Hours and Wages

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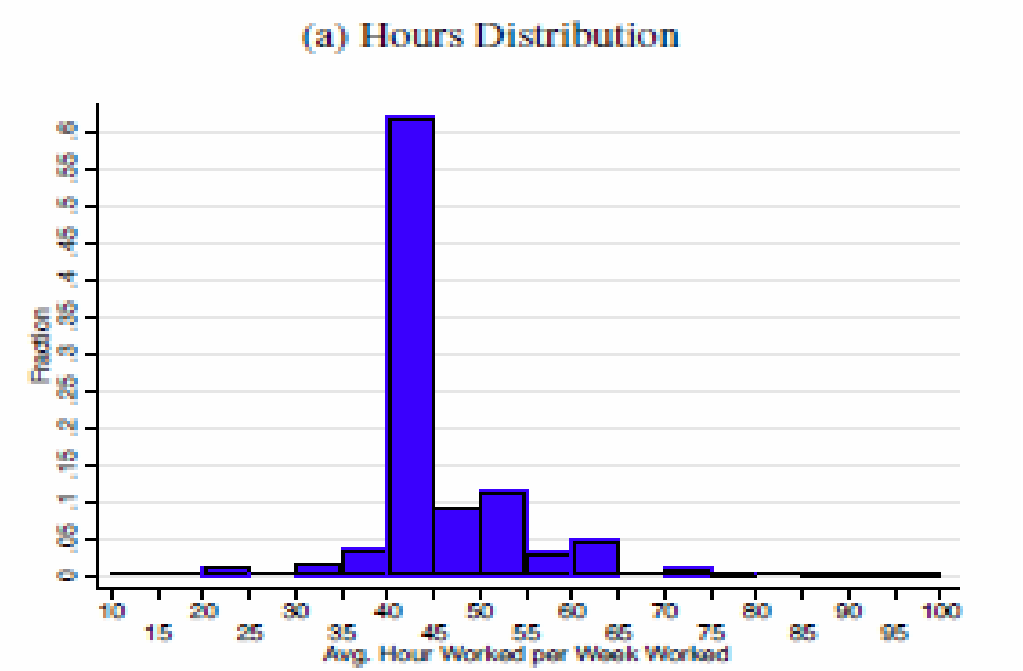
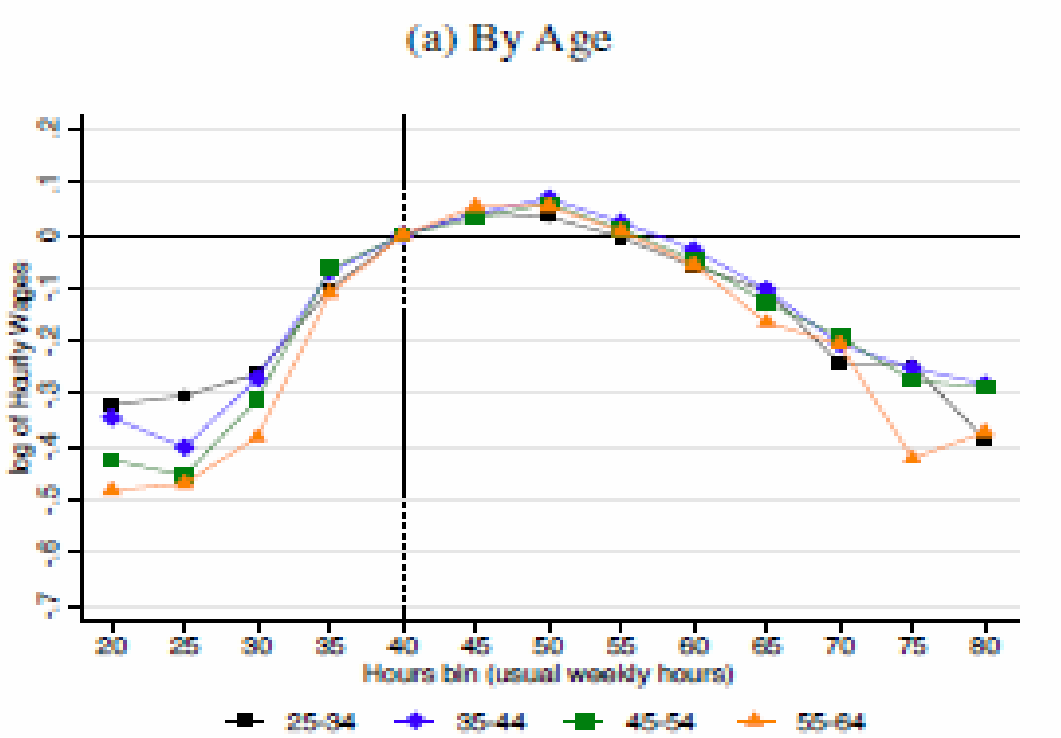
Goal of this Paper

- Existing literature on hours and wages looks at first and second moments.
- Here focus is on two additional features of the data.
  - Usual weekly hours has a spike at 40 hours.



