Using Administrative Records to Assign Owner Demographics to Nonemployer Businesses

Presented by Adela Luque, Senior Economist, Center for Economic Studies
December 7, 2018
Previously:
Collected as Part of SBO

• Survey – sample size approx. 800,000 nonemployer firms & 940,000 employer firms
• Every five years
• Three-year lag
• High respondent burden
• Low response rate => high imputation rate & costs

Currently:
Blended Data Approach

• Leverage AR & Census data to assign demographics to business owners
• Full nonemployer universe (approx. 24 million)
• Annual – higher frequency
• Shorter lag than the SBO – more timely
• Reduces imputation & cost
• Eliminates respondent burden
• More detailed geography & industry detail possible
• First (beta) release in 2020 for 2017 nonemployers vintage

Meets stakeholder needs
• Tabulations of:
  – Number of nonemployer businesses
  – Number of business owners
  – Total receipts

• By:
  – Demographics of business owner
    • Gender, race, Hispanic origin, veteran status (SBO core demographics)
    • Age, place of birth
    • Other potential (future) characteristics: Salary work, independent contractors, patents, exports, marital status, number of dependents, home ownership, etc.
  – Receipt-size class
  – Geographic area
  – NAICS industry
  – Legal Form of Organization
  – Interactions

• NES-D augments existing NES tabulations by adding demographics component
<table>
<thead>
<tr>
<th>Variable</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonemployer business identification, revenues, industry, geographic location</td>
<td>Business Register</td>
</tr>
<tr>
<td>Business owner identification</td>
<td>Tax Form 1040 &amp; Schedule K1</td>
</tr>
<tr>
<td>Race (core demographic in SBO)</td>
<td>Decennial, American Community Survey (ACS)</td>
</tr>
<tr>
<td>Hispanic origin (core demographic in SBO)</td>
<td>Decennial, ACS</td>
</tr>
<tr>
<td>Gender (core demographic in SBO)</td>
<td>Census Numident (Decennial, ACS)</td>
</tr>
<tr>
<td>Veteran-status (core demographic in SBO)</td>
<td>Department of Veterans Affairs (VA) AR data</td>
</tr>
<tr>
<td>Age</td>
<td>Census Numident (Decennial, ACS)</td>
</tr>
<tr>
<td>Place of birth</td>
<td>Census Numident (Decennial long form, ACS)</td>
</tr>
</tbody>
</table>
Feedback

• External Engagement
  
  • *Presentations to stakeholders:*
    • Small Business Administration - December 11, 2017
    • Federal Reserve Board – December 13, 2017
    • National Women’s Business Council - January 18, 2018
    • Veterans groups - January 18, 2018
    • Minority Business Development Agency – February 16, 2018
    • Census Scientific Advisory Committee – March 30, 2018
  
  • *Conferences:*
    • First Demographics of the Entrepreneur Workshop – September 20, 2018
    • 2018 ADRF Network Research Conference – November 13, 2018
Evaluation

• Assignment of demographic characteristics
• Coverage assessment
• Initial tabulations: National by gender, race, Hispanic origin, veteran status, age, place of birth
• Preliminary coverage results:
  – Anonymized personal identifiers (PIKs) for owners for more than 95 percent of nonemployer businesses (excluding C-corporations)
  – Availability of gender, age & place of birth for approximately 99 percent of identified owners
  – Availability of race & Hispanic origin for approximately 90 percent of identified owners
Methodological Challenges

• Veteran’s Administration’s definition of a veteran does not align with SBO/ABS

• C-Corporations demographics imputation
  – Owners of C-corporation cannot be identified. Therefore, C-corp demographics have to be imputed.

• Identification of owners of partnership & S-corporations using AR data
  – In some cases, not all owners of these types of firms can be identified

• Missing demographic characteristics will be imputed
Timelines and Milestones

– Year 1 (2018): Research and development of data and imputation model assessment
  • First beta product before the end of the year. Limited to 1 year of data and national level statistics (report)
  • By: Gender, race, Hispanic origin, veteran status, age & place of birth

– Year 2 (2019): Refinement of models and data
  • Additional years and Q/A of longitudinal properties
  • Exploration of relevant geographic, industry detail and interactions

– Year 3 (2020): Estimates of Nonemployers by Demographic Characteristics
  • Official beta release of NES-D
  • 2020 release of 2017 vintage

NOTE: Traditionally SBO statistics are released with a 3-year lag from reference year => no loss from transition to new program. Goal is to reduce lag in subsequent years.
Questions

1. AR data allows for improvements (e.g. number of owners used to assign firm-level demographics) which can create breaks with historical time series: what is the role of stakeholders and census in balancing this tension? How should we balance precision vs consistency?

