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What Do We Know About the Effects of Minimum Wages?

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Impact of Minimum Wages



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- Great interest for more than a century now (Leonard, 2000)
- Debate between Stigler (1946) and Lester (1947) on the impact of the 1938 federal minimum wage
 - Stigler (1946): low-wage labor markets are competitive → MW destroys jobs
 - Lester (1947): surveyed firms and asked about their response → most firms care about demand, labor cost is not a major concern
- Consensus among economists till the early 90s
 - Friedman's (1953) billiard-player analogy → assumptions might be unrealistic, what really matters is the predictive power of the theory
 - Empirical papers demonstrated that MW destroys jobs

Consensus Breaks



- Card and Krueger (1994, 1995) break the consensus
 - Credible diff-in-diff strategy finds non-negative employment effects
 - Initial reactions were not welcoming
 - Scepticism comes from the fact that the finding contradicts “basic” theories (e.g. “law of demand”)



Dangerous implication of this argument: assumptions might be unrealistic, but the model predictions should be taken seriously

New Minimum Wage Research



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- New minimum wage research shifted the focus from theory to “reduced” form empirical evidence on employment and wages
- U.S. has been a fertile ground as state-level variation can be exploited
 - TWFE estimation (e.g. Neumark and Wascher, 1993)
 - Usage of administrative data (e.g. Card and Krueger, 2000)
 - Border-discontinuity design (e.g. Dube, Lester and Reich, 2010)
- But most of the evidence focuses on specific demographic groups (e.g. teens) or sectors (e.g. restaurants)
 - It is possible that MW increases employment in some sectors and decreases it in others

Distribution-Based Approach and Machine Learning



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Two novel approaches to capture the effect of the minimum wage on a larger group of workers:

- 1) Distribution-based approach (Cengiz, Dube, Lindner and Zipperer, 2019)

Frequency Distribution-Based Approach



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- Assess the impact of the minimum wage for each wage bin throughout the wage distribution
- Assess the change in missing and excess jobs

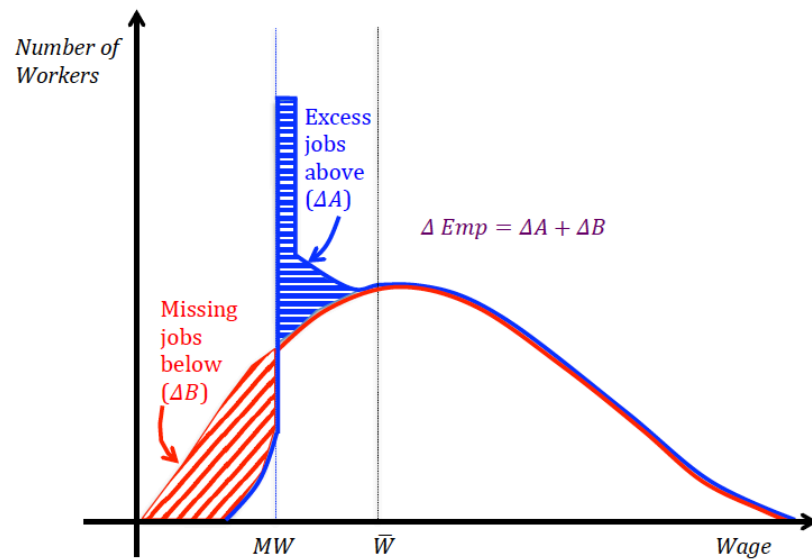
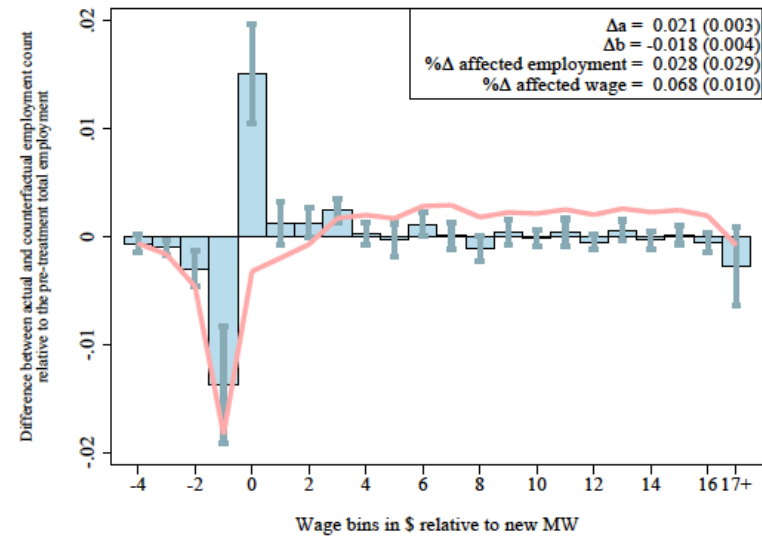


