The Effects of Minimum Wages on Tipping:

A State-Level Analysis

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Abstract

Analyses of state differences in minimum wages and tip percentages found that: : (i) states with higher regular minimum wages have lower average tip percentages in coffee shops and higher average tip percentages in restaurants (after controlling for tipped minimum wages and cost-of-living), and (ii) states with higher tipped minimum wages have lower average tip percentages in restaurants and higher average tip percentages in coffee shops (after controlling for regular minimum wages and cost-of-living) . Although the data is only correlational and does not prove causality, these findings support the idea that paying tipped workers higher wages decreases the tip percentages those workers receive. Discussion centers on the potential processes underlying such an effect, its implications for minimum wage policy, and directions for future research.

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1. Introduction

Lately, there has been a lot of interest in raising both the tipped and non-tipped minimum wages in the United States. Minimum wage laws specify the minimum legal wage in some specified jurisdiction. In the U.S., minimum wage laws exist at the federal, state and municipal government levels -- with more local statutes typically imposing higher required minimums than those required by the more global statutes. Many (but not all) of these minimum wage laws allow employers to pay a lower wage to tipped employees than to non-tipped ones -- with the difference between the tipped and non-tipped minimum wages (known as the "tip-credit") varying across jurisdictions and statutes. At the state and municipal levels, many increases in one or both of these minimum wages have been passed in the past few years with some of those increases having already occurred and others slated to occur in the near future (Tedeschi, 2019). Little legislative action has occurred at the federal level in recent years, but advocates are pressing for an increase in the federal minimum wage to $15 an hour along with an end to the tip-credit and many Democratic politicians are onboard with these policy changes (Campbell, 2019).

Restaurant owners and managers generally oppose efforts to increase minimum wages or reduce tip-credits (Kelso, 2019). They argue that low profit margins in the industry mean that increasing wages would have to be paid for by increasing prices or by reducing number of employees or hours worked (Lucas, 2019). The former threatens demand levels while the latter

threatens service levels – neither of which is good for the industry they claim. These claims have been extensively tested in academic research. Though there is still some disagreement among scholars about these effects, the best evidence indicates that increasing minimum wages increases restaurant prices (Aaronson, French and MacDonald, 2008; Allegretto and Reich, 2018), has weak to no effects on short-term restaurant employment (Lynn and Boone, 2015; Schmidt, 2015), and increases both firm exit and entry (Aaronson, et. al., 2018). Overall, it appears that increasing labor costs are passed on to consumers in the form of higher prices rather than lower employment in the short-term and that that they cause labor-intensive restaurants to be replaced by more capital-intensive ones in the long-run (Aaronson, et. al., 2018).

Interestingly, while labor advocates support minimum wage increases, many restaurant servers oppose them. Some servers fear loss of work hours or even employment following minimum wage increases. However, most fear that any wage increases will be offset by larger decreases in tip income (Dewey, 2017; Lifson, 2017). The dynamics underlying the latter potential effects are complex and differ with the specific minimum wage changes being contemplated. Increasing the tipped minimum wage could encourage restaurants to replace tipping with wages (Cohen, 2015), which servers fear will be lower than their current tip income. Eliminating the tip-credit altogether, as some states have done and others are considering, would allow restaurants to broaden tip pools under recent federal law (Richardson, 2018) and servers fear the resulting loss of tip income to co-workers should their employers take advantage of this opportunity. Finally, increasing the regular or tipped minimum wages might decrease consumer tipping, either as a response to higher prices, lower service levels, or lowered perceptions of server need (Gray, 2018).

Unlike managers' claims about minimum wage effects on prices and employment, servers' fears about minimum wage effects on tipping have received very little research attention. In fact, no published academic article and only a few industry white papers examine these issues. First, a U.S. Census Bureau working paper reported that a higher tipped minimum wage (controlling for the regular minimum wage) increased employer paid wages to servers but decreased tip income by a comparable amount (Jones, 2016). Second, a study of U.S. Bureau of Labor Statistics data put out by ROC United found that NY border counties saw larger increases in total restaurant wages and annual salaries following NY minimum wage hikes than did comparable border counties in neighboring states (Paarlberg and Reyes, 2018). Since total server income is the sum of wages and tips, this latter finding suggests the NY minimum wage increases did not decrease tipping enough to offset the wage hikes. Third, an analysis of compensation survey data by Glassdoor found that servers reported lower inflation-adjusted tips per hour in states using the federal tip-credit than in states with a smaller tip-credit (Sockin, 2018). Finally, a survey conducted by Upserve of restaurant waiters found that roughly 70 percent reported no change in either their tips or total pay in states with recent minimum wage increases (Reimer, 2019).

