As Uncertain as Taxes

Peter Brok

Discussion
Sebastian Eichfelder (Otto-von-Guericke-Universität Magdeburg)

112th NTA Annual Conference on Taxation
Tampa, November 23, 2019

1. Summary (1)

- **Research question and theory**
  - Empirical analysis regarding the association of 'legal uncertainty' and the firm's use of debt finance
  - 'Legal uncertainty' is interpreted as an increased opportunity of risky tax avoidance, which is regarded as equivalent to a tax shield
  - ' Debt-based' tax avoidance strategies (debt tax shield) are substituted against other more risky forms of tax avoidance ('Legal uncertainty') ($\rightarrow$ De Angelo/Masulis 1980)
- **Data**
  - Use of the Orbis data base for financial accounting information, the EY tax guides for tax rate information and of additional macroeconomic data from Datastream and the World Bank
  - Use of audit reports of fiscal authorities for the calculation of audit probabilites
  - Construction of a 'legal uncertainty' index based on an effortful analysis of national tax regulations

1. Summary (2)

- **Methodology**
  - Cross-sectional OLS regression of the leverage ratio (*Leverage*) on legal uncertainty and covariates

$$\text{Leverage}_{it} = \beta_0 + \beta_1 \cdot \text{Uncertainty}_{it} + \beta_2 \cdot \text{Audit prob}_{it} + \beta_3 \cdot \text{Uncertainty}_{it} \times \text{Audit prob}_{it}$$
$$+ \gamma_1 \cdot \text{Company}_{it} + \gamma_2 \cdot \text{Country}_{it} + \text{YFE}_t + \text{CFE}_i + \varepsilon_{it}$$

  - Extension of the analysis to other dependent variables (incorporation rate in low-tax country; profit shifting)
  - DiD analysis of the impact of the Cadbury Schweppes decision of the European Court of Justice (interpreted as an increase in the opportunity for risky tax avoidance) in 2006 on *Leverage*

$$\text{Leverage}_{it} = \beta_0 + \beta_1 \cdot \text{TPeriod}_t \times \text{Treat}_i$$
$$+ \gamma_1 \cdot \text{Company}_{it} + \gamma_2 \cdot \text{Country}_{it} + \text{YFE}_t + \text{CFE}_i + \varepsilon_{it}$$

1. Summary (3)

- **Main findings**
  - Negative association of *Leverage* with *Uncertainty*
  - Positive association of *Leverage* with *Audit probability* and with *Uncertainty x Audit probability*
  - Positive (negative) association of *Incorporation rate low-tax / profit shifting* with *Uncertainty* (*Audit probability* and *Uncertainty x Audit probability*)
  - Evidence that the Cadbury Schweppes Decision of the European Court of Justice <u>reduced</u> the use of debt finance in firms that benefited from this decision (as the use of CFC companies for profit shifting was simplified)
- **General remarks**
  - Exciting topic: Connection between (risky) tax avoidance opportunities (uncertainty) and financial structure
  - Calculation of a legal tax uncertainty index at the country level!
  - Nevertheless, also theoretical and empirical concerns

Sebastian Eichfelder

2. Comments (1)

- **Theoretical concepts**
  - Paper interprets '**Legal uncertainty**' rather as increase in tax avoidance opportunities that makes risky tax avoidance **less costly** → costs of additional tax risk are widely ignored (e.g., use of state aid laws by ECJ to limit tax avoidance increase uncertainty but should decrease tax avoidance even for low audit probabilities)
    - Index might rather be a measure for tax avoidance opportunity!
    - Consideration of accounting literature on tax risk useful!
  - Paper does not differ between use of **debt finance** and **profit shifting via intra-group debt**
    - Tax-deductibility of interest affects the cost of debt (debt tax shield) → unaggressive and rather low tax risk
    - Debt finance can also be used to shift profits among jurisdictions and to generate untaxed income (hybrid arrangements) → more aggressive and higher tax risk

2. Comments (2)

- **Theory and hypotheses**
  - Hypotheses of the paper are too broad (Hypothesis 2) and are not always tested by the paper (Hypothesis 1)
  - It does not seem plausible that 'more' uncertainty makes tax planning always or even typically more attractive
    - Uncertainty can create avoidance opportunity → focus of the paper!
    - Uncertainty can induce down-side risk (ATAD in the EU)
  - Interpretation of tax avoidance opportunities (in the paper uncertainty) as a substitute for other tax shields is an interesting thought, but in this case the use of intra-group debt finance (profit shifting) should not be regarded as debt finance in the usual way:
    - Use of consolidated firm data?
    - Use of domestic instead of MNE firms (no profit shifting opportunity)?
    - Control for profit shifting via debt finance if single entity data of MNEs is used?

