

# The Value of Offshore Secrets: Evidence from the Panama Papers

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**May 2017**



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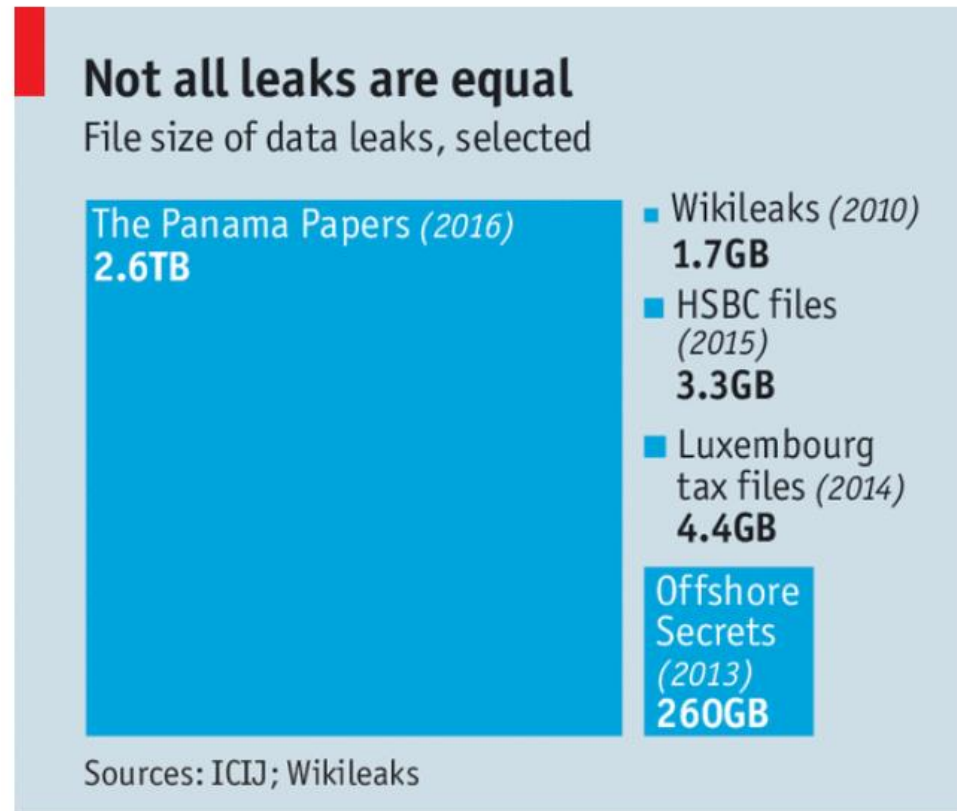
“The archetypal tax haven may be a palm-fringed island, but [...] there is nothing small about offshore finance.

[Tax havens] serve as domiciles for more than 2m companies and thousands of banks, funds and insurers. Nobody really knows how much money is stashed away.”

*The Economist* Feb 13, 2013

# Motivation

- There is nothing small about offshore shelters
  - » \$7-9 trillion parked offshore (Zucman 2014, BCG 2014)
  - » \$21-32 trillion parked offshore (Tax Justice Network 2012)
- Many public firms use offshore shelters
  - » Three in four of the 1,000 largest global firms
  - » One in four of all ~24,000 public firms in Orbis
- Anecdotally, firms use offshore shelters to...
  - » save taxes and steal from shareholders (Enron; CFO stole \$42mn)
  - » save taxes and steal from shareholders (Parmalat; founder stole \$620mn)
  - » bribe foreign government officials (Siemens)
- This paper
  - » Does the corporate use of secret tax shelters create firm value?
  - » Can we provide evidence of the benefits and costs?



The Economist, April 9, 2016 (print edition)

- 2.6TB of data, 11.5mn documents, 214,000 offshore vehicles
  - » British Virgin Islands: 114,000 vehicles (population 28,000, area 153km<sup>2</sup>)

# The Panama Papers Leak

Sergei Roldugin (Russian cellist)

- » Claims “I don’t have millions” yet runs a \$2bn offshore web.
- » Close friend of Putin. Godfather to Putin’s oldest daughter.