The contradictory results of these existing white papers prohibit strong conclusions about minimum wage effects on tipping. Furthermore, all of these existing studies suffer from a direct or indirect dependence on potentially biased self-reports of servers' incomes. Servers' desires to hide taxable tip income probably lead them to report only as much tip income as necessary. Furthermore, while all credit tips have to reported, many employers require their servers to report only enough cash tips to insure that the tip-credit is covered. Thus, servers probably report less tip income the lower the tip credit. The two studies using Census Bureau data involved

employers' reports of their servers' tip incomes, but those employers depended on servers to report their cash tips, so this data is also likely to be biased.

Given the weaknesses of existing studies, there is need for more academic research that examines minimum wage effects on measures of tipping obtained independently of servers. In addition, more research is needed to examine minimum wage effects on tipping of service workers other than restaurant waiters and waitresses. The study reported below answers that need by using point-of-sale (POS) and customer survey data on tipping in coffee shops as well as restaurants. State average tip percentages in coffee shops and in restaurants are correlated with the regular and tipped minimum wages in those states in cross sectional, regression analyses. In addition, panel data analyses examine the state level relationships between changes over time in tipping averages and changes in regular minimum wages and tip-credits.

2. Method

2.1. Measures of state-level tipping

Measures of state differences in tipping were obtained from both private and public sources as detailed below. All the data except for the 2018 TSheets data are from POS systems and include only credit card transactions. The sample of states included the District of Columbia except in cases noted below where that data was not available.

Coffee-Shop Tip Size - 2015 Square Data. The average tip sizes by state left in coffee shops by customers using Square's payment system in 2015 came from Risen (2015). The specific dates of data collection were not reported by the source, but a related company report associated with national coffee day 2018 involved data from June 2017 to June 2018, so it is likely that the data reported in the 2015 came from June 2014 to June 2015. The state averages ranged from 15% to

21%, so they are unlikely to include tips of zero, though this is not explicitly reported by the source. Data for every state except DC was obtained from a graph providing the average tip amount as a percentage of the bill with the tip percentage rounded to the nearest whole amount.

Coffee-Shop Tip Size – 2016 Square Data. The average tip sizes by state left in coffee shops by customers using Square's payment system in January 2016 came from Risen (2016). The state averages ranged from 14.2% to 18.6%, so they are unlikely to include tips of zero (though this is not explicitly reported by the source). Data on tipping in coffee shops for every state except DC was obtained from a graph classifying the states on a five-point ordinal scale as well as from the precise averages provided for the five least and most generous states. Precise average percentages were used in the analyses when available. For states with intermediate values not precisely reported, interpolation was used to convert ordinal measures to approximate percentages as follows - 1 = 15.2%, 2 = 15.6%, 3 = 16%, 4 = 16.45%, 5 = 16.9%.

Coffee-Shop Tip Size - 2018 Square Data. The average tip sizes by state left in coffee shops by customers using Square's payment system from June 2017 to June 2018 was provided directly by Square. The state averages ranged from 7.5% to 17.5% and include tips of zero.

Coffee Tip Size Index. The 2015, 2016 and 2018 Coffee-shop tipping measures from Square were conceptually similar and positively correlated ($.33 \leq$ all r's $\leq .76$), so they were standardized and averaged into a Coffee Tip Size Index. This measure was an average of those values available, which effectively replaced missing values for one component with the mean of the available components as advocated by Roth, Switzer and Switzer (1999). It covered every state (including DC), had a Cronbach's alpha of .79, and was used in the cross-sectional analyses reported below. The standardized components of this index were used in the panel analyses.

