Aging Immigrant Population by Legal Status

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Research Question

Data and Analysis

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Research Question

What are the socio-demographic characteristics of older (aging) adults in the U.S.?

- How does it differ by legal status and gender?
- Compared to Mexicans and Mexican-origin immigrants?

Data

- Dataset
  - Current Population Survey's (CPS) Annual Social and Economic Supplement (ASEC), 2016 and 2017
- Tools
  - Processing and Visualizations in R
  - Machine Learning in R
  - Presentation in LaTeX

Analysis

- Descriptive Analysis
- Imputation of Legal Status
  - Residual Method (Bachmeier, Van Hook, and Bean 2014; Passel 2007; Passel and Cohn 2009; Warren 2014) using CPS 2017
  - Machine Learning: Classification
    - CPS 2017 as training data
    - CPS 2016 as test data

Results

Older Adults by Legal Status

Age(s)	legal immigrants	undocumented	us-born
50 to 54 years	22.1%	40.1%	18.2%
55 to 59 years	19.2%	27.3%	19.4%
60 to 64 years	16.2%	19.7%	17.5%
65 and over	42.5%	12.9%	44.8%
Total	100.0%	100.0%	100.0%
% Within Older Adults	13.0%	1.6%	85.4%

Table 1: Author's Tabulations. Source: IPUMS Current Population Survey, 2017

Results

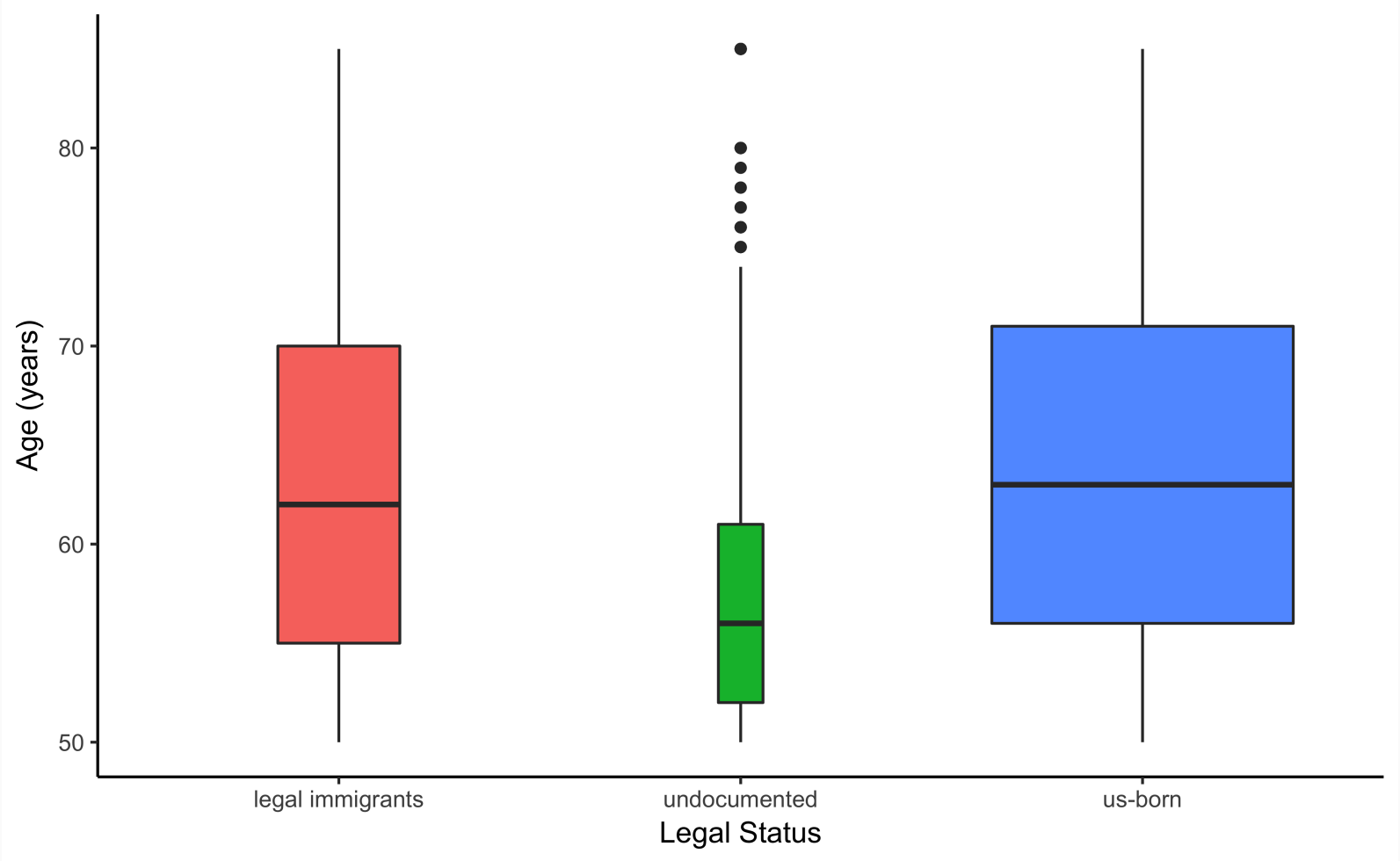


Figure 1: Distribution of Older Adults (50 years and older) in the U.S. by Legal Status (Source: IPUMS Current Population Survey, 2017)

