Private Equity and Taxes - Marcel Olbert & Peter Severin

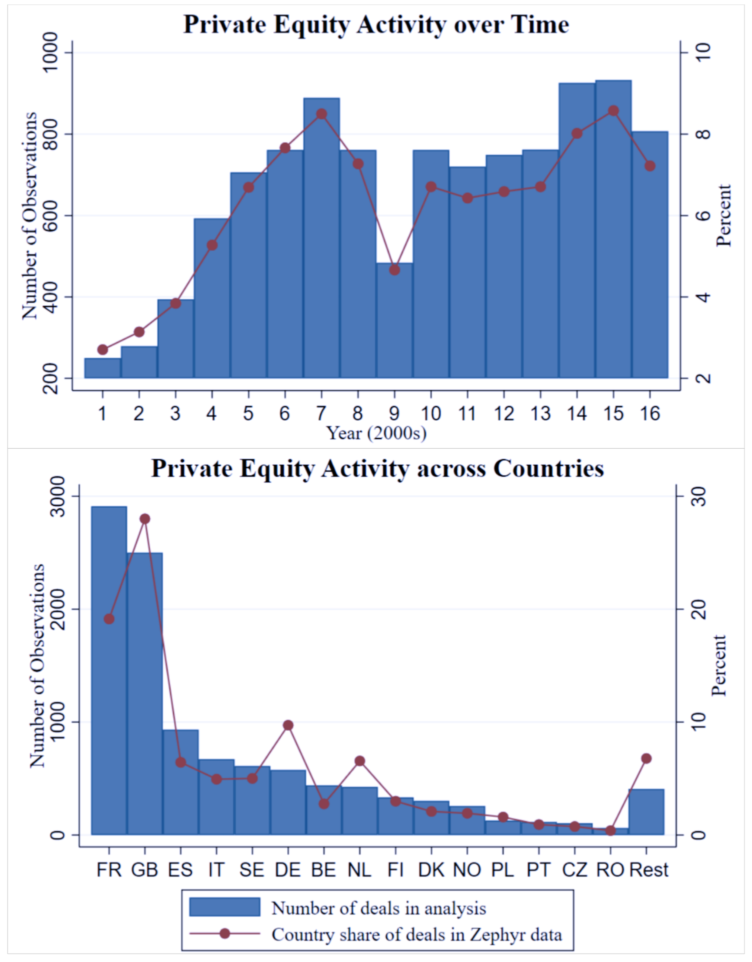
1 Introduction

Conflicting Conceptual Views

- *Bright Side View*: Private equity-backed portfolio firms increase in value through operating efficiencies and better-aligned incentive contracts
- *Dark Side View:* Value extraction from other stakeholders, such as employees or the government

Value Extraction from the Government

- *Tax Efficiency:* Lower effective tax rates (ETR) increase the profits distributable to shareholders
- *Tax Base:* Shielding income from taxes increases firm value
- *Real Effects:* Tax savings are not complementary with investments or productivity



2 Data and Methodology

Data Sources

- *Zephyr*: Private Equity Deals
- *Orbis*: Company Financial and Ownership Data
- *OECD*: Country Level Data
- *KPMG / IBFD*: Tax Rate & Regulations Data

(One-to-One) Matching Algorithm

- *Eight Discrete Matching Variables*: Country, Year, Industry, Positive Tax Expenses and EBT Dummies, (Foreign; Tax Haven) Subsidiary Dummies
- *Seven Continuous Matching Variables*: Effective Tax Rate, ROA, Cash Ratio, Growth, Size, Leverage, Tax Differential