Sigmundur Davíð (former Prime Minister of Iceland)

- » Owned (wife still owns) an undeclared offshore investment company.
- » Company held millions of pounds worth of bonds in the three big Icelandic banks that collapsed in the crisis.
- » As prime minister oversaw bankruptcies of these banks.



# The Panama Papers Leak

Siemens (in person of Hans-Joachim Kohlsdorf, an executive)

- » Ran slush accounts used to bribe government officials in South and Latin America to generate business.
- » After bribery proceedings against Siemens were over, some undocumented money remained in slush account and later disappeared into Kohlsdorf's UBS account.



Saipem (Italian energy firm)

- » Used vehicles incorporated by Mossack Fonseca to tunnel US\$ 275 million in bribes to win more than US\$ 10 billion in contracts to build oil and gas pipelines in North Africa



# This Paper

- Research on offshore activity has by-and-large focused on **observable** offshore vehicles & their use to avoid taxes
  - » Hanlon & Heitzman (2010; literature review)
- We focus on (previously) **unobservable** offshore activities
  - » Anecdotally, companies have used secret offshore structures to finance corruption and evade taxes
  - » Such activities are largely illegal but may provide valuable business opportunities
- **Unobservable** offshore activities are... hard to observe
  - » Exploit *Panama Papers leak* to analyze whether secret offshore vehicles create firm value
  - » Link public firms to data leak using subsidiary and officer data
  - » Use these links to explain returns around relevant event dates

# This Paper

## Do offshore vehicles create firm value?

- » exploit Panama Papers leak on April 3, 2016
  - » link 397 out of 23,540 publicly listed firms to the Panama Papers through their officers, subsidiaries, and officers of subsidiaries
  - » run an event study around dates relevant to the leak
- Main finding: Firms linked to leaked data lose US\$135bn in value
    - » 0.7% of market cap, or \$340mn per firm
  - **Benefits** of using offshore shelters
    - » Firms engaged in perceptively corrupt regions hurt more by the leak
    - » Tax aggressive firms hurt more by the leak
  - **Costs** of using offshore shelters
    - » Firms with high expropriation risk hurt more by the leak

=> Findings consistent with benefits of offshore vehicles exceeding costs.



# Agenda

- **Event**
- Methodology
- Data
- Main Result
- Channels
- Discussion

# Event

- Early 2015
  - » Anonymous source offers data to German newspaper *Süddeutsche Zeitung*
- April 3, 2016
  - » News sources around the world report about a data leak of confidential documents concerning activities of Mossack Fonseca, a Panama-based provider of corporate services
  - » Dozens of news stories concerning firms and politicians
- April 26, 2016
  - » ICIJ announces that database of offshore entities run by Mossack Fonseca will be made public on 9 May
- May 9, 2016
  - » Database of offshore entities is made public

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# Methodology

- Use event study methodology to study the market response of firms linked to the Panama Paper data leak around announcement of the leak

- » Compare returns of linked firms to non-linked firms:

$$CAR_i = \alpha + \beta_1 Panama\_Paper\_Link_i + \gamma' \mathbf{X}_i + \varepsilon_i, \quad (1)$$

- » Study cross-sectional firm characteristics (FC) of linked firms:

$$CAR_i = \alpha + \beta_1 Panama\_Paper\_Link_i + \beta_2 FC_i + \beta_3 Panama\_Paper\_Link_i \times FC_i + \gamma' \mathbf{X}_i + \varepsilon_i, \quad (2)$$

- » Robustness: match firms with link to firms without link

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# Data

- Key LHS: Firm value from Datastream
  - » Raw returns around 3 event dates (April 3 & 26, May 9)
  - » Alpha around 3 event dates using 1-factor model
    - Robust to using 3-factor and 5-factor models
- Key control: Link to leaked data (1/0)
  - » Combine two datasets:
    - Subsidiaries of public firms, officers, and officers of subsidiaries from Orbis (2015)
    - Entity, Officer, and Intermediary File from the leaked data (made available by the ICIJ)
  - » Merge by headquarter/home country and fuzzy name
  - » Has Link = 1 if subsidiary or director shows up in Panama Papers