Figure 2: Impact of Minimum Wages on the the Wage Distribution



Frequency Distribution-Based Approach



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Three key advantages:

1. The localized approach is crucial for uncovering meaningful “first stage” wage effects of the minimum wage if someone studies overall employment
2. Demonstrate the changes in the upper tail - can be used for falsification test of the empirical design
3. Improve precision by cutting off the noise coming from the upper tail

Distribution-Based Approach and Machine Learning



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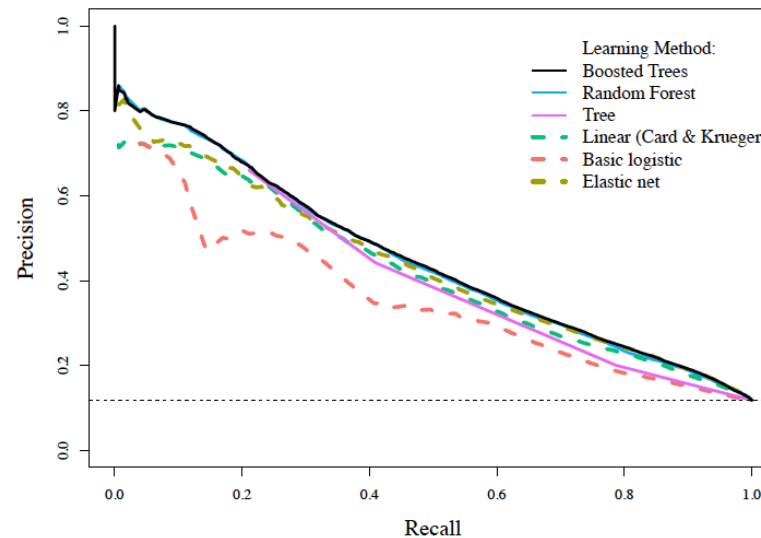
Two novel approaches to capture the effect of the minimum wage on a larger group of workers:

- 1) Distribution-based approach (Cengiz, Dube, Lindner and Zipperer, 2019)
- 2) Machine learning-based approach (coming soon by Cengiz, Dube, Lindner and Zentler-Munro)

Machine Learning-Based Approach



- Extend Card and Krueger (1995) who predict minimum wage workers based on demographic variables
- Apply modern machine learning tools to predict who is a minimum wage worker

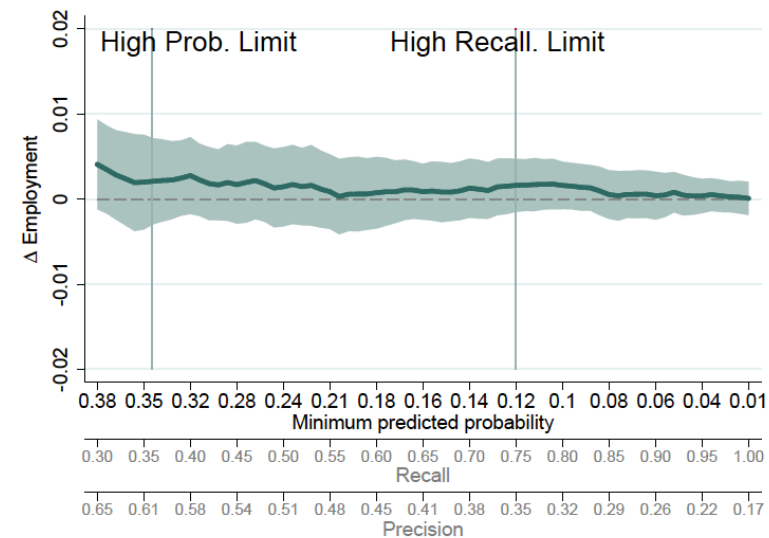
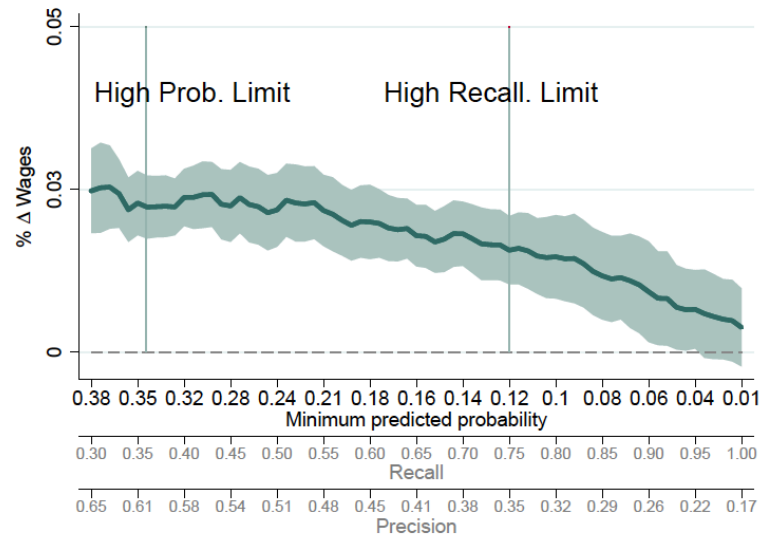


