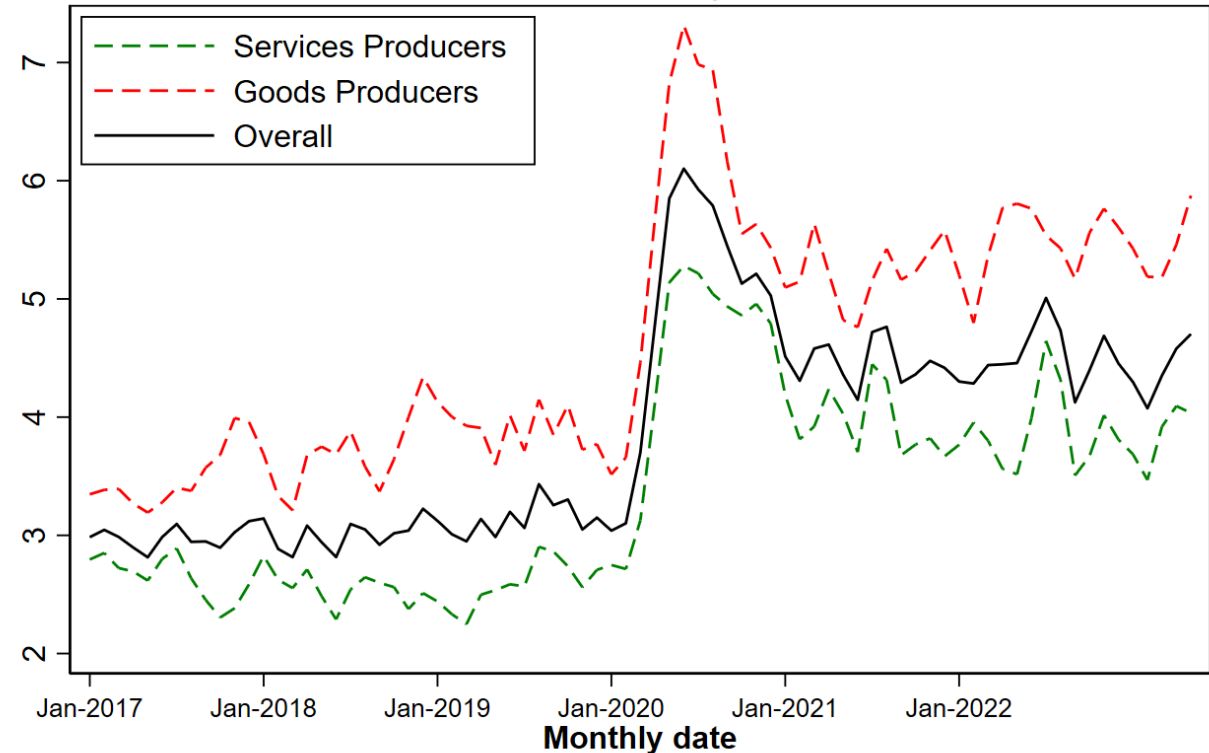
### SBU Sales Growth Expectations

Goods vs services producers



### SBU Sales Growth Uncertainty

Goods vs services producers



NOTE: The charts show two-month moving averages.

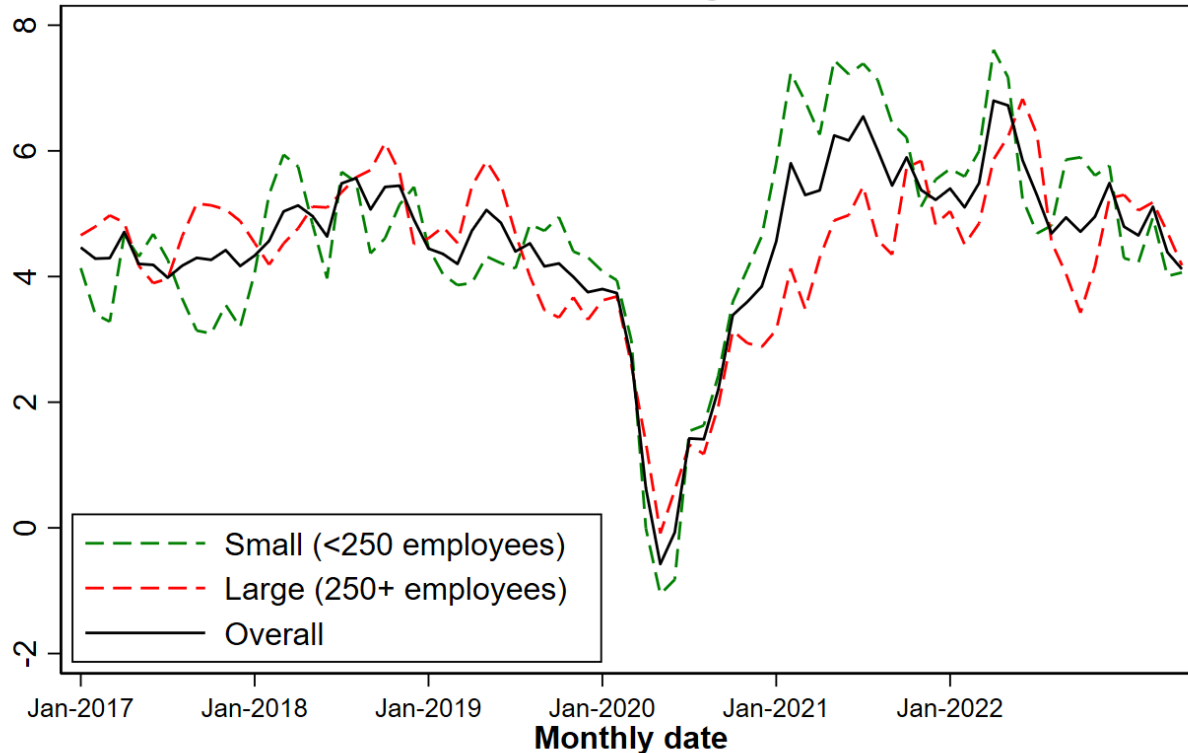
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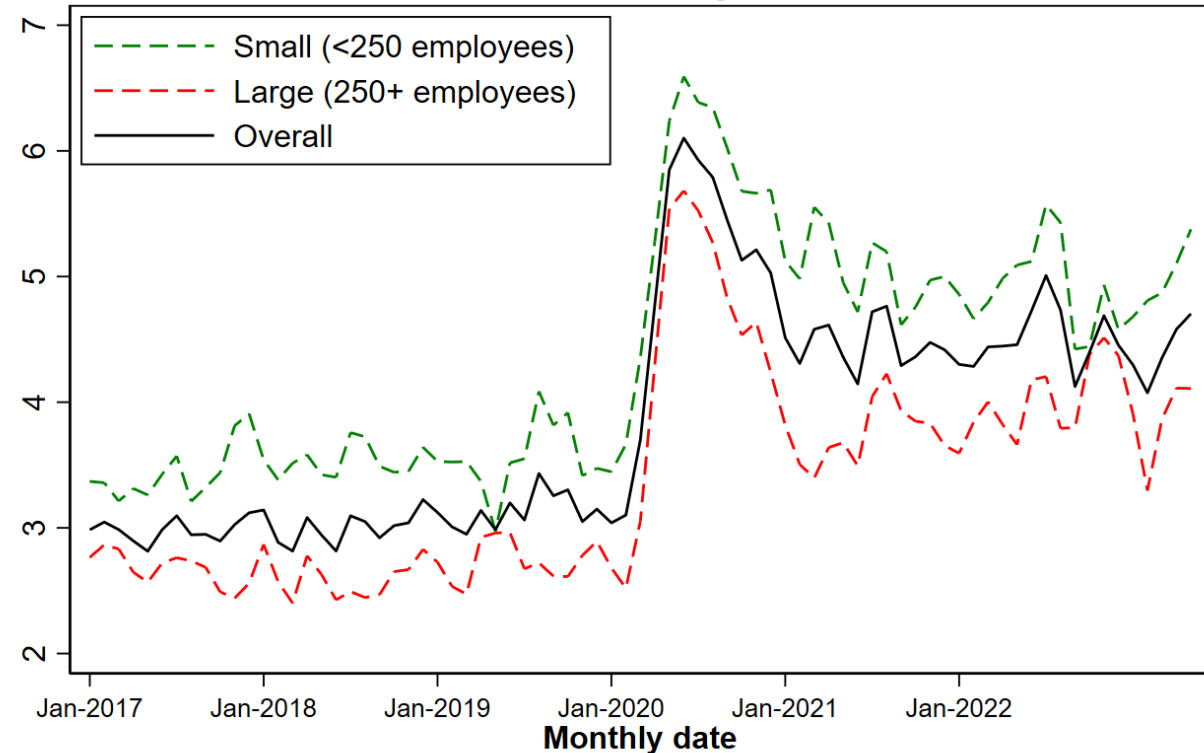
### SBU Sales Growth Expectations

Small vs large



### SBU Sales Growth Uncertainty

Small vs large



NOTE: The charts show two-month moving averages.