Restaurant Tip Size - 2013 NCR Data. NCR provided the author private anonymized data on every April 2013 credit card transaction of seven different unidentified restaurant chains. Data from the five largest of these chains, which operated in 32, 33, 37, 40 and 46 states respectively, were used to calculate a state-level measure of restaurant tip size. The customers of the chains providing data are not representative of the various states' populations, but they are well matched across states, so should provide good measures of state differences in tipping. The median tip as a percentage of the bill by state was obtained for each of the five chains and those medians were then correlated. Although all the state median tips were reliably positively correlated (all $.54 < r's < .92$, all $p's < .01$), the correlations involving one chain were substantially smaller than the others (mean $r = .59$ vs .84), so the state medians from this chain were dropped. The remaining state medians were averaged into a single measure. This measure was an average of those values available, which effectively replaced missing values for one component with the mean of the available components as advocated by Roth, Switzer and Switzer (1999). The resulting measure covered every state except Alaska and DC and had a Cronbach's alpha of .92.

Restaurant Tip Size – 2015 Lavu Data. The average tip as percentage of the bill left in restaurants using Lavu's iPad point of sale system in 2015 was obtained by state from Wells (2016).

Restaurant Tip Size - 2018 TSheets Data. The average tip size as a percentage of the bill reported in 2018 by 208 survey respondents from each state (except DC) was obtained from https://www.tsheets.com/resources/tipped-worker-survey. Respondents were asked "How much do you typically leave as a tip on average" with response options of 0, 5, 10, 15, 20, 25 or 30 percent. Although the survey did not specify a service context for the question, the fact that the vast majority of tips in the U.S. are left in restaurants (Fors Marsh Group, 2018; Pearl, 1985),

that the response options were percentages consistent with the restaurant tipping norm, and that the average responses within each state correlated highly with 2013 NCR Restaurant Tip Size (r = .69) suggests that most if not all respondents interpreted the question and replied in terms of their tipping of restaurant waiters/waitresses.

Restaurant Tip Size Index. The 2013, 2015, and 2018 Restaurant Tip Size measures, from NCR, Lavu and TSheets respectively, were conceptually similar and positively correlated (.50 <all r' < .70), so they were standardized and averaged into a Restaurant Tip Size Index. This measure was an average of those values available, which effectively replaced missing values for one component with the mean of the available components as advocated by Roth, Switzer and Switzer (1999). It covered every state (including DC), had a Cronbach's alpha of .80, and was used in the cross-sectional analyses reported below. The standardized components of this index were used in the panel analyses.

2.2. Measures of Minimum Wages

The U.S. Department of Labor website reports the regular and tipped minimum wages by state (including DC) from 2003 to the present. Data reported by this source for the years 2013 to 2018 were used in the current study as described below. If a state changed its minimum wage in the middle of the year, the value for that state/year was computed as an average of the monthly values in the state that year.

Minimum Wage Indices. Indices of the regular and tipped minimum wages operative in each state were created by averaging these minimum wages across the years from 2013 to 2018 (see Figure 1). The regular minimum wage index had Cronbach's alpha of .95 and the tipped

minimum wage index has a Cronbach's alpha of .99. These indices were used in the cross-sectional analyses reported below.

Yearly Regular Minimum Wages and Tip-credits. Yearly regular and tipped minimum wage data from 2014/2015 (averaged), 2016, and 2017/2018 (averaged) were used in panel analyses of Coffee Tips and data from 2013, 2015, and 2018 were used in the panel analyses of Restaurant Tips.

2.3. Measures of state-level control variables

Six potential state-level control variables were obtained from the sources listed below. The sample of states included DC for all of these variables.

Median Age. The average median age of the population in each state from 2013 to 2017 was obtained from the U.S. Census Bureau's American Community Survey available at www.census.gov.

Median Household Income. The average median household income in each state from 2013 to 2017 was obtained from the U.S. Census Bureau's American Community Survey available at www.census.gov.

Percent White. The average percentage of the population that is non-hispanic white in each state from 2013 to 2017 was obtained from the U.S. Census Bureau's American Community Survey available at www.census.gov.

Economic Inequality (GINI). The average GINI Index in each state from 2013 to 2017 was obtained from the U.S. Census Bureau's American Community Survey available at www.census.gov.

Cost of Living. The price parities for all goods in each state from 2013 to 2017 were obtained from the Bureau of Economic Analysis' website at https://apps.bea.gov/iTable. The data were averaged across years into a State COL Index, which had a Cronbach's alpha of .99.

Unemployment. The unemployment rates in each state from 2014 to 2018 were obtained from the Bureau of Labor Statistics' website at https://www.bls.gov. The data were averaged across years into a State Unemployment Index, which had a Cronbach's alpha of .96.