Assess the Impact of the Policy



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- Study the impact of the policy for different predicted probability groups

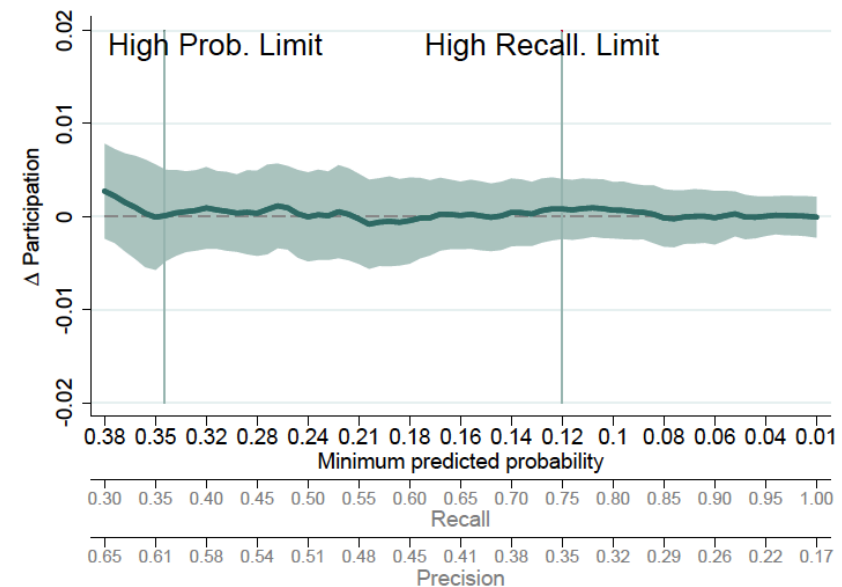
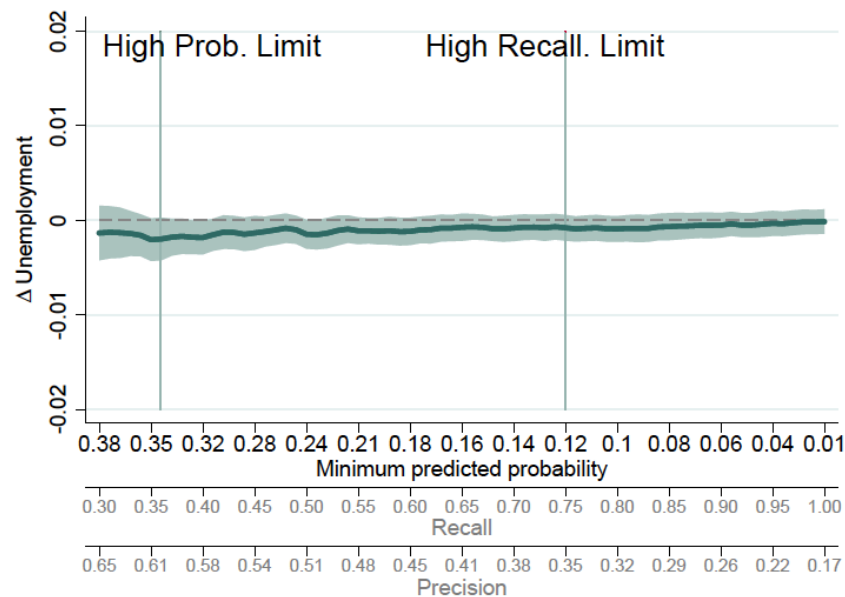