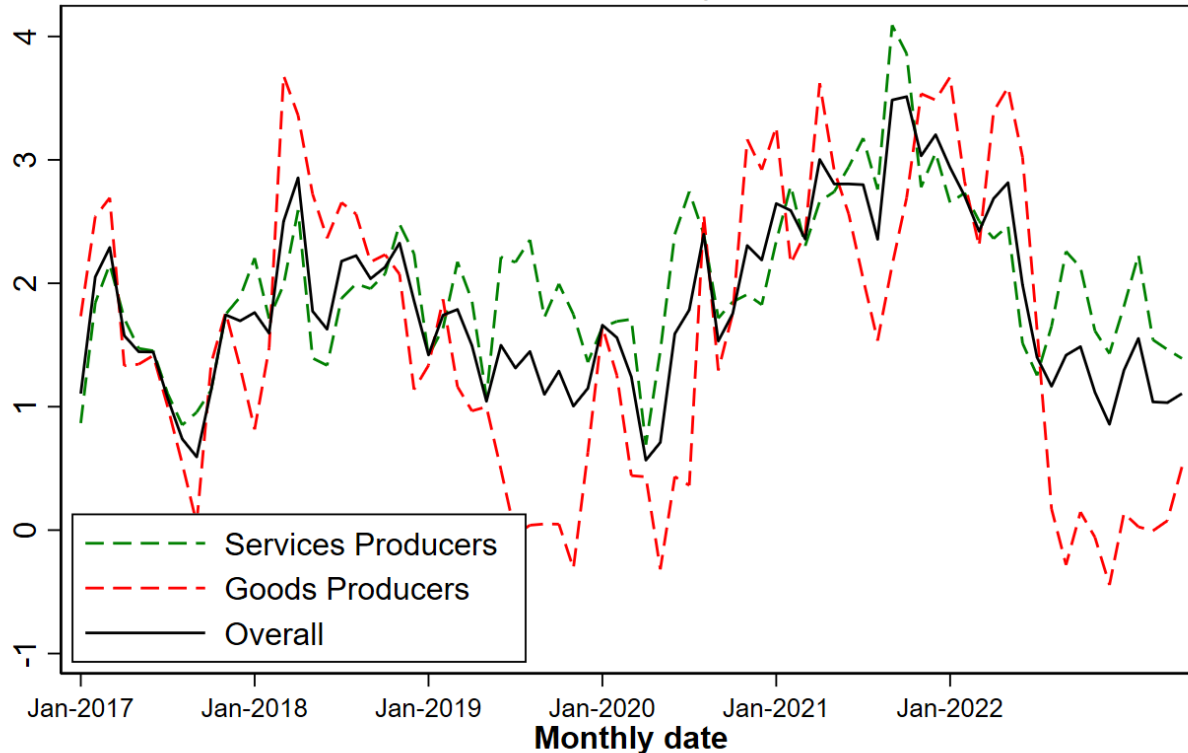
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# Survey of Business Uncertainty: Employment Growth Rate Expectations and Uncertainty

## Survey of Business Uncertainty (January 2017–July 2022)

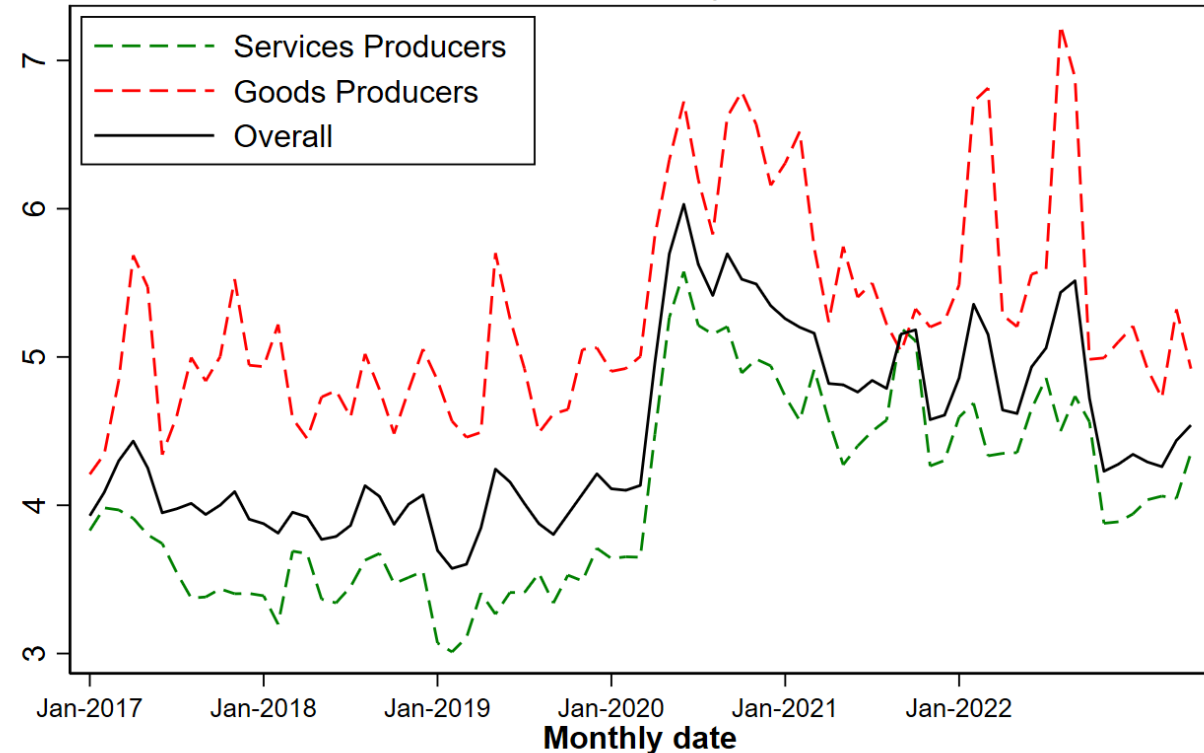
### SBU Employment Growth Expectations

Goods vs services producers



### SBU Employment Growth Uncertainty

Goods vs services producers



NOTE: The charts show two-month moving averages.