3. Results and Discussion

Descriptive statistics for the cross-sectional variables in this study are presented in Table 1 and their correlations with one another are presented in Table 2. Results of cross-sectional tests of static minimum wage effects on state-level tipping measures are presented in Table 3. Finally, results of distributed lag analyses testing the dynamic effects of minimum wages on state-level tipping measures are presented in Table 4. Key findings are briefly described and discussed below.

3.1. Identification of confounds

The 50 United States are too few in number to include many variables in models of state differences without sizeable loss of statistical power, so care was taken in identifying potential confounds. Although states differ on countless variables, only those differences affecting both minimum wage laws and tip averages are confounds in this study. Six potential confounds were examined in this study, but only median household income and cost of living proved to be reliably correlated with both minimum wages and tipping (see Table 2). Moreover, these two confounds were themselves highly correlated and analyses not reported in the tables indicated that median income did not predict unique variance in either of the two tipping indices after for

controlling for cost of living. For these reasons, only cost of living was included as a covariate in the cross-sectional, regression analyses of minimum wage effects on tipping (see Table 3).

3.2. Cross-sectional regression analyses

The results of cross-sectional regression analyses indicate that states with higher regular minimum wages have lower average tip percentages in coffee shops and higher average tip percentages in restaurants (see Table 3). These effects became smaller but remained significant, after controlling for cost-of-living, which suggests that regular minimum wage effects are not just spurious products of cost-of-living's effects on both regular minimum wages and average tip sizes. These findings raise a question about why regular minimum wages might decrease coffee-shop tips while increasing restaurant tips. No definitive answer to this question is available, but it may lie in the fact that tipped coffee shop employees (hereafter called baristas) typically receive the regular minimum wage (Barista Training Academy, 2019) while tipped restaurant workers (hereafter called waiters) typically receive a lower tipped minimum wage. Given these different base wages, increasing the regular minimum wage may decrease perceptions of baristas' need for tips and (because it increases the gap between tipped and non-tipped wages) increase perceptions of waiters' need for tips.

The cross-sectional regression analyses also indicated that states with higher tipped minimum wages have lower average tip percentages in restaurants and higher average tip percentages in coffee shops. Moreover, these effects remained significant after controlling for cost-of-living, which suggest that tipped minimum wages may directly affect tipping (see Table 3). Here too, the opposite effects of the tipped minimum wage on coffee and restaurant tipping

may be attributable to the different base wages of baristas and waiters. Higher tipped minimum wages may decrease perceptions of waiters' need for tips and (because it decreases the gap between tipped and non-tipped wages) increase perceptions of baristas' need for tips.

3.3. Panel analyses

The three standardized measures each of state differences in coffee-shop and restaurant tip sizes were combined into two panel data-sets and each was analyzed using OLS regression models that tested the dynamic effects of changes in the minimum wage and tip-credit on changes in states' relative tip sizes. Analyses of distributed-lag models produced some evidence that states' relative coffee tip sizes decreased with regular minimum wages and increased with tipped minimum wages while state's relative restaurant tip sizes showed the opposite pattern (see Table 4). However, only the regular minimum wage effect on coffee shop tipping was reliable and even that effect was significant only at the .05 level. Furthermore, that effect was not reliable in additional analyses of first-differences models and of fixed effects models not reported here for brevity's sake. Although the direction of the dynamic effects were generally consistent with the static minimum wage effects from the cross-sectional analyses, their unreliability raises questions about the existence of a direct causal effect of minimum wages on state differences in coffee-shop and restaurant tipping. It is possible that there is no direct causal effect and the cross-sectional findings are the result of unidentified confounds, but it is also possible that the current panel data was simply inadequate to find effects that really do exist. In particular, the current use of state tip size measures that came from different sources, crossed years, and were sometimes crudely measured combined with the relatively infrequent and modest changes in regular and tipped minimum wages over the time period studied (see Figure 2) may explain the largely null results of the panel analyses. Additional tests of these dynamic

effects using more consistently and sensitively measured state-level, yearly tipping averages as well as different study periods are certainly warranted if and when such data becomes available.

