

Income Diversion, Corporate Governance and Firm Value

**Juan Pedro Gomez and Maxim Mironov
IE Business School**

WCGI

Oslo, October 2014

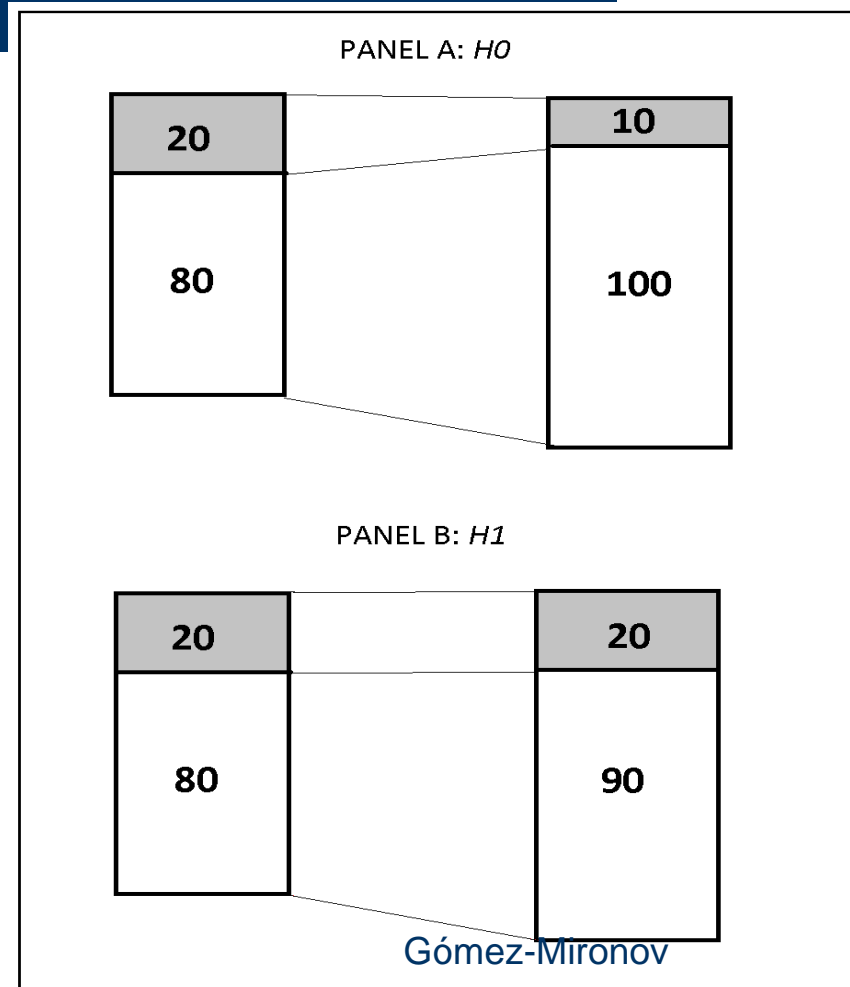


Motivation

- We know that firm value and corporate governance are related
 - Yermack (1996), Gompers, Ishii, and Metrick (2003), Cremers and Nair (2005), Chhaochharia and Grinstein (2007)
- We don't know why

Research Question 1

- One channel of firm value increase is reduction in private benefits



Research Question 2

- Effect of different instruments of corporate governance
 - External instruments (Listing, cross-listing)
 - Internal instruments (Board composition)
- Why?
 - Management has discretion over internal instruments

Preview of Results

- Listing and cross-listing are negatively related to income diversion
- Audit, board size and board composition are not correlated with income diversion
 - Though they are related to firm value
- Limitation: endogeneity
 - It might be causal effect
 - It is also might be a signaling story

Banking Transaction Data

- Contains 75%-80% of ALL banking transactions done by Russian companies in 1999-2004
- Leaked from Russian Central Bank
- Matched to Russian Compustat to have detailed firm characteristics

Example of 2 Transactions

- On 01.26.2004 Gazprom paid
 - 538 million RUR (\$18 million)
 - to Trubniy Torgoviy Dom,
 - payment for pipes for YamalGazInvest
- On 07.09.2003 Rosneft paid
 - 637 RUR (\$21)
 - to Selivanovskaya Voda
 - rent payment for a water cooler

12.04 - [Просмотр 1 ((15035598) Запрос 1: Платежки)]