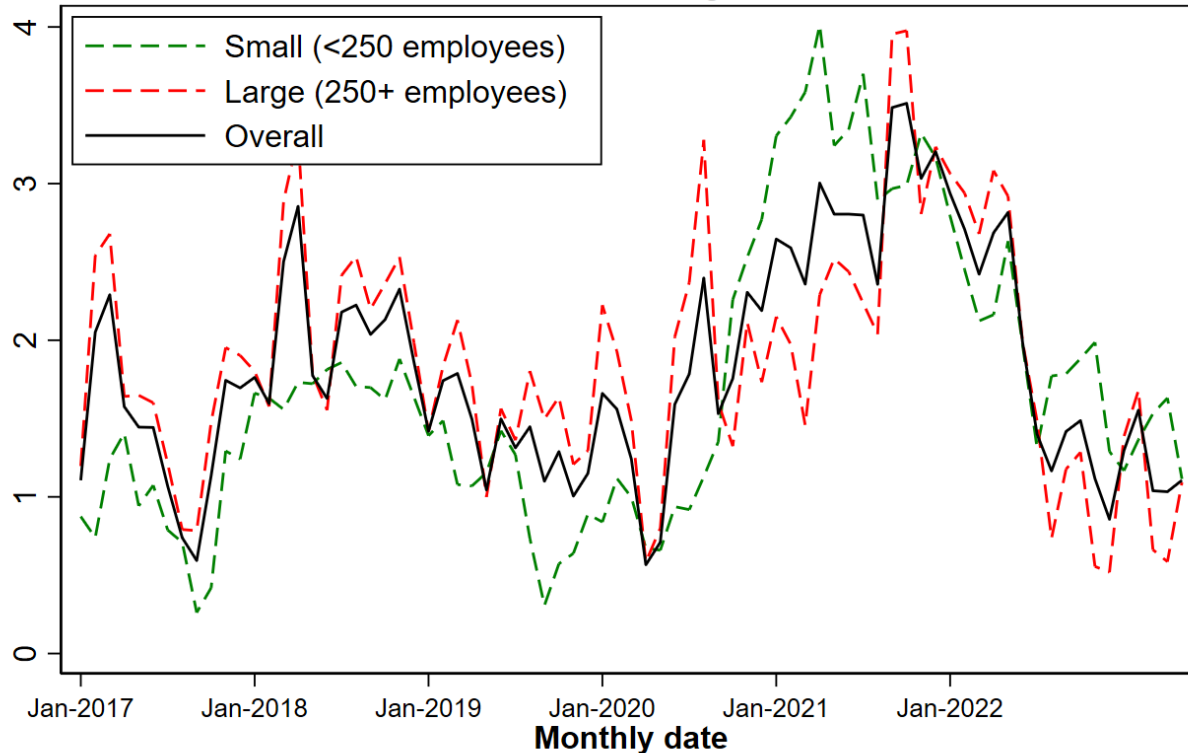
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## Survey of Business Uncertainty (January 2017–July 2022)

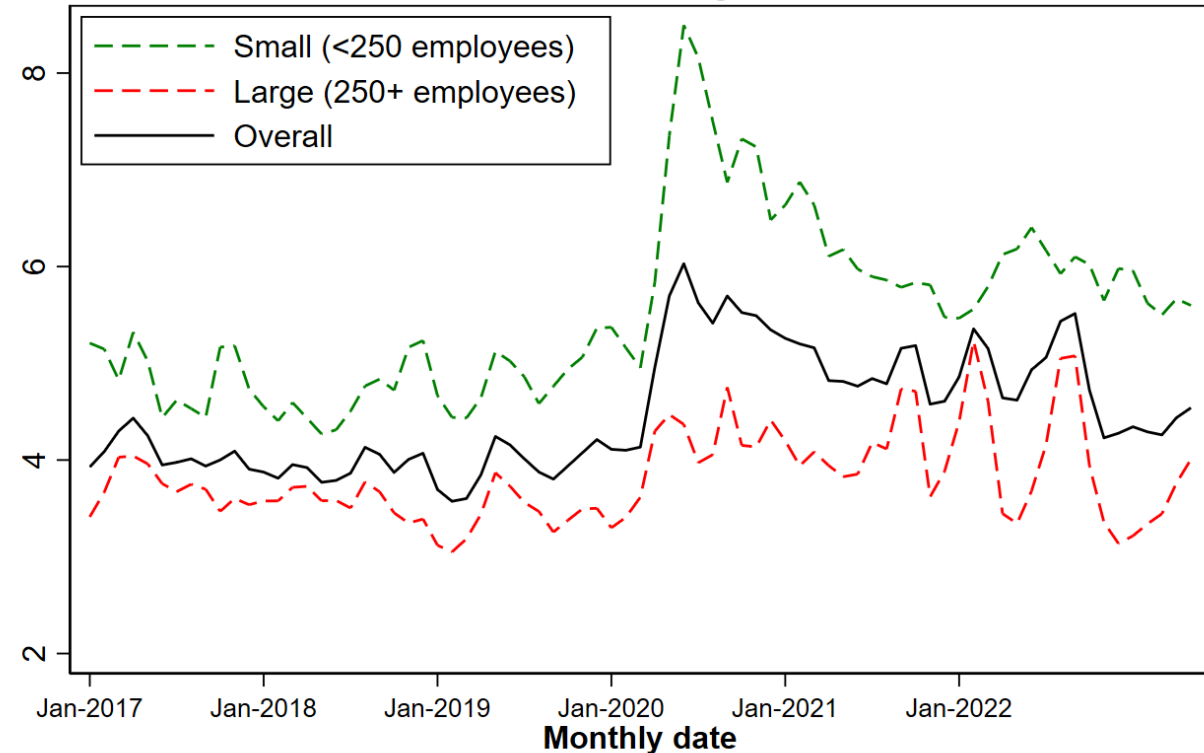
### SBU Employment Growth Expectations

Small vs large



### SBU Employment Growth Uncertainty

Small vs large



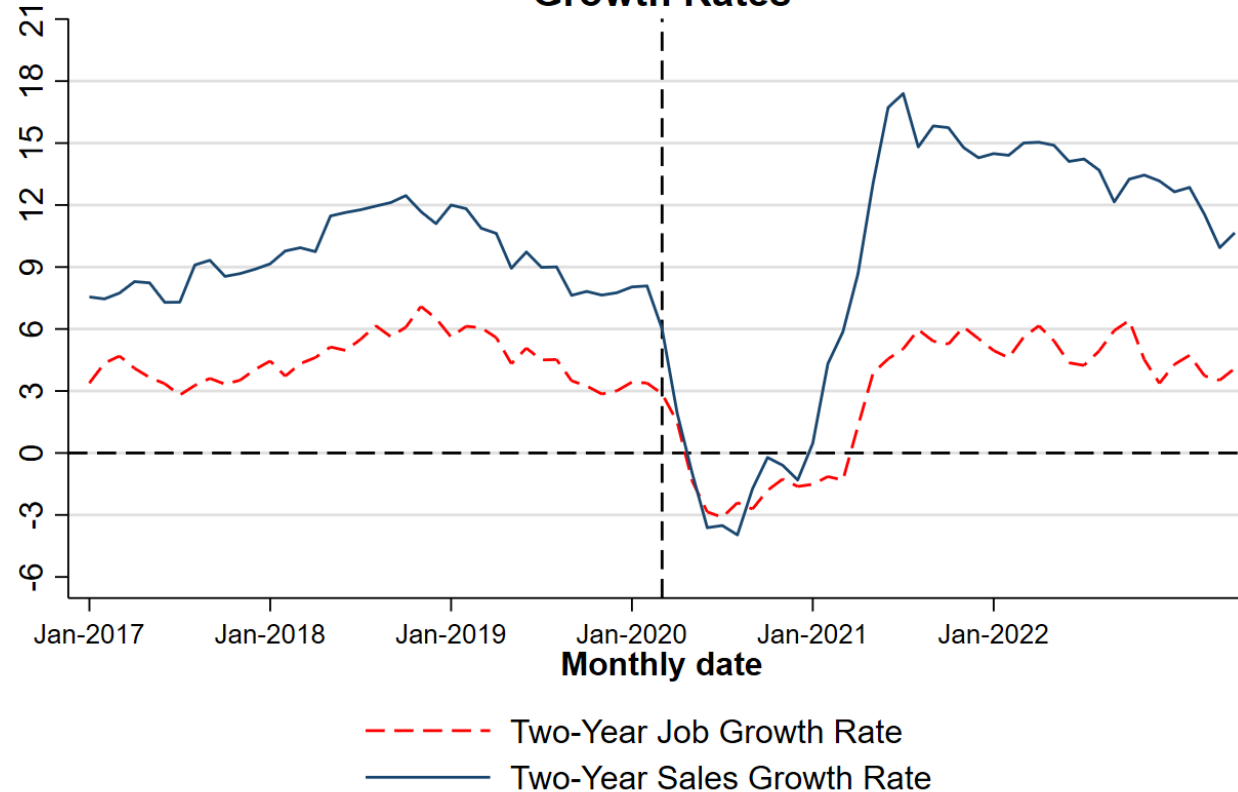
NOTE: The charts show two-month moving averages.

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business. For more information, see “Surveying Business Uncertainty” by David Altig, Jose Maria Barrero, Nick Bloom, Steven J. Davis, Brent Meyer, and Nick Parker, NBER Working Paper No. 25956, February 2020.

