

Business Formation Statistics with Demographics

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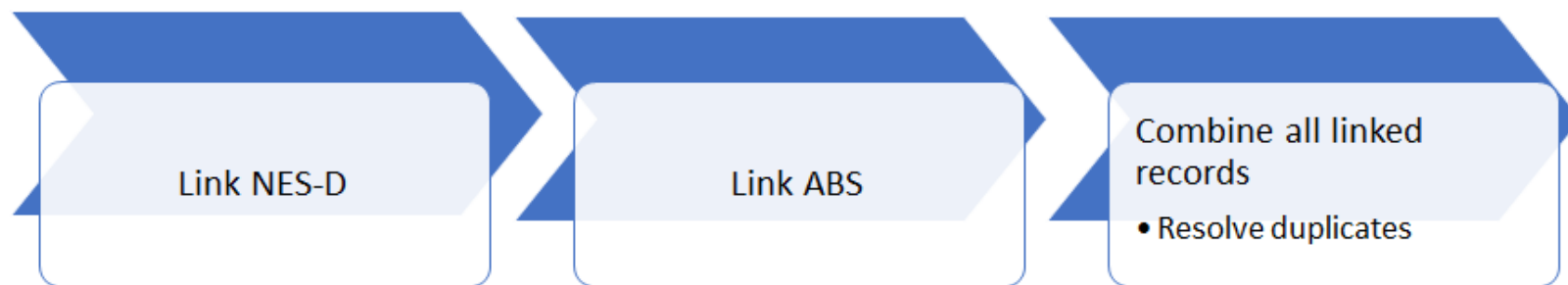
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Economic Indicators Division

Introduction/Motivation

- Business Formation Statistics (BFS) provides insight to the early-state business development on a weekly, monthly, and annual basis
 - Form SS-4 does not collect demographics
 - First attempt to explore what's possible in matching demo info to BFS using small extract of demographic data from other Census surveys
- Why include demographics?
 - Data equity
 - User demands
- Demographics data
 - Annual Business Survey (ABS)
 - Nonemployer Statistics with Demographics (NES-D)

Matching Process



- Matched by unique EIN for NES-D and most of ABS.
- ABS Matching Challenge:
 - Multiple firms/records linked to same EIN; which characteristics to select?
 - 905,000 unique EINs
 - 609,000 matched to BFS (67%)
 - 53,500 non-unique EINs
 - 11,000 matched to BFS (21%)

Non-unique EIN matching hierarchy

1. Select record with highest receipt, payroll, or employment

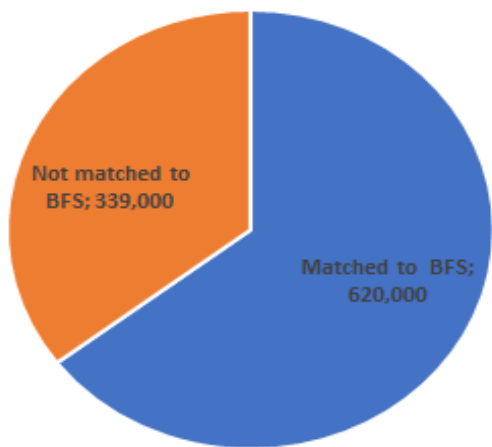
2. Aggregate receipt/payroll/employment by EIN and firm ID. Then choose largest firm per EIN

3. Each EIN has max. 2 unique firm IDs → sort by firm ID and select either first or second firm ID

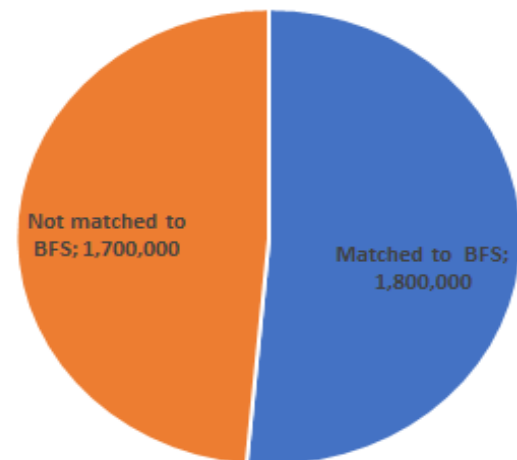
4. For each EIN with > 1 unique firm, records were consistent among all demographics except NAICS2 and FIPS state → take top 2 records based on most occurring FIPS/NAICS2 → select record with highest receipt/payroll/employment