Results

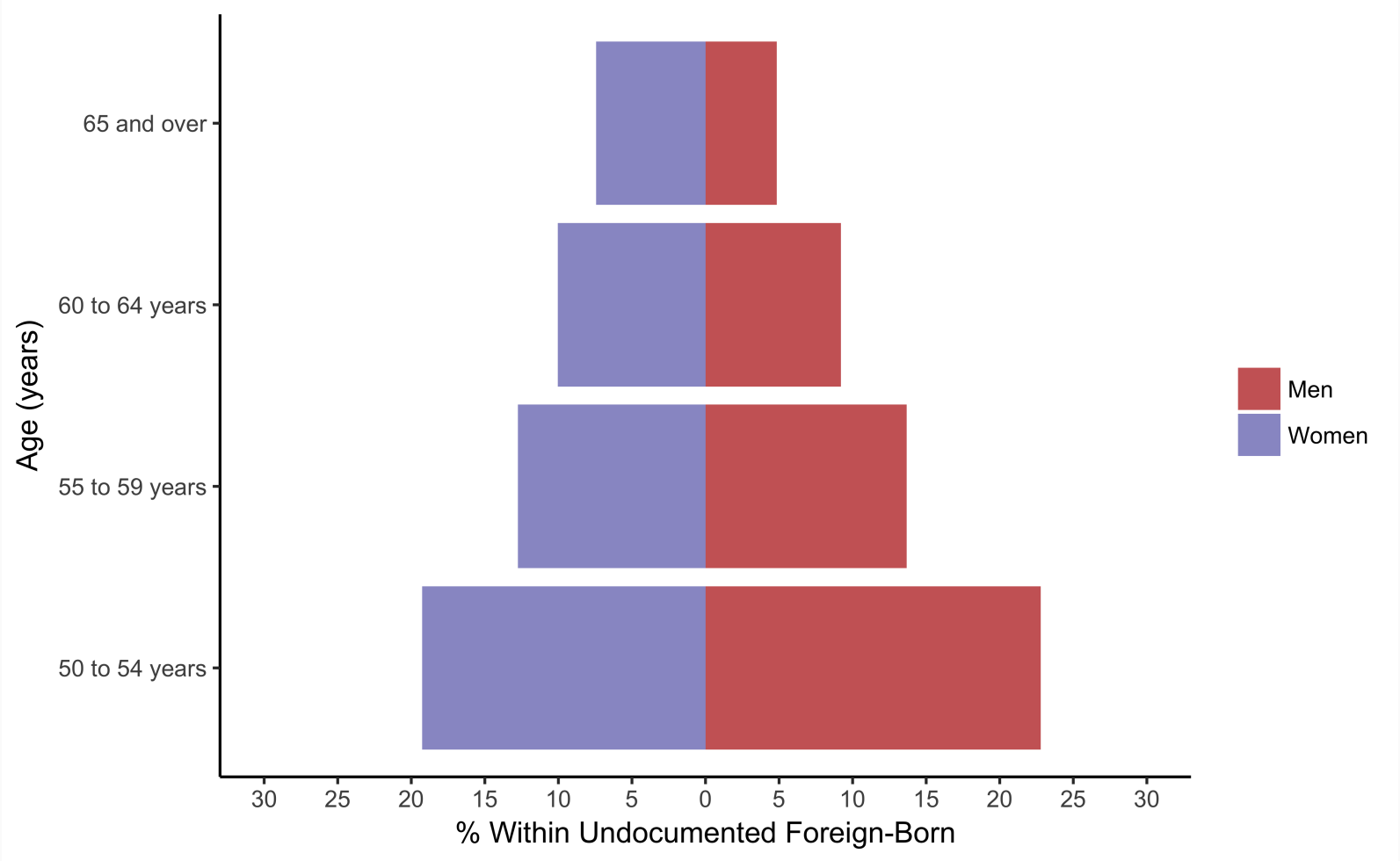
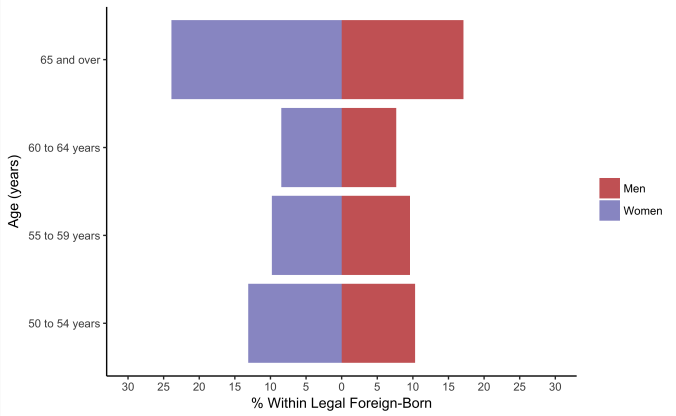
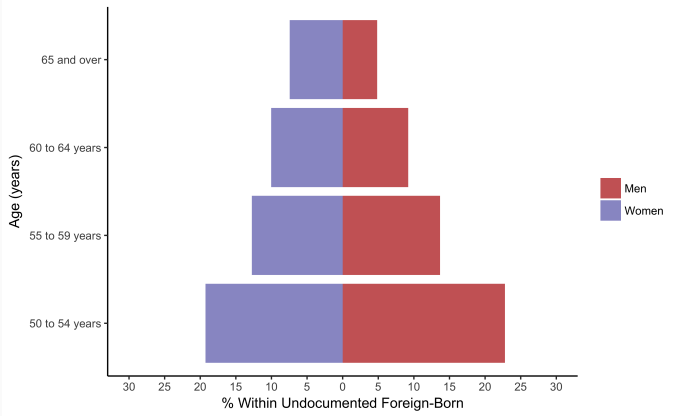


Figure 2: Undocumented Older Adults (50 years old and older) in the U.S. by Age and Gender, 1.8 million (Source: IPUMS Current Population Survey, 2017)

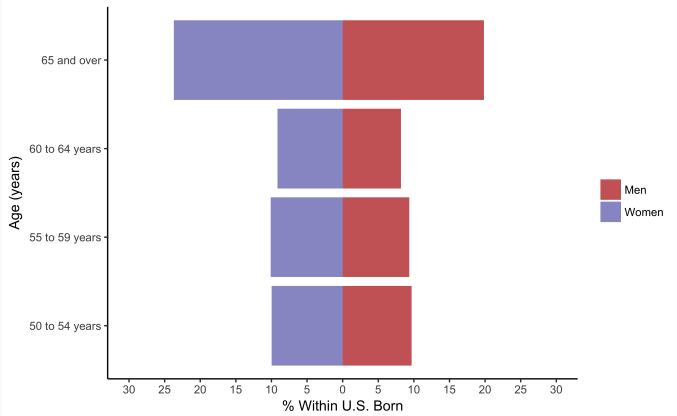
Results



(a) Legal Immigrants (3.8 million).