# Survey of Business Uncertainty: 2-Year (1-Year Look-Back + 1-Year Look-Ahead) Growth Rates

## Survey of Business Uncertainty (January 2017–July 2022)

### Two-Year (One-year Look-Back + One-year Look-Ahead) Growth Rates



NOTE: Calculated using monthly data through July 2022. The two-year growth rates are computed combining individual firm realized (one-year look-back) and future (one-year look-ahead) sales growth rates. All data are activity weighted.

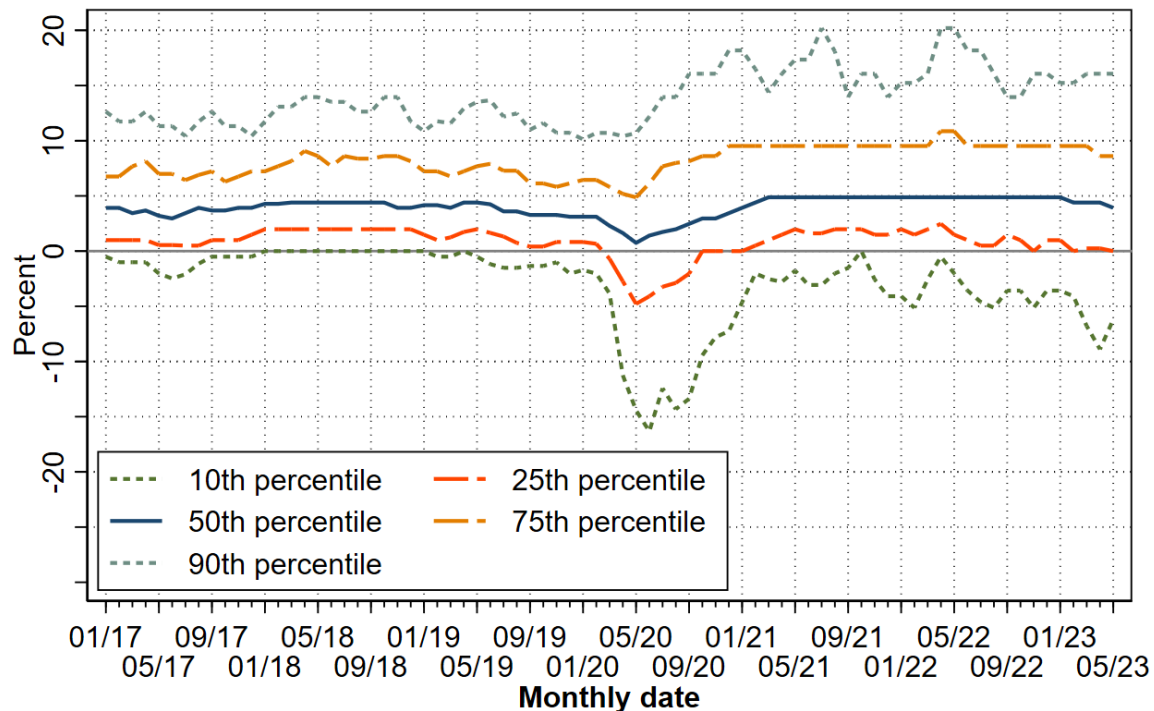
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# Survey of Business Uncertainty: Subjective Distribution of Future Sales Growth Rates at a One-Year Horizon

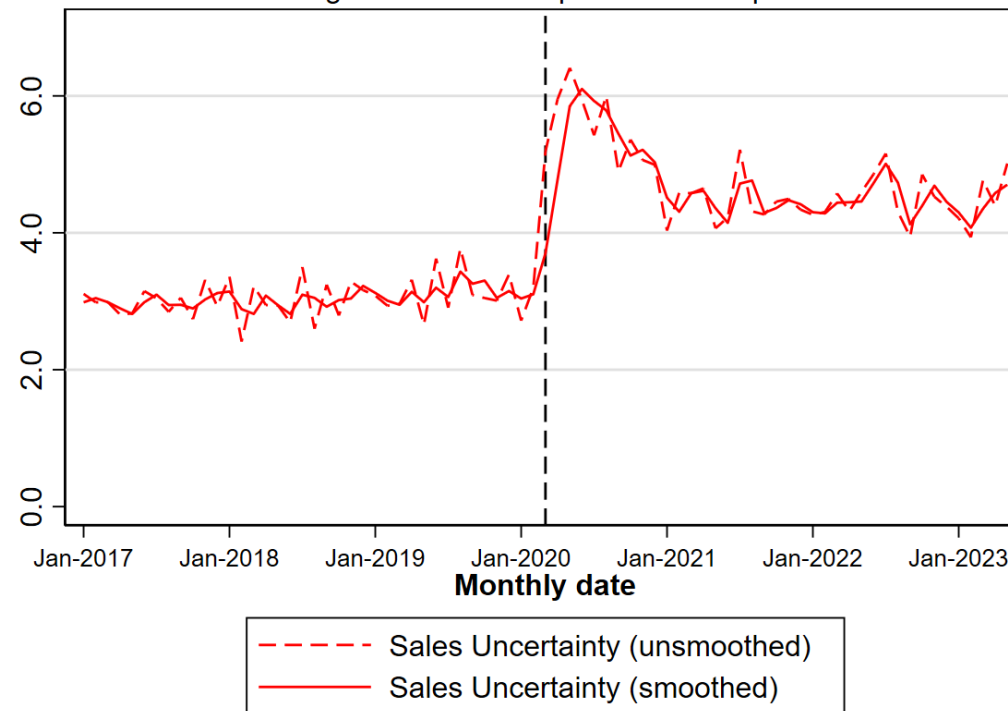
## Survey of Business Uncertainty (September 2016–July 2022)

