



Discussion:
Labor Supply Substitution and the Ripple Effect
of Minimum Wages
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Summary

The paper proposes to distinguish between two causes of the “**ripple effect**” of the minimum wage:

- Labor demand substitution (traditional explanation)
- **Labor supply substitution** (novel explanation)

Note: “**Ripple effect**” refers to a **positive spillover** in the wage distribution: an increase in the minimum wage leads to higher wages above the (new) minimum

Main **data** used: individual records from 2004 SIPP (2004–2007), merged with occupation-level hedonic characteristics from O*NET

Total individual observations: ~35,000; hourly workers: ~24,000 obs.

Main **empirical findings**:

- Magnitude of the “ripple effect” on wages is related to hedonic compensation of occupations, but not related (in statistical sense) to skill premium
- Minimum wage increases lead to voluntary transitions among low-skilled workers from hedonically undesirable jobs toward hedonically desirable jobs
- Voluntary employment responses are evident in aggregate state-level data

Evaluation

The paper addresses an important economic issue. It is timely and policy relevant in view of the renewed public debate on minimum wage

It is a good idea to conceptually treat “a job” as a bundle of attributes: wage rate, employee skill level, hedonic characteristics (danger, etc.)

The main data used (SIPP, O*NET) are appropriate for the subject matter. In future work, perhaps they can be supplemented with firm-level data, if available. Using additional, aggregate data strengthens the main findings, but this analysis can be deferred to an appendix

The main empirical findings are novel, interesting, and economically significant

However, a number of aspects of the paper and the analysis need improvement for the paper to make a more compelling case

Conceptual and Modeling Issues I

My main comments fall into two broad categories:

- Conceptual and modeling issues
- Measurement issues

Conceptual issue:

It is unclear to me how well the “labor supply substitution” story fits in the “ripple effect” story. Under the “ripple effect,” wages of workers who were not directly subject to the minimum wage legislation go **up** after $w_{min} \uparrow$. But in the labor supply substitution story, wages of some workers can actually go **down**, when these workers move from hedonically undesirable jobs to hedonically desirable jobs that pay **less**

Suggestion:

Either redefine the concept of “ripple effect” to also cover the indicated case of **falling** wages, or avoid framing the discussion in the context of the “ripple effect” altogether

Conceptual and Modeling Issues II

Main modeling issue:

A minimum wage increase triggers numerous changes in the economy, both on the labor demand side and on the labor supply side. Therefore, it seems more appropriate to construct and analyze a **general equilibrium model**, in which workers and firms would be allowed to respond to $w_{min} \uparrow$ simultaneously

Other modeling issues:

- Current modeling framework seems **too rigid**: e.g., individuals are not allowed to change their skill level and firms are not allowed to change hedonic characteristics of jobs. Are these assumptions reasonable?
- Firm production function does **not** include **capital**. Would its inclusion materially affect your conclusions?
- Consider modeling employee skill level and job danger level using **continuous** indices (you allude to this possibility on p. 8)
- In the empirical component, you often consider time periods that are 1 or 2 years after $w_{min} \uparrow$. Perhaps you need a **dynamic model** in the theory section
- In general, try to avoid making “hand waving” statements. They do not help

Measurement Issues I

I am puzzled by some findings reported in Table A1. E.g., in the middle panel, “tax preparers” and “septic tank servicers” are both in the group of 20 occupations (among 532 occupations in total) with the **highest** hedonic wage differential. This is counterintuitive and may be indicative of some measurement and/or econometric problems

Note: By construction, hedonic wage differential does **not** reflect skill premium. It only reflects the compensation for how “unpleasant” or “dangerous” an occupation is

Suggested issues to consider:

- How well does the wage rate capture monetary job compensation? Are there any other monetary dimensions a firm can adjust (e.g., retirement benefits)?
- Due to possible endogeneity (pointed out by the author), parameter estimates for Eq. (5) may be **inconsistent**. In that case, can one really trust the two key measures that are directly based on these parameter estimates: hedonic wage differential H_k and skill premium E_{it} ?

