Estimating the scale of corporate profit shifting: An FDI approach

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Detecting profit shifting
Estimating the scale
Deriving revenue losses
Conclusion

Source: http://www.taxjusticeblog.org/archive/2014/10/irelands_soft_pedaling_tax_avo.php#.WVp1GoiGPhg
What is corporate profit shifting?

Illegal movement of money from a higher-tax jurisdiction to a lower-tax jurisdiction
→ lower total tax paid by a multinational corporation
What is corporate profit shifting?

Illegal movement of money from a higher-tax jurisdiction to a lower-tax jurisdiction → lower total tax paid by a multinational corporation

- Ways to do so:
  - trade mispricing
  - debt financing
  - sale of intangibles or services
  - etc.
How it works

Czech Republic

Firm A
How it works

Czech Republic

Firm A  ○

Cyprus  ○

Firm B
How it works

Czech Republic

Firm A

Ownership (FDI)

Cyprus

Firm B
How it works

Czech Republic

Firm A

Ownership (FDI)

Profit

Cyprus

Firm B
How it works

Czech Republic

CIT rate: 19%

Firm A

Ownership (FDI)

Profit

Cyprus

CIT rate: 12.5%
Favorable conditions

Firm B
Motivation
Motivation

1. Is there corporate profit shifting?
Motivation

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2. How much corporate profit is shifted and from which countries?
Motivation

1. Is there corporate profit shifting?
2. How much corporate profit is shifted and from which countries?
3. How much do these countries lose on tax revenue as a result?
1. Is there corporate profit shifting?
The FDI approach

- Building on UNCTAD’s World Investment Report (UNCTAD, 2015)
The FDI approach

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The basic idea:
If there is profit shifting from high-tax jurisdictions to tax havens, this will show in data as deflated reported profits in high-tax jurisdictions.
The FDI approach

Building on UNCTAD‘s World Investment Report (UNCTAD, 2015)

The basic idea:

If there is profit shifting from high-tax jurisdictions to tax havens, this will show in data as deflated reported profits in high-tax jurisdictions

→ More FDI from tax havens is associated with lower reported profits
How it works

Czech Republic

Firm A

Ownership (FDI)

Profit

Cyprus

Firm B
How it works

Czech Republic

Firm A

Profit

Ownership (FDI)

Cyprus

Firm B
How it works

Czech Republic

Firm A

Ownership (FDI)

Profit

Reported profits in CZE: ↓
Reported profits in CYP: ↑

Cyprus

Firm B
Available data on FDI

- Stock
  - IMF Coordinated Direct Investment Survey: bilateral FDI stock data matrix
  - UNCTAD FDI Statistics: unilateral FDI stock
Available data on FDI

- **Stock**
  - IMF Coordinated Direct Investment Survey: bilateral FDI stock data matrix
  - UNCTAD FDI Statistics: unilateral FDI stock
- **Rate of return**
  - IMF Balance of Payments: rate of return on FDI
The offshore indicator

- Definition: the share of inward FDI from "risky" countries
- Risky countries:
  - Tax havens (Cayman Islands, Jersey, Bermuda, ...)
  - Special purpose entity (SPE) enabling countries (the Netherlands, Luxembourg, ...)
The offshore indicator

FDI in country X
The offshore indicator

FDI in country X

FDI from tax havens
The offshore indicator

FDI in country X

- FDI from tax havens
- FDI from SPE-enabling countries
The offshore indicator

FDI in country X

FDI from tax havens

FDI from SPE-enabling countries

Other, "non-risky" FDI
The offshore indicator

FDI in country X

- FDI from tax havens
- FDI from SPE-enabling countries
- Other, "non-risky" FDI
First look at the data
2. How much corporate profit is shifted and from which countries?
The profitability gap

- Definition: the difference in rate of return on FDI with respect to the expected rate of return
- We assume that this profitability gap is due to profit shifting
## The profitability gap

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<tr>
<th>Offshore indicator (OI)</th>
<th>Rate of return</th>
<th>Rate of return – equity component</th>
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<tbody>
<tr>
<td></td>
<td>-0.143***</td>
<td>-0.115***</td>
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<td>Omitted (= base)</td>
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Missing profit

- The missing profit due to profit shifting can be easily derived from the profitability gap
- Missing profit = Profitability gap $\times$ Offshore indicator $\times$ Total FDI
  Risky FDI in USD
3. How much do these countries lose on tax revenue as a result?
Tax revenue effects

- If the missing profits were not missing, how much more would countries collect in corporate tax?
- Tax revenue loss = Missing profit $\times$ Effective corporate tax rate
# Results

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<th>Country</th>
<th>Rate of return</th>
<th>Rate of return on equity</th>
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<td>Tax revenue losses (USD million)</td>
<td>Share on GDP (%)</td>
</tr>
<tr>
<td>Sint Maarten</td>
<td>23.10</td>
<td>6.242</td>
</tr>
<tr>
<td>Mozambique</td>
<td>366.08</td>
<td>2.441</td>
</tr>
<tr>
<td>Uganda</td>
<td>259.59</td>
<td>0.927</td>
</tr>
<tr>
<td>El Salvador</td>
<td>233.87</td>
<td>0.900</td>
</tr>
<tr>
<td>Honduras</td>
<td>171.11</td>
<td>0.856</td>
</tr>
<tr>
<td>South Africa</td>
<td>2,119.79</td>
<td>0.684</td>
</tr>
<tr>
<td>Zambia</td>
<td>124.75</td>
<td>0.594</td>
</tr>
<tr>
<td>Curacao</td>
<td>18.01</td>
<td>0.581</td>
</tr>
<tr>
<td>Brazil</td>
<td>9,551.08</td>
<td>0.531</td>
</tr>
<tr>
<td>Georgia</td>
<td>71.64</td>
<td>0.512</td>
</tr>
</tbody>
</table>
Results

Tax revenue effect (USD billion)

- Blue: 0
- Light blue: -200
- Light green: -400
- Yellow: -600
- Orange: -800
- Gray: No Data
Results

Map showing the tax revenue effect (% of GDP) across Europe, with different colors indicating the scale of profit shifting. Countries with darker shades of blue indicate higher tax revenue losses, while lighter shades indicate smaller losses or gains. Countries in gray have no data available.

Legend:
- Dark blue: 0
- Light blue: -0.05
- Cyan: -0.1
- Medium cyan: -0.15
- Medium yellow: -0.2
- Pale yellow: -0.25
- Orange: -0.3
- No Data: Gray
Conclusion

- Support for previous high numbers
Conclusion

- Support for previous high numbers
- Lower income countries lose more in relative terms
Conclusion

- Support for previous high numbers
- Lower income countries lose more in relative terms
- At the same time, it is harder for lower income countries to fight back
Drawbacks

- Solvable (?)
  - Derive shares of corporate taxes (data now available in GRD)
  - Limited coverage
  - Still partly relies on a dichotomous classification of tax havens
  - Unique features of some countries (Belgium, ...)
  - Include tax treaties data
- Not solvable
  - Only practices that require a direct investment link
  - Inherently imperfect method (country-fixed or group-fixed effects, ...)
  - Effective vs. nominal corporate tax rates
Thank you!

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References