Assess the Impact of the Policy



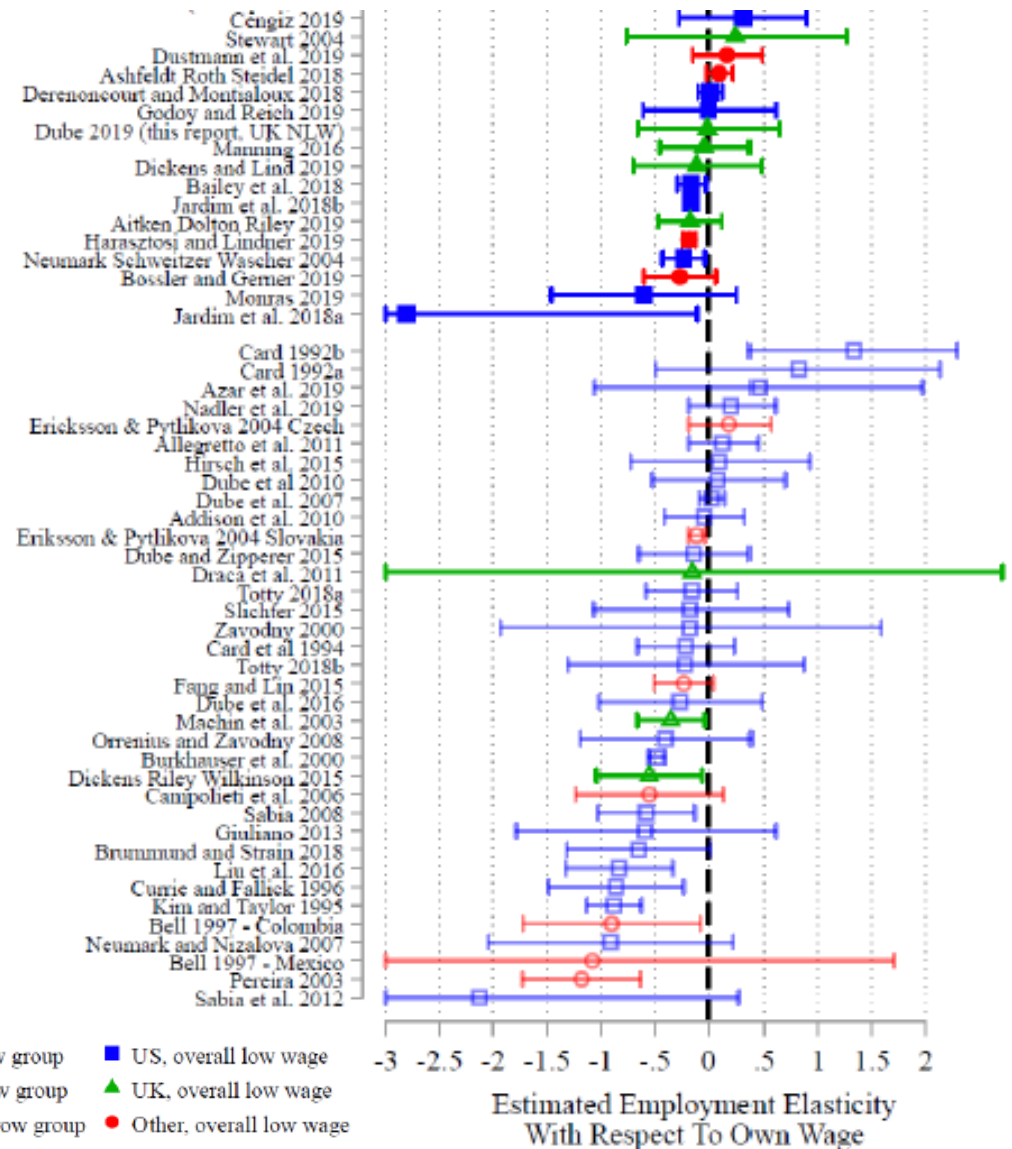
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- ML approach allows to study the impact on unemployment, participation rate (and job flows)



