**Minimum Wage and Youth Employment**

In order to assess the impact of minimum-wage changes, we used a fixed-effects model to judge variation in state-level employment over time and across states for 2001 through 2012. Our model included state and year fixed effects. We tested various dependent employment variables: the teen employment rate, the male employment rate for 20-to-24-year-olds, and the female employment rate for 20-to-24-year-olds. We also assessed changes between teen employment rates and those of workers 20 to 24 years old, by constructing two employment ratios: the ratio of female and male employment rates for 20-to-24-year-olds to the teen employment rate.

We chose the following explanatory variables. First, as a proxy for state-level labor market and business conditions, we used the state unemployment rate. Since firms do not immediately adjust to changing conditions, we lagged the unemployment rate one period. Second, some researchers suggest that firms do not change their workforces in response to nominal changes in the minimum wage because they will be eroded by inflation over time. As a result, we used each state’s minimum wage adjusted for changes in the national Consumer Price Index. Next, we wanted to take into account structural and secular trends in our employment measures. In particular, state employment rates could be influenced by the share of the youth population that is either black or Hispanic. In addition, we included a time trend to take into account the long-term substantial declines in the employment rate of young workers. Finally, we used natural-log measures of both our employment rate and real minimum-wage variables. One advantage is that the coefficients of the real minimum wage directly measure the elasticities.

As expected, weakening labor market conditions lower all three employment rates. Similarly, the time trend indicates that independent of our explanatory variables, all three employment rates have declined over our time period. Teen employment rates are lower as the Hispanic share of the state’s youth population increases. Both the male and female employment rates for 20-to-24-year-olds decline as the black share of the state’s youth population increases.

Our study indicates there is a statistically significant inverse relationship between the real minimum wage and both teen employment rates and the employment rates of males 20 to 24 years old. The predicted increases will be quite modest. If there is a 30 percent increase in the real minimum wage, our study predicts that the teen employment rate would decrease by 2.1 percent, while the male employment rate would decline by 1.08 percent.

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| **Impact of Real Minimum Wage on Youth Employment, 2001-2012**  **(t-scores in parentheses)** | | | | | |
| **Explanatory**  **Variables** | **Log Teen**  **Employment Rate** | **Log Male**  **Employ Rate**  **20-24 Year Olds** | **Log Female**  **Employ Rate**  **20-24 Year Olds** | **Log Female**  **To Teen**  **Employ Rate** | **Log Male**  **To Teen**  **Employ Rate** |
| **Unemployment**  **Rate lagged** | -0.040  (-12.90)\*\* | -0. 015  (-12.81)\*\* | -0.008  (-5.16)\*\* | 0.320  (9.82)\*\* | 0.024  (7.83)\*\* |
| **Log Real Minimum**  **Wage Rate** | -0.070  (-2.26)\* | -0.036  (3.03)\*\* | -0.004  (-0.28) | 0.067  (2.04)\*\* | 0.034  (1.09) |
| **Share Hispanic**  **Youth** | -0.009  (-2.65)\*\* | -0.001  (-0.98) | -0.001  (-0.76) | 0.007  (2.13)\*\* | 0.007  (2.27)\*\* |
| **Share Black**  **Youth** | 0.055  (1.36) | -0.005  (-3.40)\*\* | -0.003  (-1.79)+ | -0.008  (-1.82)+ | -0.009  (-2.26)\*\* |
| **Time Trend** | -0.014  (-6.51)\*\* | -0.003  (-3.19)\*\* | -0.004  (-4.12)\*\* | 0.010  (4.25)\*\* | 0.012  (5.18)\*\* |
| **N** | 605 | 612 | 612 | 605 | 605 |
| **R-Squared** | 0.87 | 0.82 | 0.52 | 0.80 | 0.76 |
| Statistical Significance: + = p<.1 , \*= p<.05, \*\*= p<.01 | | | | | |

Our study also enables us to assess the relative sensitivity of the employment rates of workers in their early 20s to teenage workers. While both groups of workers are adversely affected by weakening labor market conditions, it is more so for teenage workers. In addition, the time trend indicates that the secular decline has been greater for teen employment than employment for workers in their early 20s.

Changing demographic shares also influence the employment ratios. In particular, as the Hispanic youth share of the state’s population increases, the ratios of male and female workers in their early twenties increase relative to teenage employment. The reverse is true as the black youth share of the state’s population increases. Finally, as the real minimum wage increases, it adversely effects teen employment rates more than the employment rates of females in their early twenties so that the female-to-teen ratio increases.