(Simulated) Impact of the Proposal to Introduce Fee Reductions for Universities on PCT Fee Income

Geneva
June 18, 2018
Introduction

- Study “Estimating a PCT Fee Elasticity” presented at the 7th session of the Working Group, which provided a first ever estimate of the overall fee elasticity of PCT applications.

- Two Supplements to this Study explore the effects of possible fee reductions for universities originating in different country groups.
The approach

Dependent variable:
0: Paris route
1: PCT route

\[ \text{pct}_{ijt} = \begin{cases} 
0 & \text{if } \text{pct}_{ijt}^* \leq 0 \\
1 & \text{if } \text{pct}_{ijt}^* > 0 
\end{cases} \]

Local currency PCT fee divided by Consumer Price Index (CPI)

\[ \text{pct}_{ijt}^* = \alpha \ln f_{jt} + \beta \ln \text{unemp}_{jt} + \gamma \text{mem}_{jt} + \delta \Omega_i + \mu_j + \theta_t + \varphi \text{mkt}_{j(t-12)} + \epsilon_{ijt} \]

Origin is PCT member

Origin & time fixed effects

Error term

Unemployment rate

Family characteristics:
- size
- applicant type
- technology field

Moving average of PCT market share, 12-month lag
Historical fee variation

International filing fee (index, 2004=100)
### Market shares and elasticity estimates

<table>
<thead>
<tr>
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<th>Full sample</th>
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<tbody>
<tr>
<td></td>
<td>#obs</td>
<td>PCT share</td>
<td>#obs</td>
<td>PCT share</td>
</tr>
<tr>
<td>University (developed country)</td>
<td>24,754</td>
<td>0.865</td>
<td>20,730</td>
<td>0.861</td>
</tr>
<tr>
<td>University (developing country)</td>
<td>3,609</td>
<td>0.675</td>
<td>453</td>
<td>0.620</td>
</tr>
<tr>
<td>Other applicants</td>
<td>1,342,593</td>
<td>0.492</td>
<td>1,092,352</td>
<td>0.489</td>
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</tbody>
</table>
Filing response – developed countries

Number of additional filings

Fee discount (in percent)
Filing response – developing countries

Number of additional filings vs. Fee discount (in percent)

Lines represent:
- No ceiling
- Ceiling of 5
- Ceiling of 10
- Ceiling of 20
- Ceiling of 30

Graph shows the relationship between the number of additional filings and the fee discount for developing countries.
Income effect – developed countries

Income loss (in CHF millions)

Income loss (as % of total PCT income)

Fee discount (in percent)

- **No ceiling**
- **Ceiling of 30**
- **Ceiling of 20**
- **Ceiling of 10**
- **Ceiling of 5**

Income loss:
- 0.35%
- 0.70%
- 1.11%
- 1.41%
- 1.76%
- 2.11%
- 2.46%
- 2.82%
Income effect – developing countries

Fee discount (in percent) vs. Income loss (in CHF millions) and Income loss (as % of total PCT income)

- No ceiling
- Ceiling of 30
- Ceiling of 20
- Ceiling of 10
- Ceiling of 5
The conclusion

- Developing country universities are more price sensitive than developed country universities.

- Eligibility ceilings work to soften the filing response and the implied income loss.

Caveats:

- Only model PCT-Paris choice.
- Simulations of large fee discount exceeds historical fee variation.
- Assume uniform elasticities for universities of all sizes in developed/developing economies.