# *"The Market for 'Rough Diamonds': Information, Finance and Wage Inequality" by Theodore Koutmeridis*

Discussion by
Tobias Broer, IIES Stockholm University and CEPR

'Economics of Inequality', SITE Sep 1,2 2014

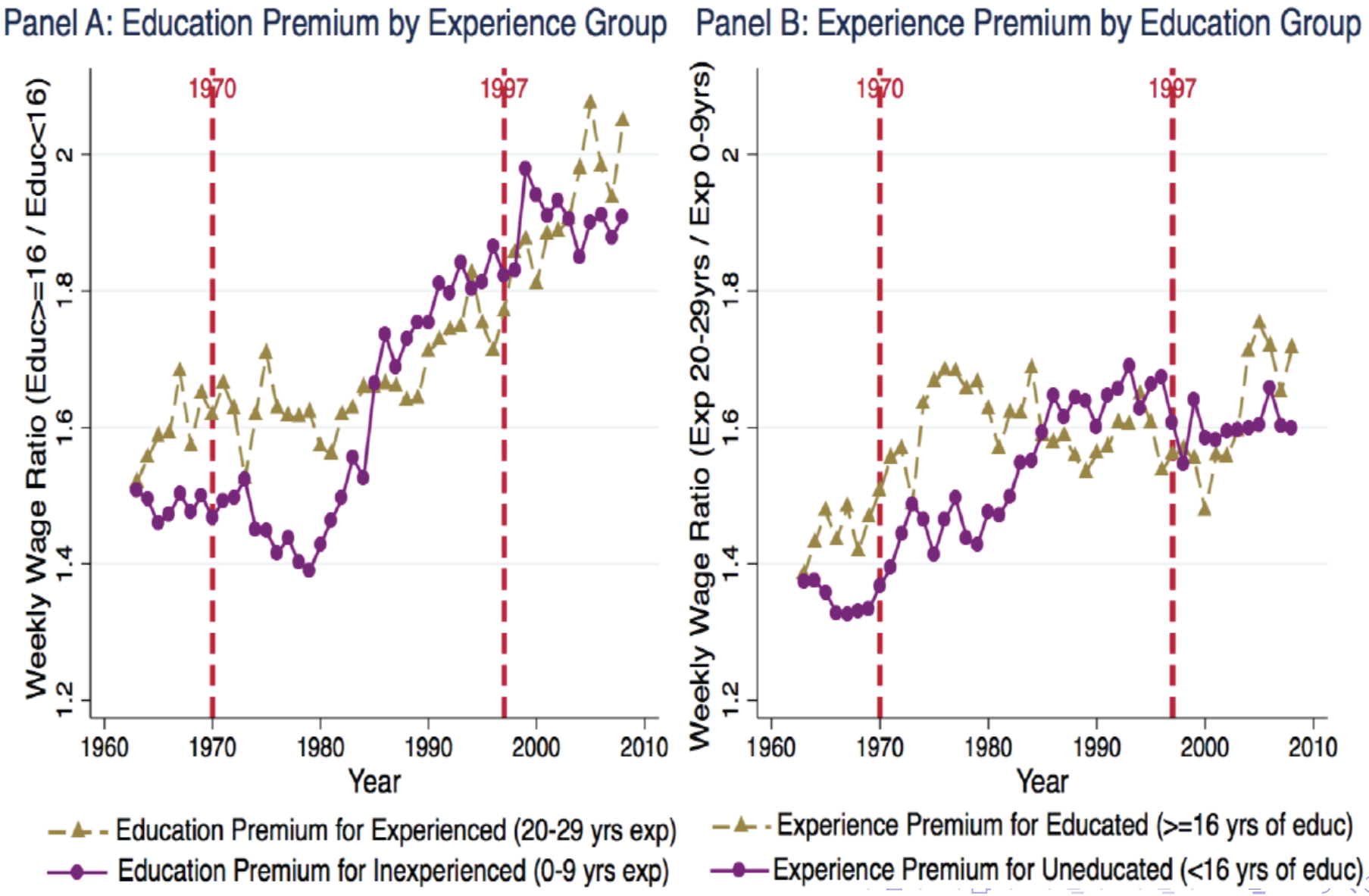
# *What the paper does*

- Evidence: (Partly) new empirical claims (US 1970-97)
  1. Skill premium rose particularly for the inexperienced
  2. Experience premium rose only for the unskilled
- Model: (Partly) new explanation
  1. "Looser credit constraints increased college enrollment of the able and thus reduced the average ability, and wages, of workers without college degrees. This resulted in a) a higher skill-premium for the unexperienced and b) a higher (less negative) experience-premium for the unskilled due to reduced scope for rent-extraction from able unskilled workers."
  2. Mechanism
     - 2.1 Signalling of unobserved ability through education or tenure
     - 2.2 Bargaining lowers wages of experienced-able-unskilled below productivity

