Can a minimum wage address inefficiency due to labor market power?

1. Develop and quantify a general equilibrium macro model
   Firm heterogeneity and strategic interactions in concentrated labor markets

2. Quantitatively replicates reduced form evidence on channels through which minimum wages may improve allocative efficiency

3. Compute optimal Federal minimum wage & Welfare gains
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   Answer: No
   - Optimal minimum wage: $8.27
   - Increase welfare by 0.17 percent
Outline

1. Model ingredients
2. Efficiency losses due to labor market power
3. Effects of a minimum wage
4. Quantitative results
5. The elements of the data that imply small efficiency gains
Environment

Household types $h \in \{\text{Non-High School, High school, College-Workers, College-Owners}\}$
- Identical workers in each household share resources
- Send workers to labor markets $j \in [0, 1]$, and the finitely many $M_j$ firms in each market
- More elastic between firms in a market ($\eta$), than across markets ($\theta$)
- Heterogeneity: Disutility of labor, Productivity, Capital endowment, Profit share

Firms
- Heterogeneity: Firm-$ij$ has productivity $\bar{Z}_{zij}$, with dispersion ($\sigma$)
- Production function separable across worker types, decreasing returns for each type ($\alpha$)

Markets
- Local, Cournot competition for labor. Walrasian for capital, goods.
Monopsony 101

A. Corner store

B. Supermarket

Berger Herkenhoff Mongey, “Minimum Wages, Efficiency and Welfare”
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Low minimum wage - $w_1$

A. Corner store

B. Supermarket
High minimum wage - $w_2$

A. Corner store

B. Supermarket

Berger Herkenhoff Mongey, “Minimum Wages, Efficiency and Welfare” p.4/11
General equilibrium forces

1. **Spillovers** - Supermarket raises wages in response to the corner-store

2. **Reallocation** - Corner-store “excess supply” reallocated to supermarket

3. **Concentration** - Larger employment effects in concentrated markets
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   - Derenoncourt et al (2022) - *Spillover effects of voluntary employer minimum wages*
   - Staiger et al (2010) - *Is there monopsony power in the labor market?*

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Quantitatively the model is consistent with recent empirical studies
Can a minimum wage address inefficiency due to labor market power?

- **Issue** Minimum wage has **Efficiency** and **Redistributive** effects

- **Solution** Construct a Ramsey problem that separates them out

- **Objective**
  \[
  \sum_h \psi_h \times \left( \text{Utility of household } h \right)
  \]

- **Constraints** Optimality conditions of firms and households

- **Tools**
  - Budget neutral lump sum transfers \( \{ T_h \}_{h=1}^H, \sum_h T_h = 0 \)
  - Minimum wage \( w \)
## Results

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<tr>
<th>A. Full model</th>
<th>Optimal $w^*$</th>
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**Note:** All results computed under Utilitarian social welfare weights

**Result 1** - Efficiency maximizing minimum wage close to current US policy
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**Result 2** - Welfare gains are small. Efficient allocation: Welfare gain = 6.3%
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**Result 3** - Driven by firm, rather than worker heterogeneity
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<td><strong>C. Regional calibration</strong></td>
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<tr>
<td>Low income states</td>
<td>$7.71</td>
<td>0.18%</td>
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<td>High income states</td>
<td>$10.03</td>
<td>0.16%</td>
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**Result 4** - Small welfare gains are robust across states
Why are the efficiency gains small?

1. Productivity heterogeneity
   \[ \sigma = 27\% \]
   Large \[ M \]
   on average, but highly concentrated

2. Low productivity firms face very elastic labor supply
   \[ \eta = 10 \]
   Estimated in Berger, Herkenhoff, Mongey (2022)

3. Firm labor demand is highly elastic
   \[ \alpha = 0.94 \]
   Implications for efficiency and the minimum wage

1. Low productivity firms have a small share of employment and narrow markdowns

2. Monopsony channel operates in a narrow window

3. Gains quickly become losses as firms shrink

4. Spillover channel limited, Reallocation channel undone
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Why are the efficiency gains small? - Example: 200 firms, $w = $10

- Large efficiency losses, Narrow monopsony gains, Small spillovers
Depending on welfare weights, optimal minimum wage could be $0 or $31

Other proxies: Labor share, Wage inequality, College wage premium all monotonically ‘improve’
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Redistribution

From $8 to $15: Redistribution gain = 2.5% , Efficiency loss = -0.6%
Conclusion

U.S. Treasury Report (2022) - *State of Labor Market Competition*

(1) Efficiency

*Raising the minimum wage is a straightforward approach to addressing lower wages under monopsony and can help increase employment.*

(2) Redistribution

*... would give nearly 32 million Americans a raise and boost the purchasing power of low-income families ...*

- **Our paper** - Not (1), and leaves open whether its a good tool for (2)
  - Hurst et al. (2022) - *Distributional Impact of Minimum Wage in Short and Long Run*
Distribution of wages

- In paper - Matches distribution of consumption by education group (BLS)