

# Reservation Employer Establishments: Data from the U.S. Census Longitudinal Business Data Set

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July 24, 2017

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# Overview

- Pervasive poverty on American Indian reservations (~30%)
- High rates of unemployment
- There are potentially many causes for this low level of development

# Overview

- One area that has been little studied is business and entrepreneurship
- Generally, new businesses drive the growth of employment in US
- Due to relatively small sizes, not much is known about American Indian reservation-based firms in existing data sets
- Often not included in survey data due to confidentiality issues or sample size issues
- Business information for reservation geographies are not reported; collapsed into county

# Our Study

We geocode Census data on employer establishments:

- Longitudinal Business Database (establishments with employees) approx 8 million firms annually
- Integrated Longitudinal Business Database (establishments without employees) approx 18 million annually (soon)
- Survey of Business Owners (Every 5 years - 2002, 2007, 2012)
- Data includes government employment, not just private

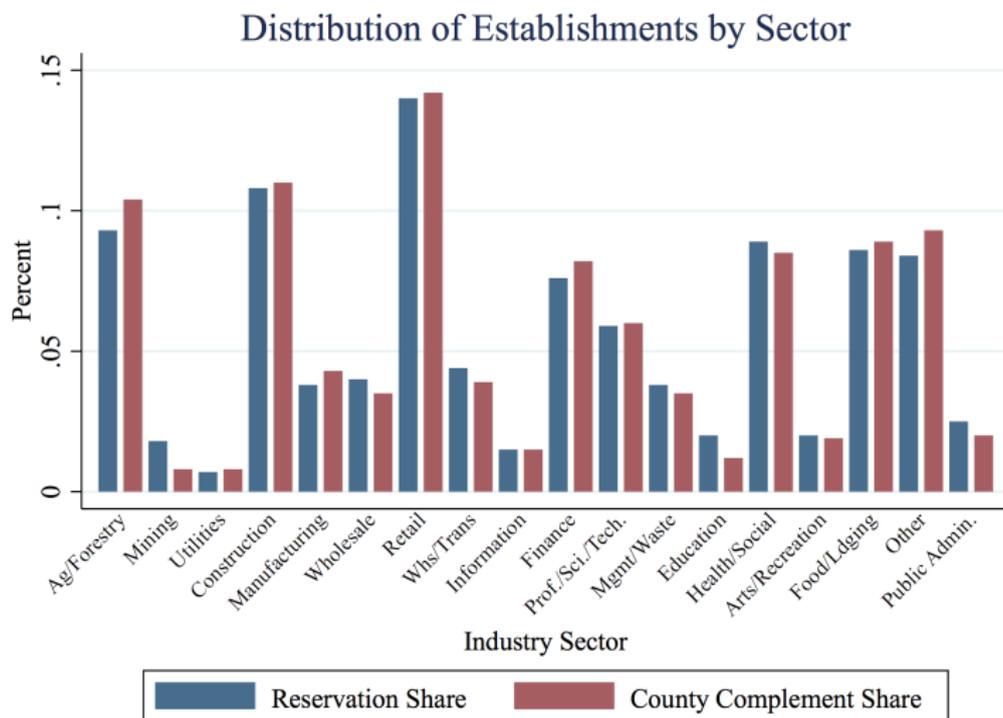
# Our Study

- Business Register data provides physical (and/or mailing) address for establishments
- Once longitude and latitude are assigned, we use Census TIGER shapefiles
- Create a measure of reservation location based on reservation boundaries
- We geocode Census data on employer establishments to compare reservations to non-reservation portion of nearby counties
- We then include the non-reservation portion of nearby counties (up to 10)