Estimation Models

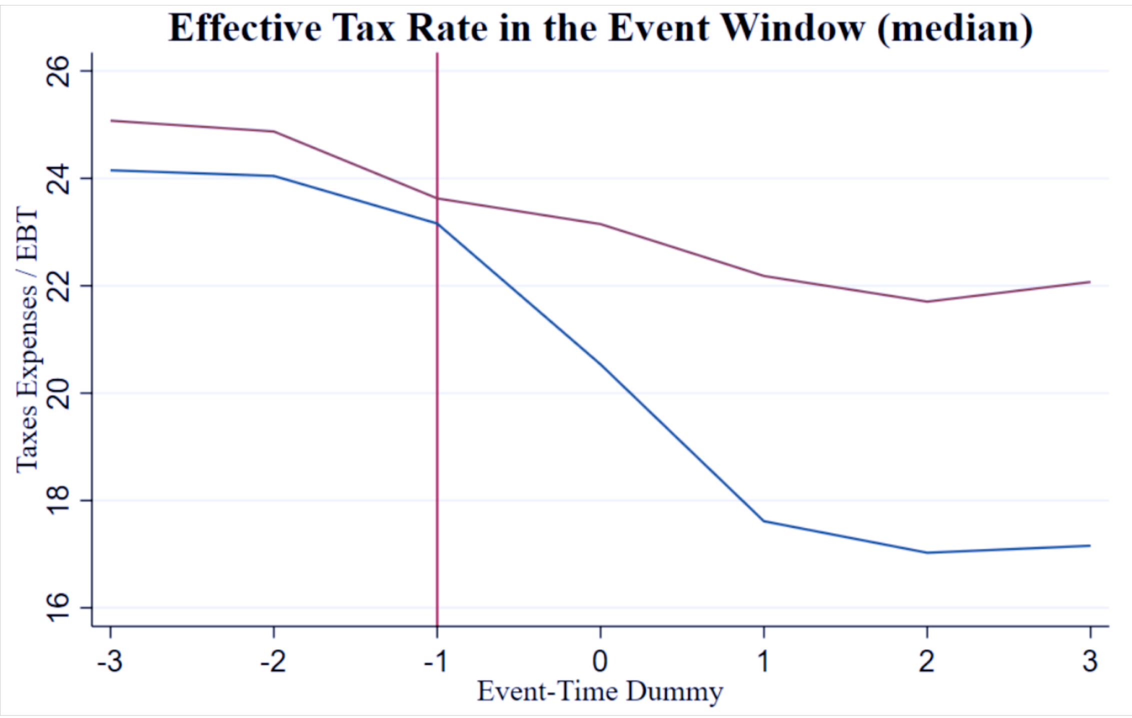
- *Panel Difference-in-Differences Models:*

$$Y_{it} = \alpha_i + \sum_{t=-3}^{T=3} \gamma_t D_{it} + Treated_i * \sum_{t=-3}^{T=3} \beta_t D_{it} + \epsilon_{it}$$

- *Triple Differences Models:*

$$Y_{it} = \alpha_i + \sum_{t=-3}^{T=3} \gamma_t D_{it} + Treated_i * \sum_{t=-3}^{T=3} \beta_t D_{it}$$
$$+ Char_i * \sum_{t=-3}^{T=3} \delta_t D_{it} + Treated_i * Char_i * \sum_{t=-3}^{T=3} \theta_t D_{it} + \epsilon_{it}$$

3 Buyouts and Tax Efficiency



	Effective Tax Rate (ETR)							
	Tax Potential, t=-1		Cross-b. Group Tax		Inst. Vendor, t=-1		Public Target, t=-1	
	Low (1)	High (2)	Not Allowed (3)	Allowed (4)	Yes (5)	No (6)	Yes (7)	No (8)
Post * Treated	-0.96***	-2.91***	-1.23***	-3.05***	-1.29***	-2.00***	-1.66**	-1.76***
	(-2.63)	(-9.10)	(-4.36)	(-5.91)	(-3.36)	(-6.12)	(-2.09)	(-6.65)
Difference	-1.95*** (-4.01)		-1.81*** (-3.08)		-0.71 (-1.41)		-0.10 (-0.12)	
Winsorization	5, 95	5, 95	5, 95	5, 95	5, 95	5, 95	5, 95	5, 95
Standard Errors	Cluster	Cluster	Cluster	Cluster	Cluster	Cluster	Cluster	Cluster
Firm Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y
Year Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
adj. R2	0.02	0.06	0.02	0.03	0.02	0.02	0.02	0.02
Observations	61,797	63,414	93,055	32,144	49,887	75,324	12,035	113,176

* p<0.1, ** p<0.05, *** p<0.01

4 Buyouts and Tax Base

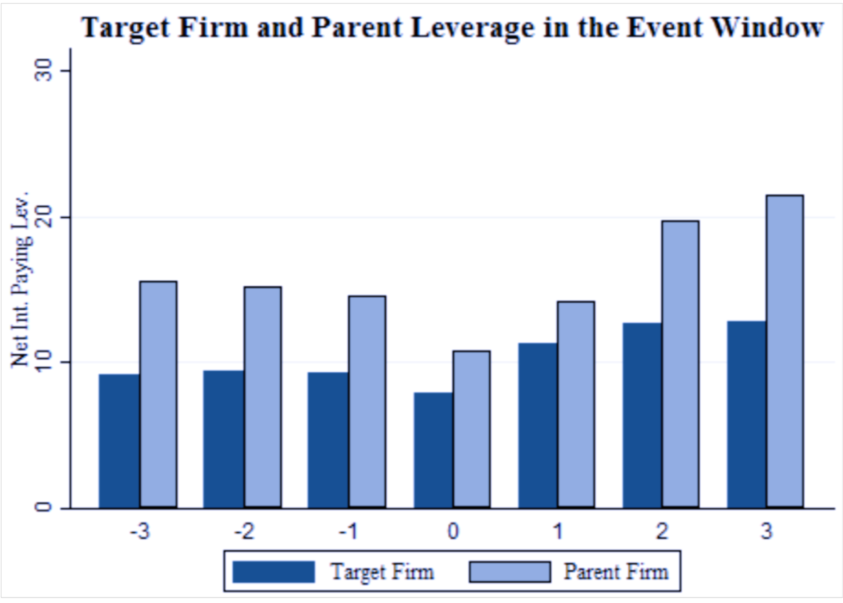
Profit Shifting

- *Use* of Profit Shifting Opportunities
- *Creation* of Profit Shifting Opportunities