Банк Вид Обработка Проектирование Записи Результаты Параметры Окна Помощь

System number **Order number** **Date** **Sum** **Payer** **Recipient**

Системный номер	Номер платежки	Дата платежа	Сумма	Клиент	Корреспондент
15035616	619	01.12.2004	588674654	ОАО "ВолгаТелеком".	ОЧО ДГИ, реф 07000
15035617	522	01.12.2004	1881979635	Некоммерческое	Банк внешнеэконом
15035618	321	01.12.2004	239663	ИНН 7814108165 000	ООО "Джи и Сервис-
15035619	263	01.12.2004	3296000	Закрытое акционерное	ООО "МЕДИПАЛ-ОН
15035620	720	01.12.2004	532787	"НОМОС-БАНК" (ЗАО)	ВНЕШЭКОНОМБАНК
15035621	750	01.12.2004	1688976	Бюль С.А.	Министерство финан
15035622	628	01.12.2004	756000	ООО ФИРМА "РЕСТАРТ"	ООО "МЕДИПАЛ-ОН
15035623	256	01.12.2004	20000000	ОАО	ЗАО "Росэнерго "

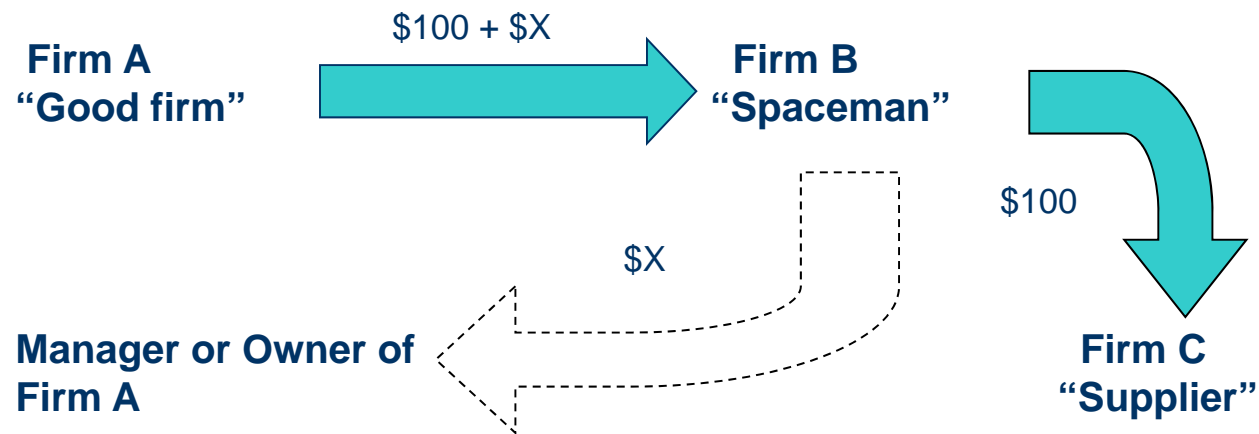
Payment description

N	Тип	Название поля	Значение
0	17	Системный номер	15035616
1	ab	Номер платежки	619
2	9	Дата платежа	01.12.2004
3	17	Сумма	588674654
6	ab	Клиент	ОАО "ВолгаТелеком".
7	ab	Корреспондент	ОЧО ДГИ, реф 070006/ДО Главное Управление
12	ab	Назначение платежа	Погашение просроченной суммы долга по долг.
9	4	Реквизиты клиента	РК 30188379
10	4	Реквизиты корреспондента	РК 30342280

We Identify Spacemen to Measure Income Diversion

- “Spaceman” – colloquial name for a special purpose entity created for income diversion
- Typical spaceman
 - Is registered in the names of people who lost their IDs or homeless people
 - Has an active life around 0.5 - 2 years
 - Does not pay taxes or pays nominal taxes
 - Has 1 employee (director) with no salary or which has a salary equal to minimum wage

Income Diversion Using Spacemen



- $\$X$ is diverted income
- Spaceman comes from nowhere and disappears in 1, maximum 2 years (flies back to space)
- Spacemen are specially created for income diversion and tax evasion. Typically, formal owners of spacemen are people who lost their government issued IDs

