New Kid on the Block: Introduction to the Business Formation Statistics

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Disclaimer

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• The Census Bureau has reviewed the data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied. (Approval ID: CBDRB-FY18-009).
Overview

- Introduction
- Seasonal Adjustment Processing
- Moving Holiday
- Data Visualizations
- Future Work
What is Business Formation Statistics?

• Provide timely and high frequency information on new business applications and formations in the United States

• Developed in research collaboration with economists affiliated with
  • Board of Governors of the Federal Reserve System
  • Federal Reserve Bank of Atlanta
  • University of Maryland
  • University of Notre Dame
BFS Uses

- Help economists, policymakers, regional planners and businesses assess the current state of early entrepreneurship at the national, regional and state levels

- Uncover the trends in business applications and formations at previously unavailable levels of frequency, coverage, and timeliness

- Can be used to study a variety of issues in entrepreneurship
BFS Data

Business applications:
Indicated by applications for an Employer Identification Number (EIN) on IRS Form SS-4

Actual and projected business formations:
Originating from business applications based on the record of first payroll tax liability for an EIN (by BR and LBD)

Delay in business formation:
Indicated by the average duration between business application and business formation
Restricted Applications

• Associated with tax-liens, trusts, and estates

• Industries within the agricultural, financial services and private household sectors
  • Very low transition rates to employer businesses

• Public entities (e.g., state or local governments)

• Missing state information (a small fraction of applications)

• Puerto Rico or the Virgin Islands

• Concentrated filing spikes
  • Appear in the same weekly application cycle, come from the same zip code, and share the same industry code
  • Do not represent an intent to form a business
## Business Application Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Acronym</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Applications</td>
<td>BA</td>
<td>The core business application series that correspond to a subset of all applications for an EIN.</td>
</tr>
<tr>
<td>High-Propensity Business Applications</td>
<td>HBA</td>
<td>BA that have a high propensity of turning into businesses with a payroll.</td>
</tr>
<tr>
<td>Business Application with Planned Wages</td>
<td>WBA</td>
<td>HBA that indicate a first wages-paid date on the IRS form SS-4.</td>
</tr>
<tr>
<td>Business Applications from Corporations</td>
<td>CBA</td>
<td>HBA from a corporation or personal service corporation, based on the legal form of organization stated in the IRS Form SS-4.</td>
</tr>
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<td>Provide the number of employer businesses that originate from (BA) within 4 quarters from the quarter of application.</td>
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Seasonal Adjustment

### Beta
- Processed entirely in R with seasonal package
- Utilized auto-model
- Directly adjusted all states and US totals
- Flexible timeframe for quarterly processing
- No holidays
- Published state and US totals as excel spreadsheets

### Experimental Indicator
- R with Win-X-13 annual review
- Hardcoded models
- Indirect adjustment of US total and 4 regions
- About 16 days for all of quarterly processing
- Moving Holiday
- Publish state, region and US total using Tableau data visualizations
What is an experimental data product?

• Experimental data products are statistical products released by the Census that may not meet all of our quality standards, but:

  • would benefit from feedback from users and stakeholders
  • would benefit our data users in the absence of other data
  • would be used to gauge demand before operationalizing
Seasonal Adjustment

• 510 quarterly series: 50 states, plus DC, for each of 10 series
• Concurrently adjusted
• Annual review of all models in Q4
• Directly adjust at the state level and sum to region and US total
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Quarterly Processing

• Went from 7 weeks to about 16 calendar days, 2-3 days dedicated to seasonal adjustment

• Data processing switched from monthly processing to weekly
Moving Holiday

• IRS Schedule
  • Based on a 52 or 53 (partial) week year
  • Divided into 4 quarters that may not always coincide with calendar year

• Week between Christmas and New Year’s
  • Historically low for business applications
  • Sometimes falls in Q4, Q1, or split between the two

Last week of 2007Q4
Moving Holiday

• Tested for all states and for series: BA, CBA, HBA, WBA
• Significant for some states in all application series
• Will be included in this year’s annual revisions, where significant
Moving Holiday

![Graph showing New York Business Applications from 2005 to 2019 with trends for NSA, SA No holiday, and SA holiday.]
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• Most popular interactive data visualization of FY19

• Next steps:
  • Industry-level seasonal adjustment
  • County-level data
Future Work

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Economic Indicator

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Thank You!

www.census.gov/econ/bfs

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