### Subjective Distribution of Future Sales Growth Rates at a One-Year Horizon



### Year-Ahead Uncertainty about Sales Growth Rates

Percent changes from current quarter to four quarters hence

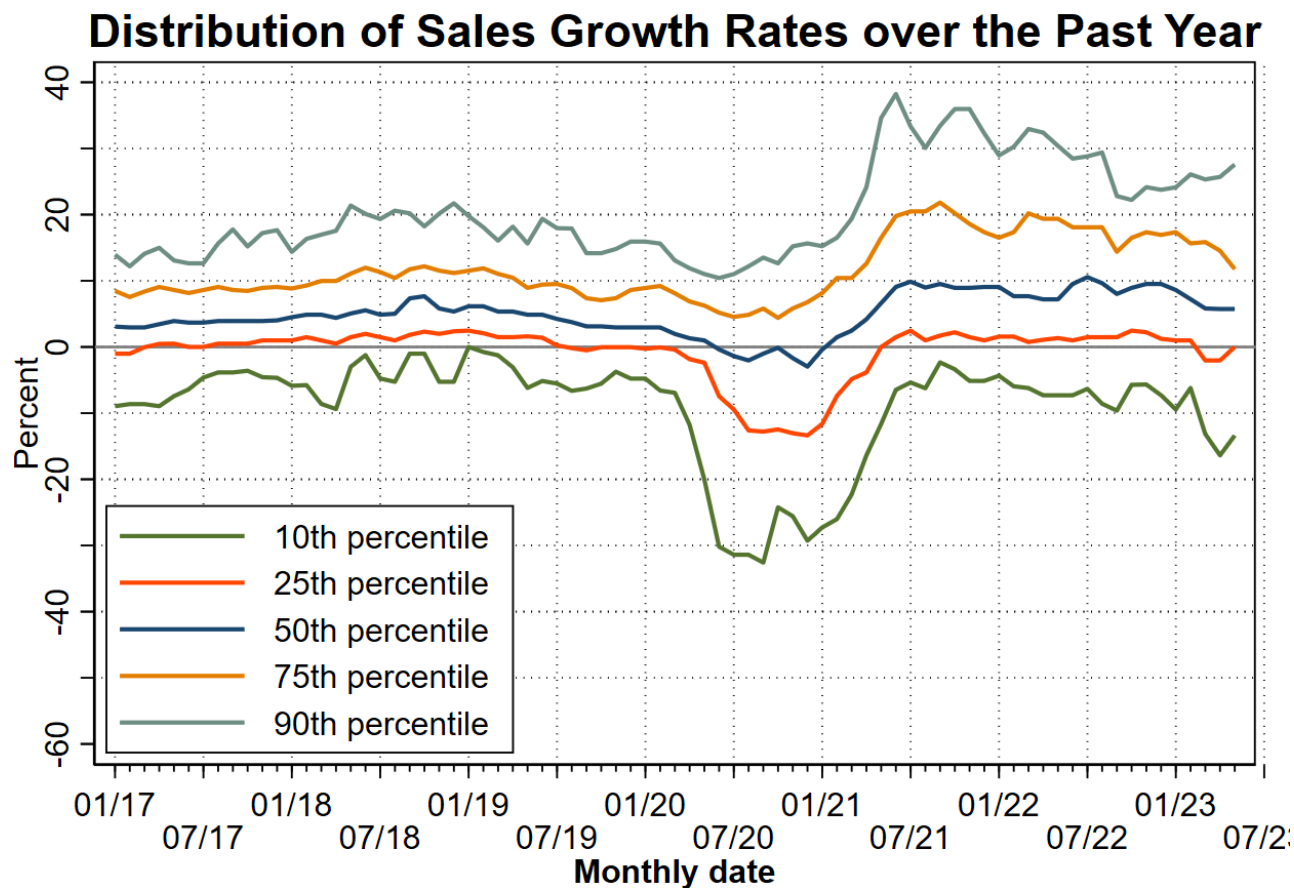


NOTE: Calculated using monthly data through July 2022. This is a plot of the subjective distribution for the representative firm's future sales growth rates over a 4-quarter look-ahead horizon. To calculate this distribution, we pool over all firm-level subjective forecast distributions in the indicated month and weight each firm by its activity level. Then we use the probabilities assigned to each possible future sales growth rate to obtain activity-weighted quantiles of the future sales growth rate distribution.

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.

# Survey of Business Uncertainty: Distribution of Sales Growth Rates over the Past Year

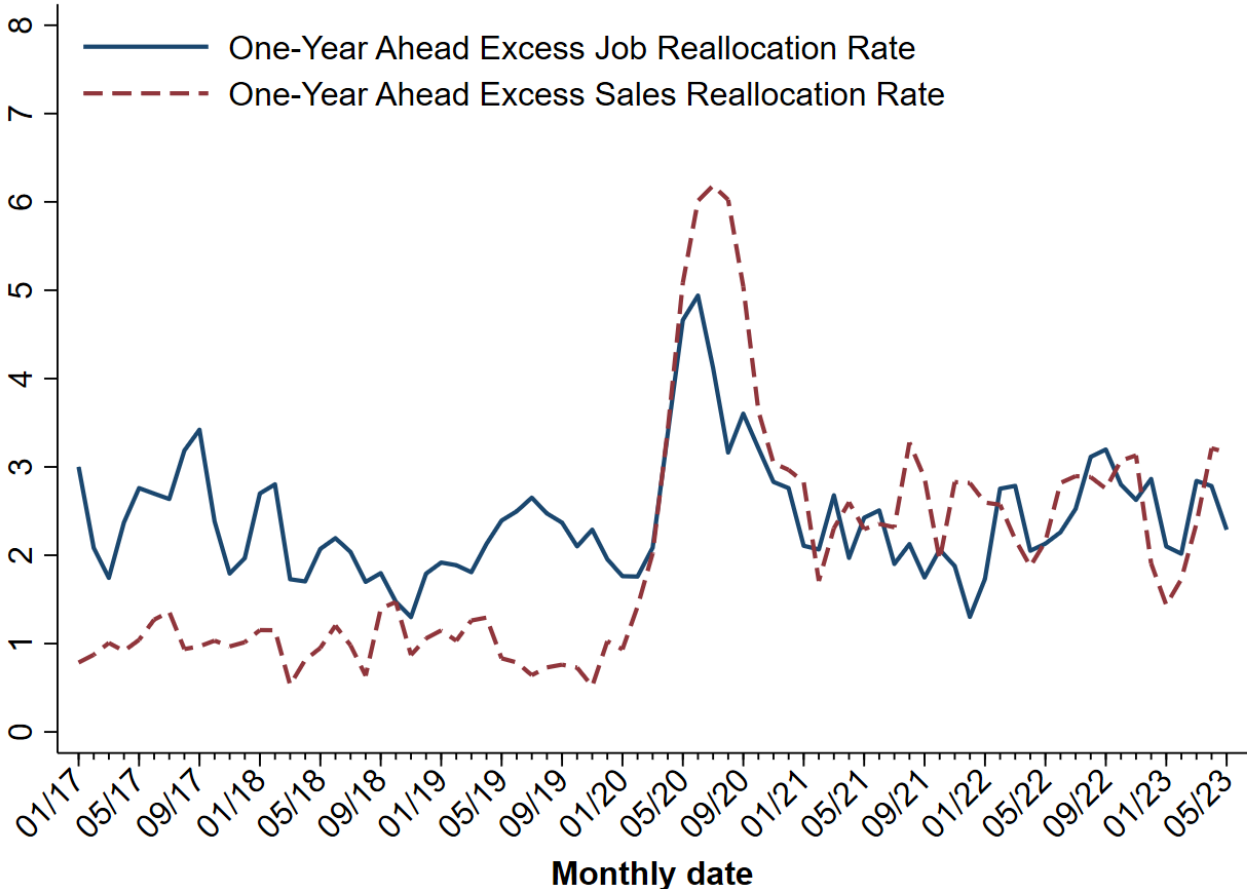
## Survey of Business Uncertainty (January 2017–July 2022)



NOTE: Calculated using monthly data through July 2022. Lines show percentiles of the activity-weighted distribution of firm-level sales growth rates over the past year.

# Survey of Business Uncertainty: Excess Sales and Job Reallocation–12-Month Excess Reallocation Rates

**Survey of Business Uncertainty (January 2017–July 2022)**

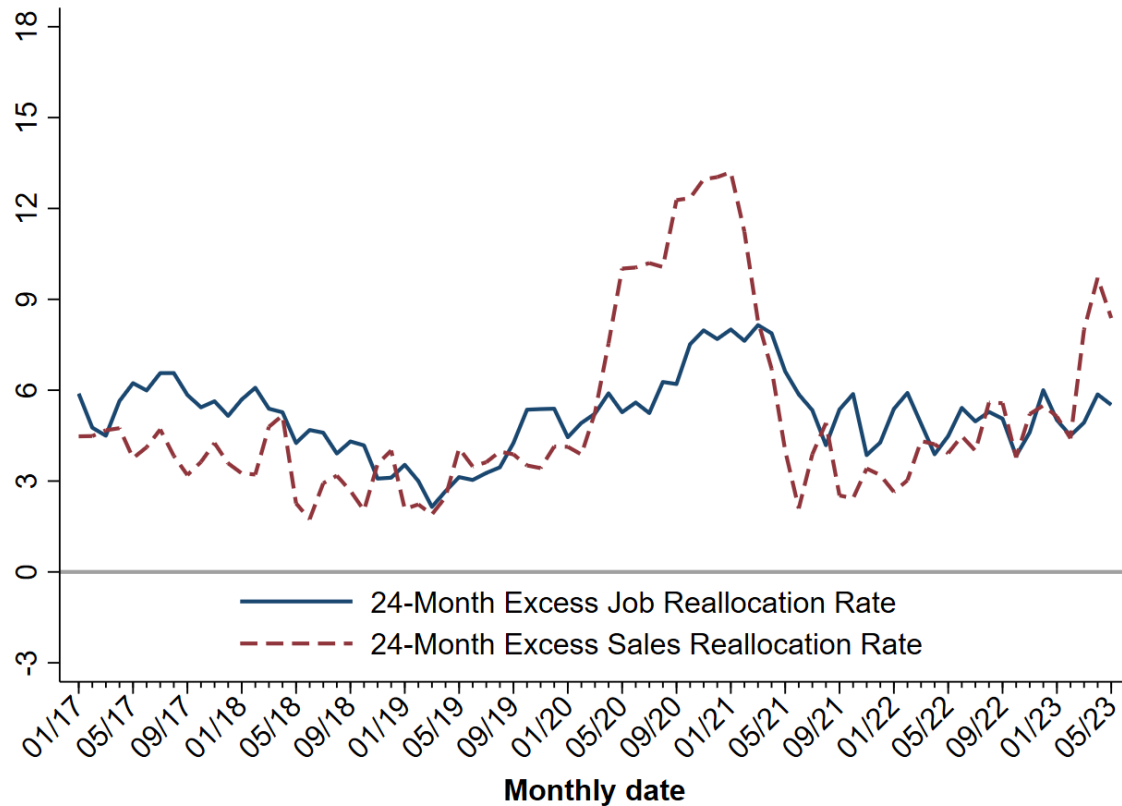


NOTE: Calculated using monthly data through July 2022. Excess employment and sales reallocation rates quantify the volume of cross-firm job (or sales) reallocation in excess of what is required by the aggregate change. They quantify the simultaneous creation and destruction of realized and expected employment (sales). All data are activity weighted.

