Beauty and the Labor Market

Hamermesh D. & J. Biddle

Introduction

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  - numerous economic studies: blacks, women, physically handicapped

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  - economists difficult to distinguish labor market outcomes arising from discrimination against a group from those produced by intergroup differences in productivity

⇒ in case of looks this can be done

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What is beautiful?

- There are few consistent standards of beauty across cultures
What is beautiful?

- There are few consistent standards of beauty across cultures
- Standards of beauty change over time within the same culture
What is beautiful?

- There are few consistent standards of beauty across cultures
- Standards of beauty change over time within the same culture

BUT
What is beautiful?

- There are few consistent standards of beauty across cultures
- Standards of beauty change over time within the same culture
  
  **BUT**

- Within a culture at a point in time there is tremendous agreement on standards of beauty and these standards change quite slowly
Aim

1. Determine empirically whether standard earnings equations yield evidence of a pay difference based on looks.
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2. Check if the pay difference based on looks differs by gender
Aim

1. Determine empirically whether standard earnings equations yield evidence of a **pay difference** based on looks
2. Check if the pay difference based on looks differs by **gender**
3. Try to identify occupations where beauty might be productive in order to examine the extent of labor-market **sorting** by looks
Modelling strategy

The productivity model

- Each worker $i$ is endowed with a vector of productivity-enhancing characteristics $X_i$. 
Modelling strategy
The productivity model

- Each worker \( i \) is endowed with a vector of productivity-enhancing characteristics \( X_i \).
- Each worker can be classified as either attractive \( (\theta_i = 1) \) or unattractive \( (\theta_i = 0) \)
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$$w_{ij} = a_j X_i + b_j \theta_i$$
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In some occupations attractive workers are more productive than unattractive ones ($b_j > 0$)
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- Workers choose the occupation offering the highest wage

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Regarding the distribution of workers across occupations

1. If the distribution of $X_i$ is uncorrelated with beauty ($\theta_i$), attractive workers will on average earn more, whether or not we control for $X_i$.

2. Within occupations, we will observe a difference between the average earnings of attractive and unattractive people only in those occupations where attractiveness is productive.
Modelling strategy
Empirical implications of the productivity model

- Regarding the distribution of workers across occupations
  - Sorting

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Modelling strategy

An alternative: The employer-discrimination model

- Becker type model with employers’ distaste for unattractive employees

Implications:

- No systematic sorting of workers into occupations on the basis of attractiveness
- It produces a looks differential in earnings, but there is no reason to expect that it will differ across occupations
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A general test

Regression

\[ w_i = \beta_0 + \beta_1 x_i + \beta_2 \theta_i + \beta_3 OCC_i + \beta_4 \theta_i OCC_i + \epsilon_i \]

\[ OCC_i = \begin{cases} 
1, & \text{if the worker’s occupation is identified as one where looks are productive} \\
0, & \text{otherwise} 
\end{cases} \]
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- Nested models

1. The productivity model \( \Rightarrow \beta_4 > 0, \beta_2 = \beta_3 = 0 \)
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2. The employer discrimination model \( \Rightarrow \beta_2 > 0, \beta_3 = \beta_4 = 0 \)
3. Occupational crowding \( \Rightarrow \beta_3 > 0 \)
Data

Do they exist?

1. The 1977 Quality of Employment Survey (QES)
2. The 1971 Quality of American Life survey (QAL)
3. The 1981 Canadian Quality of Life study (QOL) (subsample 3-year panel)
Data

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  YES
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- In all three surveys the interviewer had to rate the respondent’s physical appearance on a 5-point scale
Table 2—Distribution of Looks: Quality of Employment Survey (QES), 1977; Quality of American Life (QAL), 1971; Canadian Quality of Life (QOL), 1977, 1979, and 1981 (Percentage Distributions)

