Discussion of
“Dissecting the French Export Wage Premium”
by Eaton, Kortum, Kramarz and Sampognaro

Oleg Itskhoki
Princeton University

AEA Meetings
Denver, January 2011
Size and Exporter Wage Premium

- Robust empirical findings:
  1. Size wage premium
     - larger firms pay higher wages
  2. Exporter wage premium
     - controlling for size, exporters pay higher wages

- Robust to various controls for observable skill differences

- Unobservable skill?

- Evidence of rent-sharing (van Reenen, 1996)

- Theoretical challenge: how to make wages an increasing function of revenues or profits?
Size and Exporter Wage Premium

- $Z$ is a measure of productivity or size
- $R$ is revenues and $\Pi$ is profits
- breaks represent entry into a new market
EKKS paper

- EKK + bargaining over wages
- Wages are increasing in profits (surplus)
- Matches a number of facts on wages across French firms

This discussion: assumptions

1. **Efficient** vs inefficient bargaining
   - does not make a difference

2. **Collective** vs bilateral (Nash or Stole-Zweibel) bargaining
   - does not make a difference by itself, but rules out bargaining over fixed cost

3. Bargaining over sunk and fixed costs: **yes** vs no
   - is crucial for the result
Notation

- Revenues in market $n$ ($z$ is productivity and $\ell$ is employment)
  \[ R_n = A_n (z\ell)^\beta \]

- Profits
  \[ \Pi_n = R_n - w\ell - f_n \]

- Workforce (union) surplus
  \[ U_n = (w - \bar{w})\ell, \]

- Total surplus of a firm and workers
  \[ S_n = \Pi_n + U_n = R_n - \bar{w}\ell - f_n \]
Efficient vs inefficient bargaining

- Efficient bargaining

\[
\max_{w,\ell} \left\{ (1 - \gamma) \ln \Pi_n + \gamma \ln U_n \right\} \Rightarrow \max_{\ell} S_n,
\]

\[
\frac{\partial R_n}{\partial \ell} = \frac{w}{w},
\]

\[
(1 - \gamma)(w - \bar{w})\ell = \gamma \Pi_n
\]

- Inefficient bargaining

\[
\max_w \left\{ (1 - \gamma) \ln \Pi_n + \gamma \ln U_n \right\}, \quad \text{where} \quad \ell = \arg \max_{\ell} \Pi_n,
\]

\[
(1 - \gamma)(w - \bar{w})\ell = \gamma \Pi_n,
\]

\[
(1 - \gamma) \frac{\partial R_n}{\partial \ell} = \frac{w}{w}
\]
Collective vs bilateral bargaining

Under inefficient bargaining

• Collective bargaining

\[ w = w + \frac{\gamma \Pi_n}{1 - \gamma \ell} = (1 - \gamma)w + \gamma \frac{R_n}{\ell} - \gamma \frac{f_n}{\ell} \]

• Bilateral Nash bargaining

\[ \max_w \left\{ (1 - \gamma) \ln \tilde{\Pi}_n + \gamma \ln(\tilde{w} - w) \right\}, \]

\[ \tilde{\Pi}_n = R_n - w(\ell - 1) - \tilde{w} - f_n - \Pi_n(\ell - 1), \]

\[ w = w + \frac{\gamma \Delta R_n}{1 - \gamma} \xrightarrow{\Delta \ell \rightarrow 0} w + \frac{\gamma}{1 - \gamma} \frac{\partial R_n}{\partial \ell} \]

— \( \partial R_n / \partial \ell = \beta R_n / \ell \) under power revenue function

— Similar result under Stole and Zweibel bargaining
Bargaining over sunk and fixed costs

- Bargaining over fixed costs

\[
w = (1 - \gamma)w + \gamma \frac{R_n}{\ell} - \gamma \frac{f_n}{\ell} = \varphi w - \psi \frac{f_n}{R_n}
\]

- \( f_n/R_n \) decreases and \( w \) increases with firm productivity and size

- No bargaining over fixed costs

\[
w = (1 - \gamma)w + \gamma \frac{R_n}{\ell} = \varphi w
\]

- constant wage across all firms
Bargaining over sunk and fixed costs

Literature on misallocation

• Bargaining over fixed costs

\[ w = (1 - \gamma)w + \gamma \frac{R_n}{\ell} - \gamma \frac{f_n}{\ell} = \varphi w - \psi \frac{f_n}{R_n} \]

\[ \frac{R_n}{\ell} = \text{const} \quad \Rightarrow \quad \frac{R_n}{w\ell} \downarrow \text{in firm size} \]

• No bargaining over fixed costs

\[ w = (1 - \gamma)w + \gamma \frac{R_n}{\ell} = \varphi w \]

\[ \frac{R_n}{\ell} = \text{const} \quad \Rightarrow \quad \frac{R_n}{w\ell} = \text{const} \]
Alternative story

• Surplus division: $(1 - \gamma)(w - \bar{w}) = \gamma \frac{\partial \Pi_n}{\partial \ell}$

• Cost of replacing a worker: $\frac{\partial \Pi_n}{\partial \ell} = b$

• Equilibrium wages

$$w = \bar{w} + \frac{\gamma}{1 - \gamma} b$$

• $b$ must be an increasing function of firm size
  — Helpman and Itskhoki (2010), Cosar, Guner and Tybout (2010) *decreasing returns in hiring*
  — Helpman, Itskhoki and Redding (2010), Sethupathy (2010) *match quality complementarity (unobservable skill)*

• Nicely matches facts on misallocation: $\frac{R_n}{\ell} \uparrow$ and $\frac{R_n}{w\ell} = \text{const}$
• Helpman, Itskhoki, Muendler and Redding: Brazilian data

• Firm (size and exporter) wage premia are not only significant, but account for much of wage distribution dynamics

• To the extent trade affects firm wage premia, this is an important channel through which trade affects income inequality