# Data

- Fraction of firms linked to the Panama Papers

Firm is connected to offshore vehicle via	N Firms	N Firms w/exposure	% w/exposure
...a legal entity (shell)	23,540	89	0.38%
...a person	23,540	296	1.26%
...an intermediary	23,540	86	0.37%
..any of the three	23,540	397	1.69%

- 1.7% of sample firms are linked to the Panama Papers data leak, some through various link types
- We are likely to understate the true fraction of linked firms, which likely results in conservative estimates

# Data

- Fraction of firms linked to the Panama Papers by country

Country	<i>N</i> Firms	<i>N</i> Panama Papers Exposure	Percent Panama Papers Exposure	Avg. <i>N</i> Subs.	Country	<i>N</i> Firms	<i>N</i> Panama Papers Exposure	Percent Panama Papers Exposure	Avg. <i>N</i> Subs.
Hong Kong	161	37	23.0	46	Turkey	279	1	0.4	8
U.K.	1,080	124	11.5	40	Poland	352	1	0.3	9
Russia	100	5	5.0	33	Japan	3,442	1	0.0	16
Belgium	108	5	4.6	36	Argentina	63	0	0.0	7
Austria	66	3	4.6	77	Brazil	251	0	0.0	11
Italy	216	7	3.2	37	Bulgaria	83	0	0.0	9
France	551	17	3.1	49	Chile	111	0	0.0	14
Australia	587	15	2.6	28	Croatia	71	0	0.0	10
Greece	81	2	2.5	18	Egypt	89	0	0.0	11
Germany	493	12	2.4	61	Finland	115	0	0.0	35
Spain	124	3	2.4	86	Indonesia	56	0	0.0	11
Singapore	305	7	2.3	18	Korea	1,681	0	0.0	4
Philippines	90	2	2.2	7	Kuwait	73	0	0.0	13
U.S.	3,506	75	2.1	50	New Zealand	90	0	0.0	15
Netherlands	107	2	1.9	62	Pakistan	129	0	0.0	2
Israel	326	6	1.8	13	Peru	91	0	0.0	3
Norway	127	2	1.6	23	Romania	55	0	0.0	9
Sweden	257	4	1.6	22	South Africa	179	0	0.0	25
Canada	696	9	1.3	12	Sri Lanka	117	0	0.0	8
China	2,269	28	1.2	11	Switzerland	210	0	0.0	39
Mexico	109	1	0.9	20	Thailand	206	0	0.0	9
Denmark	111	1	0.9	27	Vietnam	385	0	0.0	1
Malaysia	602	4	0.7	14	Rest of world	637	10	1.6	18
Taiwan	1,120	7	0.6	7					
India	1,583	6	0.4	7	<b>Total</b>	<b>23,540</b>	<b>397</b>	<b>1.7</b>	<b>23</b>



# Agenda

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- **Main Result**
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# Main result

- Does exposure to the Panama Papers leak explain cumulative abnormal returns around relevant event dates?