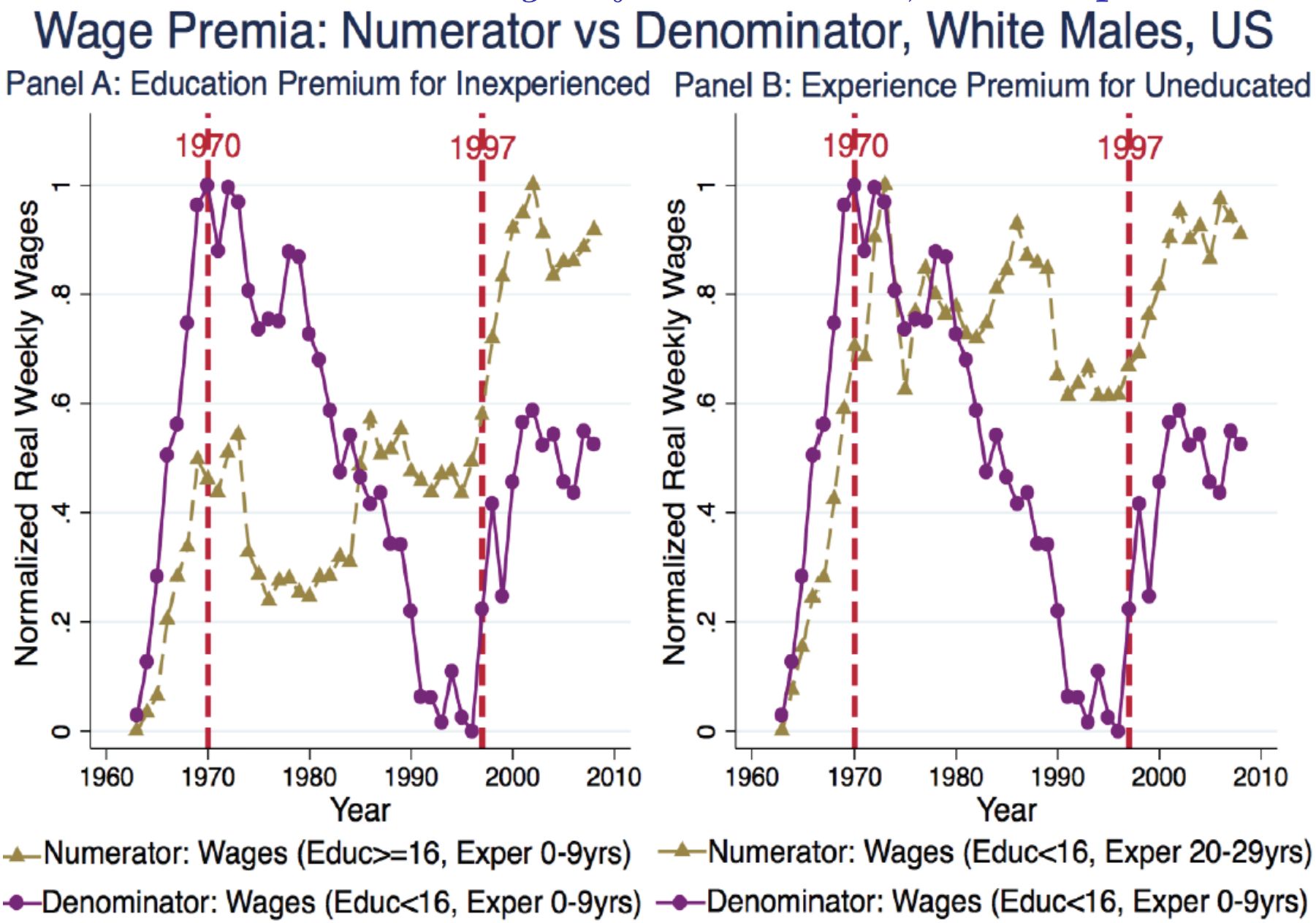
# *Evidence*

# *Evidence I: Premia*

## Education & Experience Wage Premia, White Males, US 1963-2008



# *Evidence II: Wages for low-skill, low-exp*



# *Evidence III: Ability composition of educated / non-ed. (NLSY 1979,1997)*

- Table 2: The average rise in years of education predicted by rising ability (AFQT) has fallen more within uneducated than within educated
- interpreted as "the average uneducated worker becomes less able"