- Relation between earnings and hours is hump shaped.



- Model captures spike in hours with a “Rogerson non-convexity” where earnings increase only slightly after 40 hours.

- Due to opportunities and preferences of individuals, all hours fluctuations are along the intensive margin.
- Why do earnings peak at 50 hours? Productive people have lower disutility of work.
- Paper will likely inspire a literature fleshing out this idea.

Labor Supply without Non-convexity

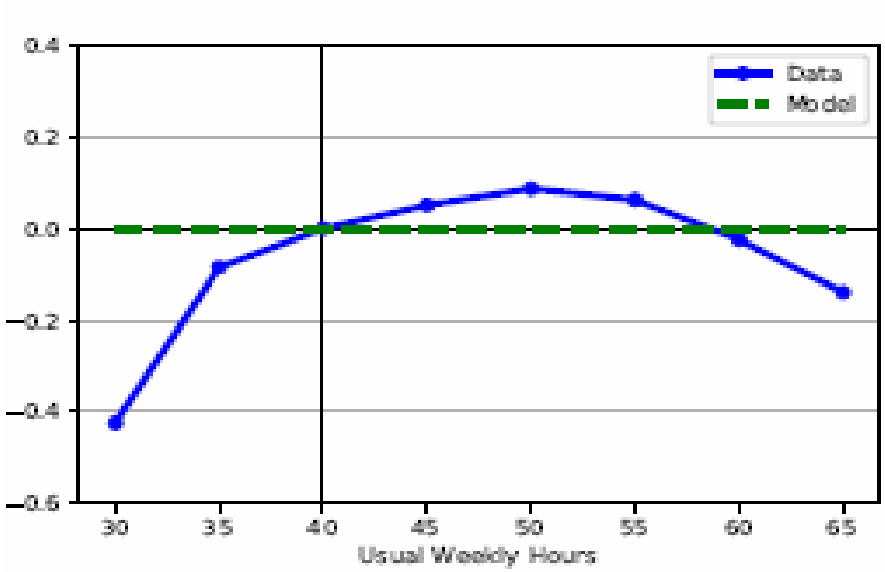
Utility given by

$$\frac{1}{1-(1/\sigma)}c_i^{1-\frac{1}{\sigma}} - \frac{\alpha_i}{1+(1/\gamma)}h_i^{1+\frac{1}{\gamma}}$$

$$c_i = wz_ih_i$$

- Individuals differ by α_i and z_i.
- Solution given by $\log h_i = A \log z_i + B \log \alpha_i$.
- With $\sigma = 1$ follows that $A = 0$. Can choose α_i and z_i to get any h_i and $E_i = wz_ih_i$ combination desired.
- Model can account for facts, but not in a desirable way. Many free parameters.

- Instead individual characteristics are modeled as correlated log normal random variables. Few parameters.
- Low empirical correlation of wages and hours implies essentially zero correlation between α_i and z_i. Wages are flat with respect to hours.