Matching Results

2018
ABS

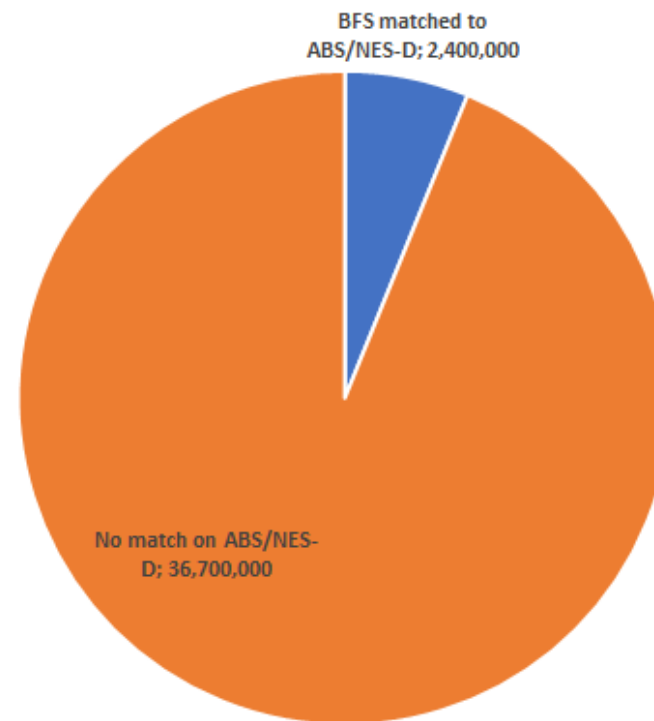


2018
NES-D



Much of ABS and NES-D matches to BFS but only accounts for a small portion of BFS.

