Discussion of:
“Why do Publicly Listed Firms Evade Taxes? Evidence from China”
(Chow, Ke, Yuan & Zhang 2017)

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2017 ABFER Annual Conference
AGENDA

- Literature Overview & Summary/Strengths of Paper
- Determinants Models
- Research Design (Bivariate Probit)
- Income Tax & Non-income Tax Sheltering
- Additional Suggestions
- Concluding Thoughts
LITERATURE OVERVIEW

- Large and growing literature on determinants of tax avoidance
  - Shackelford and Shevlin [2001]; Hanlon and Heitzman [2010]; Wilde and Wilson [2017]

- Tax avoidance continuum (Lisowsky, Robinson and Schmidt [2013])

- Most studies focus on tax avoidance and tax aggressiveness
  - Difficult to study tax sheltering because of data limitations
LITERATURE OVERVIEW

DETERMINANTS OF TAX SHELTERING

**Mills [1998] and Hanlon et al. [2007]** measure tax sheltering using IRS proposed audit deficiencies

→ Proposed deficiencies function of BTDs; size; CIC participation; ownership; foreign operations; and compensation

**Graham & Tucker [2006] and Wilson [2009]** identify firms accused of tax sheltering by searching Tax Court dockets and news articles

→ G&T: Tax shelter firms are less levered
→ Wilson: Tax sheltering function of BTDs and leverage

**Lisowsky [2010]** measures tax sheltering using reportable transaction disclosures reported on US tax return

→ Tax sheltering function of tax haven subs; foreign-source income; BTDs; litigation losses; use of promoters; profitability; size; and leverage

**Chan & Mo [2000,2002], Chan et al. [2006], Chan et al. (2010), and Chan et al. [2016]** measure tax sheltering using audit deficiencies proposed by Chinese taxation authorities

→ Proposed deficiencies function of BTDs; tax holiday position; export focus; high tech operations; managerial autonomy; and audit quality
CURRENT STUDY

➢ **Research question**: What are the determinants of tax sheltering for publicly-listed firms in China?

➢ **Innovations/Strengths**:
  - Identify tax sheltering using *public* data → can be used in future research
  - Includes both income-tax sheltering and non-income tax sheltering → prior studies focus on income tax sheltering
  - Examine determinants using bivariate probit model because observed instances of tax sheltering are function of: (i) evasion; and (ii) evasion detection

➢ **Suggestion**: Articulate (i) what we know from prior literature and (ii) how this setting furthers our understanding of tax sheltering early in the introduction
**Current Study**

- **Findings:**

  - **Is tax sheltering a function of:**
    - **Ability?** → No evidence
    - **Motivation?** → Mixed evidence
    - **Opportunity?** → Yes

  - **Is tax sheltering detection a function of:**
    - **Incentive to detect?** → Yes
    - **Enforcement effort?** → Yes
“Motivation-Ability-Opportunity” framework from criminology literature is useful way of conceptualizing determinants of tax sheltering

- Proxies for motivation, ability and opportunity currently seem ad hoc

Determinants model for detection of tax sheltering also seems ad hoc

- e.g., BTDs are not included although they are included in all prior studies

Suggestions:

- Consider using a prior model (e.g., WILSON [2009]) as a baseline and then clearly articulate why variables are added to or removed from the model

- WILDE AND WILSON (2017) develop a framework for determinants of tax avoidance → using their framework to develop your proxies will ground your design in theory & prior literature
DETERMINANTS MODELS

Figure 3 from Wilde and Wilson (2017)
Bivariante Probit Model

- Overview of bivariate probit model
  - Similar in spirit to seemingly unrelated regression
  - Used when an observed outcome reflects the joint choices of two decisions
    - Example: Jointly modeling the probability of a person going to the doctor and the probability of a person going to the hospital
  - Sometimes an outcome is only partially observed
    - Example: Two member committee voting anonymously under unanimity rule → outsider only observes whether vote passes
  - When an outcome is only partially observed [POIRIER 1980]:
    - Maximum likelihood estimators are inefficient relative to maximum likelihood estimators with fully observed choices (must acknowledge)
    - Identification problems arise
**Bivariate Probit Model**

- In this setting, the observed tax sheltering is a function of: (i) tax sheltering; and (ii) detection of tax sheltering
  - Bivariate probit model is appropriate
  - Undetected tax sheltering is not observable, so identification issues with partial observability in the bivariate probit model must be addressed
  - Currently no discussion of how partial observability is addressed, making it difficult to evaluate results
    - Especially important because results differ from prior studies
- Suggestions:
  - Provide discussion of bivariate probit models in text
  - Articulate how you address partial observability → one suggestion is to identify at least one variable that affects sheltering but not detection
Tax sheltering sample includes both income tax sheltering (40%) and non-income tax sheltering (60%)

Implications:
- Most of the determinants are based on studies of income tax avoidance → consider whether non-income tax sheltering has distinct determinants (e.g., where a taxpayer is located could determine whether they are subject to land use taxes)
- ETRs only capture income tax avoidance, which could explain low correlation between ETRs and tax sheltering and why SOE results are different from BRADSHAW, LIAO AND MA [2016]

Suggestion: Run models separately for income tax sheltering and non-income tax sheltering to examine differences in the determinants
ADDITIONAL SUGGESTIONS

- Consider providing some examples of the annual report disclosures
  - Doing so will provide readers with a better understanding of the aggressiveness of tax avoidance

- These data uniquely allow you to do this explore whether income tax sheltering and non-income tax sheltering are complements or substitutes → this would be very interesting!
CONCLUDING THOUGHTS

➢ Strengths:
  ▪ Among the first studies to examine non-income tax shelters
  ▪ Bivariate probit model is an innovative research design

➢ Main suggestions:
  ▪ Ground the empirical models in theory and prior research
  ▪ Articulate how partial observability is addressed
  ▪ Consider how including both income and non-income taxes affects the design/inferences

➢ Good luck!