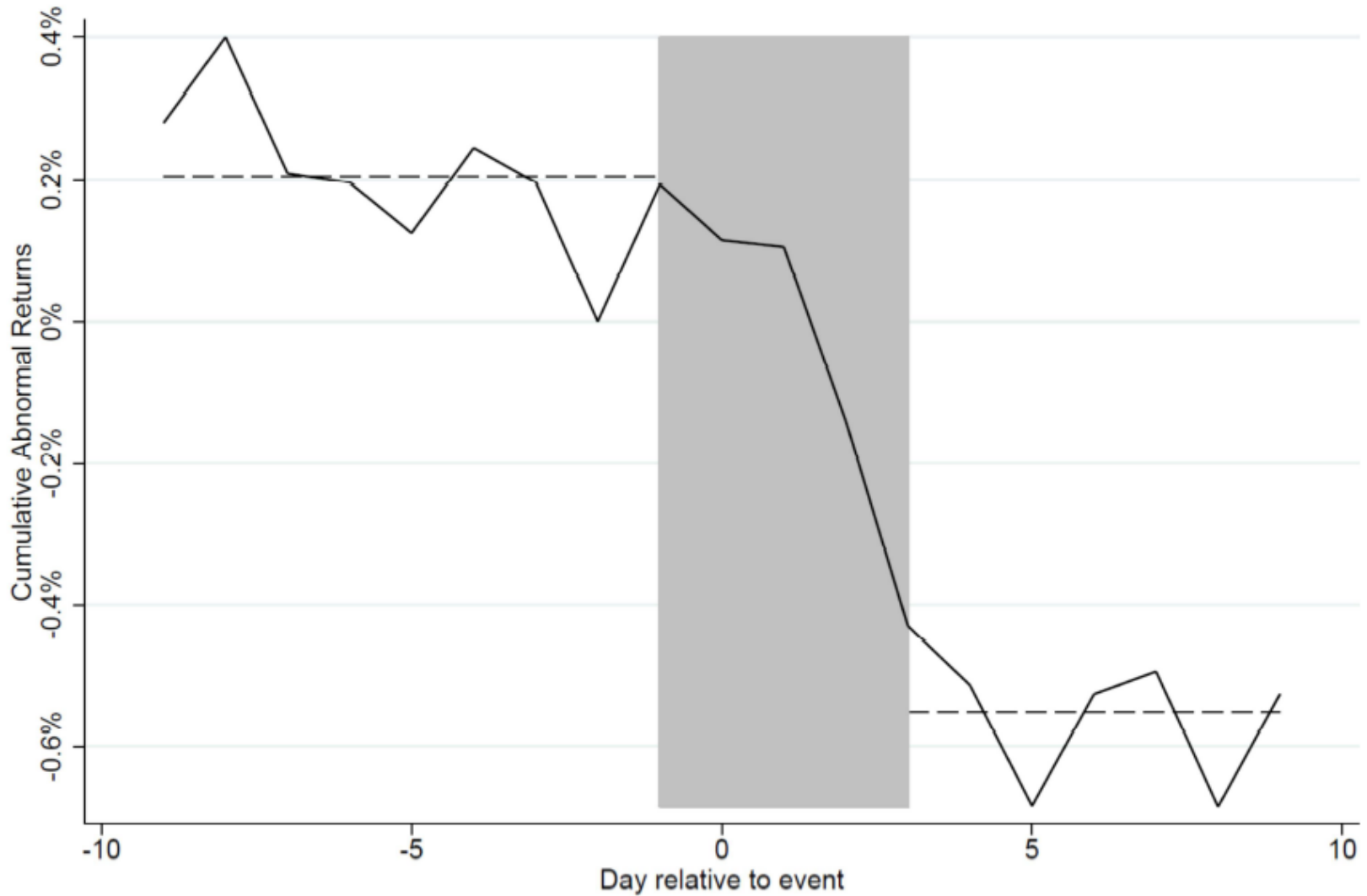
	(1)	(2)	(3)	(4)
Dependent variable	Raw Returns	Raw Returns	Alpha	Alpha
Has Panama Papers Exposure	-1.601*** (-2.89)	-0.999*** (-2.58)	-0.820* (-1.95)	-0.694*** (-2.62)
Size		-0.263*** (-3.23)		-0.055 (-0.56)
Country FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
<i>N</i>	23,540	23,540	23,540	23,540
Adj. R2	0.167	0.170	0.094	0.094

- Firms with link to leaked data lose 0.7% in firm value ~ US\$135bn

# Main Result—Additional Evidence/Robustness

- Secret vs. observable offshore activities
  - » Some activities revealed by the leak were potentially observable (e.g., a firm's subsidiary was incorporated by Mossack Fonseca [MF])
  - » Other activities were likely secret (e.g., a firm's director is officer of a MF firm)
  - » Find: negative effect of the leak on firm value is driven by secret activities
- Panama Papers exposure vs. Tax Haven exposure
  - » Negative effect on exposed firms may merely reflect shock to tax haven firms in general
  - » Find: negative effect of the leak on exposed firms goes beyond tax haven effect
- Standard event study robustness tests
  - » 3- and 5-factor models (local, global)
  - » Matching by industry, country and size
  - » Portfolio approach
  - » Fama-McBeth approach

# Main Result—Additional Evidence/Robustness



# Agenda

- Event
- Methodology
- Data
- Main result
- **Channels**
  - » Benefits(\*) of using offshore shelters
  - » Costs(\*) of using offshore shelters
- Discussion