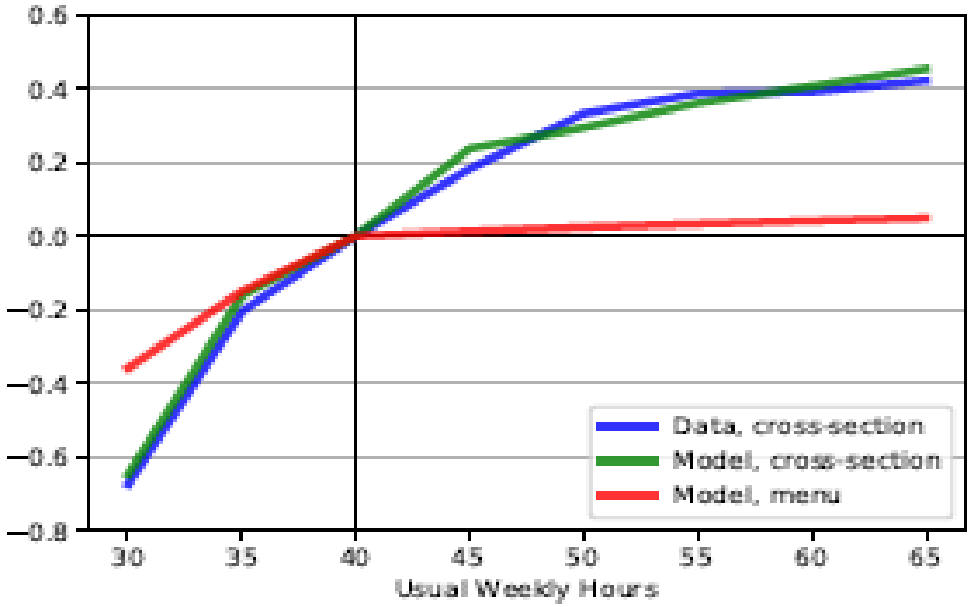


Labor Supply with Non-convexity

$$c_i = z_i A(h_i) h_i^{\theta(h_i)} = z_i E(h_i)$$

- $E(h)$ is estimated to be nonlinear function consisting of three linear segments corresponding to hours below 40, hours from 40 to 50 and one for hours above 50.

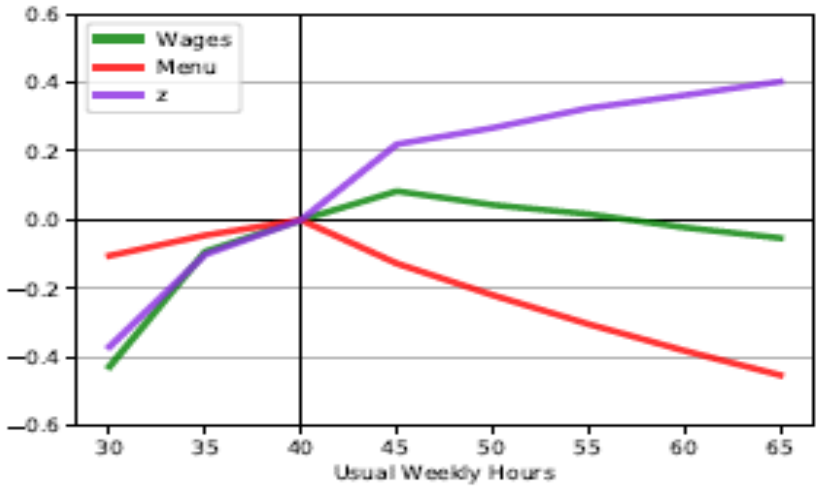
Figure 17: Model Earnings



- Red line differs from green line because estimation yields $\rho_{\alpha,z} = -0.4$.

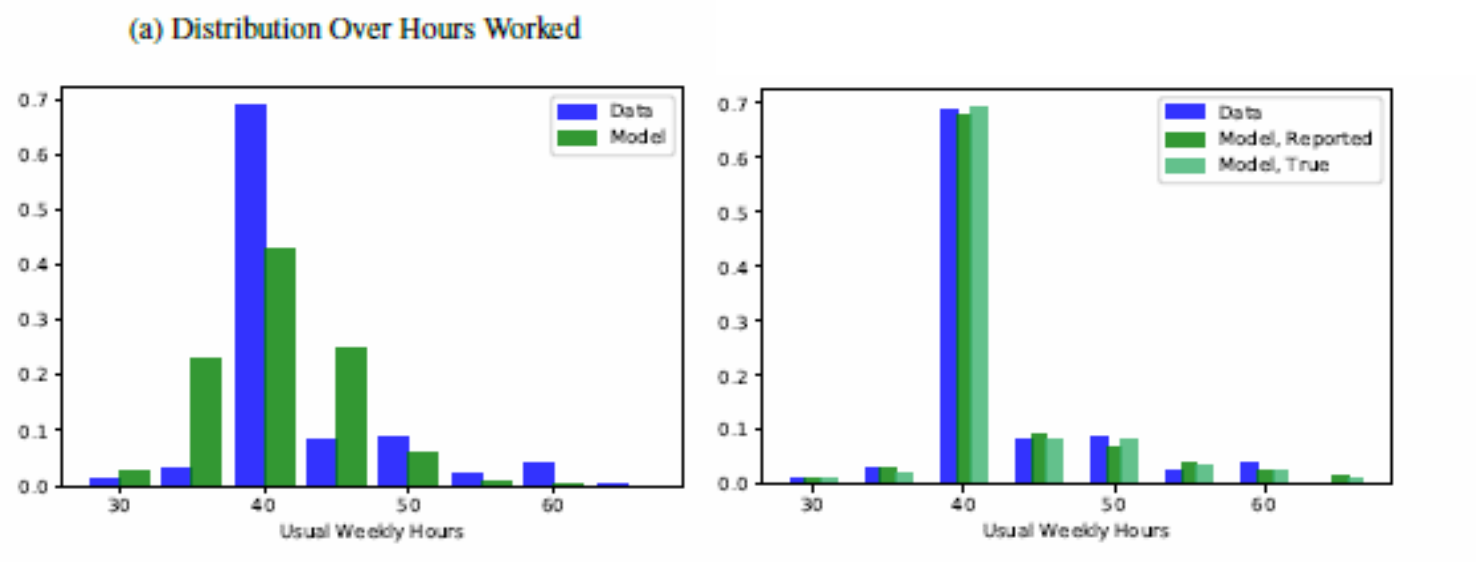
- Result for hours – wage relationship is