4. General Discussion and Conclusion

4.1. Key findings, their implications, and directions for future research

The main findings in this study are: (i) states with higher regular minimum wages have lower average tip percentages in coffee shops and higher average tip percentages in restaurants (after controlling for tipped minimum wages and cost-of-living), and (ii) states with higher tipped minimum wages have lower average tip percentages in restaurants and higher average tip percentages in coffee shops (after controlling for regular minimum wages and cost-of-living). Although the data is only correlational and does not prove causality, these findings support the idea that paying tipped workers higher wages decreases the tip percentages those workers receive.

Possible underlying processes. Assuming that increasing servers' wages does decrease their tip percentages, what processes underlie this effect? One possibility is that higher minimum wages decrease employment levels enough to lower service levels and that this decreases tip percentages. However, research suggests that minimum wages have little to no effect on employment levels (Lynn and Boone, 2015). Furthermore, there is no evidence that minimum wages affect service levels and previous research has found that tip percentages are only weakly related to service levels in any case (Lynn and McCall 2000). Thus, this explanation seems unlikely.

Another possibility is that raising wages forces restaurants to raise prices, which causes price sensitive customers to tip less. Research has found that raising minimum wages does

increase restaurant pricing (Aaronson, French and MacDonald, 2008; Allegretto and Reich, 2018), but little research has examined whether raising tipped minimum wages has similar effects. If increasing the regular and tipped minimum wages do have similar effects on prices, then this explanation suggests that they should also have similar effects on tip percentages, but the current findings indicate their effects are opposite one another. Furthermore, this explanation assumes that higher costs decrease restaurant tip percentages, but the positive correlation between cost-of-living and restaurant tips in this study and the absence of a negative quadratic trend in the relationship between bill size and dollar bill amounts in other published studies (see Lynn and McCall, 2000) suggest otherwise. Thus, this explanation also seems unlikely.

The most likely possibility is that increases in service workers' wages decrease consumers' perceptions of those workers' need for tips. The higher servers' wage income, the less reliant they are on tips to make a living, and this may lead altruistic consumers to tip less. Given the different base wages of baristas and waiters, this explanation would explain why baristas' tips are negatively related to the regular minimum wage while waiters' tips are negatively related to the tipped minimum wage. A related process may also explain why higher tipped minimum wages (holding regular minimum wages constant) were associate with increased coffee-shop tips while higher regular minimum wages (holding tipped minimum wages constant) were associated with increased restaurant tips. Increasing minimum wages holding tipped minimum wages constant may increase perceptions of waiters' need for tips because it increases the actual and perceived deficiency of their tipped wages. Similarly, increasing the tipped minimum wage holding the regular minimum wage constant may increase perceptions of baristas' need for tips because it decreases the actual and perceived gap between their wages and

those of other tipped workers. Nevertheless, these explanations go well beyond the current data and need to be tested in future research.

Practical implications. The current demonstration of a negative relationship between workers' wages and tip percentages gives some support to restaurant servers' fears that wage increases will result in lower tips and total income and it buttresses Jones' (2016) finding that restaurant wage increases from lower tip-credits are offset by comparable tip income reductions. The current results are not definitive about the effects of tip credits on servers' total income, because a decrease in average tip percentages does not reduce tip income if sales increase enough to offset the decline in percentage tips and we do not know how tip-credits affect total sales. Ultimately, more research needs to be done to test the effects of tip-credits on restaurant sales and servers' incomes. Nevertheless, the current findings should lead policy-advocates and policy-makers to pause efforts to raise tipped minimum wages pending more research on this issue.

4.2. Ancillary findings and their implications for future research

Although not central to the current focus on minimum wage effects on tipping, the analyses produced several interesting findings about state differences in tipping that raise other questions for future research. Specifically, the cross-sectional correlation analyses indicated that state average coffee-shop tip percentages were reliably, negatively related to state average restaurant tip percentages (see Table 1). This unexpected finding suggests that some cause or causes that enhance coffee-shop tipping decrease restaurant tipping or vice versa. Supporting this suggestion, state differences in median age, median income, income inequality and cost of living were negatively related to coffee tipping and positively related to restaurant tipping (see Table

1). Unfortunately, it is unclear why the determinants of state differences in tipping have opposite effects in these two contexts.