2. What is best way to build support for NES-D and ensure external awareness?

3. Is there room for public-private partnerships to accelerate product development given potential but limited resources?

Thank you!
Adela.Luque@census.gov
### Current NES Tables

#### Search - Use the options on the left (topics, geographies, ...) to narrow your search results

- **Search using...**
  - **Search:** 2016
  - **Program:** Nonemployer Statistics

- **Your Selections**
  - Clear all selections and start a new search

#### Search Results: 1-6 of 6 tables and other products match 'Your Selections'

**Refine your search results:**
- topic or table name
- state, county or place (optional)

**Selected:**
- **View**
- **Download**
- **Compare**
- **Clear All**
- **Reset Sort**

**Show results from:**
- All available years
- All available programs

<table>
<thead>
<tr>
<th>ID</th>
<th>Table, File or Document Title</th>
<th>Dataset</th>
<th>About</th>
</tr>
</thead>
</table>
## 2012 SBO Tables

### Survey of Business Owners (SBO) - Company Summary: 2012 Tables

#### 2012 SBO Tables in American FactFinder

Below you will find links to the U.S. Census Bureau’s online data access tool, American FactFinder (AFF), that will bring you to a search results page prepared for the 2012 SBO. From the search results page you can further filter by geographies and industry codes. Once you open a table, you can filter within the rows for specific groups. The User’s Guide for AFF contains a section describing how to filter rows within a table.

#### Gender

<table>
<thead>
<tr>
<th>Detailed Table</th>
<th>Receipts Size</th>
<th>Employment Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. States</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Metro Areas</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Places</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
</tbody>
</table>

#### Race

<table>
<thead>
<tr>
<th>Detailed Table</th>
<th>Receipts Size</th>
<th>Employment Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. States</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Metro Areas</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Places</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
</tbody>
</table>

#### Ethnicity

<table>
<thead>
<tr>
<th>Detailed Table</th>
<th>Receipts Size</th>
<th>Employment Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. States</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Metro Areas</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Places</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
</tbody>
</table>

#### Veteran Status

<table>
<thead>
<tr>
<th>Detailed Table</th>
<th>Receipts Size</th>
<th>Employment Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. States</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Metro Areas</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
<tr>
<td>Places</td>
<td>U.S. States</td>
<td>U.S. States</td>
</tr>
</tbody>
</table>

### Characteristics of Businesses

(by U.S. level geography, industry, receipts size and employment size)

#### All Characteristics of Businesses tables

- Jointly Owned or Operated by Spouses
- Majority of Business Family-Owned
- Number of Owners of Business
- Year Business Originally Established
- Source(s) of Start-Up or Acquisition Capital
- Amount of Start-Up or Acquisition Capital
- Home-Based Business
- Source(s) of Capital to Expand Business
- Type(s) of Customer Categories
- Percent of Total Sales Exported
- Outsourced Business Function Outside United States

#### Language(s) Used in Transactions

- Type(s) of Workers Employed
- Employer-Paid Benefits Offered
- Company Had a Web Site
- E-Commerce as Percentage of Total Sales
- Seasonal or Part-Time Business Status
- Business Operating or Reason Ceased
- Operated as Franchise or Partially as Franchise
- Had Operations Outside United States
- Type(s) of Intellectual Property

### Survey of Business Owners (SBO) - Characteristics of Business Owners: 2012 Tables

#### 2012

#### Characteristics of Business Owners

(by U.S. level geography and industry)

#### All Characteristics of Business Owners tables

- How Initially Acquired Business
- Year Acquired Ownership of Business
- Primary Function(s) in Business
- Average Hours Per Week Spent Working
- This Business Primary Source of Income
- Prior Experience Owning a Business
- Highest Level of Education Completed
- Age of the Owner in 2012
- Owner Born a Citizen of the United States
- Service-Disabled and Other Veteran Characteristics
Non-employer Statistics: Owner Demographics (NES-D)

– Evaluation and use of individual-level administrative and Census records to assign demographic characteristics to universe of non-employer firms = > Augmented existing Nonemployer Statistics (NES)
  • Assignment via anonymized individual identifier
  • Cross directorate project including research and production areas

– Production of **annual** non-employer business statistics by business owner demographics
  • Main demographic characteristics: gender, race, Hispanic origin, veteran status, age, place of birth
  • More geographic & industry detail possible
  • **Other potential (future) characteristics**: Other salary work, independent contractors, intellectual property, exports, marital status, number of dependents, collateral assets etc.