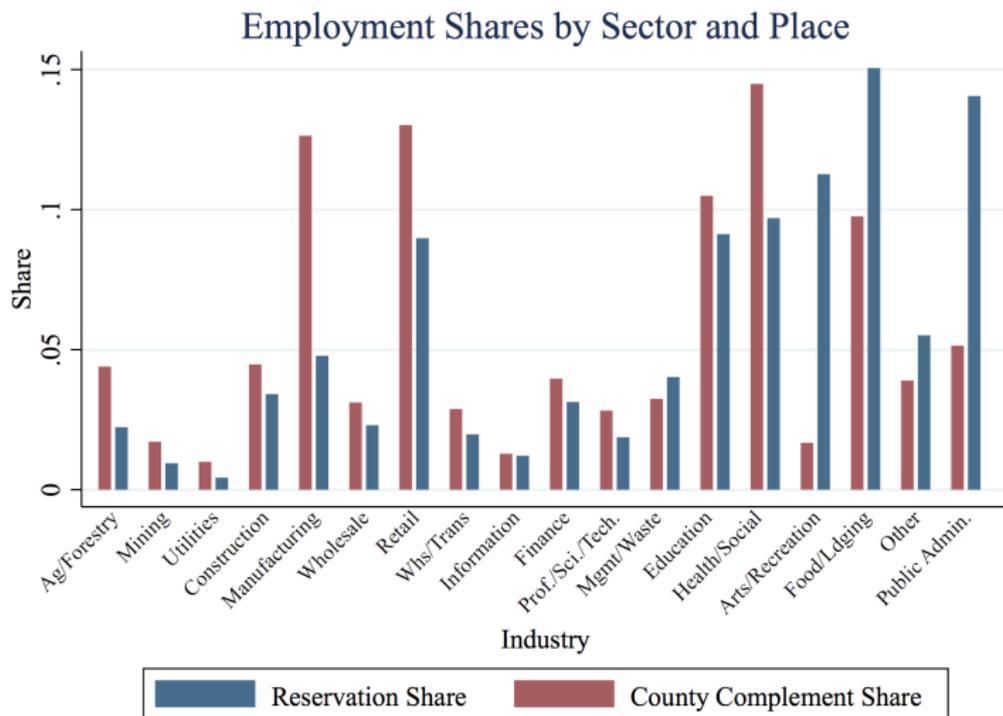
# Data Description

- 277 federally recognized reservations and 514 nearby county areas (Navajo not included) in 48 states
- Reservation residents = 8.2% of this population
- 18 industries (or sectors) 2- digit NAICS Codes
- E.g., mining; ag/forestry/fishery/hunting; construction; manufacturing; wholesale; retail; education; etc.
- About 281,000 total establishments, of which 5.2%, or not quite 15,000, are on reservations
- About 3.3 million jobs at these establishments, with 9.2%, or just over 300,000 on reservations

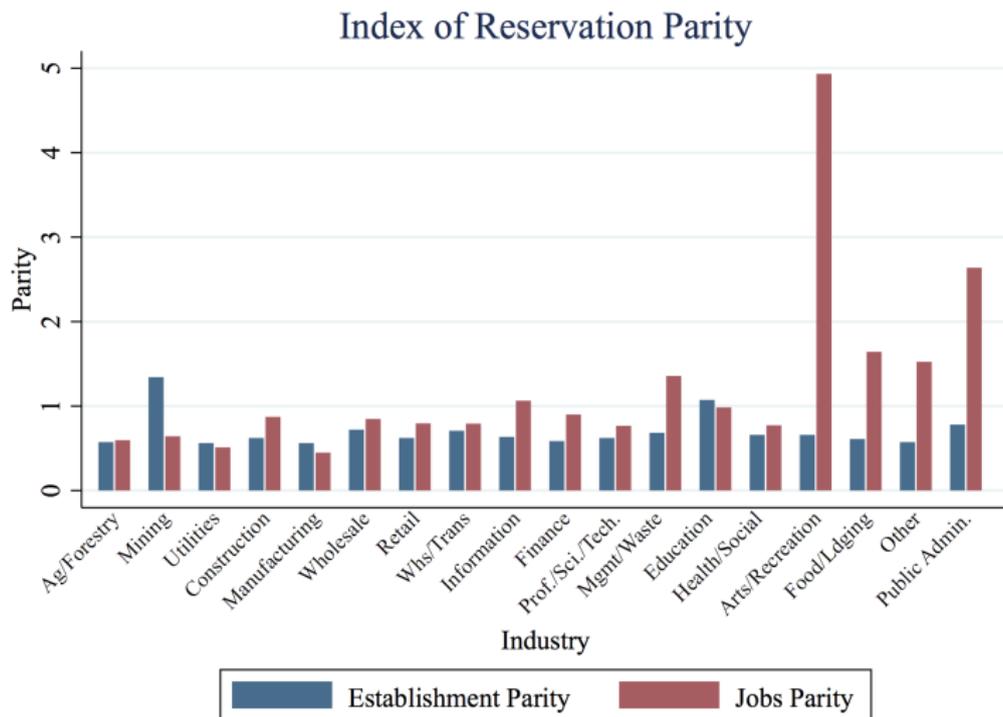
# Reservations Resemble Counties in Their Industry Mix of Establishments