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.

# Survey of Business Uncertainty: Excess Sales and Job Reallocation–24/36-Month Excess Reallocation Rates

## Survey of Business Uncertainty (January 2017–July 2022)

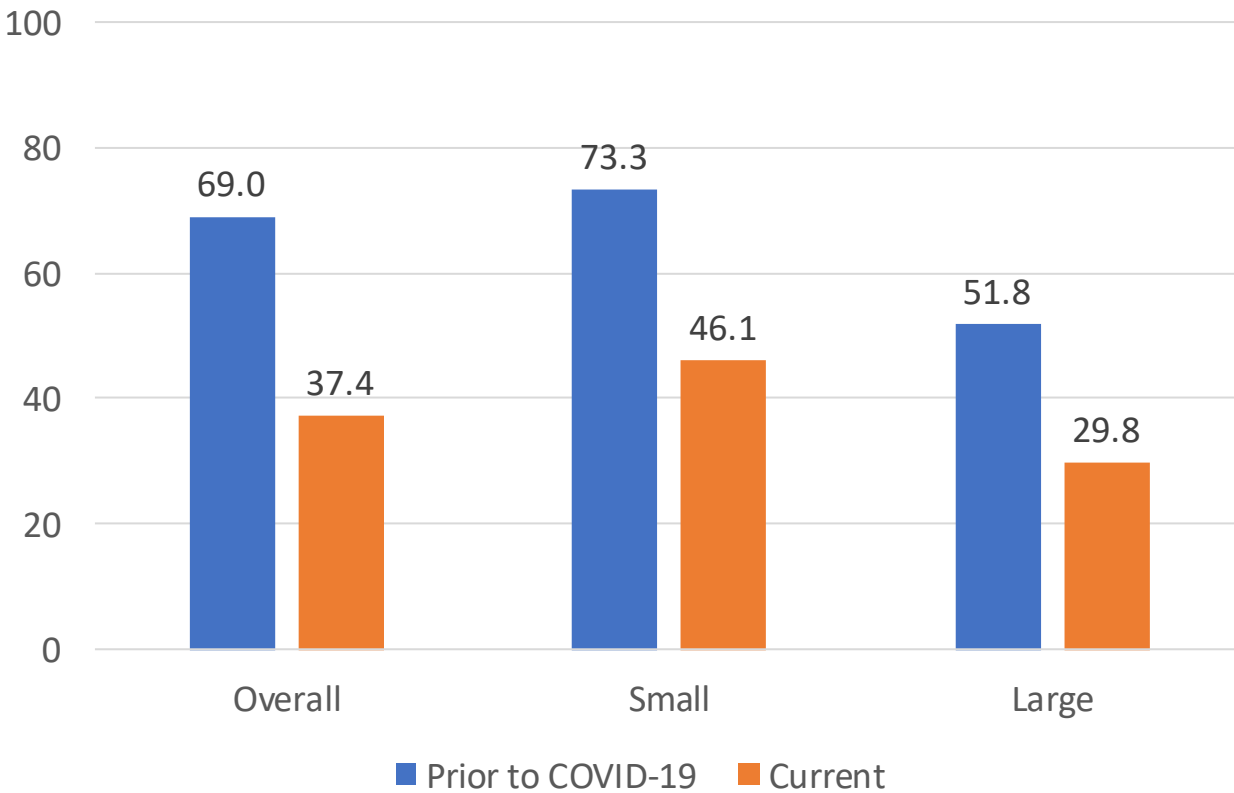


NOTE: Calculated using monthly data through July 2022. Excess employment and sales reallocation rates quantify the volume of cross-firm job (or sales) reallocation in excess of what is required by the aggregate change. They quantify the simultaneous creation and destruction of realized and expected employment (sales). The 24-month excess reallocation rates are computed combining individual firm realized (one-year look-back) and future (one-year look-ahead) sales growth rates. The 36-month excess reallocation rates are computed combining individual firm realized (two-year look-back) and future (one-year look-ahead) sales growth rates. All data are activity weighted.

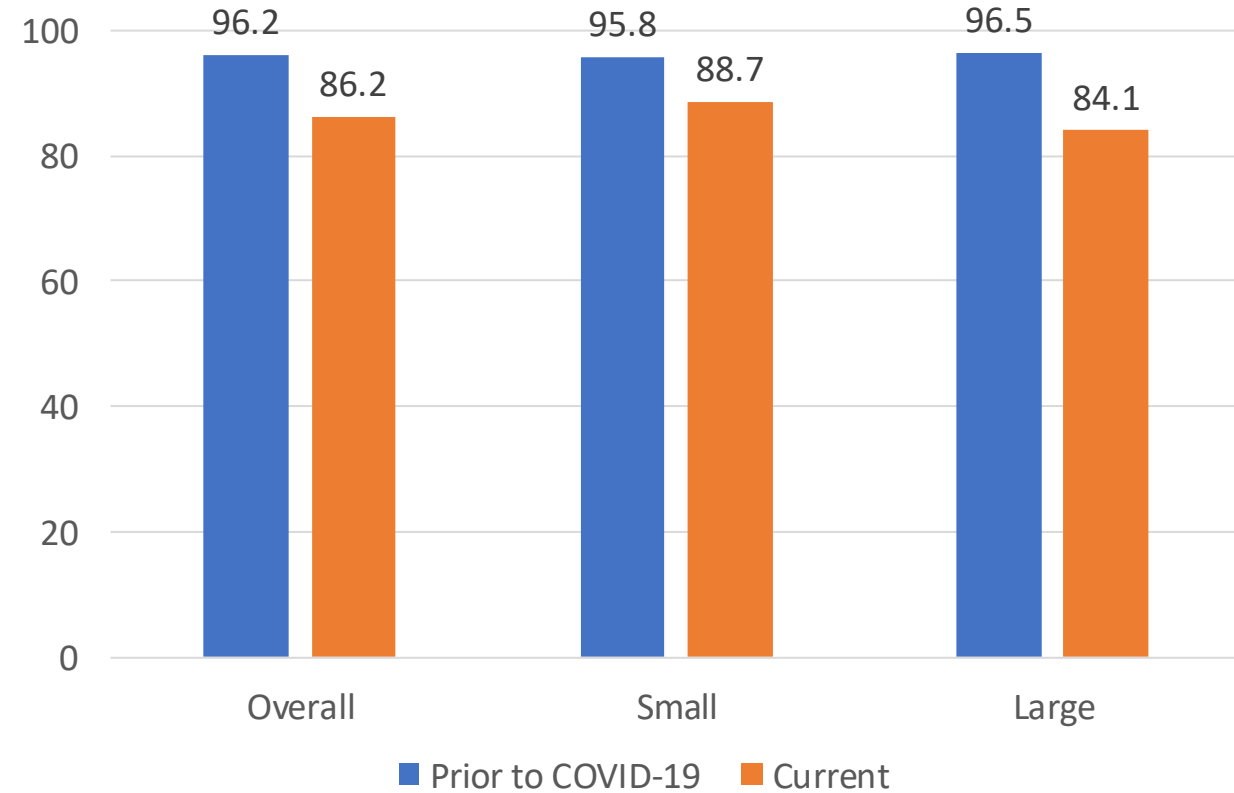
Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.