<table>
<thead>
<tr>
<th>Category</th>
<th>QES</th>
<th>QAL</th>
<th>QOL (pooled)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>1) Strikingly beautiful or handsome</td>
<td>1.4</td>
<td>2.1</td>
<td>2.9</td>
</tr>
<tr>
<td>2) Above average for age (good looking)</td>
<td>26.5</td>
<td>30.4</td>
<td>24.2</td>
</tr>
<tr>
<td>3) Average for age</td>
<td>59.7</td>
<td>52.1</td>
<td>60.4</td>
</tr>
<tr>
<td>4) Below average for age (quite plain)</td>
<td>11.4</td>
<td>13.7</td>
<td>10.8</td>
</tr>
<tr>
<td>5) Homely</td>
<td>1.0</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>N:</td>
<td>959</td>
<td>539</td>
<td>864</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Sample</th>
<th>Penalty for below-average looks</th>
<th>Premium for above-average looks</th>
<th>$\hat{\beta}<em>{\text{above}} - \hat{\beta}</em>{\text{below}}$</th>
<th>$p$ on $F$ statistic for looks</th>
<th>$p$ on intersample equality of looks effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All three samples</td>
<td>-0.091</td>
<td>0.053</td>
<td>0.144</td>
<td>0.0001</td>
<td>0.246</td>
</tr>
<tr>
<td></td>
<td>(0.031)</td>
<td>(0.019)</td>
<td>(0.040)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two U.S. samples</td>
<td>-0.132</td>
<td>0.036</td>
<td>0.168</td>
<td>0.0003</td>
<td>0.443</td>
</tr>
<tr>
<td></td>
<td>(0.039)</td>
<td>(0.027)</td>
<td>(0.051)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Women:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All three samples</td>
<td>-0.054</td>
<td>0.038</td>
<td>0.092</td>
<td>0.042</td>
<td>0.163</td>
</tr>
<tr>
<td></td>
<td>(0.038)</td>
<td>(0.022)</td>
<td>(0.048)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two U.S. samples</td>
<td>-0.042</td>
<td>0.075</td>
<td>0.117</td>
<td>0.041</td>
<td>0.123</td>
</tr>
<tr>
<td></td>
<td>(0.049)</td>
<td>(0.037)</td>
<td>(0.069)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Men and women combined:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All three samples</td>
<td>-0.072</td>
<td>0.048</td>
<td>0.120</td>
<td>0.0001</td>
<td>0.106</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td>(0.015)</td>
<td>(0.031)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two U.S. samples</td>
<td>-0.092</td>
<td>0.046</td>
<td>0.138</td>
<td>0.0002</td>
<td>0.051</td>
</tr>
<tr>
<td></td>
<td>(0.031)</td>
<td>(0.022)</td>
<td>(0.041)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Notes: The dependent variable is log(hourly earnings); standard errors are shown in parentheses.*
### Table 9—Sorting, Looks, and the Determination of Earnings: QES, 1977; QAL, 1971

<table>
<thead>
<tr>
<th>Sample and occupation index</th>
<th>Looks below average × occupation index</th>
<th>Looks above average × occupation index</th>
<th>Occupation index</th>
<th>$R^2$</th>
<th>p on $F$ statistic on main effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QES, men:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT</td>
<td>$-0.177$</td>
<td>$0.041$</td>
<td>$0.052$</td>
<td>0.405</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(0.058)</td>
<td>(0.042)</td>
<td>(0.069)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective</td>
<td>$-0.162$</td>
<td>$0.012$</td>
<td>$0.124$</td>
<td>0.405</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.049)</td>
<td>(0.035)</td>
<td>(0.097)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employers</td>
<td>$-0.187$</td>
<td>$0.095$</td>
<td>$0.066$</td>
<td>0.410</td>
<td>0.026</td>
</tr>
<tr>
<td></td>
<td>(0.076)</td>
<td>(0.057)</td>
<td>(0.084)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QES, women:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT</td>
<td>$-0.174$</td>
<td>$0.023$</td>
<td>$0.032$</td>
<td>0.329</td>
<td>0.036</td>
</tr>
<tr>
<td></td>
<td>(0.075)</td>
<td>(0.054)</td>
<td>(0.119)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective</td>
<td>$-0.115$</td>
<td>$0.050$</td>
<td>$0.083$</td>
<td>0.326</td>
<td>0.130</td>
</tr>
<tr>
<td></td>
<td>(0.074)</td>
<td>(0.055)</td>
<td>(0.096)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employers</td>
<td>$-0.078$</td>
<td>$0.152$</td>
<td>$0.216$</td>
<td>0.315</td>
<td>0.064</td>
</tr>
<tr>
<td></td>
<td>(0.107)</td>
<td>(0.076)</td>
<td>(0.111)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QAL, men:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT</td>
<td>$-0.102$</td>
<td>$0.070$</td>
<td>$0.093$</td>
<td>0.373</td>
<td>0.224</td>
</tr>
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<tr>
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<td>$-0.006$</td>
<td>0.213</td>
<td>0.449</td>
</tr>
<tr>
<td></td>
<td>(0.150)</td>
<td>(0.121)</td>
<td>(0.152)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QAL, women:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT</td>
<td>$0.049$</td>
<td>$0.166$</td>
<td>$-0.066$</td>
<td>0.282</td>
<td>0.031</td>
</tr>
<tr>
<td></td>
<td>(0.088)</td>
<td>(0.063)</td>
<td>(0.130)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective</td>
<td>$0.130$</td>
<td>$0.075$</td>
<td>$-0.053$</td>
<td>0.287</td>
<td>0.266</td>
</tr>
<tr>
<td></td>
<td>(0.090)</td>
<td>(0.068)</td>
<td>(0.099)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employers</td>
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<td>$0.261$</td>
<td>$0.218$</td>
<td>0.272</td>
<td>0.058</td>
</tr>
<tr>
<td></td>
<td>(0.153)</td>
<td>(0.127)</td>
<td>(0.162)</td>
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- No support for occupational crowding along the dimension of beauty.
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3. The penalty and premium is higher for men, but these gender differences are not large.
4. There is some evidence of sorting:
   - Weak evidence for productivity-related discrimination.
   - No support for occupational crowding along the dimension of beauty.
   - Strong support for pure Becker-type discrimination based on beauty and stemming from employer’s tastes.