## The Industry Mix of Jobs on Reservations Skews toward Recreation and Government



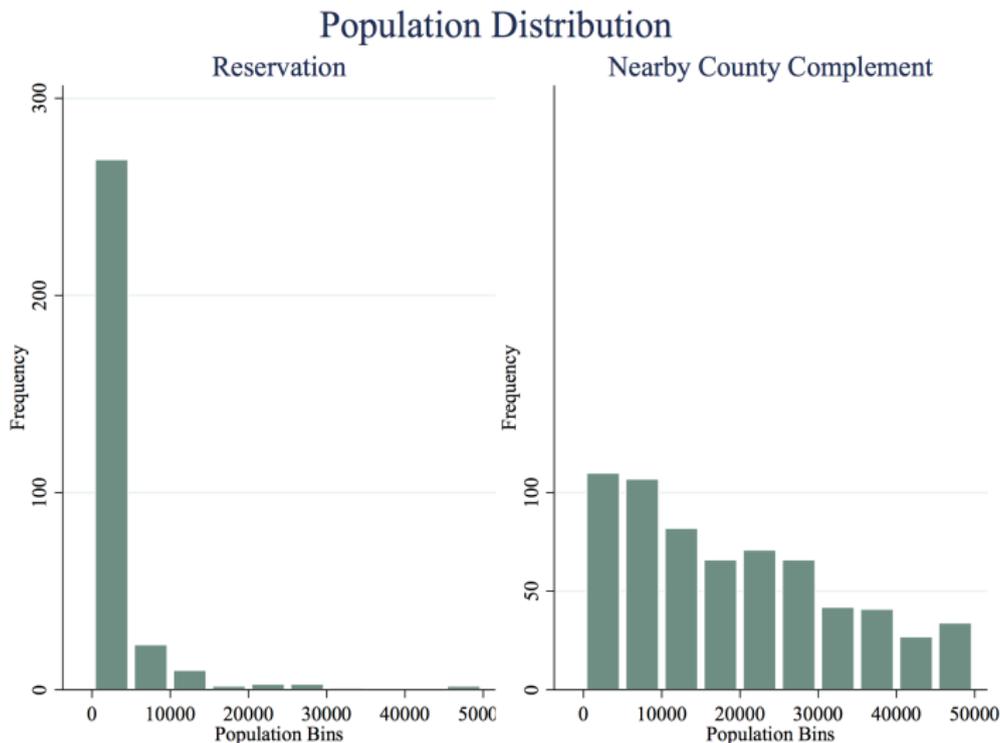
Compared to Counties Jobs per capita on reservation is closer to parity in general. Not true for number of firms per capita