	T. Tax Diff. (1)	T. Foreign Sub. (2)	T. Dom. Sub. (3)	T. Haven EU (4)	T. Haven (5)
Event (t=-3) * Treated	-0.09	0.61	-0.36	-0.44	-0.10
	(-1.43)	(1.24)	(-0.62)	(-1.36)	(-0.34)
Event (t=-2) * Treated	-0.05	0.38	0.50	0.02	-0.12
	(-1.12)	(1.05)	(1.18)	(0.09)	(-0.57)
Event (t=-1) * Treated	.	.	.	.	.
Event (t=0) * Treated	0.28***	3.41***	0.12	0.54**	0.82***
	(6.40)	(9.77)	(0.28)	(2.25)	(3.93)
Event (t=1) * Treated	0.44***	6.32***	0.38	0.88***	1.24***
	(7.53)	(13.22)	(0.68)	(2.82)	(4.35)
Event (t=2) * Treated	0.63***	8.81***	-0.30	1.05***	2.01***
	(9.20)	(15.56)	(-0.45)	(2.85)	(5.84)
Event (t=3) * Treated	0.97***	11.72***	-0.88	1.26***	2.91***
	(11.99)	(18.18)	(-1.17)	(3.05)	(7.25)

Leverage

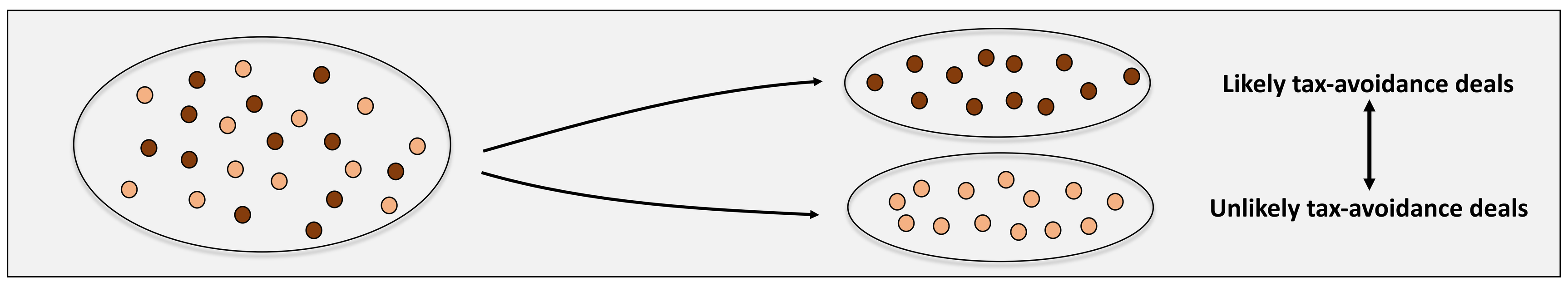
- Increase in Leverage after the acquisition
- Relation to Tax Regulations



5 Real Effects

Two-step methodology

First Step: predictive OLS regression to identify likely tax avoidance deals (ex-ante variables):



Second Step: difference-in-differences and triple differences regressions on resulting sub-samples

	ETR		Log. Asset Growth		Log. Employment Growth		TFP	
	Increase in Tax Efficiency after Deal							
	Low (1)	High (2)	Low (3)	High (4)	Low (5)	High (6)	Low (7)	High (8)
Panel A: Median Cutoff								
Post * Treated	-0.20	-3.14***	6.02***	3.46***	0.33	-0.01	-1.41	-7.05***
	(-0.56)	(-10.03)	(11.18)	(6.89)	(0.70)	(-0.03)	(-0.91)	(-5.36)
Difference	-2.93*** (-6.11)		-2.56*** (-3.48)		-0.34 (-0.56)		-5.65*** (-2.79)	
adj. R2	0.00	0.04	0.03	0.06	0.03	0.03	0.00	0.01
Observations	64,911	65,463	66,509	66,371	53,026	57,489	52,422	55,721

6 Conclusion

- **Findings are in line with the hypothesis that private equity investors create shareholder value through extracting money from the government**
- **While findings suggest that target firms engage more heavily in profit shifting, they lack direct evidence in support of a tax-motivated leverage channel**
- **Post-transaction more tax efficient firms experience significantly lower asset and employment growth - tax savings are transferred to shareholders**

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