2. Comments (3)

- **Measure for legal uncertainty**

$$\text{Uncertaint } y_{ct} = \frac{\text{Suggestive Articles}_{ct}}{\text{Total Articles}_{ct}} - \frac{\sum_1^t \text{Case law rulings}_{ct}}{(C \cdot T)^{-1} \cdot \sum_1^T \sum_1^C \text{Case law rulings}_{ct}}$$

  – Two-component measure is rather intransparent: Analysis if both components are really needed would be helpful
  – Inclusion of local business taxes?
  – Analysis how the measure fits with other more common measures?
  – **Component 1**: Ratio better than total numbers?
  – **Component 1**: Appendix provides a lot of examples what suggestive articles in a tax code are, but the overall identification is still intransparent/debatable and might depend on formal issues:
    - German depreciations in the tax code follow a normal scheme that is not defined in detail ($\rightarrow$ French case), but detailed depreciation schemes for assets are defined in administrative instruction letters!
    - Do anti-tax avoidance clauses always leave room for interpretations (e.g., thin-cap rules) or are they an indicator of avoidance?

Sebastian Eichfelder

2. Comments (4)

- **Measure for legal uncertainty**

$$\text{Uncertainty}_{ct} = \frac{\text{Suggestive Articles}_{ct}}{\text{Total Articles}_{ct}} - \frac{\sum_1^t \text{Case law rulings}_{ct}}{(C \cdot T)^{-1} \cdot \sum_1^T \sum_1^C \text{Case law rulings}_{ct}}$$

  - **Component 2**:
    - Are more case law rulings a measure of a reduction of uncertainty or rather a measure for still existing high uncertainty?
    - Case law rulings could be measure for more effective audits (no cases without audits), a higher willingness to go to court, or other properties of the legal system of a country
    - Measure generally suggests a significant decrease in legal uncertainty over the sample period (nominater increases in t)
    - Countries with more active courts seem to have a higher legal uncertainty → but uncertainty might be reason for court activity!?
  - **Component 2** drives overall measure (on average < -1!)
    → abstain from scaling the denominatore with $C \cdot T$

2. Comments (5)

- **Empirical analysis**
  - Sample composition might be explained in more detail
  - Partial consolidation (country level) uncommon and subject to **profit shifting**)
  - High number of control variables → show results in tables
  - Is it useful to control for tax rates and tax rate differentials if the incentive for tax avoidance results mainly from these tax rates (overcontrol bias)? → Interaction term of tax rate and main explanatory variables of interest might be useful
  - Audit probability could be endogenous w.r.t. tax avoidance activity (reversed causality)
  - *Incorporation rate* (*low tax country*) should be explained in the variable definitions. Is it really a good measure for risky tax avoidance (could also be a measure of real investment activity)?

2. Comments (6)

- **DiD analysis of Cadbury Schweppes decision (CS)**
  - CS simplified profit shifting between EU countries as it made CFC regulations widely invalid → good example for legal **uncertainty** or rather for tax avoidance **opportunity?**
  - What are the more profitable ways of reducing the tax bill that are promoted by CS?
  - Results (reduction of leverage including intra-group debt) seem to be counterintuitive as CS especially simplified profit shifting with **passive** income (royalties **and** interests)
  - Longer pre-treatment period would be useful to show a common trend before the treatment
  - Interaction of DiD interaction terms with tax rates as tax incentive mainly results from the tax rate?
  - Why are minority shareholdings considered in the profit shifting analysis (uncommon, no incentive to shift profits)?

2. Comments (7): Example for common trends