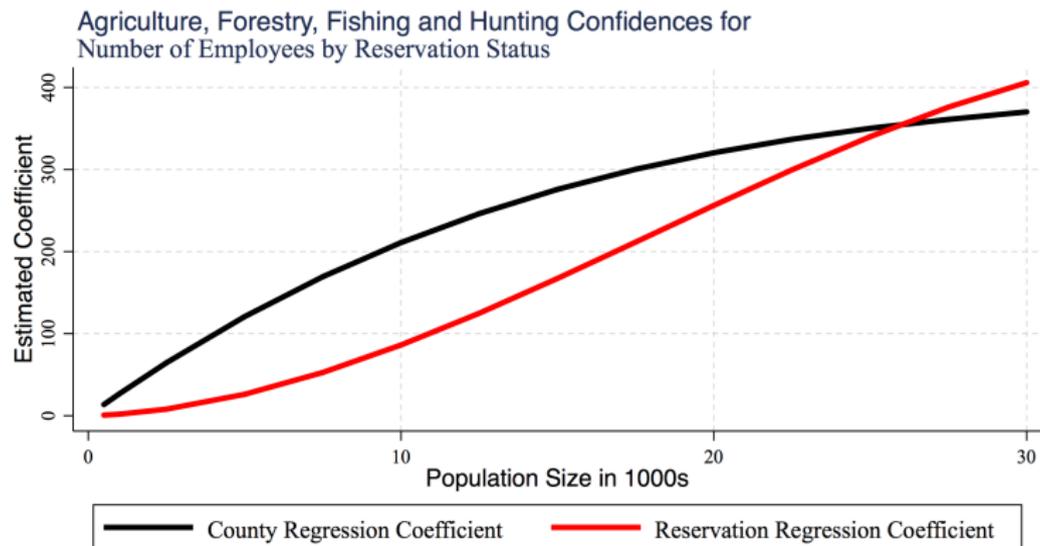
# Employment and Jobs by Population Size

- We fit a curve to the data for employment per capita and jobs per capita
- We examine whether the average differences shown in the previous figures persist at different reservation population sizes.

# Reservation Population Distribution Suggests a Need to Focus on Low-Population Areas

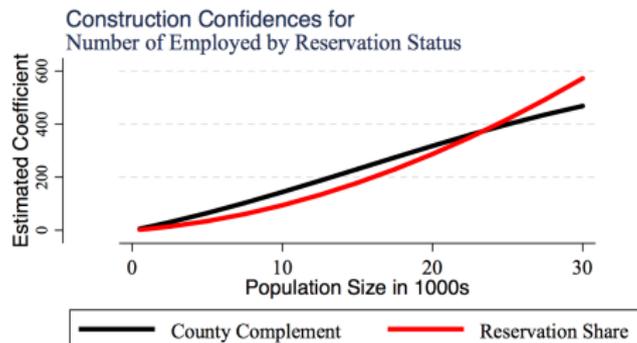
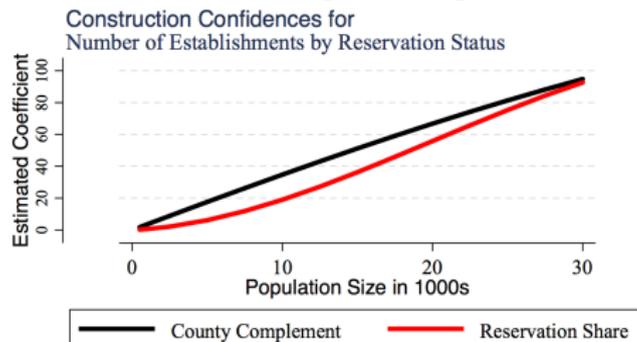


