Final Project
Christian Sicars Bravo
CS112 Spring 2018

TO: Luis Raúl González Pérez – President of the National Human Rights Commission, Mexico

FROM: Christian Sicars, Consultant

DATE: April 20, 2018

RE: Adjusted Effects of Obesity on Wage Discrimination and Sensible Steps Forward

<div align="center">SUMMARY</div>

The research article that suggested a causal link between obesity and labor discrimination in the form of lower wages overestimated the effect. I modified the original methods to obtain a better (albeit smaller) estimate. I also retract my earlier recommendation about requesting action from policy makers, given that the evidence for our case is weak. Thus, I suggest you command the Commission's directors to gather observational data on the discrimination cases in their districts to perform a domestic analysis.

PROBLEM & OBJECTIVE

I was hired with the expectation of producing empirical evidence that informed your decision on whether to release a public statement to the Congress, calling for tighter anti-discriminatory laws in the Labor Code. Specifically, our case required data that suggested a causal link between an individual's obesity and decreases in their wages.

The information I gathered from your directors indicates that there are growing concerns among labor lawyers around certain cases of blatant discrimination in the workplace against obesity. During our previous meeting, I presented a brief section of a research paper that presents the negative impact of obesity on wages in the United States. I then suggested you to draft a the statement with your executives release it in the coming week.

However, I recently reviewed the results of the paper and conjectured that the paper's methods might have lead to and overestimation of the effect of obesity on the differences in hourly wages. I reasoned that the treatment and control groups – those with the condition and those without, respectively – were not similar enough to justify a comparison and draw strong conclusion. This was evident from the lack of balance across certain variables between the groups. Here I present the results of an extended analysis I ran to obtain more accurate results.

FRAMEWORK

El Turabi & Saynisch (2001), authors of the paper referenced here, perform a type of matching that is suboptimal. Matching is a tool that can make the control and treatment groups more similar, in terms of variables that are measured firsthand, to allow for more plausible comparisons, and thus more reliable estimates of the effect that concerns the Commission. I employed a more recent and more effective variant of matching, called genetic matching, and obtained more balance between the two comparison groups. We can expect this method to deliver more realistic results.

RESULTS

Column 1 provides in Table 1 provides the estimated impact of each variable on hourly wages using the unmatched observational data, just for reference. El Turabi & Saynisch use Mahalanobis matching, and the results show that obesity by itself is not a significant regressor of the wage offset. But both insurance and the interaction between the two are significant –

although of opposite signs and the coefficient for insurance is bigger –, and the results are still

confusing. The final column includes the coefficients resulting from genetic matching.

TABLE 1. EFFECT OF OBESITY WAGE OFFSET		
Dependent variable: $ln(wage_{hour})$		
Observational	Mahalanobis	Genetic
(1)	(2)	(3)
Obese		
-0.203	0.090	0.056
(0.491)	(0.548)	(0.548)
Insured		
2.368***	2.590***	2.730**
(0.261)	(0.468)	(0.535)
I(Obese*Insured)		
-1.448**	-1.554**	-1.342*
(0.567)	(0.676)	(0.724)
Constant		
24.435***	31.619**	33.876*
(7.342)	(13.743)	(17.598)
*p<0.1; **p<0.05; ***p<0.01		

CONCLUSION & RECOMMENDATION

Given that, after rerunning the analysis with methods that yield estimates that are

expected to be more accurate – given the balance they give to the control and treatment

groups – I suggest suspending the conclusions that we made from this paper and proceeding

to gather data on domestic cases.

References

El Turabi, A. & Saynisch, P. (2001). *Overweight and Overburdened: Race and Gender*

Disparities in the Incidence of the Healthcare Costs of Obesity. Harvad Dataverse

Retrieved April 15, 2018. doi: https://doi.org/10.7910/DVN/25680