2004-2018
BFS



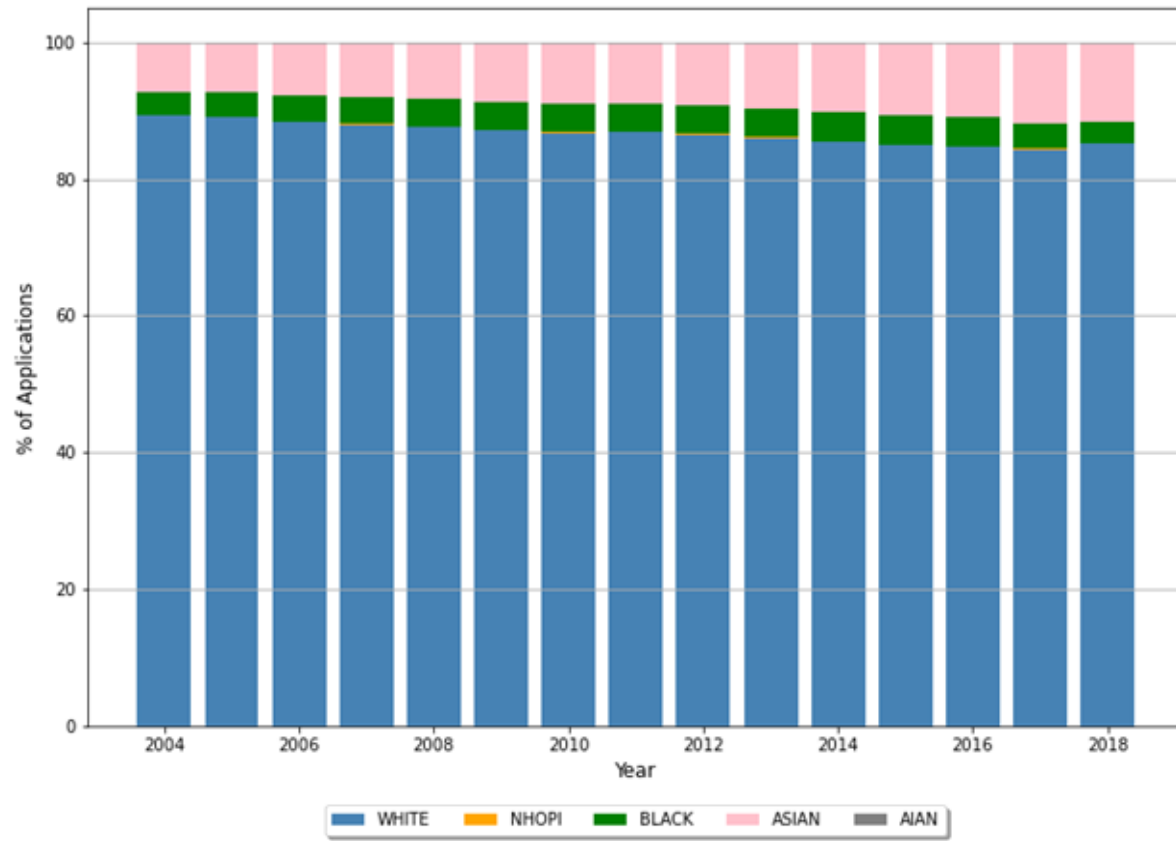
Publication Table Prototype

Race	Sex	BFS Application Counts – All Years
American Indian and Alaska Native (AIAN)	Male	3,300
	Female	1,800
	Equally male/female	250
Asian	Male	109,000
	Female	54,000
	Equally male/female	30,000
Black	Male	44,000
	Female	25,000
	Equally male/female	8,600
Native Hawaiian, and Other Pacific Islander (NHOPI)	Male	1,300
	Female	700
	Equally male/female	150
White	Male	1,026,000
	Female	369,000
	Equally male/female	295,000

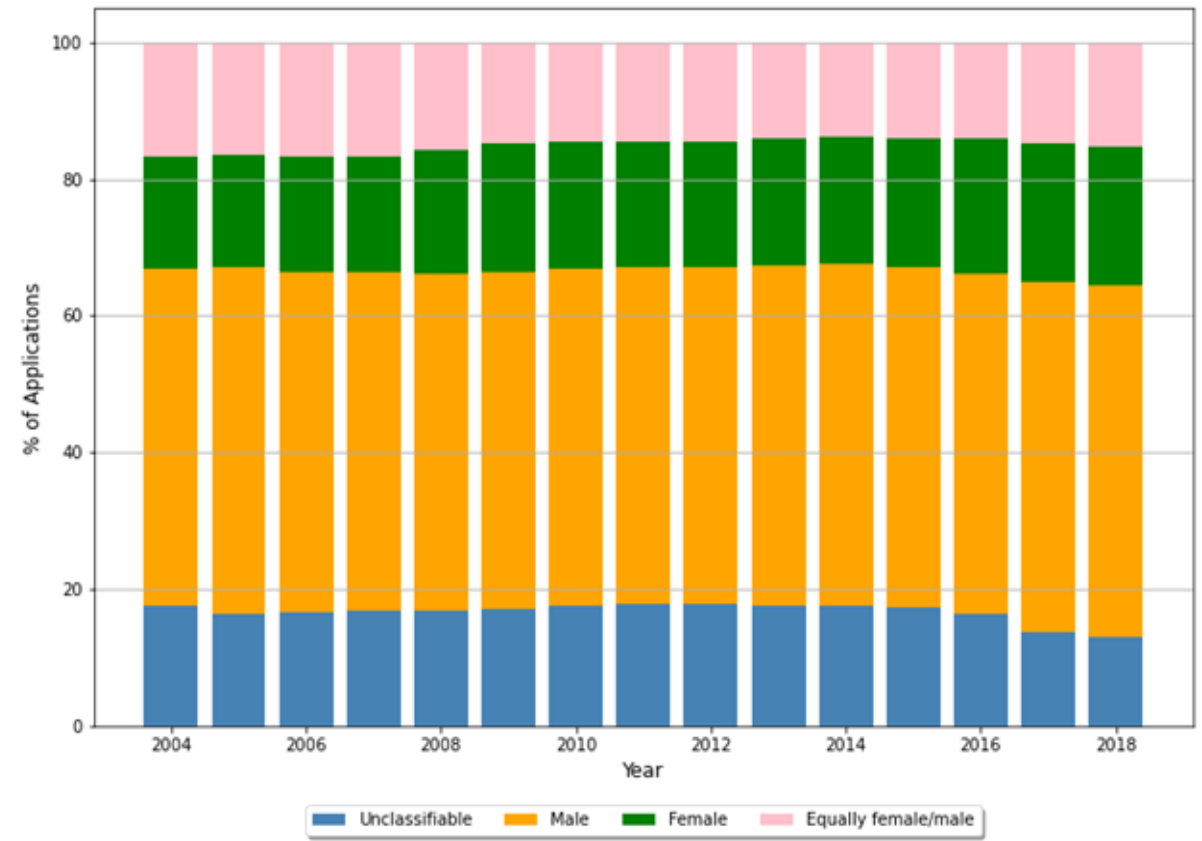
* The representativeness of the matched sample is unknown.

BFS tabulations by race and sex for matched sample

Business Applications by Race



Business Applications by Sex



Next Steps

- Include other years of ABS and NES-D
- Improve match rate
 - Bring in other Census data sources
 - Explore differences in match rates between different demographic groups
- Incorporate ABS margin of error
- Additional demographic variables such as age of business