# Estimating Establishments and Jobs by Population Allows Us to Focus on Low-Pop. Areas



# Double Gap Example: Construction

## Double Gaps Example

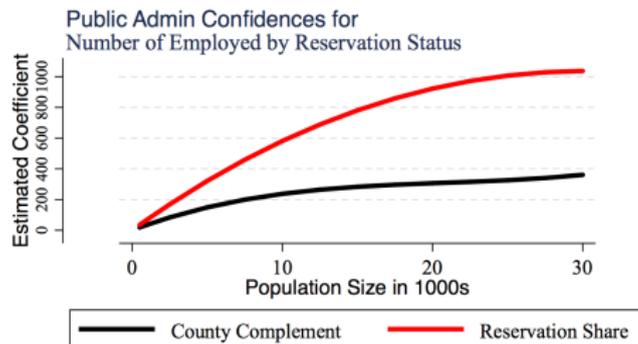
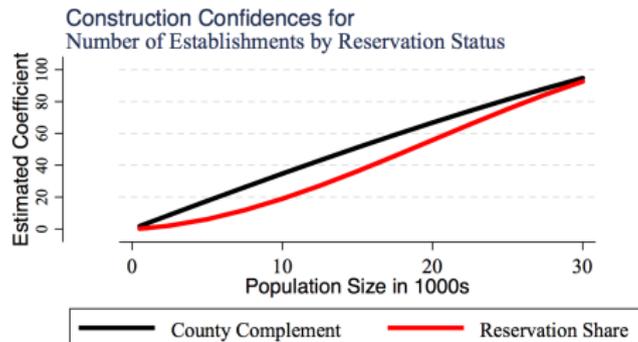


## Other “Double Gap” Sectors

- Ag/Forestry/Fishing/Hunting (up to 15,000)
- Mining (up to 10,000)
- Utilities(up to 15,000)
- Manufacturing (from 5,000 to 30,000)
- Wholesaling(up to 17,500)
- Retailing (up to 7,500)
- Transportation/Warehousing(up to 17,500)
- Information(up to 7,500)
- Finance/Insurance/Real Estate(up to 7,500)
- Education(up to 2,500)
- Health Care/Social Services (up to 10,000)

# Opposing Gaps Example: Public Admin.

## Opposing Gaps Example



# Key Findings

We find:

- Reservations have a similar industry mix of establishments but fewer of them in nearly all sectors
  - Number of employer establishments per capita is generally lower on reservation than off
- But big casino-related and gov't. sectors give reservations an edge in total job numbers
  - Number of jobs per capita is larger in certain sectors than off reservation counties (arts/recreation and public admin)

# Key Findings

- Reservations of <15K pop. dominate our data and are much more prone to deficits in establishments and jobs
- Differences correlated w. factors such as remoteness and lower income, but not fully accounted for
- Many gaps unexplained
- No causal explanation claimed
- Results are averages.

# What Explains These Patterns?

- Bottom line: We don't know yet
- Inclusion of additional explanatory variables account for some of the gaps
  - Population density
  - Rural vs. urban indicator (USDA)
  - Per capita income and poverty rate measures
  - Percent of 25+ population with bachelor's degree
- But it does not fully close the gaps

# Summary

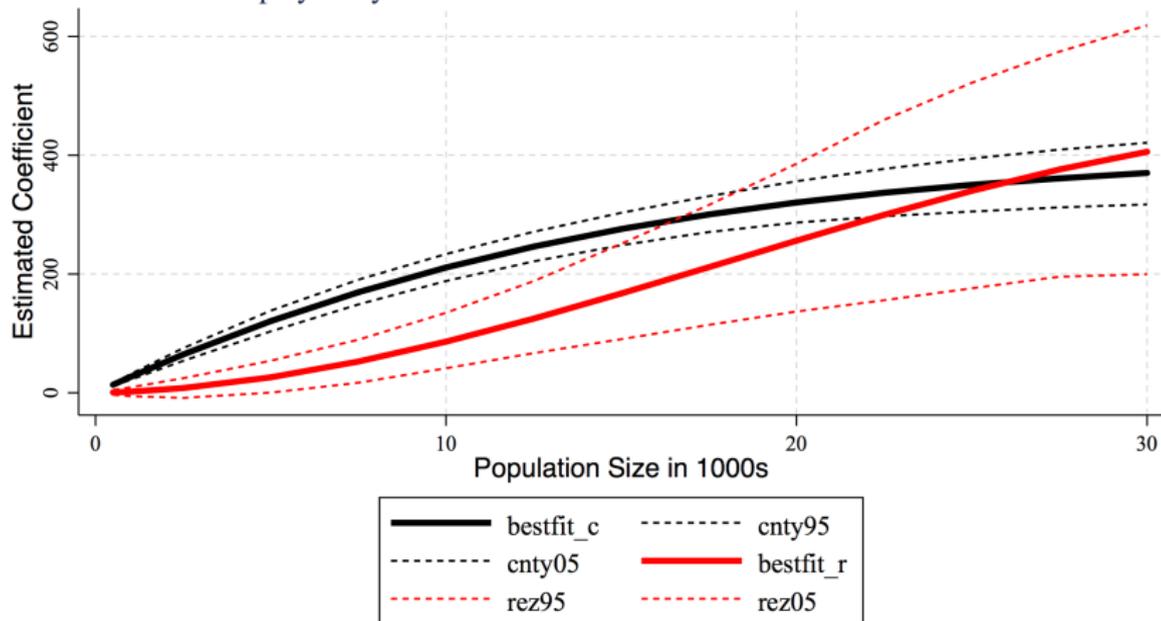
- First look at on-reservation employer firms
- Comparison with adjacent counties
- Number of firms pc is lower than in the counties
- Employment per capita is higher than in the counties
- Suggesting something other than profit maximization
- Employment maximization may be more important or alternative profit maximization

