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To: Robert Feldstein, Director, Office of Policy & Innovation. Office of Mayor Edward B. Murray

From: Professor Michael Reich, Center on Wage and Employment Dynamics, University of California at Berkeley

Re: UC Berkeley and the UW reports on the effects of Seattle's minimum wage policy

This memorandum responds to your request for my comments on the new report by the Seattle Minimum Wage Team of the University of Washington (hereafter UW Report).¹ I received an advance copy of the UW report on the evening of June 21. While I have had the opportunity to read the report, at this point I can only provide some quick comments on it. My comments reflect my many years of experience conducting academic research on minimum wage effects as well as my expert knowledge of the relevant academic literature.

Seattle implemented its minimum wage policy just as the city was experiencing a burst rapid economic growth, at a rate equal to or greater than that of any large city in the U.S. The city's most recent unemployment rate has fallen to a historic low of 2.6 percent, its employment has grown in a few years from 510,000 to about 550,000, and average wage gains for Seattle-area private sector workers have been greater than in the rest of Washington State or the U.S. as a whole.²

What role, if any, has Seattle's minimum wage policy played in generating this positive record? The UW and Berkeley reports both examine the effects of the 2015 and 2016 Seattle minimum

¹ As you know, the City contracted with my unit (CWED) in 2014 to produce a report reviewing the research literature on minimum wages. Our just-released report on Seattle's minimum wage experience in 2015 and 2016 (hereafter Berkeley report; <http://irle.berkeley.edu/seattles-minimum-wage-experience-2015-16/>) does not involve any contract or compensation from the City.

² <http://bottomline.seattle.gov/wp-content/uploads/2017/06/EconomicIndicatorsFinal.pdf>;
https://www.bls.gov/regions/west/news-release/employmentcostindex_seattle.htm



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wage increases on wages and employment in Seattle. Each uses data from employer payroll records that are reported to state Unemployment Insurance agencies, and each uses “synthetic control” methods to identify the causal effects of the policy on wage and employment outcomes.

Causal means isolating the effects of just the policy from other coincident changes, such as Seattle’s strong recent economic growth. The synthetic control method is designed to do just that. It constructs a “Synthetic Seattle” that draws from similar areas outside Seattle and which together closely match Seattle’s wage and employment outcomes for a long period before the policy went into effect. The basic idea is that Seattle experienced the policy change while the otherwise similar Synthetic Seattle did not.

The UW and Berkeley reports arrive at quite different conclusions. I explore here some reasons why the UW report is problematic and why its conclusions are unwarranted. The UW team has told me that they consider their report to be a work in progress and that they are open to suggestions to improve it. I offer these comments in that spirit.

A. Robustness of the UW Synthetic Seattle results

1. The Berkeley report uses the public version of the UI dataset, known as the Quarterly Census of Employment and Wages (QCEW). Our data contains wage and employment information aggregated by detailed industry. UW uses a confidential version of this data, which includes wage, employment and hours worked data on individuals. The UW data is limited to Washington State, while ours draws from the entire United States.
2. Because of their data limitations, the donor pool for UW’s “Synthetic Seattle” draws only from areas in Washington State that do not at all resemble Seattle. The Berkeley report draws from a more representative national sample to construct its control. The Berkeley results are therefore likely to be much more robust. UW would be advised to test the robustness of their results with a broader donor pool.



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B. Exclusion of multi-site businesses

- 1. The UW report excludes multi-site businesses from its dataset, which removes 48 percent of Seattle's low-paid workforce out of their study.**³ This major exclusion raises a big red caution flag about the representativeness of their sample and therefore about the interpretation of their findings. Yet the UW report provides essentially no evidence that their sample is representative of all jobs in Seattle and Washington.
2. As the UW paper states, multi-site businesses typically report all their employees and payroll for a single address, usually their headquarters, thereby creating some noise in the geographic information in the UI data. The report then argues that the exclusion of such businesses will understate UW's employment effect estimates, citing their own employer surveys (in footnotes 14 and 15). However, those surveys cover only Seattle employers-- without a control group of employers elsewhere. Moreover, surveys of employers' likely or actual responses to a minimum wage policy in other areas of the United States have been notoriously unreliable and lacking in predictive power.
- 3. In the UW data set, workers who leave a single-site business for a multi-site business to benefit from the higher wage mandate or because they received a better offer are not counted in the wage gains, but are counted in jobs lost.** Seattle's policy essentially sets a higher minimum wage for all multi-site businesses, counting them as large employers.⁴ The exclusion of multi-site businesses, which is not standard in studies that use these data, may therefore create major biases in their

³ Workers who were paid under \$13 per hour. See UW's July 2016 report, Appendix D. Multi-site businesses typically report all their employees and payroll for a single address, usually their headquarters. Some multi-site businesses with workers in Seattle are headquartered in Seattle (Starbucks, Seattle's Best Coffee), but many (McDonalds, Microsoft and Boeing), are headquartered elsewhere.