Summary

- Median employment elasticity with respect to own wage (Dube, 2019)
 - All workers: -0.04
 - Narrow group: -0.17
- Suggests that minimum wage has a limited employment impact (at least under the current-levels)

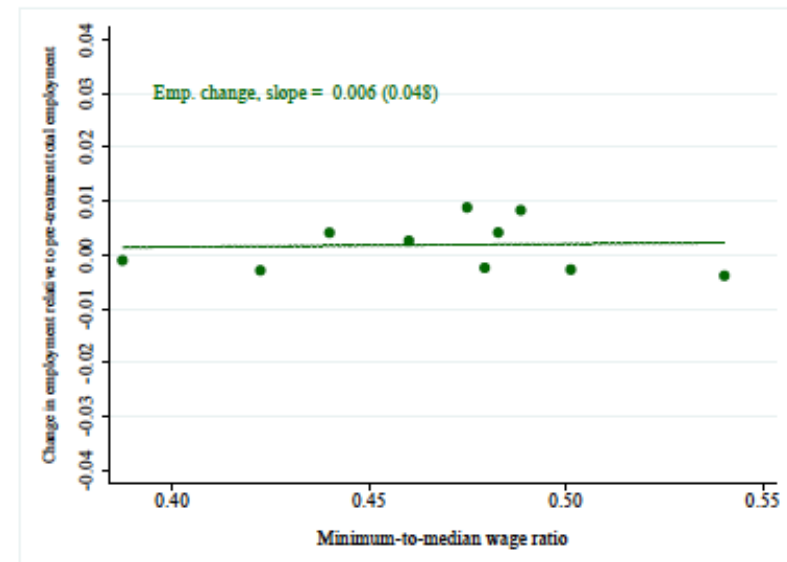
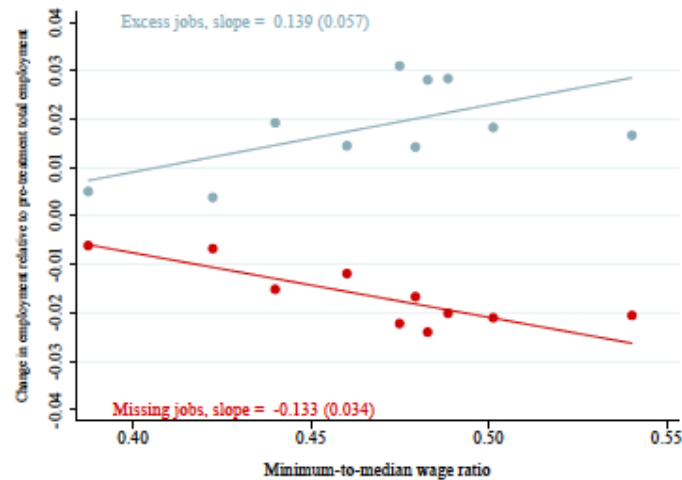


Heterogeneous Responses



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- Cengiz, Dube, Lindner and Zipperer (2019) study the impact by size:

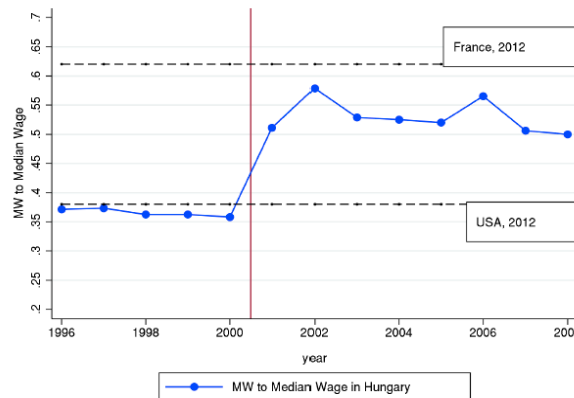


- Larger negative effect in the tradable sector (see Table 3)

Heterogeneous Responses



- Harasztosi and Lindner (2019) exploit a very larger permanent change in the MW in Hungary:



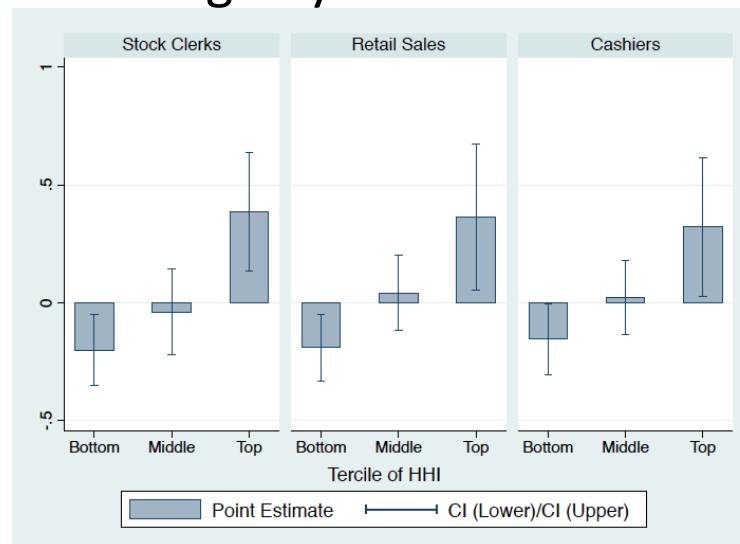
Key findings:

- Small negative impact of the policy even for this very large change
- Negative effects coming from the manufacturing, tradable and exporting sectors
- In the local non-tradable sector (restaurant, retail) find negligible drop in employment

Heterogeneous Responses



Azar, Huet-Vaughn, Marinescu, Taska and von Wachter (2019) study the impact of the minimum wage by market concentration in the retail sector



Market concentration is crucial to understand responses to the minimum wage

Margins of Adjustment



- Prominent attention on employment because of the controversies
- Progress on other margins of adjustment is slower

Related questions:

- Incidence: Who pays for the MW?
- Inequality: How does the policy affect the wage distribution?
- Allocation: How does the MW affect the allocation of resources?
- Productivity: How does the MW affect local productivity?

Incidence



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- MW pushes up wages without substantial employment loss
- Who pays for this increase?

Consumers pay: Near consensus on positive price effects (see MaCurdy, 2015; Lemos, 2004)

Firm owners pay: Mixed evidence (Card and Krueger, 2015; Bell and Machin, 2018; Draca et al., 2011; Mayneris et al., 2018)

- Harasztosi and Lindner (2019)
 - 80% of the wage increase passed through to consumers via higher prices
 - 20% was paid by firm owners by lowering profits

Puzzle



- Standard competitive model predicts that MW is passed through to consumers via higher prices:

Higher labor cost \rightarrow Prices increase \rightarrow Output demand falls \rightarrow Emp. Falls

- Monopsony predicts employment increases

Emp. Increases \rightarrow Firms sells more \rightarrow Prices fall

Empirically, we see positive price effects and a limited employment change

Potential Solutions to This Puzzle



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- Ignore evidence on employment or on prices
 - Typically employment responses are ignored even though prices are much harder to measure (see e.g. French and Aaronson, 2007)
- MW-induced price changes might be different? (coming soon Lindner and Madarász, 2020)
 - Consumers are willing to pay more for goods and services produced under fair working standards (Hiscox and Smyth, 2020)
 - Small firms cannot credibly commit to higher prices and higher wage standards
 - MW solves this credibility problem by raising wage standards and prices at the same time

Inequality and Spillover Effects



- The effect of the minimum wage ripples through the wage distribution
- Evidence based on diff-in-diff designs finds spillovers up to \$3-\$5 above the minimum wage (Autor, Manning and Smith, 2016; Brochue, Green, Lemieux and Townsed, 2018)

Little is understood about the source/nature of these spillovers

- Cengiz, Dube, Lindner and Zipperer (2019) find spillovers at the incumbents, but not the new entrants
- Giupponi and Machin (2020) find spillovers to untreated populations within highly treated firms

Reallocation is a common feature of models deviating from the competitive benchmark:

- Search frictions: e.g. Acemoglu (2001)
- Monopsony power: Manning (2003); Bhaskar, Manning and To (2002); more recently: Berger, Herkenhoff and Mongey (2019)
- Product market frictions: consumers switch like in Luca and Luca (2018) and in Mayneris et al. (2014)
- Frictions to access in technology: Williamson's (1968)

Reallocation



Historically, the role of reallocation featured prominently in the minimum wage debate :

- First (modern time) minimum wages in New Zealand and Australia
- Advocates sought to stop the proliferation of “sweatshops” in 1890s (Nordlund, 1997)
 - Sweatshops mainly employed women and young workers and paid them substandard wages
 - Many efficient and worthwhile companies employing working class breadwinners lost market share
 - The minimum wage sought to reverse these trends.