# Future Work

- Business Dynamics
  - Survival Rates over time by reservation status
  - Before and After Great Recession
- Determinants of Entrepreneurship
  - Using SBO: Race, Source of Capital
- Estimating Demand Effects
  - Using the start of Casino operations as a proxy for demand for services
  - Transportation, Food, Lodging, Cleaning
- Analysis of Sole Proprietor Sector

Industry Overview	NAICS codes	Total Estbs.	Pct. Estbs. on Res.	Implied # of Res. Estabs.	Total Emp.	Pct. Emp. on Res.	Implied # of Res. Emp.
Agriculture, Forestry, Fishing and Hunting	11	29,000	4.7%	1,363	138,000	4.9%	6,734
Mining, Quarrying, and Oil and Gas Extraction	21	2,400	11.0%	264	54,000	5.3%	2,840
Utilities	22	2,200	4.6%	101	31,000	4.2%	1,296
Construction	23	31,000	5.1%	1,581	144,000	7.2%	10,296
Manufacturing	31, 32, 33	12,000	4.6%	552	392,000	3.7%	14,426
Wholesale Trade	42	10,000	5.9%	590	100,000	6.9%	6,940
Retail Trade	44, 45	40,000	5.1%	2,040	416,000	6.5%	27,082
Transportation and Warehousing	48, 49	11,000	5.8%	638	92,000	6.5%	5,971
Information	51	4,300	5.2%	224	42,000	8.7%	3,662
Finance and Insurance, Real Estate, and Rental and Leasing	52, 53	23,000	4.8%	1,104	128,000	7.4%	9,446
Professional, Scientific, and Technical Services	54	17,000	5.1%	867	90,000	6.3%	5,652
Management of Companies and Enterprises; Administrative and Support; and Waste Management and Remediation Services	55, 56	10,000	5.6%	560	109,000	11.1%	12,132
Educational Services	61	3,400	8.8%	299	341,000	8.1%	27,519
Health Care and Social Assistance	62	24,000	5.4%	1,296	462,000	6.3%	29,245
Arts, Entertainment, and Recreation	71	5,400	5.4%	292	84,000	40.5%	33,978
Accommodation and Food Services	72	25,000	5.0%	1,250	337,000	13.5%	45,394
Other Services (except Public Administration)	81	26,000	4.7%	1,222	133,000	12.5%	16,625
Public Administration	92	5,600	6.4%	358	196,000	21.6%	42,395
<b>Total</b>		<b>281,300</b>	<b>5.2%</b>	<b>14,601</b>	<b>3,289,000</b>	<b>9.2%</b>	<b>301,632</b>

### Agriculture, Forestry, Fishing and Hunting Confidences for Number of Employees by Reservation Status



### Agriculture, Forestry, Fishing and Hunting Confidences for Number of Employees by Reservation Status