⁴ Seattle counts franchises as large businesses even they have only a few sites in Seattle. A large majority of fast food restaurants are part of franchise chains. According to the International Franchise Association, the majority of franchises have local multi-unit owners, so they are excluded from the UW sample.



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results. Of course, some employees may move from multi-site businesses to single site businesses, but this mobility direction is likely to be smaller. It is not possible to estimate the size of this bias without access to the underlying data.

C. Exclusion of jobs that paid less than \$19 implies higher estimates of actual wage effects

1. The UW report focuses only on jobs that had paid less than \$19, which surprisingly is much too low. Table 3 of the UW report indicates that the number of jobs paying under \$19 in all single-site businesses fell by about 6000 between 2014 and 2016. Yet the number of single-site jobs at all pay levels in Seattle increased by about 44,000 in the same period. This pattern of average higher pay and more employment appears also in food services: a decline of about 150 jobs paying under \$19 from 20014 to 2016 and a simultaneous increase of about 4,500 jobs in all pay levels at single-site food service establishments.

These numbers represents very good news: Seattle's pay levels and job numbers both went up, at least among single-site businesses. We want to know, though, how much of this upgrading in overall pay and employment at all pay levels can be attributed just to the minimum wage policy.

2. The UW report does show (Table 9) quite large estimated reductions—using their synthetic control estimator—reductions in restaurant jobs that paid less than \$19 while finding no effect at all on the number of restaurant jobs at all pay levels. This important result implies that the policy increased pay substantially among restaurants without costing jobs, just as the Berkeley study finds.⁵ However, they do not report comparable results for all industries.

⁵ As I indicate below, the UW report draws an entirely difference inference from this table. It would be helpful to know how much restaurant pay increased because of the policy. The Berkeley study finds



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3. In other words, UW's main results tables report their synthetic control estimates only for jobs that pay less than \$19, not for all jobs. They claim that cutting their data off at this level simply follows the lead of another recent study.⁶ I will leave comments on whether they do so correctly to the authors of that study.
4. The UW report claims that it is much more informative to examine minimum wage effects on workers paid less than \$19 than on all workers. This is not necessarily correct, as the increased purchasing power of workers getting raises will be felt in industries that pay throughout the wage spectrum.
5. In any case, higher employment effects among a narrower slice of low-paid workers should be accompanied by comparably higher wage effects among the same narrower slices of the labor market. In other words, as long as one can find an actual wage effect, the estimated effects of actual wage increases on employment should be roughly the same, whatever the slice of the labor market that one examines. The UW's focus only on jobs that paid less than \$19 should not lead them to find higher estimates of a given actual wage increase upon employment.

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significant increases in restaurant pay, except in the full-service restaurant sector. UW unfortunately does not report any pay effects in restaurants.

⁶ Cengiz, Doruk, Arindrajit Dube, Attila Lindner and Ben Zipperer 2017. "The Effects of Minimum Wages on the Total Number of Jobs: Evidence from the United States Using a Bunching Estimator." SOLE Meetings, Raleigh, NC. <http://www.sole-jole.org/17722.pdf>



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D. The UW estimates of the employment effects of actual wage increases fall entirely outside the range of research in labor economics

The UW report nonetheless finds an unprecedented impact of wage increases on jobs, ten times higher than the average in 942 published minimum wage and non-minimum wage estimates, and triple that of minimum wage critic David Neumark.⁷

E. Conclusion

There is no reason why Seattle's low-paid employers should be so much more sensitive to wage increases than employers elsewhere. The unlikely UW estimate of large negative employment effects likely results from the problems noted above. Their findings are not credible and drawing inferences from the report are unwarranted.

⁷ More precisely, the UW labor demand elasticities estimates are about -3, compared to just above 1 for Neumark and about 0.3 in more credible recent minimum wage analyses. See, for example, Licher, Andreas, Andreas Peichl and Sebastian Sieglloch 2015. "The Own Wage Elasticity of Labor Demand: A Meta-Regression Analysis." *European Economic Review* 80, C: 94-119. They find a median labor demand elasticity of -0.4 overall, only a handful that are more negative than -1 and no reported estimates more than -2. Their average labor demand elasticity for unskilled workers is about -0.1.