Why Do Publicly Listed Firms Evade Taxes? Evidence from China

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Motivation

March 23, 2017

Tax Avoidance Costing U.S. $189 Billion: Tax Justice Network

theguardian

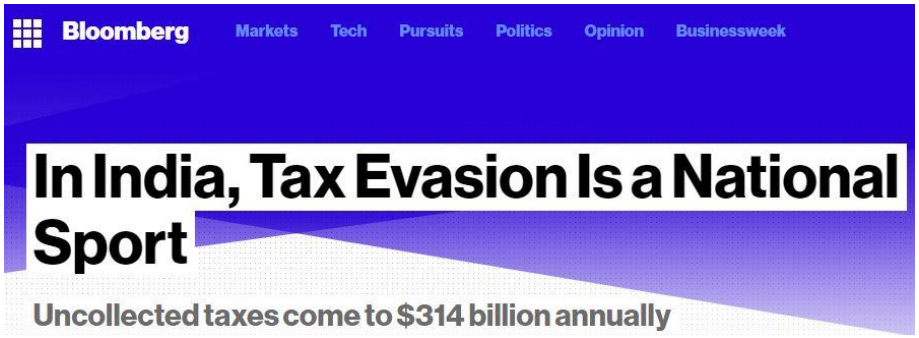
Developing nations lose $100bn in tax revenue each year - will G20 reforms help?

BRAZIL LOSES A FORTUNE TO TAX EVASION

This year alone, the amount of money drained by fiscal crimes exceeds the deficit of the federal budget. It would be enough to build the world's biggest dam twice

theguardian

UK tax fraud costs government £16bn a year, audit report says



STANFORD BUSINESS Insights

Accounting

Why Corporate Tax Avoidance Is Bigger Than You Think

An accounting expert examines the impact of new rules on income shifting.

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Research Question

- Why do publicly listed Chinese firms evade taxes?

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Why China?

- China itself is an interesting country to study
  - **Economic significance:** China is the second largest economy in the world
  - **Topic uniqueness:** Unique institutional features open up new and interesting research questions
  - **Data availability:** Publicly listed Chinese firms have been mandated to disclose all detected tax evasions via tax adjustments in their annual reports since 2002.

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The Tax Evasion Sample

- **Data sources:** CSMAR's original texts of the accounting error adjustments as disclosed in annual reports for all the years since 2003, supplemented by IFIND

- We exclude the tax adjustments due to
  - (i) delayed approval or disapproval of tax deductions or exemptions by the relevant tax authorities;
  - (ii) routine year-end tax adjustments by the tax authority resulting from errors in estimated income taxes; and
  - (iii) negative adjustments due to tax overpayment

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The Tax Evasion Sample

- Our discussions with relevant corporate insiders and anonymous tax officials confirm that our sample selection procedures are reasonable to identify the tax evasion cases

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Sample

Table 2. Descriptive Statistics for the Detected Tax Evasions

Panel A. Distribution of detected tax evasions by commitment year

Commitment year	Tax evasion observations	Percent of all firms in the year
2003	49	5.93
2004	50	5.79
2005	39	4.44
2006	46	4.83
2007	52	4.13
2008	38	3.09
2009	38	2.80
2010	27	1.78
Total	339	3.81

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Sample

Panel B. Distribution of detected tax evasions by tax type

Tax type	Percent of tax evasion firm-years*
Enterprise Income Tax	41.41
Value Added Tax	18.35
Business Tax	13.65
Housing Property Tax	12.00
Urban Land Use Tax	10.59
Tax for Maintaining and Building Cities	6.82
Stamp Tax	6.82
Education Supplementary Tax	6.12
Land Value Added Tax	3.76
Vehicle Usage Tax	1.41
Tariff	1.18
Tax Rebate	0.47
Consumption Tax	0.23
Others	22.59

*Do not add up to 100% because a tax evasion firm year may involves more than one type of taxes evaded.

Sample

Panel C. Distribution of detected tax evasions by detectors

Detector	Percent of tax evasion firm-years*
Central Tax Bureau (State Administration of Taxation)	16.47
Local Tax Bureau	20.71
Local or Central Tax Bureau	18.82
Ministry of Finance	7.53
Self-Disclosed	6.12
Department of Audit	4.00
The Customs	0.94
SEC	0.71
Unknown	30.58

*Do not add up to 100% because a tax evasion firm year may involves more than one detecting agencies.

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Empirical Challenge

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Research Design

- The commitment of tax evasion is not directly observable. We observe only detected cases.

- The observed binary outcome (detected or not) is the joint unobserved binary choices of two decisions (i) commitment and (ii) detection, conditional on commitment.

