Employment and Wages

Wage Rates

- The real wage rate is the quantity of goods and services that an hour's work can buy.
- Equals the money wage rate divided by the price level.

\[
\text{nominal wage rate} \div \text{price level} = \text{real wage rate}
\]
The U.S. Economy: 1929-1999

Hourly real wage rate (1992$/hour)

Year


What determines the real wage?

- Average productivity?
- Marginal productivity?
Towards better price indices:

- Take the geometric average of the Laspeyres and Paasche index.

\[ \text{Fisher Ideal Price Index} = \sqrt{\frac{D_A}{A} \times \frac{B}{B}} \]

"Chained" price index

- Output indices:

\[ \text{Fisher Ideal RGDP Index} = \sqrt{\frac{B}{A} \times \frac{C}{D}} \]
\[ \sqrt{\frac{D/P}{A}} \times \frac{E}{A} = \sqrt{\frac{B/A}{E}} \times \frac{E}{A} \]

Therefore

\[ \frac{NGDP}{P} = RGDP \]

exact identity.
<table>
<thead>
<tr>
<th>&quot;real wage&quot;</th>
<th>nominal wage</th>
<th>nominal wage + benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laspeyres' CPI</td>
<td>$\frac{W}{\text{CPI}}$</td>
<td>$\frac{(W + \text{ben})}{\text{CPI}}$</td>
</tr>
<tr>
<td>Chain CPI</td>
<td>$\frac{W}{\text{Ch. CPI}}$</td>
<td>$\frac{(W + \text{ben})}{\text{Ch. CPI}}$</td>
</tr>
</tbody>
</table>

\[ \frac{3}{2} \]

Which real wage is relevant?

\[ 1 > 3 > 2 > 4 \]
Real Wage Rates: 1960–1996

Average wage rate (1992 dollars per hour)

Wages, salaries, and supplements adjusted for CPI bias

Wages and salaries

Wages of non-supervisory workers

Wages of private manufacturing workers

Year:
- 1960
- 1964
- 1968
- 1972
- 1976
- 1980
- 1984
- 1988
- 1992
- 1996

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