

Project 7b.040.UNCC - Extending Payroll Data through Micromodeling

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Project Start: 1/1/2019				End Date: 12/31/2019				Project Budget: \$50,000				Spent: \$0			
<p>Project Summary: The project aims at extending ADP's current real income datasets to better represent the overall economic impact of income. We will evaluate various government and third-party datasets for potential to improve the effectiveness. One of the advantages of the ADP data is it includes the places of work and places of residence. Special focus will attempt to include work and home information in the work. The augmentation will be done at a fine spatial resolution (such as census geographies, and ZIP or ZIP-4 levels), and final temporal resolution (monthly to annually, as deemed possible and appropriate). An appropriate framework for such augmentation will be identified, implemented and validated during the performance period. The project will involve the following tasks:</p> <p>(i) identifying the sources and magnitude of needed augmentation of ADP's income data at place of work and place of residence;</p> <p>(ii) identify sources of data that can be used to augment ADP income data; Such data may include U.S. Census - ACS Commuting, U.S. Census - ACS Income Data, U.S. Census - ACS PUMS, U.S. Census - Longitudinal Employer-Household Dynamics, U.S. Census - Economic Census / ZIP Code Business Patterns, U.S. Department of Labor - Bureau of Labor Statistics: Occupational Employment Statistics, U.S. Department of Commerce - Bureau of Economic Analysis;</p> <p>(iii) review the relevant literature on data imputation, sampling, errors and uncertainty in government data collection and sharing, data aggregation and disaggregation based on time and geography;</p> <p>(iv) identify suitable modeling framework (including microsimulation, empirical Bayes estimation, dasymetric analysis, ...);</p> <p>(v) coding to implemented the framework on a test dataset (such as Charlotte and North Carolina);</p> <p>(vi) validate the augmentation approach on test dataset on historical data series;</p> <p>(vii) scale up the modeling work to the US at various resolution of places of work/residence.</p>															
<p>Details of Progress/Achievements: None so far</p>															
PROJECT DELIVERABLES															
Deliverable				Achievements				Remaining To Do							
1. Intermediate report identifying the sources and methods extending and generalizing ADP's W2 based income data, and reviewing relevant literature				None so far				All							
2. Framework to augment ADP income datasets based on relevant data sets and data analytics techniques.				None so far				All							
3. Validation tests.				None so far				All							
4. Final report including framework, list of datasets used for augmentation and their metadata, detailed instructions to implement the proposed framework and proposed next phase.				None so far				All							