

Discussion of  
**Debt Constraints and the Labor Wedge**

by Patrick Kehoe, Virgiliu Midrigan, and Elena  
**Pastorino**

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## Housing and Employment

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- Basic observation:

$$\text{Corr}(\Delta_{'07-'10}\text{HHDebt}, \Delta_{'07-'10}\text{Empl}) > 0$$

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  - **Beraja, Hurst and Ospina (2015)**: wages and employment are positively correlated; demand channel is part of the story
- Kehoe, Midrigan, and Pastorino's channel: labor supply
  - Evidence from labor wedge
  - Model of housing, debt constraints and labor supply

## Labor Wedge

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- Measures the difference between the  $MRS_{n,c}$  and  $MRT_{n,c}$
- Most models:  $MRT_{n,c} = \frac{W_t}{P_t} = w_t$
- $MRS_{n,c}$  is model dependent

## Labor Wedge

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- Intermediate value of elasticity for labor supply,  $\nu = 1$

$$\text{Corr}(\Delta_{'07-'10} \tau_{l,t}^i, \Delta_{'07-'10} n_t^i) > 0$$

- $\Delta \log n_t^i > \Delta \log w_t^i$

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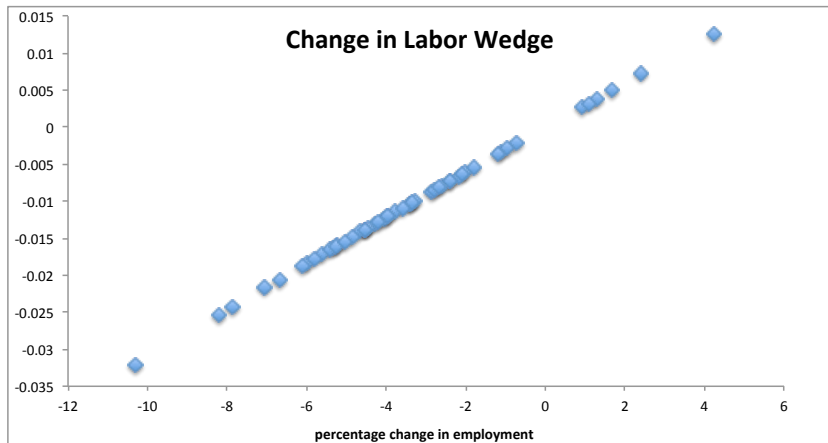
- Labor Wedge - assuming that wages are equal to flexible wages at  $t - 1$

$$1 - \tau_{l,t} = \left( \frac{n_t}{n_{t-1}} \right)^{\frac{1-\lambda}{\nu}}$$

## NK Labor Wedge

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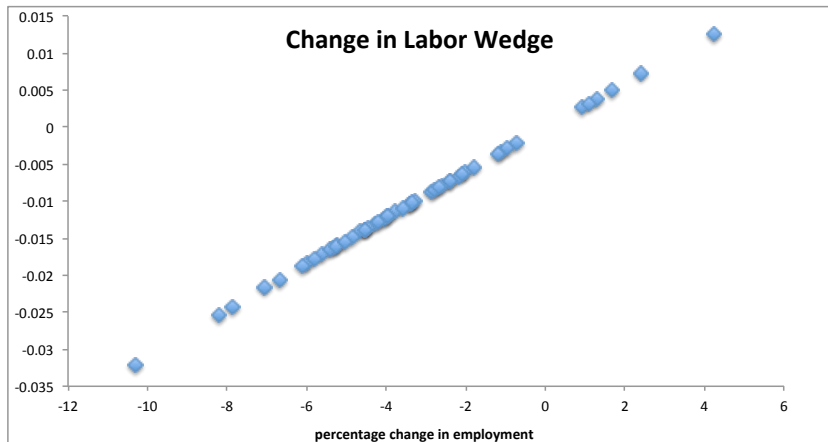
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## NK Labor Wedge

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- Numbers are an order of magnitude smaller

## Housing and Debt Constraints

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- Stock of housing in the utility function:

$$u \left( (c_t^{\frac{\epsilon-1}{\epsilon}} + \eta^{\frac{1}{\epsilon}} h_t^{\frac{\epsilon-1}{\epsilon}})^{\frac{\epsilon}{\epsilon-1}} - \frac{\psi}{1 + 1/\nu} n^{1+1/\nu} \right)$$

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- Aiyagari-style model with idiosyncratic productivity shocks

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- Individual-specific price of the composite good increases relative to wages
- Labor supply must decline

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- In the aggregate  $c_t$  falls relative to  $g_t$ ;  $h_t = 1$ ;
  - Mis-specified labor wedge falls

## Conclusion

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- Alternative and plausible channel for creating drop in employment in response to housing
- Should be combined with the demand channel to see its contribution to the great recession