- Bivariate probit model with partial observability (Poirier 1980)
  - Abowd and Farber (1982)
  - Rice and Weber (2012)
  - Wang (2013)
  - Dyck, Morse, and Zingales (2014)

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Research Design

- We use a this methodology to simultaneously model
  - the determinants of corporate tax evasion (referred to as the commitment model) and
  - the determinants of corporate tax evasion detection conditional on the occurrence of a tax evasion (referred to as the detection model)

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Research Design

- Commitment model

$$\mathrm{E}vasion^{*} = f(Motivation, Ability, Opportunity)$$

- Detection model

$$Detect|\mathrm{E}vasion^{*} = f(Ownsership\ Structure, Enforcement, Auditor)$$

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Variables for the Commitment Model

- We follow the popular motivation-ability-opportunity framework from the criminology literature

- A person's decision to commit a crime depends the person's
  - Motive (e.g., what benefit can the person obtain from the act),
  - Ability (e.g., did the person have a gun), and
  - Opportunity (e.g., was the security guard sleeping)

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Variables for the Commitment Model

- Proxies for *MOTIVATION*
  - Ownership structure (*SOE_CENTRAL*, *SOE_LOCAL*),
    - *SOE* = State-owned enterprises, either by Central government or Local government.
  - Capital structure (*LEV*, *SEO*),
  - Corporate tax rate (*TAXRATE*), and
  - External product market's competitive pressure (*COMP*)

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Do SOEs have a stronger incentive to evade taxes?

- No because
  - Both taxes and dividends will eventually go to the government coffers
  - Controlling shareholders of SOEs may prefer to pay taxes because dividends have to be shared with minority shareholders
  - Managers of SOEs may use taxes to curry favor with government officials

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Do SOEs have a stronger incentive to evade taxes?

- Yes because
  - Agency conflicts between different government agencies
    - State-owned Assets Supervision and Administration Commission may not share the same agenda as the tax authority
    - Local government v. central government
  - Agency conflicts between SOE parent Co. and government agencies
  - Agency conflicts within SOEs
    - Both managers & subordinates have incentives to pursue empire building
  - SOEs have shouldered many social responsibilities and they could use that as a bargaining chip
  - SOEs have strong political connections and may be less afraid of consequences of tax evasion detection

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Variables for the commitment model

- Proxies for *ABILITY*
  - *SIZE* and *ROA*

- Proxies for *OPPORTUNITY*
  - External auditor quality (*BIGN*),
  - Tax enforcement intensity:
    - Industries under stricter scrutiny by the tax authority (*TARGET_INDUS*)
    - Percentage of tax revenue collected via tax audit to total tax revenue (*AUDIT*), and
  - Overall provincial law enforcement environment quality (*LAW*)

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Variables for the detection model

- Incentive factors that may facilitate or impede the detection of tax evasion, including
  - Ownership structure (*SOE_CENTRAL* and *SOE_LOCAL*),
  - External audit quality (*BIGN*),
  - The tax authority's ex post enforcement intensity (*TARGET_INDS* and *AUDIT*)
  - Local law enforcement environment quality (*LAW*), and
  - Effective tax rate (*ETR*) as a proxy for public pressure

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Sample

Table 1. Sample Selection

	No. of firm-year Observations
A-share companies between 2003 to 2010 in *CSMAR*	11,981
Less: observations with missing firm-level variables	(1,804)
	10,177
Less: observations with missing country and state-level variables	(1,291)
Final sample	8,886

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Sample

Table 3. Descriptive Statistics for the Regression Variables

Variable	N	mean	SD	p10	p25	p50	p75	p90
$DETECT_t$	8,886	0.04	0.19	0.00	0.00	0.00	0.00	0.00
$SIZE_t$	8,886	21.53	1.16	20.22	20.75	21.41	22.16	23.01
ROA_t	8,886	0.06	0.05	0.01	0.02	0.05	0.08	0.13
$TAXRATE_{t-1}$	8,886	0.22	0.08	0.15	0.15	0.25	0.33	0.33
LEV_{t-1}	8,886	0.07	0.10	0.00	0.00	0.03	0.11	0.22
SEO_t	8,886	0.24	0.43	0.00	0.00	0.00	0.00	1.00
$BIGN_t$	8,886	0.32	0.47	0.00	0.00	0.00	1.00	1.00
$SOE\_CENTRAL_t$	8,886	0.17	0.38	0.00	0.00	0.00	0.00	1.00
SOE_LOCAL_t	8,886	0.31	0.46	0.00	0.00	0.00	1.00	1.00
$COMP_{t-1}$	8,886	0.13	0.15	0.03	0.05	0.08	0.14	0.30
$AUDIT_{t-1}$	8,886	0.01	0.01	0.00	0.01	0.01	0.02	0.02
$AUDIT_{t+1}$	8,886	0.01	0.01	0.00	0.01	0.01	0.02	0.02
LAW_{t-1}	8,886	8.07	4.49	3.69	4.70	6.61	10.64	14.23
LAW_{t+1}	8,886	8.84	4.91	3.96	5.11	7.32	12.39	16.61
$TARGET\_INDUS_{t-1}$	8,886	0.12	0.32	0.00	0.00	0.00	0.00	1.00
$TARGET\_INDUS_{t+1}$	8,886	0.12	0.33	0.00	0.00	0.00	0.00	1.00
ETR_t	8,886	0.22	0.16	0.03	0.12	0.19	0.29	0.39

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Key Results (commitment model)

- Past tax enforcement intensity has a deterrence effect on corporate tax evasion;
- State-owned enterprises (both central and local government) are more likely to evade taxes than non-SOEs;
- The presence of Big N audit firm helps reduce the likelihood of corporate tax evasion.