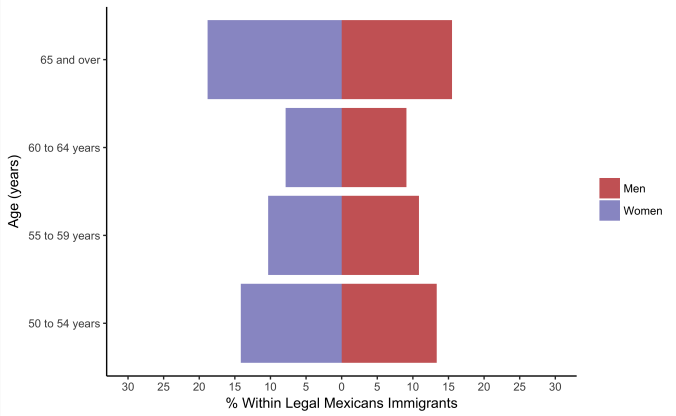
(b) Undocumented (1.8 million).



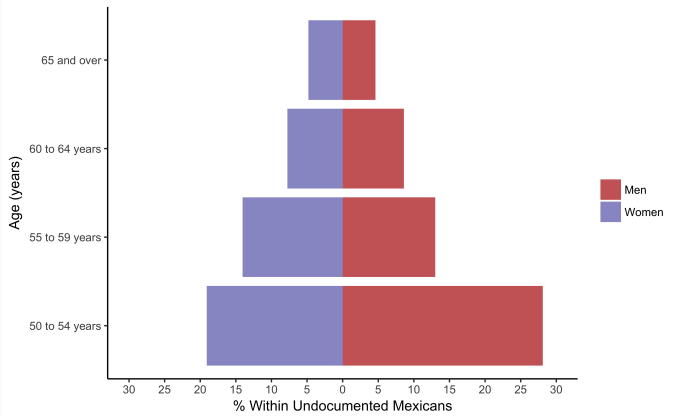
(c) U.S. Born (95.6 million).

Figure 3: Older Adults (50 years old and older) in the U.S. by Age, Gender, and Legal Status (Source: IPUMS Current Population Survey, 2017)

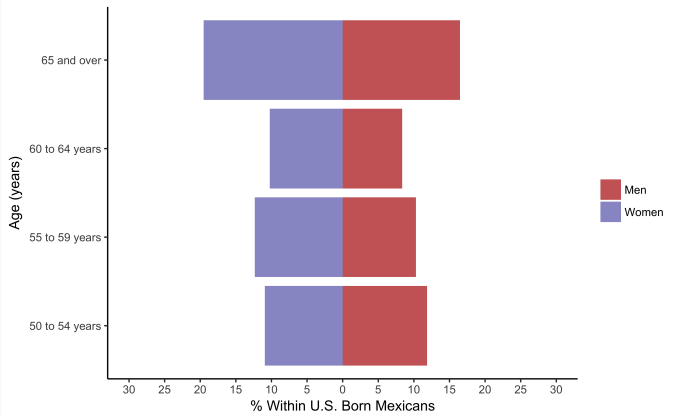
Results



(a) Legal Immigrants (3 million).



(b) Undocumented (700,000).



(c) U.S. Born (2.9 million).

Figure 4: Mexican Older Adults (50 years old and older) in the U.S. by Age, Gender, and Legal Status (Source: IPUMS Current Population Survey, 2017)

Results

Machine Learning in R

Influential Variables

- Citizenship (*Variable of most importance)
- Year of migration
- Recipient of Medicare
- Recipient of Medicaid
- Citizenship of spouse
- Birthplace
- Recipient of Food Stamp
- Occupation
- Class of worker
- Veteran Status

