The Case Against Demographic Data in Input-Output Driven Economic Impact Analysis

Topic: Employment Policies
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Research Question
Satellite accounts are widely utilized in conjunction with EIA to examine effects on non-monetary changes per a certain level of industry output (Miller & Blair, 2022; ten Raa, 2017). Most often, employment (and sometimes unemployment) is added to models to show the jobs associated with a certain level of output (Batey & Madden, 1983; Batey, 1985; IMPLAN Group, LLC 2023). There is inherent danger in adding certain satellite accounts to an EIA. This concern arises when demographic data including age, gender, race, socioeconomic status, and other descriptive data points are linked. Data included in these models is based on collected data on the arrangement of the economy in a given time period. While EIA models use data that describes an economy for a certain year, making assumptions about how this carries forward and prescribing outcomes for demographic variables is dangerous territory. Not only is the data volatile over the short term, discrimination in the workforce is still prevalent. This paper argues that demographic data should never be utilized as a satellite account for economic impact analysis. While results stemming from these studies are unlikely to be vetted, it is extremely unlikely that the new employment stemming from an analysis would mirror the latest demographic dataset.

Methodology & Data
To analyze the discrepancies between descriptive demographic data and actual employment a sample of five universities in various locations across the United States. Information was gathered from each universityâ€™s website outlining the most recent gender and racial breakdown of their faculty and staff. The data from these universities was compared to data on gender and race from the U.S. Bureau of Labor Statistics and the composition of the Metropolitan Statistical Area (IMPLAN Group LLC, 2023; U.S. Bureau of Labor Statistics, 2022). An economic impact analysis was analyzed hypothesizing what an additional 100 jobs would look like for each university.

Discussion & Novelty of Research
Demographic data shifts drastically over time by data point and region. The case can be made for examining one or two demographic variables within an economic impact analysis like employed versus unemployed or urban versus rural, the generalized usage of pairing swaths of this data within these models is nothing short of terrifying. A recent report on transit infrastructure examined potential investments in a transit system which details the economic, workforce, environmental, and equity impacts (KPMG, 2021). Utilizing the Socioeconomic Indicators Module from REMI, they detail three potential investment scenarios (REMI, 2021). Some valuable and defendable information is highlighted like how a significant financial investment could drop the unemployment rate by 0.03% (KPMG, 2021). However, the majority of the equity impact focuses on statements including â€œ80% of employment gains to benefit workers in the lowest two income quintiles,â€• â€œAmong minority groups, Hispanics benefit from over 20% of the total jobs gained,â€• and â€œAn average of 35% of employment gains to benefit Black workers, with more gains in the operations phaseâ€• (KPMG, 2021).

While it is unlikely that results presented from an equity perspective would be checked for accuracy, the persistent brand of discrimination calls for research that advises with the best data and the best intentions for informed decision making. Inferences about potential impacts on output, employment, occupations, and environmental effects seek to enlighten. Inferences that sit on unreliable data and

add discrimination on top, are taking the science of economic impact analysis too far in their claims. As economic impact is considered both a science and an art, researchers should endeavor to utilize the models appropriately while realizing their inherent limitations, and in this case rely more on the science and less on the art.