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Key Results (detection model)

- Tax enforcement intensity has a positive impact on detecting corporate tax evasion;
- Tax evasions by state-owned enterprises (both central and local government) are less likely to be detected than those by non-SOEs;
- Tax evasion is more likely to be detected when a firm employs a Big N audit firm.

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Are SOEs less likely to be punished for tax evasion?

Table 6. OLS Regression Results on the Determinants of Tax Evasion Penalty

	Dependent variable = $PENALTY_t$
$SIZE_t$	0.04589
	(0.23)
$SOE\_CENTRAL_t$	-1.9424***
	(-4.04)
SOE_LOCAL_t	-1.0590*
	(-1.83)
$EVADEDTAX$	0.6722***
	(4.80)
Constant	-9.035*
	(-1.89)
Dummies for Types of Evaded Taxes	Yes
Dummies for Detectors	Yes
Year & Industry Fixed Effects	Yes
Observations	425
Adjusted R^2	0.26

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Reconciliation with prior studies

- Both Bradshaw et al. (2016) and Jian et al. (2013) find that SOEs are less likely to avoid taxes than non-SOEs
- Differences from our study
  - These two studies consider income taxes only, while we consider both income taxes and non-income taxes
  - These two studies use the effective income tax rate (ETR) as a proxy for tax avoidance, while we use an indicator of detected tax evasion

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Reconciliation with prior studies

Table 7. A Comparison of Tax Evasion, Predicted Tax Evasion, and Effective Tax Rates

Panel A: Descriptive Statistics

	Full Sample			Central SOEs			Local SOEs			Non-SOEs		
Variable	Mean	SD	Med	Mean	SD	Med	Mean	SD	Med	Mean	SD	Med
$EVASION_t$	0.04	0.19	0.00	0.03	0.17	0.00	0.04	0.20	0.00	0.04	0.19	0.00
$PRED\_EVASION_t$	0.13	0.11	0.09	0.23	0.12	0.23	0.19	0.11	0.19	0.06	0.04	0.05
ETR_t	0.20	0.17	0.18	0.19	0.15	0.17	0.22	0.16	0.20	0.19	0.18	0.16
$CashETR_t$	0.20	0.20	0.15	0.19	0.18	0.15	0.22	0.19	0.18	0.19	0.21	0.14

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Reconciliation with prior studies

Panel B: Pearson Correlations

Variable	*EVASION*$_t$	*PRED_EVASION*$_t$	*ETR*$_t$
Full Sample			
PRED_EVASION$_t$	0.047 (0.00)		
ETR$_t$	0.036 (0.00)	0.015 (0.29)	
CashETR$_t$	0.038 (0.00)	0.026 (0.02)	0.609 (0.00)
Central SOEs			
PRED_EVASION$_t$	0.040 (0.02)		
ETR$_t$	0.055 (0.03)	0.009 (0.73)	
CashETR$_t$	0.077 (0.00)	0.016 (0.54)	0.660 (0.00)
Local SOEs			
PRED_EVASION$_t$	0.061 (0.00)		
ETR$_t$	0.015 (0.44)	0.050 (0.01)	
CashETR$_t$	0.006 (0.76)	0.055 (0.01)	0.587 (0.00)
Non-SOEs			
PRED_EVASION$_t$	0.133 (0.00)		
ETR$_t$	0.041 (0.01)	0.107 (0.00)	
CashETR$_t$	0.045 (0.00)	0.075 (0.00)	0.607 (0.00)

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Expected contribution

- Contribution to the literature on corporate tax avoidance with a focus on the most extreme types of transactions – tax evasion
  - Due to lack of data, most existing tax research does not distinguish legal tax avoidance from illegal (or highly aggressive) tax avoidance
  - A noticeable exception is a few recent studies (e.g., Wilson 2009, Lisowsky 2010; Lisowsky et al. 2013; Chow et al. 2016) that examine corporate tax shelters in the U.S.
  - We use a bivariate probit model to address the problem of unobservable tax evasion and find interesting results

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Expected contribution

- We contribute the literature on the interplay between government agencies' enforcement efforts and corporate tax behaviours (Hoopes, Pittman, and Mescall 2012; Nessa, Schwab, Stomberg, and Towery 2016)

- We find that tax audit effort and legal enforcement are both effective in the deterrence and detection of tax evasions

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Expected contribution

- We consider both income tax and non-income tax evasion, contributing to a small but growing literature on corporate non-income tax avoidance (e.g., Robinson 2012; Hoopes, Thornock, Williams 2016)
- Non-income tax is a significant source of government revenue in many countries

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Expected contribution

- We extend the extant tax evasion literature, which is largely limited to U.S. firms, to China, a country with a weak institutional environment and rampant tax evasion
  - We show that Chinese SOEs are more likely than non-SOEs to not only evade taxes but also avoid detection of tax evasion
  - We reconcile these conflicting findings by highlighting the differences between legal tax avoidance from illegal or aggressive tax avoidance

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