Many differences between coffee-shop and restaurant tipping could be responsible for their opposite relationships with state-level predictors. For example, restaurant servers typically receive the tipped minimum wage while coffee-shop baristas typically receive the regular minimum wage (Barista Training Academy, 2019). In addition, bill sizes tend to be larger in restaurants than in coffee shops. Furthermore, restaurant tipping norms are strong and specify a specific range of acceptable tips as a percentage of the bill while coffee-shop tipping norms are weaker, less precise and independent of bill size (Flanagan, 2017). Testing the potential moderating role of these characteristics on the determinants of state differences in tipping is certainly one worthwhile direction for future research. Testing additional determinants of state differences in tipping across more service contexts would also be prudent. Such research has the potential to shed light on the psychological and sociological processes underlying this academically interesting and practically important form of employee compensation.

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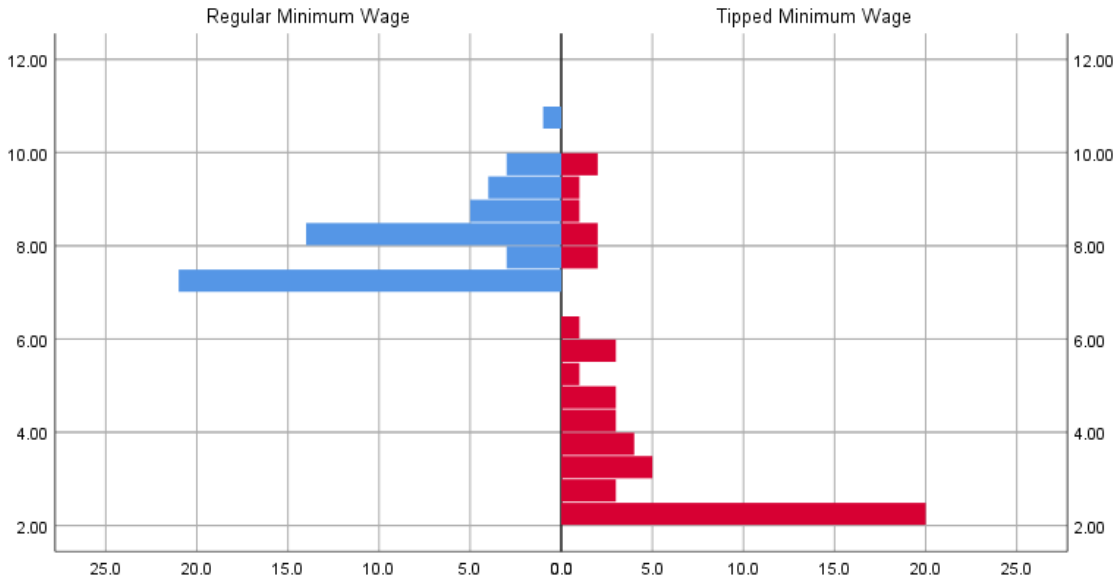

Figure 1. Frequency distributions of state-level averages of the regular and tipped minimum wages from 2013 to 2018.

