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Article Critique for Topics in Labor Economics, Fall 2018
People versus machines: The impact of minimum wages on automatable jobs
by Grace Lorden and David Neumark

The article investigates the impact of an increase in minimum wage on jobs that are easily automatable. Essentially, it asks whether an increase in minimum wage causes an employer to prefer an automated (capital) substitute to an employee. While the average effect shows no significant difference, there is significant heterogeneity by both industry and demographic group. Specifically, older, low-skilled workers in manufacturing see the greatest harm via such substitutive effects. On the other hand, an increase in the minimum wage may improve job prospects for higher-skilled workers.

The researchers are Grace Lorden and David Neumark. Lorden is an Associate Professor in Behavioural Science at The London School of Economics and Political Science. Her research focuses on technology, work, occupational sorting, and diversity and inclusion. Neumark is a Professor of Economics at the University of California at Irvine. His specific fields are labor economics and econometrics, with his graduating thesis focusing on male and female differentials in the labor force. His research tends to focus on minimum wage, low-income and discrimination. Both researchers have an emphasis on labor economics, particularly the aspects that can benefit or harm low-income and marginalized workers.

There are a few specific economic considerations in this article. Substitution is the concept that consumers (in this case, employers, as they are the consumers of labor and capital) may replace one good with another. In this case, the form of substitution is automation, i.e. replacing *labor* with *capital*. Automation is a contemporary topic of concern because of increasing abilities of technology and decreasing cost. Workers may also, from an economic

standpoint, be grouped meaningfully in different ways, including by age, skill level, and industry. Finally, one of the most controversial topics in economics is the minimum wage, i.e. a wage floor that employers must meet.

One of the strengths of the article is that it stratifies employees by age, skill and industry. The authors claim that automation is more likely to affect low-skill, low-wage workers, with the jobs potentially replacing them (i.e. servicing the new robots that automated their jobs) requiring a higher skill-level. This is reasonable, and it is additionally always good practice to stratify data and analyze if any such stratifications make a significant impact. It also surveys a long period of time (1980 to 2015), so its results are more likely to be meaningful in a general manner, not just for a specific time period. Additionally, the authors' work understanding and relating to the current body of literature seems quite strong.

One of the potential issues with the article is the way they handled data. The minimum wage in particular was defined as the average over the current month and last eleven months. While companies' responses to minimum wage increases may happen over time, the minimum wage is not a continuous variable. Treating it as one, while it allows for additional econometric analysis, could capture exogenous variables. However, given the available data, this may have been the best solution.

Overall, the data and overall analyses conducted by this article are quite sound, and its stratification of workers by age, skill level, and industry when analyzing whether an increase in minimum wage increases automation, causing job loss.