Reallocation



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- Dustmann, Lindner, Schoenberg, vom Berge and Umkehrer (2020) provide the first assessment of reallocation effects of the minimum wage
- Exploit the 2015 introduction of the minimum wage in Germany

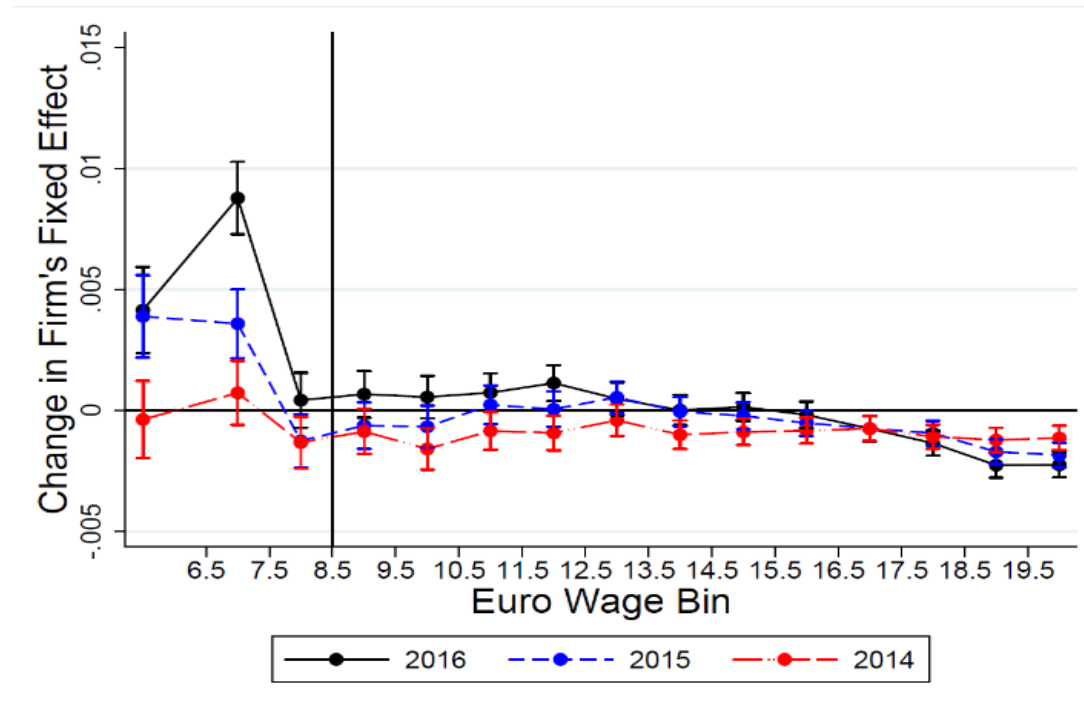
Key Findings:

- Positive and significant effect on wages, no disemployment effects
- MW leads to **reallocation of workers** to
 - firms paying higher wage premium
 - firms with lower turnover
 - larger and more productive firms
- MW at highly exposed locations led to
 - a decrease in the number of firms
 - an increase in average firm size
 - an increase in average AKM firm FEs and productivity

Reallocation



- Effect of the MW on firm's quality (measured as pre-reform wage premium)



Reallocation and Productivity



Efficiency

- MW led to worker reallocation from less to more productive firms
- Productive efficiency of worker-firm sorting was increased

Welfare

- Workers' commuting distance was also increased
- Welfare implications are unclear

Conclusions and Future Directions



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- MW has limited employment effects at the current levels
- Leads to output price increase, limited effect on firm owners
- Spills-over to workers earning above the MW
- Affects the worker-firm allocation, and could potentially increase productivity in certain cases

Conclusions and Future Directions



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- Prominent interest in MW, since it allows “testing” competing explanations on how low-wage labor market operates
- Standard competitive model fails to capture key aspects
 - Note: such model is widely used to study the impact of taxes and transfers on low-wage workers
- Would be fruitful to build “richer” models that embed various competitive and non-competitive forces with heterogeneity
- (Structurally) estimate the model to
 - assess the relative importance of competing forces
 - be able to provide counterfactual predictions (higher MW, interactions with other labor market policies)