

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

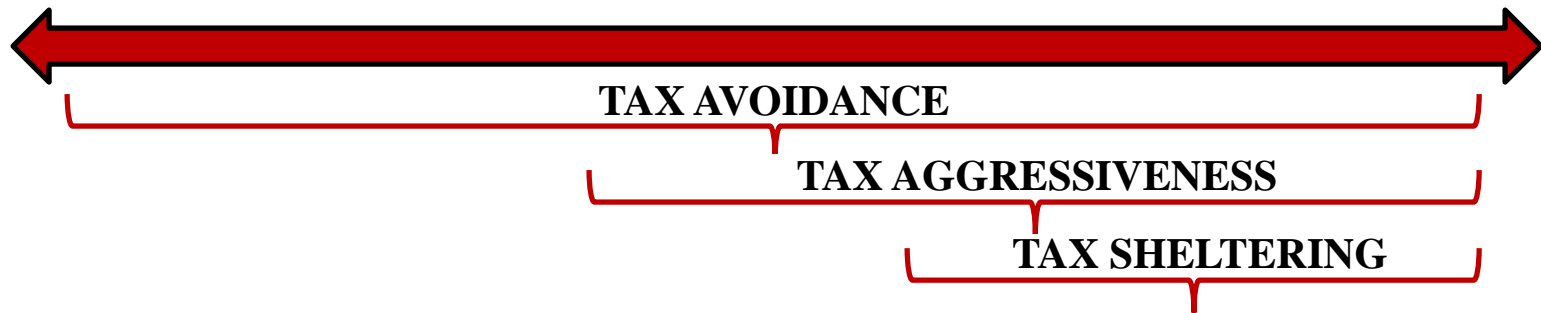
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AGENDA

- 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

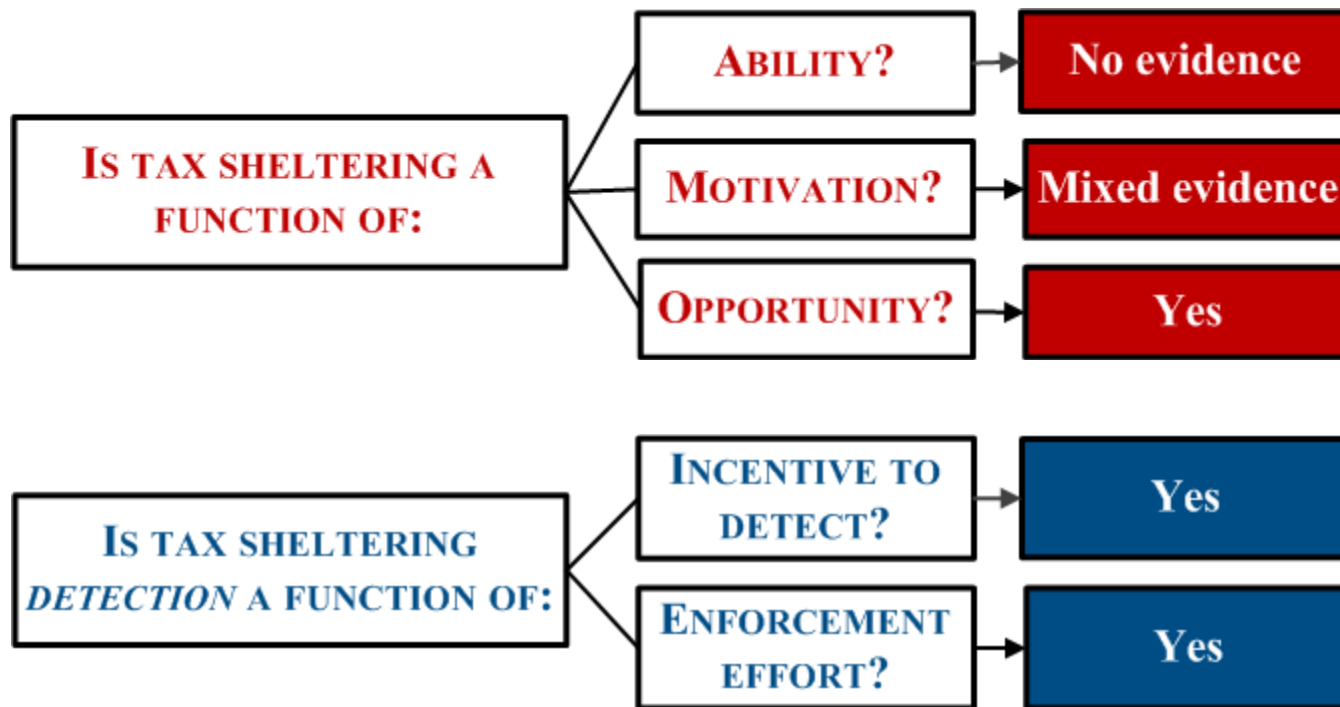
→ Proposed deficiencies function of BTDs; tax holiday position; export focus; high tech operations; managerial autonomy; and audit quality

