

Group Project for ST599

Meet date: 4/20/14

- I. Intro and motivations
 - A. Statistics draws diverse backgrounds together
 - B. Some projects require several different summaries to be compiled
 - 1. Large sandbox to play in with ACS data
 - C. Four group members = four subjects
 - 1. Heather – Solar energy adoption in the US
 - 2. Andrew – Comparison of commute times between PDX and LA
 - 3. Ethan – Veteran disability status and self-care ability
 - 4. Nandhita – Immigration and income levels
- II. Andrew – Transportation
 - A. Is there a difference in commuting patterns between Los Angeles and Portland?
 - 1. Motor vehicles still the most predominant mode of commutes
 - 2. Longer commutes by walking and cycling in PDX
 - a) Correspond with higher proportions of use
 - i) Not a bad thing
 - ii) Higher proportion = more contribution to mean
 - iii) Indicative of sprawl, Los Angelians only walk/bike if they are close to work!
 - 3. Portlanders love sustainable modes for their commutes (bike/walk/subway)
 - 4. Most interesting result: One respondent in PDX commutes by ferry! (9 in LA)
- III. Heather – Energy usage in the United states
 - A. IS the US adopting solar power for their residences?
 - B. ACS only lists one alternative energy source in its questionnaire – solar
 - 1. Excluding undefined “other forms” category
 - C. Refer to US map, Figure 1
 - 1. HI a clear leader in solar
 - 2. Some adoption in the western US, with NM leading in the continental states
 - 3. Other popular forms:
 - a) Utility gas
 - b) Other fuel
 - c) Bottled, tank, or LP gas
 - d) Electricity
 - D. Is there a link between energy cost and solar adoption
 - 1. Skewed data -> Use medians
 - 2. CA has lowest fuel bill; AK has highest
 - a) Is CA low because of moderate climates (no gas usage in winter)?
- IV. Ethan – Veteran disability status and self-care
 - A. How do the proportions of veterans reporting problems with self-care differ by state?
 - B. Figure 3 – US map for self-care by state
 - 1. Clustering in south
 - 2. A few outliers scattered around
 - a) interesting south eastern coast states are not having trouble compared to neighboring south
 - b) Not immediately obvious why this is so – future work?
- V. Nandhita – Immigration vs. US born income comparison
 - A. How do income levels of immigrants compare to those of US born workers?
 - B. Figure 4 – Whisker plot of income comparison by state
 - 1. Median values higher for US born than immigrants in every state (excl. PR)

2. Cannot necessarily claim statistical significance due to IQR overlap
- VI. Problems encountered
- A. General
 1. Non-response in data set
 - a) Scope of project not wide enough to apply non-response tools
 2. Establishing communication and coordinating schedule
 - a) Online tools: Google Groups and Google Drive
 3. Continuity
 - a) Four people + four topics means the flow of the project must be coordinated
 4. Question change
 - a) Original question was in regards to adoption of internet in the US
 - b) No data on household internet prior to 2012 - unanswerable
 5. GitHub struggles
 - B. Topic specific
 1. Transportation
 - a) Areas for comparison: City proper versus overlapping counties
 - b) Where do people select the MAX in Portland? No Light Rail category
 2. Energy
 - a) Data coding for bill amounts was cryptic
 - b) 0,1,2,3 meant to code scenarios such as "incl. in rent" or "doesn't use"
 - c) 4-999 was bill amount
 3. Veterans
 - a) No clear distinction of "NA" versus "Elected not to answer"
 4. Immigrant income
 - a) Broken laptop caused a big hurdle
 - b) Initial graphical displays misleading and irrelevant to the question
- VII. Future improvements/applications
- A. Incorporate sample weights at various levels (household, district, state, etc.)
 - B. Utilize tools to account for non-response
 - C. Public policy applications
 1. Improvements to public transit specific to various sprawl categories
 - a) Awareness campaign to increase ferry revenue!
 2. Improve coverage and education regarding solar power options
 3. Enhanced programs for supplemental care to veterans in needed states
 4. Policy improvements to increase immigrant income levels