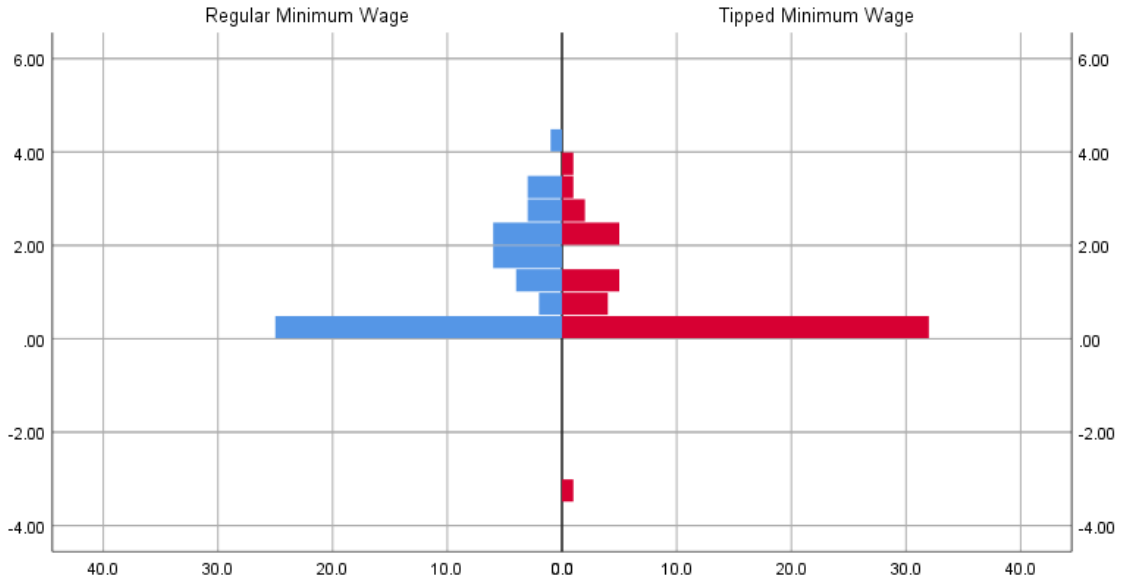

Figure 1. Frequency distribution of state-level changes in the regular and tipped minimum wages from 2013 to 2018.

Table 1. Descriptive statistics for the state level indices used in cross-sectional analyses.

	N	Minimum	Maximum	Mean	Standard Deviation
Coffee Tip Index	51	-1.60	1.79	-.02	.85
Restaurant Tip Index	51	-1.73	1.99	.01	.86
Minimum Wage Index	51	7.25	10.54	8.04	.87
Tipped Minimum Wage Index	51	2.13	9.99	4.07	2.36
Median Age	51	30.50	44.30	38.12	2.44
Median Household Income	51	42009.00	78916.00	58236.47	9849.81
Percent Non-Hispanic White	51	22.20	93.60	68.83	16.19
Income Inequality	51	.42	.53	.47	.02
Cost of Living	51	86.36	118.58	97.48	8.56
Unemployment Rate	51	2.78	6.78	4.70	.97

Table 2. Correlations among, cross-sectional, state-level measures (N =51).

	RT	MW	TMW	Age	Income	White	GINI	COL	Unemp
Coffee Tip Index	**-.57****	**-.39****	.05	**-.36****	**-.47****	.20	**-.31***	**-.57****	.08
Restaurant Tip Index (RT)		.26	-.27	**.44****	**.32***	-.07	**.32***	**.38****	.17
Minimum Wage Index (MW)			**.63****	.09	**.53****	-.22	.25	**.65****	.25
Tipped Minimum Wage Index (TMW)				.04	**.33***	-.14	-.13	**.45****	.10
Median Age					-.12	**.33***	.03	.06	-.04
Median Household Income						**-.28***	-.07	**.85****	-.10
Percent Non-Hispanic White							**-.46****	**-.49****	**-.46****
Income Inequality (GINI)								.21	**.52****
Cost of Living (COL)									.09
Unemployment Rate									

* p < .05, ** p < .01; Note: Sample includes the District of Columbia (DC).

Table 3. Coefficients (and standard errors) from regressions of state-level tipping measures on regular minimum wages and tip-credits (N = 51).

	Coffee Tip Index	Coffee Tip Index	Restaurant Tip Index	Restaurant Tip Index
Constant	included	included	included	included
Minimum Wage Index	-.69***	-.34*	.70***	.44**
	(.15)	(.15)	(.15)	(.16)
Tipped Minimum Wage	.18**	.19***	-.26***	-.27***
Index	(.06)	(.05)	(.05)	(.05)
Cost of Living		-.06***		.04**
		(.01)		(.01)
R^2	.30***	.50***	.37***	.47***

* p < .05, **p < .01, ***p < .001; Note: Sample includes the District of Columbia (DC).

Table 4. Regression coefficients (and standard errors clustered within state)

from distributed-lag analyses of minimum wage effects on state tipping averages.

	Coffee Tip[a]	Coffee Tip[a]	Restaurant Tip[a]	Restaurant Tip[a]
Constant	included	included	included	included
Minimum Wage (MW)	-.14	-.30*		.30
	(.14)	(.12)		(.18)
Tipped Minimum		.13	.14	-.09
Wage (TMW)		(.12)	(.08)	(.13)
Tip_lag	.68***	.61***	.50***	.40**
	(.10)	(.09)	(.12)	(.12)
MW_lag	.18	.10		.12
	(.16)	(.19)		(.34)
TMW_lag		-.02	-.18	-.05
		(.13)	(.10)	(.14)
R^2	.47***	.51***	.29***	.35***
Observations/Clusters	100/50	100/50	99/50	99/50

* p < .05, **p < .01, ***, p < .001; [a] Standardized within source/year.