(\*)for firm value

# Benefits of using offshore shelters

- Financing corruption
  - » **Measure** likelihood of meeting corrupt government official by *firms' exposure to perceptively corrupt countries* (Transparency International's CPI)
  - » **Find:**
    - Firms exposed to the Panama Papers & perceptively corrupt countries have more negative share price response
    - These firms lose sales from perceptively corrupt countries
- Aggressively avoiding taxes
  - » **Measure** tax aggressiveness by the *statutory tax rate less the effective tax rate after controlling* for ROA, industry, and country fixed effects
  - » **Find:**
    - Tax aggressive firms exposed to the Panama Papers have more negative share price response
    - These firms become less tax aggressive

# Financing corruption: Stock price response

- Are offshore vehicles used to finance corruption?

	(1)	(2)	(3)	(4)	(5)	(6)
Corruption Variable	Political 1 <sup>st</sup> Layer Exposure			Corruption Exposure (most corrupt tercile)		
<i>Has PPE</i>		-0.371 (-1.64)	-0.384* (-1.69)		-0.134 (-0.62)	-0.213 (-0.92)
Corruption Variable	-0.958** (-2.07)		-0.121 (-0.63)	-0.497 (-1.16)		-0.454** (-2.39)
Interaction		-0.998** (-2.41)	-0.893** (-2.36)		-1.252*** (-3.18)	-0.881** (-2.30)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
N	397	23,540	23,540	396	23,479	23,479
Adj. R2	0.184	0.094	0.094	0.181	0.094	0.094

- Firms exposed to the Panama Papers and perceptively corrupt countries are more negatively affected by the leak

# Financing corruption: Real implications

- Do firms implicated by the leak lose sales in perceptively corrupt regions?

LHS	(1) Revenue from 1 <sup>st</sup> layer countries (Log)	(2) # Subsidiaries in 1 <sup>st</sup> layer countries (Log)	(3) Has subsidiary in 1 <sup>st</sup> layer countries (1/0)	(4) (Revenue from most corrupt tercile (Log)	(5) # Subsidiaries in most corrupt tercile (Log)	(6) Has subsidiary in most corrupt tercile (1/0)
Treated * Has PPE	-0.053*** (-4.18)	-0.010*** (-5.82)	-0.007*** (-3.02)	-0.056** (-1.97)	-0.005 (-1.41)	-0.002 (-0.34)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N Observations	72,102	72,102	72,102	72,102	72,102	72,102
N Firms	7,538	7,538	7,538	7,538	7,538	7,538
Adj. R <sup>2</sup>	0.91	0.954	0.95	0.941	0.986	0.983

- Firms exposed to the Panama Papers and perceptively corrupt countries lose sales and become less active in perceptively corrupt countries



# Tax aggressiveness : Stock price response

- Are offshore vehicles used for aggressive tax avoidance?

	(1)	(2)	(3)	(4)	(5)	(6)
Tax Variable	Tax Aggressiveness (constructed without FE)			Tax Aggressiveness (constructed with FE)		
Has <i>PPE</i>		-0.518* (-1.80)	-0.519* (-1.80)		-0.529* (-1.84)	-0.532* (-1.85)
Tax Variable	-2.518*** (-2.98)		0.231 (1.23)	-2.493*** (-2.99)		0.233 (1.28)
Interaction		-1.640*** (-2.71)	-1.855** (-2.51)		-1.672** (-2.23)	-1.890** (-2.18)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	310	15,818	15,818	310	15,818	15,818
Adj. R <sup>2</sup>	0.180	0.112	0.112	0.180	0.112	0.112

- Tax aggressive firms exposed to the Panama Papers are more negatively affected by the leak

# Tax aggressiveness: Real implications

- Do firms implicated by the leak become less tax aggressive?