Figure 15: Model Wages: The Wage-Hours Menu vs. Selection



- High ability workers choose long hours and low ability workers choose short hours.
- Lowering hours subjects one to part time penalty, increasing hours lowers earnings per hour significantly.

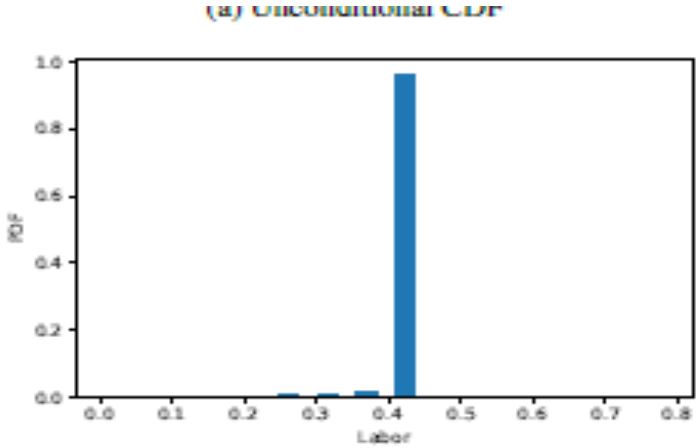
- Hours distribution for constant wage model and model with non-convexity:

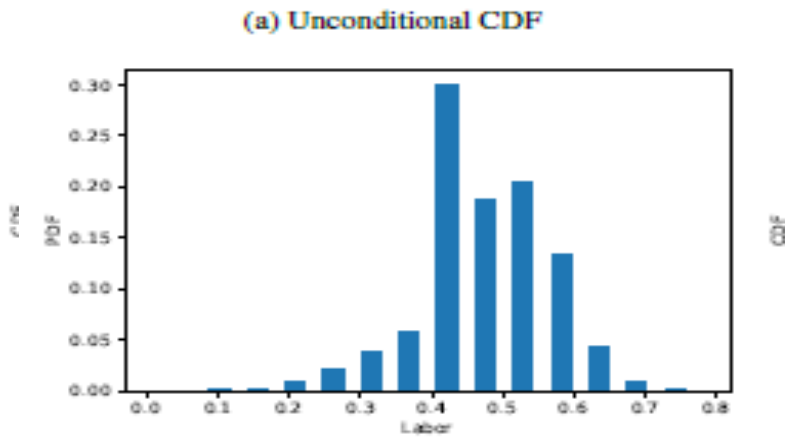


- Both cases variance in hours is due to variance in disutility of work.
- What are these $\alpha_i's$?

Incomplete Markets Model

- Hold disutility of work (α) constant across workers, but labor supply will depend individual's precautionary asset holdings.
- Wealth effect causes reduced hours especially given low realization of z_t.
- Idiosyncratic productivity shock follows first order autoregression. Incentive to work when times are good.
- Still need differences in preferences across individuals.





- Need mixture of these two types of individuals (high and low α) to match hours distribution.
- Still need α to differ across individuals.

Human Capital

- If working long hours currently implies higher wages in the future, workers could choose hours above 40 in spite of non-convexity.
- True for young workers, but how to explain behavior of older workers?
  - Perhaps older workers systematically misreport because they continue to report the number of hours they used to work as if that is what they usually do.
  - Perhaps wage growth continues to reward those who work long hours even as they age (defined benefit pension).
  - Perhaps there is habit persistence in work behavior.

- May need individuals to differ by their ability to learn in order to for more workers to choose part time.
- Goal: Try to get these data properties in a model without assuming differences in preferences across individuals.

Conclusion

Interesting and provocative paper that will inspire much work to come!