Corporate Income Tax Burdens at Home and Abroad

Kevin Markle and Douglas A. Shackelford
University of North Carolina

JATA, Orlando
February 20, 2009
McCain:

“Right now, American business pays the second-highest business taxes in the world, 35 percent. Ireland pays 11 percent.

“Now, if you're a business person, and you can locate any place in the world, then, obviously, if you go to the country where it's 11 percent tax versus 35 percent, you're going to be able to create jobs, increase your business, make more investment, et cetera.

“I want to cut that business tax. I want to cut it so that businesses will remain in the United States of America and create jobs.”
OBAMA:

“Now, John mentioned the fact that business taxes on paper are high in this country, and he's absolutely right. Here's the problem: There are so many loopholes that have been written into the tax code, oftentimes with support of Senator McCain, that we actually see our businesses pay effectively one of the lowest tax rates in the world.”
What We Do and What We Find

- Estimate average effective tax rates (AETRs) using financial statement information

- Compare AETRs for domestics and multinationals
  - Multinationals and domestic firms face similar AETRs.

- Compare AETRs across countries
  - Country AETR order remains consistent over time.
  - Japan has the highest AETRs
  - U.S. and European countries have above-average AETRs.
  - Middle East, Tax Havens and Asian (ignoring Japan) countries have below-average AETRs.
What We Do and What We Find

- Compare AETRs across years
  - Average AETR decline from 1988-2007 was 6 percentage points (18%), much of which occurred from 1992-1994.

- Measure the impact of foreign subsidiaries on AETRs
  - Sub countries have consistent effects on parent tax burdens across parent countries.
Empirical methods

Three specifications:

\[
AETR_{it} = \sum \beta_{0j} \text{COUNTRY}_{it}^j + \sum \beta_{1j} (\text{COUNTRY}_{it}^j \times \text{MN}_{it}) \\
+ \sum \beta_{2k} \text{INDUSTRY}_{it}^k + \sum \beta_{3m} \text{YEAR}_{it}^m + \sum \beta_{4n} \text{SIZE}_{it}^n + \varepsilon_{it}
\]  (1)

\[
AETR_{it} = \sum \beta_{0j} \text{COUNTRY}_{it}^j \times \sum \beta_{1k} \text{SUB}_{it}^k \\
+ \sum \beta_{2m} \text{INDUSTRY}_{it}^m + \sum \beta_{3n} \text{YEAR}_{it}^n + \sum \beta_{4p} \text{SIZE}_{it}^p + \varepsilon_{it}
\]  (2)

\[
AETR_{it} = \sum \beta_{0j} \text{COUNTRY}_{it}^j + \sum \beta_{1k} \text{SUB}_{it}^k + \sum \beta_{2l} \text{COUNTRY}_{it}^l \times \text{SUB}_{it}^k \\
+ \sum \beta_{3m} \text{INDUSTRY}_{it}^m + \sum \beta_{4n} \text{YEAR}_{it}^n + \sum \beta_{5p} \text{SIZE}_{it}^p + \varepsilon_{it}
\]
AETR = book ETR (from the financial statements)

- Numerator is total tax expense (≥0)
  - Same conclusions using current income tax expense
- Denominator is NIBT (>0)
  - robust to other income measures

Coefficients of Interest

- $\beta_0 = \text{domestic AETR}$  
  $\beta_0 + \beta_1 = \text{multinational AETR}$

Controls

- Industry (two-digit NAICS)
- Year
- Size – percentile rank of sales, assets, equity
### Data – Osiris (Bureau van Dijk)

#### Through WRDS
- Parent financial data
- Time series
- 1980 – 2007
- Last update 2/13/08

#### Through Internet
- # reported subs
- # reported foreign subs
- List of subs (incl country)
- As of 12/8/08

### Indicator variables
- $\text{MN} = 1$ if # reported foreign subs $> 0$
- $\text{SUB}^k = 1$ if firm has 1 or more subs in country $k$
**Data**

Sample: parent firm-years in 85 countries
sub firm-years in 195 countries

Grouped:

<table>
<thead>
<tr>
<th>Countries</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Asian Tigers</td>
</tr>
<tr>
<td>Canada</td>
<td>Tax Havens</td>
</tr>
<tr>
<td>China</td>
<td>Africa</td>
</tr>
<tr>
<td>France</td>
<td>Asia</td>
</tr>
<tr>
<td>Germany</td>
<td>Europe</td>
</tr>
<tr>
<td>India</td>
<td>Latin America</td>
</tr>
<tr>
<td>UK</td>
<td>Middle East</td>
</tr>
<tr>
<td>US</td>
<td></td>
</tr>
</tbody>
</table>
U.S. Tax Rates

ETR from f/s
28 30
26 27
28 27
24 26

Estimate

US Domestic
US Multinational

AETR = Cur tax/NIBT

AETR_{it} = \beta_0 + \sum \beta_i \text{COUNTRY}_{it} + \sum \beta_{ij} \text{COUNTRY}_{it} * MN_{it}
Within-country domestic vs. multinational

2003 – 2007 AETR by Parent Country

AETR

Domestic Multinational

MIDDLE EAST TAX HAVENS TIGERS CHINA ASIA CANADA INDIA AUSTRALIA LATIN AMERICA AFRICA UNITED KINGDOM EUROPE UNITED STATES FRANCE GERMANY JAPAN

\[
AETR_{it} = \beta_0 \cdot COUNTRY_{it}^{d} + \sum_{j} \beta_j (COUNTRY_{it}^{d} \times MN_{it})
\]
AETR conditional on location of subs

\[ AETR_{it} = \sum \beta_{0j} COUNTRY_{it}^j + \sum \beta_{2j} (COUNTRY_{it}^j \times MN_{it}) \]

\[ AETR_{it} = \sum \beta_{0j} COUNTRY_{it}^j + \sum \beta_{1r} SUB_{it}^r \]
Multinational Tax rates over time

\[ AETR_{it} = \sum \beta_0 \text{COUNTRY}_{it}^j + \sum \beta_1 \text{COUNTRY}_{it}^j * MN_{it} \]
Multinational Gap over time

JAPAN Domestic
JAPAN Multinational
UNITED KINGDOM Domestic
UNITED KINGDOM Multinational
UNITED STATES Domestic
UNITED STATES Multinational

\[ AETR_{it} = \sum \beta_{0i} COUNTRY_{it}^i + \sum \beta_{1i} COUNTRY_{it}^i \cdot MN_{it} \]
Impact of sub location by parent country

Dyreng and Lindsey (WP) estimate –1.5%

-1.6% on US*TaxHaven

\[ AETR_{it} = \sum \beta_{0j} COUNTRY_{it}^j + \sum \beta_{1k} SUB_{it}^k + \sum \beta_{2l} COUNTRY_{it}^l \times SUB_{it}^k \]
Future Work--Clusters

- Companies appear to cluster among countries
  - e.g., If anywhere in Europe, then in Ireland, the Netherlands, and Switzerland?

- Future work:
  How does this clustering affect our understanding of the taxes on multinationals?
What We Find

- Multinationals and domestic firms face similar AETRs.
- Average AETR decline from 1988-2007 was 6 percentage points (18%), much of which occurred from 1992-1994.
- Country AETR order remains stable over time.
- Japan has the highest AETRs.
- U.S. and European countries have above-average AETRs.
- Middle East, Tax Havens and Asian (ignoring Japan) countries have below-average AETRs.