LHS	(1) Tax Aggressiveness (constructed without FE)	(2) Tax Aggressiveness (constructed with FE)
Treated * Has PPE	-0.059*** (-4.80)	-0.044*** (-3.28)
Firm FE	Yes	Yes
Fiscal Year Fixed Effects	Yes	Yes
N Observations	51,044	51,044
N Firms	9,163	9,163
Adj. R <sup>2</sup>	0.220	0.275

- Tax aggressive firms exposed in the Panama Papers become less tax aggressive

# Costs of using offshore shelters

- Cost: Expropriation / lack of transparency
  - » **Measure** likelihood of expropriation using firm-level governance and country-level expropriation measures
  - » **Find:**
    - low-governance firms and firms in high-expropriation countries have more negative share price response
    - Too early to provide evidence on changes in firm-level governance

# Firm-level governance

- Is the data leak beneficial to weakly governed firms?

	(1)	(2)	(3)	(4)	(5)
Governance Variable	Foreign Institutional Ownership	Governance	Has Sponsored ADR	Has Un-sponsored ADR	Has U.S. Subsidiary
Has <i>PPE</i>	0.317 (0.70)	-0.085 (-0.14)	-0.503* (-1.82)	-0.751** (-2.57)	-0.076 (-0.23)
Governance Variable	-1.762 (-1.37)	1.279** (2.36)	-0.614*** (-3.10)	-0.395 (-1.13)	-0.404*** (-3.73)
Interaction	-6.097** (-2.44)	-8.848*** (-4.37)	-0.819** (-1.98)	0.344 (0.73)	-1.420** (-2.46)
Controls	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
<i>N</i>	17,758	2,696	23,540	23,540	23,540
Adj. $R^2$	0.105	0.106	0.094	0.094	0.094

- Yes, weakly governed firms are less adversely affected by the leak

# Country-level

- Is the data leak beneficial to weakly governed firms?

	(1)	(2)	(3)	(4)	(5)
	Weak Property Rights	Low ICRG	Weak Rule of Law	Weak Minority Shareholder Protection	LN(GDP per capita)
	Dummy	Dummy	Dummy	Dummy	Dummy
Has <i>PPE</i>	-1.021*** (-4.75)	-0.937*** (-4.67)	-0.978*** (-4.44)	-2.883** (-2.46)	-0.685 (-1.49)
Interaction	2.551*** (3.29)	1.677* (1.84)	1.846** (2.13)	4.531*** (4.04)	-0.037 (-0.06)
Controls	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
<i>N</i>	22,009	23,486	23,484	4,756	23,486
Adj. R <sup>2</sup>	0.095	0.094	0.094	0.138	0.094

- Yes, weakly governed firms are less adversely affected by the leak

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# Discussion

- Corporations use offshore vehicles
  - » Identify 397 firms as users of offshore vehicles
  - » 313 of the 397 users conduct previously unknown offshore activities
  - » This is likely the tip of the ice berg
    - E.g. Mossack Fonseca's market share is 5-10%, suggesting **13-26% of public firms use secret offshore vehicles**
- In this setting, use of offshore vehicles creates firm value overall
  - » Panama Papers leak destroys some of that value
  - » Channels:
    - Reduced future cash flows: Implicated firms lose sales in perceptively corrupt regions and become less tax aggressive
    - Fines for past (illegal) actions: Even implicated firms whose offshore vehicles are no longer active experience negative share price response
- Offshore service providers help violate sanctions—and offer a service firms are willing to pay for

# Discussion

- Panama Papers leak vs. other leaks
  - » LuxLeaks: legal tax avoidance (e.g., Nesbitt, Outslay & Persson 2016)
  - » Tax Information Exchange Agreements: expropriation through observable tax haven subsidiaries (Hanlon et al. 2015, Bennedsen & Zeume 2016)
  - » Detection of tax shelters by the press (Graham and Tucker 2006)
  - » Panama Papers: leak helps illuminate illegal offshore activities
- Real implications of the Panama Papers leak
  - » Tax evasion investigations against firms and individuals across the globe
  - » Anti-bribery investigations against firms across the globe
  - » Some firings of company officers implicated by the leak



## Summary

- Exploit Panama Papers leak on April 3, 2016 to identify 397 public firms that use secret offshore vehicles
- Firms linked to leaked data lose US\$135bn in value around event dates (0.7% of their market cap)
- Secret offshore shelters **help finance corruption and be tax aggressive**—this creates firm value
- Secret offshore shelters **help expropriate shareholders**—this destroys firm value