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:

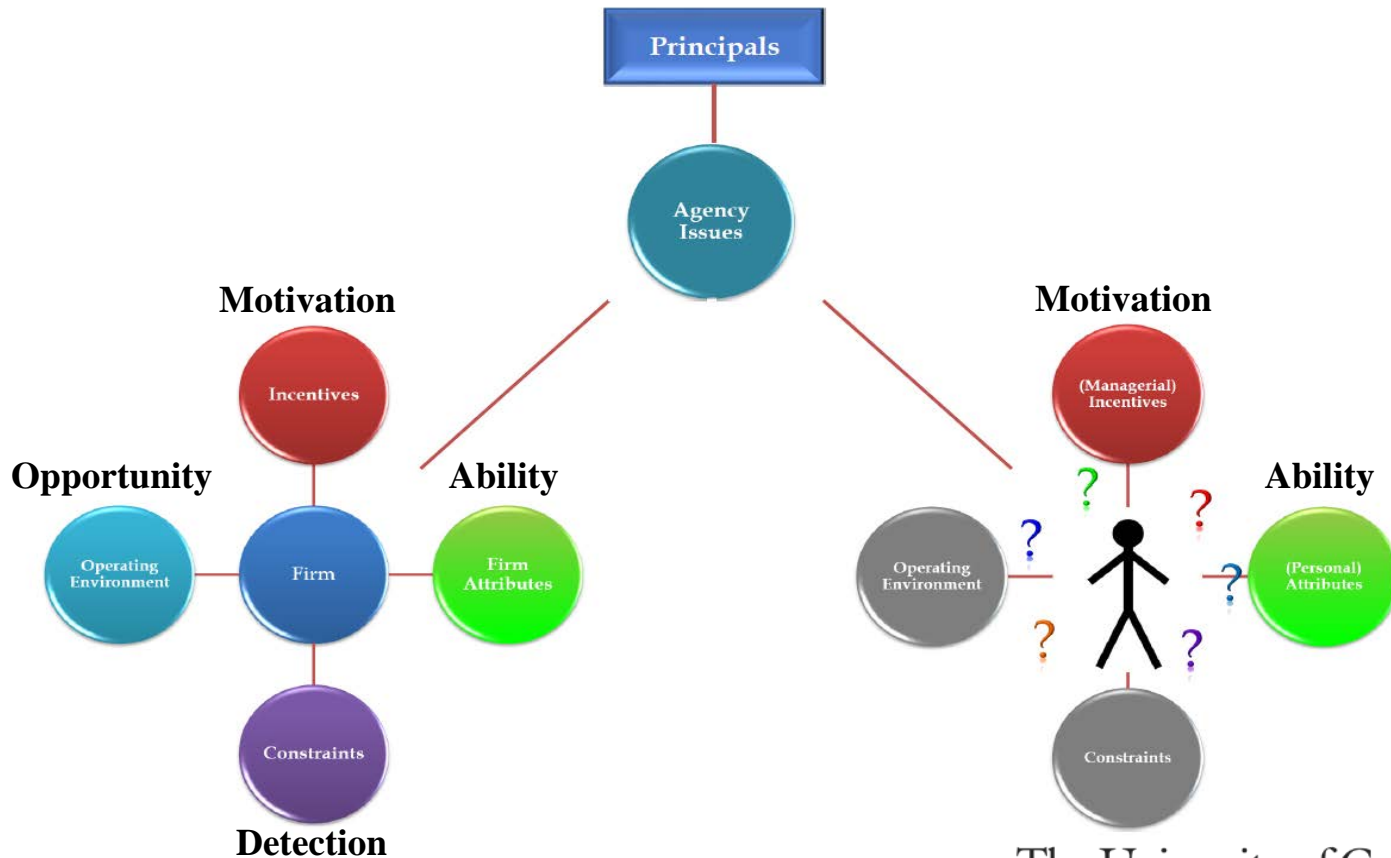


DETERMINANTS MODELS

- “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)



BIVARIATE 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

INCOME & NON-INCOME TAX SHELTERING

- 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!