Measurement Issues II

In O*NET, the value assigned to indicate the severity of a hedonic characteristic for an occupation seems to be categorical. Instead of using such numerical values to construct Z_k , consider using dummies

Using **years of education** in the specification of the skill premium E_{it} is very restrictive. The impact of education on the skill premium may vary with the education level (e.g., a year in high school may matter differently than a year in college). Also, attaining a degree per se may have its own effect. Consider using a more flexible specification instead (e.g., use a dummy for the highest completed education level)

Potential endogeneity of the timing and magnitude of minimum wage increases was alluded to, but the implications of such endogeneity and ways to address it were not fully explored

Investigate the robustness of the main estimation results to your current exclusion of observations based on the value of the dependent variable (e.g., when changes in wages exceed ± 0.3 log points [p. 17])

Other Comments

Your description of what affect the wage rate does not seem to include any geographical location-related attributes. To what extent does location matter for wages? Do you control for it in the estimation?

On p. 7, I do not understand the sentence “*Labor supply substitution results from fixing...*” Consider rephrasing it

On p. 9, you say that “*this simple two-skill setup and all of its implications extend to more-realistic specifications with continuous skill measures as well as multidimensional skills.*” This statement should be either shown to be true using an additional theoretical investigation, or dropped. Presently, it is not substantiated and may or may not be true

Clarify whether you perform the main regression analyses (in section 5) using all observations, as opposed to using only observations for workers who changed jobs or for workers who did not change jobs

Remarks on Paper Structure

A numerical example illustrating the magnitude of the “ripple effect” in the Introduction could help clarify what this effect represents

Consider merging the Introduction with the Related Literature

In the Introduction, clarify whether the “labor supply substitution” story underlying the “ripple effect” is your original contribution to the literature, or cite the paper(s) that suggested this idea

In general, make the discussion of the novelty and your original contribution to the literature more prominent. Presently, it is deferred to the end of the Related Literature and is rather short

Consider moving section 6.3 as a whole to an appendix

Minor Remarks and Suggestions I

Typos and other minor problems to correct:

- p. 4: does not have appear to have → does not seem to have
- p. 5, footnote 11: in their Table 3 of → in Table 3 of
- p. 7, improve the wording on the first line: an individual is either...or...; and a job is either...or...
- p. 7: Suppose all worker have → Suppose all workers have
- p. 8: revise a statement in the proof: shifting the labor supply curve back → shifting the labor supply curve for dangerous jobs to the left
- p. 10, footnote 17: at pp.2 → p. 2
- p. 14: there remains some concerns → there remain some concerns
- p. 15: public use data contains → public use data contain
- p. 15, footnote 24: The data is → The data are
- p. 16: where individual's are → where individuals are
- p. 16, footnote 16: explain what the abbreviation "MORG" stands for
- p. 16, footnote 16: individual's being paid → individuals being paid

Minor Remarks and Suggestions II

Typos and other minor problems to correct [*continued*]:

- p. 20: on monthly earnings → on weekly earnings
- p. 21, footnote 32: add a sentence summarizing the main conclusion that the reader should draw from the cited Table A4
- p. 22, footnote 34: as close as → as closely as
- p. 31: estimate the the equation → estimate the equation
- p. 31: there is a mistake in the last sentence of subsection 6.2.2: labor supply substitution is mentioned twice
- p. 31: labor supple → labor supply
- p. 36: occupations is unlikely → occupations are unlikely
- p. 37, footnote 44 [missing “]: exposed to → “exposed to
- p. 38, ...wage gains they experience...: clarify who you refer to by the pronoun “they” in the sentence and rephrase accordingly
- p. 39: from the SIPP is evident → from the SIPP are evident
- p. 39: better allows me → better allow me

Minor Remarks and Suggestions III

Typos and other minor problems to correct [*continued*]:

- p. 39, improve sentence wording: does not exhibit the large subsequent negative effects → does not exhibit the large subsequent reversal
- p. 46, notes to Table A6: at the state-level → at the state level
- p. 47, notes to Table A7: “Alternative Hedonic 2” → “Alternative Hedonics 2”
- p. 48, notes to Table A9: “Alternative Hedonic 2” → “Alternative Hedonics 2”