# *Evidence III: College costs and financing 70-97*

- Real tuition fees only rise at top colleges
- Family education loans rise by 0.2 pp of GDP
- College Enrollment has risen strongly

# *Model*

# *Model*

- Three periods t=1,2,3
- Firms produce every period
- Risk-neutral heterogeneous workers consume in $t = 3$ only
  - 'Unable' produce $q^l$, 'able' $q^h > q^l$
  - Heterogeneity in initial assets $b^i$
- Ability is unobserved, but ..
  - Gets revealed to firm after production
  - Investment in college is less costly for able workers, gives potential for signalling
- Credit imperfections: borrowing rate $r^b$ greater than savings rate $r^l > 0$

# *Equilibrium*

- Assumptions s.t.
  - Separation in t=2:
    - Able middle-aged would prefer to invest in education, unable not
    - Bargaining: Firms pay reservation wage $w < q^h$ s.t. able workers stay and get no education
  - Cutoff level for initial assets $b^\star$ s.t. only the able with $b^i > b^\star$ invests in education, as borrowing costs are too high for $b^i < b^\star$

# *Comparative Statics*

- Looser credit constraints (fall in $r^b$) $\Rightarrow \downarrow b^\star \Rightarrow$ share of able uneducated falls, $w_1^u$ falls. Implies
  1. skill premium rises more for the inexperienced than for the experienced
  2. experience premium becomes less negative

# *Extensions*

- OLG / Repeated static model
- Comparison to SBTC

# *Comments*

1. General Comments
2. Evidence
3. Model
4. Minor comments

# 1. General Comments

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1. Nice paper!
   - Nice to draw attention to changes in joint distribution of wages for (non-) educated and (un-) experienced
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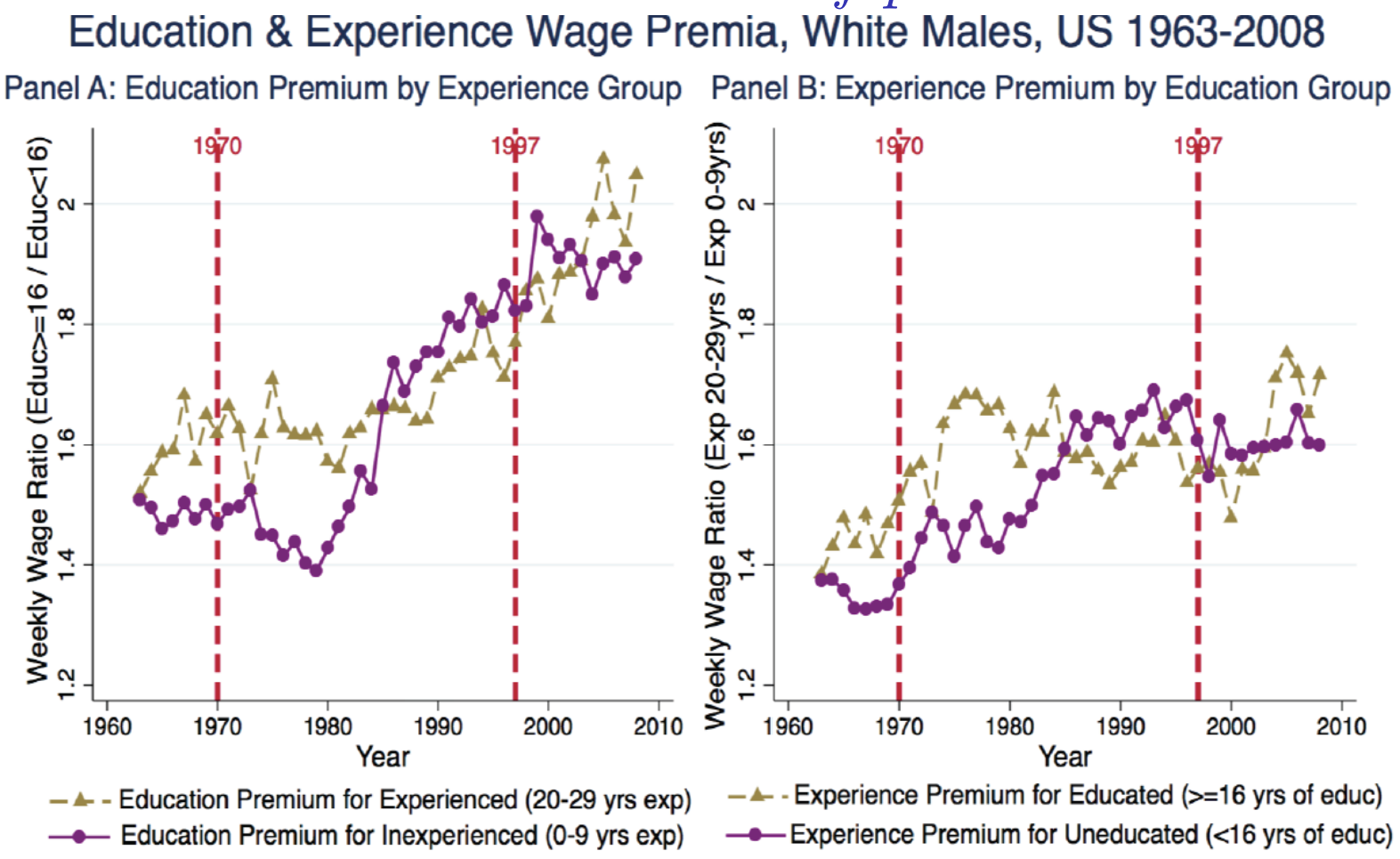
   - Nice to draw attention to changes in joint distribution of wages for (non-) educated and (un-) experienced
   - Nice signalling mechanism, nice intuition.
2. Paper could perhaps be shorter, organise theory and evidence differently.