# Survey of Business Uncertainty: Special Questions July 2022

## Share of In-Person Interviews in Early-Round Interviews



## Share of In-Person Interviews in Late-Round Interviews

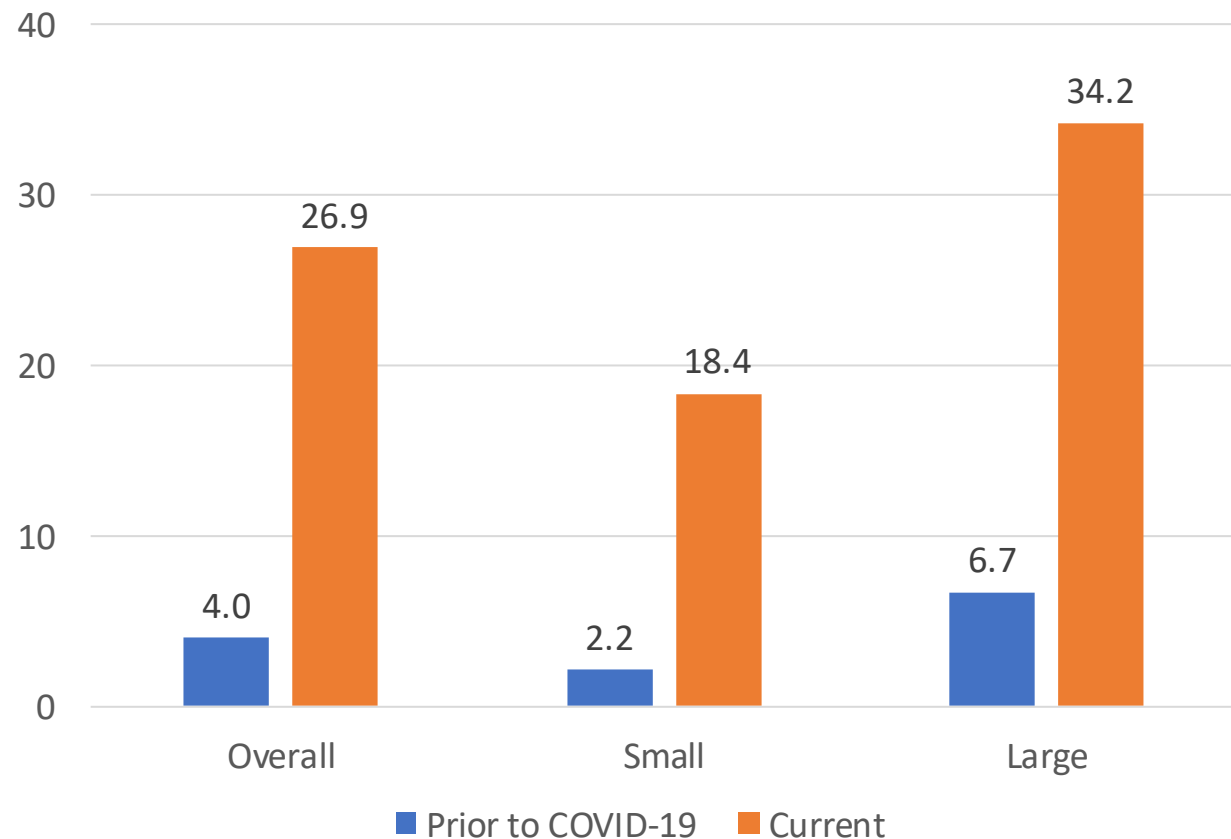


NOTES: N (overall): Pre-Covid = 113, Current = 571. Results are weighted by firm size. Results include responses to the follow-up question about breakdown of “Some combination of the above” response option.

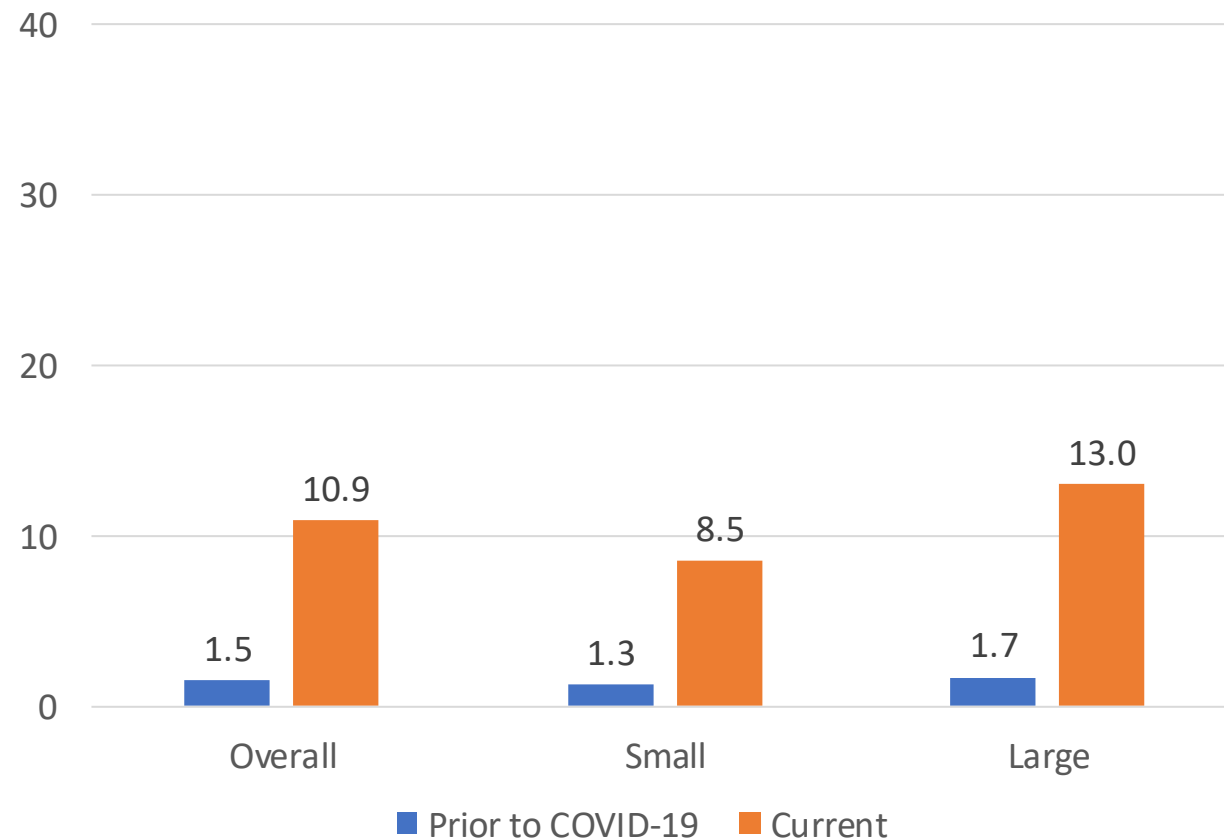
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# Survey of Business Uncertainty: Special Questions July '22

## Share of Online Interviews in Early-Round Interviews



## Share of Online Interviews in Late-Round Interviews



NOTES: N (overall): Pre-Covid = 113, Current = 571. Results are weighted by firm size. Results include responses to the follow-up question about breakdown of "Some combination of the above" response option.

