Summary:
Effects of the Minimum Wage on Employment Dynamics

Meer and West (2016)

https://github.com/s-saisw/readingSummary

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Review

This paper attempts to explain the small disemployment effect in MW literature. It is found that MW affects employment growth rather than level. This result is consistent across three US data sets.

However, external validity outside US context is yet to be confirmed. The main results are also hardly significant at 1 percent level.

1 Motivation and Research Questions

- Small disemployment effect may be explained by 1) demand for low-wage labor is inelastic, or 2) MW affects employment growth rather than level.
- If MW does affect employment growth, specification with state-specific time trend will attenuate the impact of MW on employment level.
- This paper estimates the impact of MW on employment growth using long-differences specifications and distributed lag specifications.

2 Literature review

- Impact of MW on employment growth is supported by economic theory. Theoretically, MW has ambiguous prediction on job creation.
  - (Employer's side) MW increase raises marginal cost of hiring a new worker ⇒ negative impact
  - (Worker's side) MW increase raises return to employment ⇒ Workers exert more search effort ⇒ There are more workers searching ⇒ Better match between employer and worker ⇒ job creation should not be adversely affected
- Sorkin (2013) builds a model that focuses on firms' difficulty to adjust labor demand in the short run.
- Baker et al. (1999) uses Canadian data and argue that employment adjusts to long-run MW change.
- Neumark and Wascher (1992) discuss the importance of including lagged effects.

3 Econometric framework

- Should we include state-specific time trends as controls?
  - Yes, if there is any *pretreatment* variation that is correlated with treatment. For instance, states with stronger employment growth are also more likely to increase the MW.
  - No, if the actual treatment effect acts upon the trend itself. If this is the case, including state-specific time trends will attenuate the impact on employment level.

4 Data

- Dependent variable are from three data sets
  1. Businesss Dynamics Statistics (BDS): state annual employment level
  2. Quarterly Workforce Indicators (QWI): state quarterly employment level
  3. Quarterly Census of Employment and Wages (QCEW): state quarterly employment level
- State MW
  - For BDS, MW on the March 12th each year is used; for QWI and QCEW, MW as of the first of each quarter is used.
  - MW are deflated to 2011 dollars. Note that when a national-level deflator is used, specifying the log minimum wage as real or nominal term does not matter because time fixed effects would absorb this effect.
- Other controls
  1. Log of population
     Total state population determines both workers' supply and demand, which may affect employment level of each state.
  2. Share of population aged 15–59
     This is a rough weight of how population affects demand and supply of labor. States with more prime-age population may have higher employment level, and vice versa.
  3. Log of real gross state product per capita
     This is a proxy for labor productivity and state's business cycles.

5 Results

5.1 Standard panel FE

$$emp_{it} = \alpha_i + \tau_t + \gamma_i \cdot t + \beta_0 MW_{it} + \psi \cdot X_{it} + \epsilon_{it} \tag{1}$$

- After including state-specific time trends, the impact does attenuate.
- As a falsification exercise, lead terms are also included in some specifications. This is to test whether current employment affects future MW determination. The results are insignificant, suggesting there is no preexisting underlying trends. (This is based on the assumption that future MW does not impact current employment?)

5.2 Long-differences

$$\Delta_r emp_{it} = \tau_t + \gamma_i \cdot t + \beta_0 \Delta_r MW_{it} + \psi \cdot \Delta_r X_{it} + \Delta_r \epsilon_{it}, \tag{2}$$

where Δ_r corresponds to difference during time span r.

- In the specification with no state-specific linear time trend, contemporaneous effect is not found. The impact becomes stronger as time span increases. ⇒ Evidence for dynamic effect
- When estimate with state-specific time trend, it is found that the effect also attenuates. Moreover, the gap between coefficients with and without linear trends also increase monotonically. ⇒ Linear trend absorbs more when the time span is larger. ⇒ Time trends soak up the variation that is actually due to the treatment effect.

5.3 Distributed lag

$$\Delta_r emp_{it} = \tau_t + \gamma_i \cdot t + \sum_{r=0}^{s} \beta_r \Delta_r MW_{it-r} + \psi \cdot \Delta X_{it} + \Delta \epsilon_{it}, \tag{3}$$

- Since long-differences specifications with trends are statistically significant (at 10 percent level) up to $r = 3$, s is set as 3 in this specification.
- Summing up the effects over three lagged terms, the coefficient is statistically significant and similar in magnitude to that derived in the long-differenced estimates.
- Lead terms are statistically insignificant.
- Additional approach includes Arellano and Bond's estimator.