# 2. Comments: Evidence

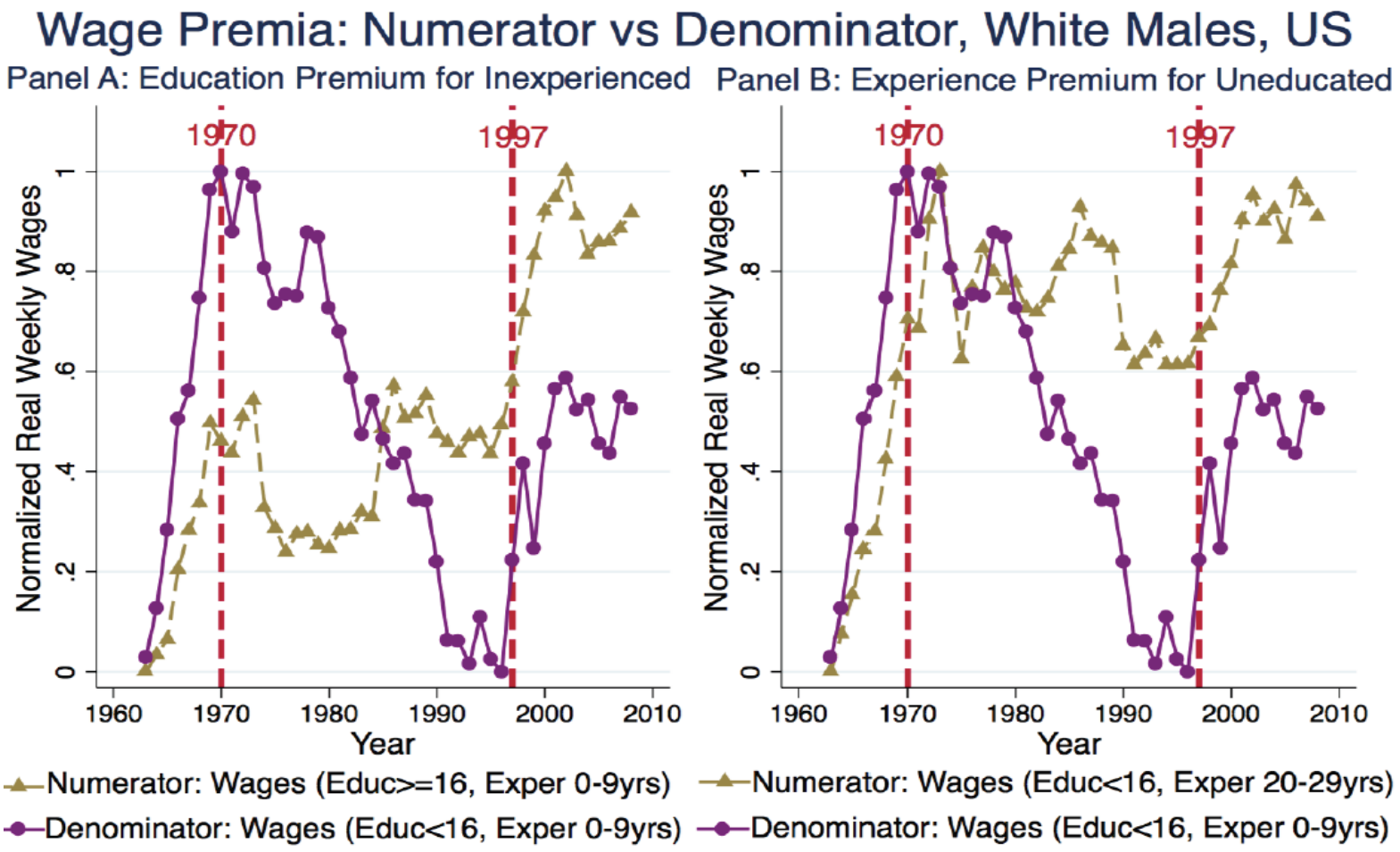
# *A. Time series Graphs*

# *Time series of premia*



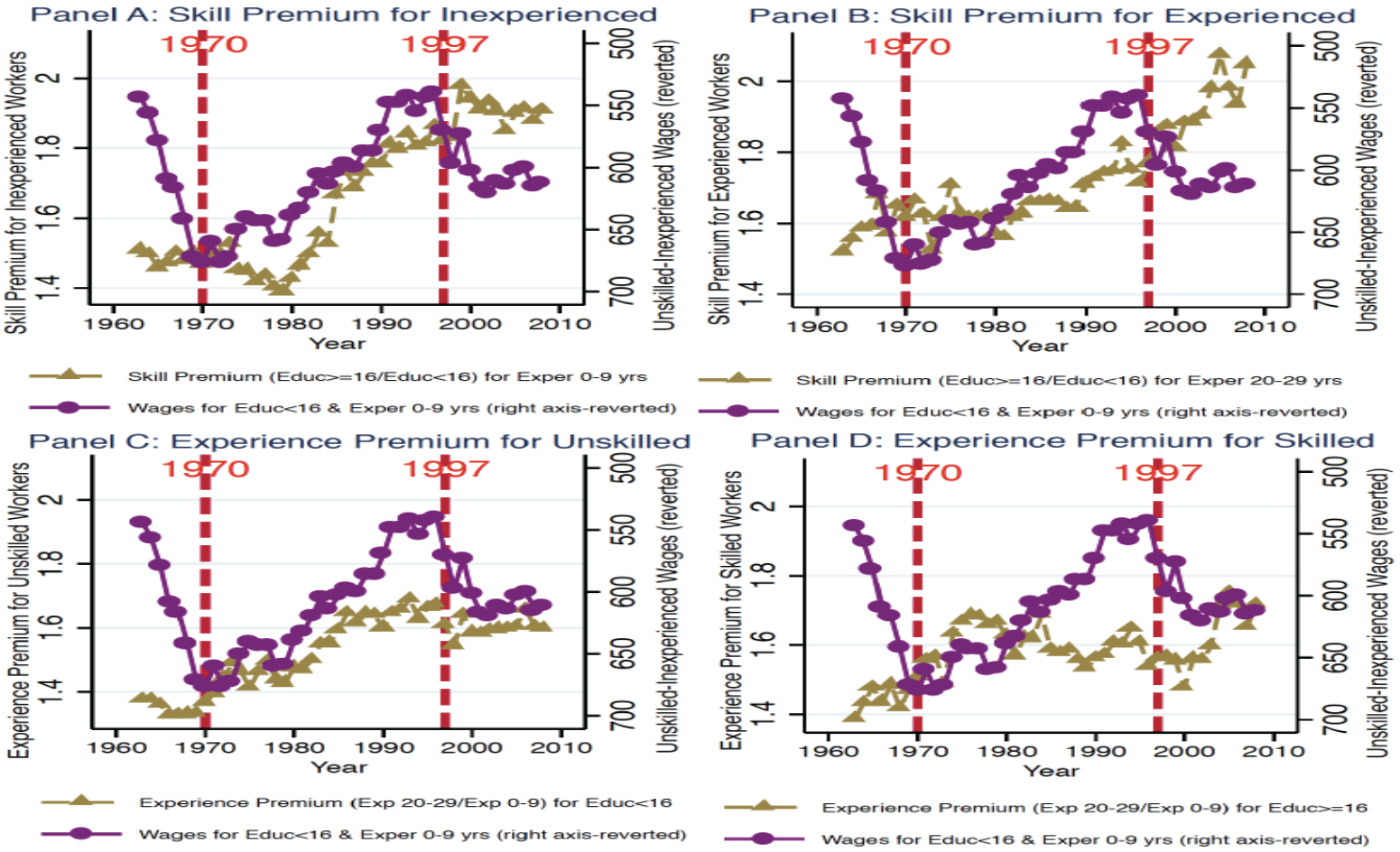

- Why 1970-97? - Main stylised facts depend strongly on period of interest
- Linear time trends don't match the graphs

# *Time series of* $w^{l,u}$




- Interesting!
- Which normalisation? logs?

# *Time series of* $w^{l,u}$




- 'Mirror image' - really?

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$$Educ_i = c + \beta_1 AFQT_i + \beta_2 Women_i + \beta_3 Black_i + \beta_4 Hisp_i + \beta_5 BirthYear_i + \epsilon_i$$

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- How is this regression linked to the motivation and / or model results?
- How to interpret the double-difference in slope coefficient (difference across education groups in change over time)?

# *C. College costs and financing 70-97*

- Fall in credit constraints main source of change - should provide more evidence than 0.2 pp rise in family loans / GDP

# *D. Other empirical issues*

- How about hours? HSV (2010): rising correlation in skill and hours explain skill premium