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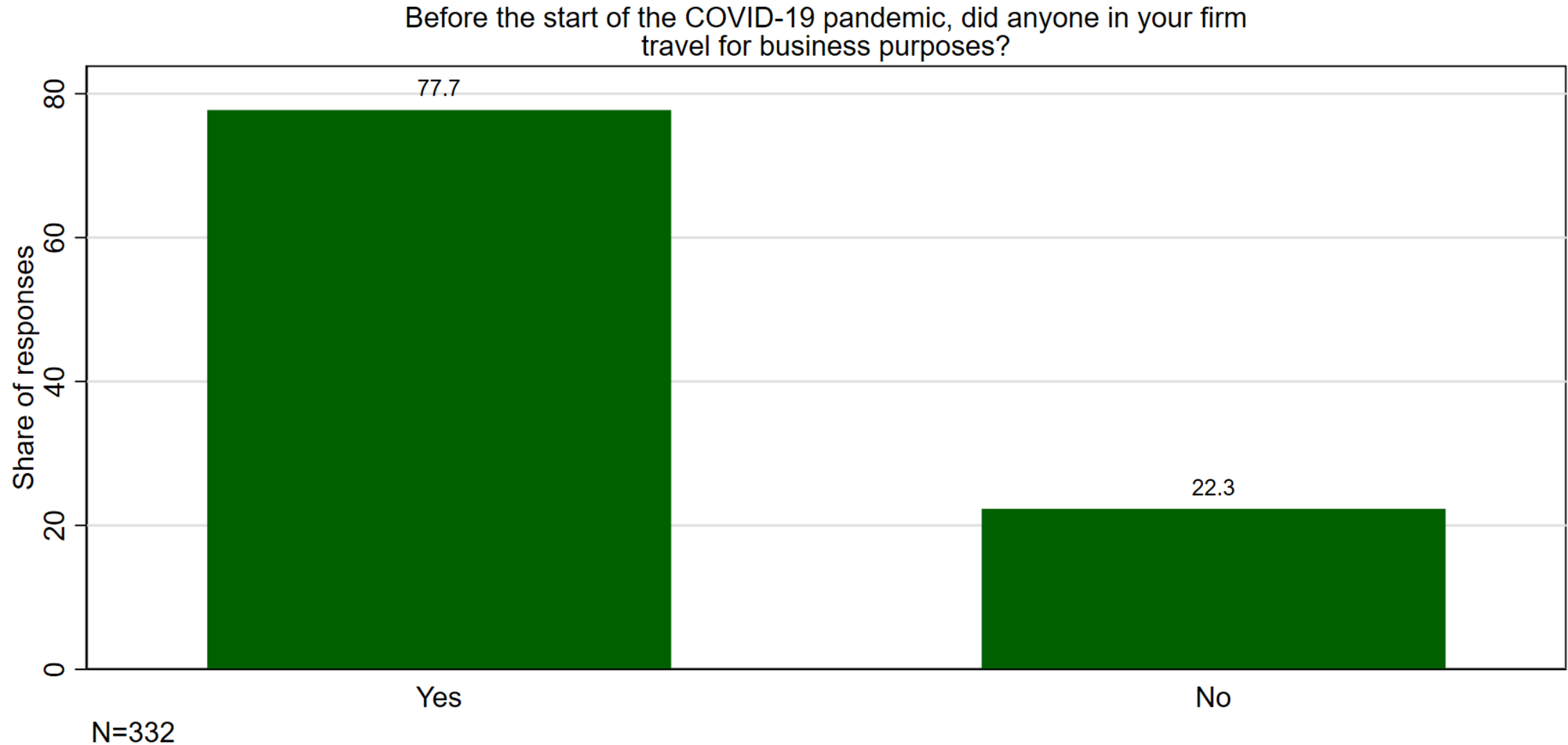
# Survey of Business Uncertainty: Special Questions July 2022

| Shares of interview types in early and late rounds of interviewing   |             |           |           |            |           |           |             |     |           |            |        |           |           |        |
|--|-------------|-----------|-----------|------------|-----------|-----------|-------------|-----|-----------|------------|--------|-----------|-----------|--------|
|  | Pre-COVID   |           |           |            |           |           | Current     |     |           |            |        |           |           |        |
|  | Early round |           |           | Late round |           |           | Early round |     |           | Late round |        |           |           |        |
|  | N           | In-person | Telephone | Online     | In-person | Telephone | Online      | N   | In-person | Telephone  | Online | In-person | Telephone | Online |
| Overall  | 113         | 4.8       | 34.7      | 60.5       | 1.5       | 2.2       | 96.2        | 571 | 26.9      | 35.8       | 37.4   | 10.9      | 2.9       | 86.2   |
| Small (<250 employees)   | 99          | 2.2       | 24.5      | 73.3       | 1.3       | 3.0       | 95.8        | 494 | 18.4      | 35.6       | 46.1   | 8.5       | 2.9       | 88.7   |
| Large (250+ employees)   | 14          | 6.7       | 41.5      | 51.8       | 1.7       | 1.8       | 96.5        | 77  | 34.2      | 36.1       | 29.8   | 13.0      | 2.8       | 84.1   |
| Goods Producers  | 33          | 5.7       | 33.1      | 61.3       | 0.0       | 2.2       | 97.8        | 158 | 22.8      | 34.3       | 42.9   | 6.5       | 2.2       | 91.3   |
| Retail and Wholesale Trade, Transportation and Warehousing, Leisure and Hospitality                        | 15          | 0.9       | 21.4      | 77.7       | 2.8       | 3.2       | 94.0        | 105 | 16.5      | 42.2       | 41.3   | 3.0       | 1.2       | 95.9   |
| Educational Services, Health Care and Social Assistance, Other Services Except Government                  | 6           | 0.0       | 78.0      | 22.0       | 0.0       | 0.0       | 100.0       | 33  | 44.1      | 34.9       | 20.8   | 34.6      | 3.8       | 61.6   |
| Finance and Insurance, Real Estate and Rental and Leasing, Professional and Business Services, Information | 59          | 6.0       | 38.0      | 55.8       | 2.0       | 2.7       | 95.2        | 275 | 31.5      | 34.1       | 34.4   | 13.8      | 3.9       | 82.3   |

NOTES: Results are weighted by firm size. Results include responses to the follow-up question about breakdown of “Some combination of the above” response option.

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# Survey of Business Uncertainty: Special Questions July 2022



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# Survey of Business Uncertainty: Special Questions July 2022

*Please give an estimate of your firm's annual travel expenditures over the following years and categories.*

|                        | Change in estimates of firms' annual travel expenditures over 2019-2023 |       |               |               |      |               |                    |      |               |                    |      |               |
|------------------------|---|-------|---------------|---------------|------|---------------|--------------------|------|---------------|--------------------|------|---------------|
|                        | Air travel  |       |               | Accommodation |      |               | Other travel costs |      |               | Total travel costs |      |               |
|                        | N   | Mean  | Weighted mean | N             | Mean | Weighted mean | N                  | Mean | Weighted mean | N                  | Mean | Weighted mean |
| Overall                | 238   | -8.4  | -2.21         | 243           | -4.9 | -1.81         | 242                | -5.1 | 2.77          | 250                | -7.5 | -2.35         |
| Small (<250 employees) | 194   | -8.2  | 7.59          | 199           | -4.6 | 5.32          | 201                | -6.2 | 6.50          | 206                | -7.5 | 5.47          |
| Large (250+ employees) | 44  | -9.5  | -9.69         | 44            | -6.4 | -7.27         | 41                 | 0.8  | -0.33         | 44                 | -7.8 | -8.50         |
| Service Providers      | 176   | -6.5  | 1.19          | 179           | -8.6 | 0.92          | 178                | -3.9 | 6.71          | 185                | -7.7 | 0.68          |
| Goods Producers        | 62  | -13.8 | -9.70         | 64            | 5.2  | -7.77         | 64                 | -8.2 | -5.23         | 65                 | -7.2 | -9.01         |

NOTE: Responses not winsorized.

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.

# Survey of Business Uncertainty: Special Questions July 2022

*Please give an estimate of your firm's annual travel expenditures over the following years and categories.*

|                        | Change in estimates of firms' annual travel expenditures over 2019-2023 |       |               |               |       |               |                    |      |               |                    |       |               |
|------------------------|---|-------|---------------|---------------|-------|---------------|--------------------|------|---------------|--------------------|-------|---------------|
|                        | Air travel  |       |               | Accommodation |       |               | Other travel costs |      |               | Total travel costs |       |               |
|                        | N   | Mean  | Weighted mean | N             | Mean  | Weighted mean | N                  | Mean | Weighted mean | N                  | Mean  | Weighted mean |
| Overall                | 238   | -8.9  | -2.41         | 243           | -11.1 | -3.62         | 242                | -6.2 | 1.88          | 250                | -9.6  | -3.52         |
| Small (<250 employees) | 194   | -8.8  | 7.13          | 199           | -12.1 | 1.14          | 201                | -7.6 | 4.55          | 206                | -10.0 | 2.82          |
| Large (250+ employees) | 44  | -9.5  | -9.69         | 44            | -6.4  | -7.27         | 41                 | 0.8  | -0.33         | 44                 | -7.8  | -8.50         |
| Service Providers      | 176   | -7.2  | 0.90          | 179           | -11.0 | -1.38         | 178                | -5.6 | 5.38          | 185                | -9.3  | -0.94         |
| Goods Producers        | 62  | -13.8 | -9.70         | 64            | -11.2 | -8.51         | 64                 | -8.0 | -5.22         | 65                 | -10.6 | -9.17         |

NOTE: Responses winsorized at 5%.

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