Decision Tree Diagram

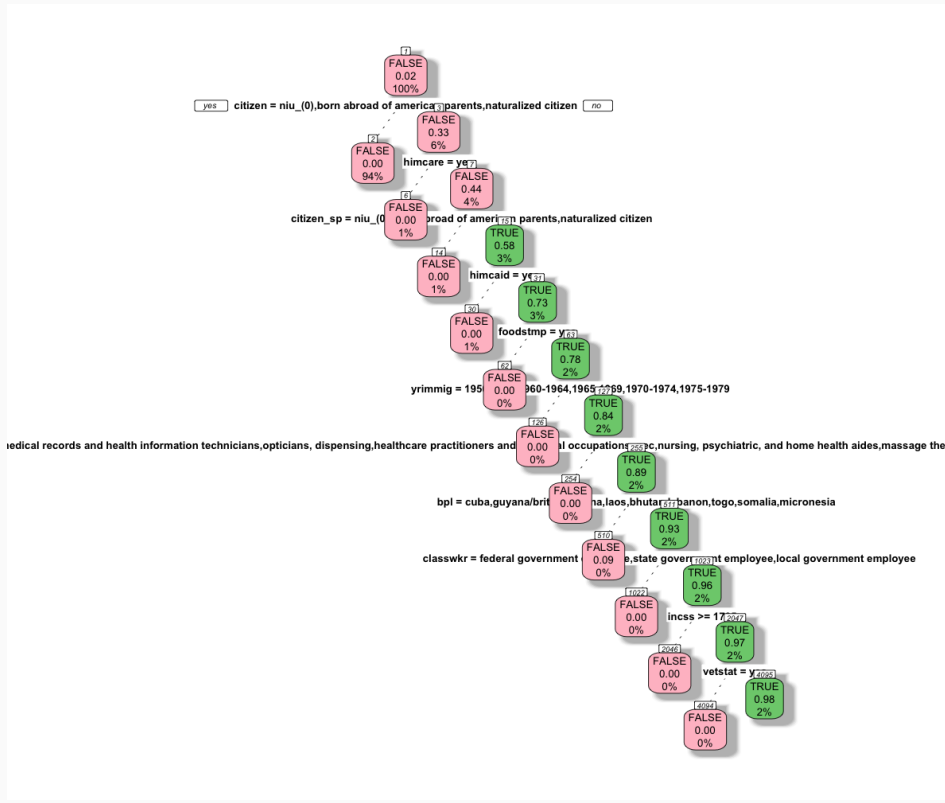


Figure 5: Decision Tree. (Source: IPUMS Current Population Survey, 2017)

Results

Influential Variables: Output

citizen	yrimmig	himcare	himcaid	caid	citizen_sp	bpl	incss	age	fbpl	yrimmig_sp
3294.946593	688.655218	415.575130	406.913427	397.523117	377.042501	343.573008	284.739812	260.509783	207.057358	170.169624
empstat	bpl_sp	occ2010	foodstmp	fbpl_sp	mbpl_sp	nativity_sp	metarea	classwkr	mbpl	hispan
166.039202	164.830969	153.296232	150.104678	148.815005	146.813009	144.143682	93.554281	83.576846	73.919347	69.511606
vetstat	incssi	marst	famsize	statecensus	statefip					
39.573634	36.517872	32.921566	17.710459	3.861756	3.861756					

Challenges

- Theoretical Assumptions of Imputation of Legal Status
- Machine Learning Method

Next Steps

- Re-weighting data (over- and undercount)
- Continue to explore best method for machine learning
- Apply to more years, CPS AESC (2016 and prior years)
- Apply these methods to the American Community Survey (ACS; 1% sample or 3 million households) because it has more observations. I am focusing on a very specific group.

Appendix

Residual Method Variables

- That person arrived before 1980;
- That person is a citizen;
- That person receives Social Security benefits, SSI, Medicaid, Medicare, or Military Insurance;
- That person is a veteran, or is currently in the Armed Forces;
- That person works in the government sector;
- That person resides in public housing or receives rental subsidies, or that person is a spouse of someone who resides in public housing or receives rental subsidies;
- That person was born in Cuba (as practically all Cuban immigrants were granted refugee status before 2017);
- That person's occupation requires some form of licensing (such as physicians, registered nurses, air traffic controllers, and lawyers);
- That person's spouse is a legal immigrant or citizen.