# 3. Comments: Model

# *A. Model Setup*

- Linear production makes comparison to SBTC not very meaningful
- Model is about 'tenure' (indiv-firm-specific), not 'experience' (indiv-specific)
- Beware of motivating $r^b > r^l$ by default

# *B. Equilibrium*

- Why not pay back loans in $t = 2$?

$$y^{\mathcal{B}} = (1 + r^b)^2(b^i - T - k^j) + (1 + r^l)w_2^s + w_3^s$$

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- Bargaining
  - Why is $w_2^{u,h}$ on lower bound of bargaining set?
  - W/o commitment: Should drive down $w_3^{u,h}$ to $q_l$
  - With commitment: Can get much richer equilibria

# *C. Dynamic Equilibrium*

- Changes outside option: Now firm can hire other generations too, should discuss
- Consumption pooling across generations: inconsistent with binding credit constraints / market borrowing for the young

# *C. Results*

- Experience premium for uneducated is negative!
- Test additional model predictions
  1. ... fall in averaged unskilled wages
  2. ... constant (rising) within-group variance for skilled (unskilled)
  3. ... no change in premia for subsample with non-binding CC
  4. ... no change in premia in sectors with exogenous limits to tenure
  5. ... no change in premia in countries with public funding of tertiary education

# 4. Minor Comments

- Structure confusing, too much data and too many estimates
  - Better: Few Motivating graphs - model with implications - empirical test
  - Guess and verify in model section cumbersome: Just state your assumptions, show they imply existence
- Worth cleaning up typos, equation references etc
- Regression results in introduction - confusing
- Tables and figures should be self-contained

# *Summary*

- Nice empirical fact, nice mechanism
- Empirics
  - motivate time horizon: can you explain the strong fall in $w^u$ 1970-1990 without explaining the even stronger rise $1965-70$?
  - more on credit constraints, ability composition
- Model
  - Linear production assumes much away SBTC
  - Doubts about budget constraints
  - 'Tenure' or 'Experience'?
  - Bargaining and dynamic extension less convincing than rest of the model

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