Income Diversion by Top Companies, \$000's

Name	1999	2000	2001	2002	2003	2004	Total
Lukoil	.	\$3,134,821	\$3,647,323	\$263,772	\$228,527	\$174,024	\$7,448,467
Gazprom	\$54,278	\$107,446	\$141,176	\$141,459	\$587,887	\$1,152,517	\$2,184,763
Severstal	\$73,649	\$147,183	\$177,769	\$53,926	\$94,647	\$360,786	\$907,959
Norilsk Nickel	.	.	\$443,168	\$80,928	\$20,724	\$76,340	\$621,160
NLMK	\$27,625	\$43,348	\$38,356	\$47,563	\$121,348	\$78,177	\$356,417
Tatneft	.	\$72,253	\$42,344	\$97,873	\$100,554	\$29,105	\$342,130
TNK	.	.	.	.	\$89,691	\$191,880	\$281,572
Sidanko	.	\$73,684	.	\$171,136	\$7,193	.	\$252,013
Yukos	.	\$73,233	\$74,505	\$40,260	.	.	\$187,998
Rosneft	.	.	.	.	\$60,458	\$127,281	\$187,740
Mosenergo	\$1,511	\$6,346	\$16,322	\$6,587	\$75,771	\$18,433	\$124,970
Mikhailovsky GOK	\$1,359	\$6,443	\$2,039	\$1,467	\$33,264	\$79,345	\$123,917
Udmurneft	.	\$4,003	\$9,660	\$513	\$38,665	\$56,004	\$108,845
Rusal	\$5,482	.	\$49,889	\$12,962	\$14,769	\$25,124	\$108,225
Rosneft-Purneftegaz	.	\$23,394	\$14,735	\$4,022	\$13,550	\$25,376	\$81,076

Three Measures of Diversion

$$\textit{Shadow Payment} = \frac{\textit{Net Transfer to Spacemen}}{\textit{Payments}}$$

$$\textit{Shadow Assets} = \frac{\textit{Net Transfer to Spacemen}}{\textit{Assets}}$$

$$\textit{Shadow Revenue} = \frac{\textit{Net Transfer to Spacemen}}{\textit{Revenue}}$$

Summary Statistics of Diversion Measures

	Mean	Median	St. dev.	N of obs	N of firms
Panel A. Summary statistics for entire sample					
ShadowR	0.018	0.008	0.024	687	156
ShadowA	0.017	0.006	0.024	687	156
ShadowP	0.027	0.017	0.029	687	156
Panel B. Summary statistics for publicly traded companies					
ShadowR	0.016	0.007	0.022	441	112
ShadowA	0.015	0.006	0.022	441	112
ShadowP	0.024	0.015	0.027	441	112
Panel C. Summary statistics for companies with ADR					
ShadowR	0.013	0.009	0.015	45	13
ShadowA	0.009	0.005	0.013	45	13
ShadowP	0.018	0.009	0.024	45	13

Summary Statistics of Corporate Governance and Financials

	Mean	Median	St. dev.	N of obs	N of firms
Panel A. Summary statistics for entire sample					
Revenue, \$000's	\$ 683,707	\$ 143,075	\$ 2,239,771	687	156
Assets \$000's	\$ 1,287,107	\$ 174,493	\$ 6,499,900	687	156
Bank receipts \$000's	\$ 683,841	\$ 53,513	\$ 3,272,284	687	156
EBITDA, \$000's	\$ 143,542	\$ 8,560	\$ 578,406	682	156
EBITDA / Revenue	0.166	0.138	0.131	682	156
Debt / Assets	0.165	0.117	0.155	687	156
Publicly traded	0.642	1.000	0.480	687	156
ADR	0.073	0.000	0.260	687	156
Audit by Big 5	0.182	0.000	0.386	687	156
Board size	8.454	8.000	2.646	687	156
Ceo ownership	0.016	0.000	0.063	678	154
Ceo on board	0.833	1.000	0.374	687	156
Foreigner on board	0.146	0.000	0.353	687	156
Government ownership>20%	0.277	0.000	0.448	687	156

Summary Statistics of Corporate Governance and Financials (2)

	Mean	Median	St. dev.	N of obs	N of firms
Panel B. Summary statistics for publicly traded companies					
Revenue, \$000's	\$ 902,844	\$ 236,726	\$ 2,561,853	441	112
Assets \$000's	\$ 1,543,897	\$ 281,691	\$ 6,837,458	441	112
Bank receipts \$000's	\$ 930,083	\$ 91,119	\$ 3,965,770	441	112
EBITDA, \$000's	\$ 187,715	\$ 13,848	\$ 666,867	440	112
EBITDA / Revenue	0.168	0.138	0.130	440	112
Debt / Assets	0.172	0.124	0.155	441	112
ADR	0.102	0.000	0.303	441	112
Market cap	\$ 1,159,014	\$ 69,000	\$ 4,771,502	441	112
Tobin Q	0.920	0.855	0.496	441	112
Audit by Big 5	0.243	0.000	0.429	441	112
Board size	8.916	8.000	2.678	441	112
Ceo ownership	0.010	0.000	0.040	436	111
Ceo on board	0.823	1.000	0.382	441	112
Foreigner on board	0.159	0.000	0.366	441	112
Government ownership>20%	0.315	0.000	0.465	441	112

Summary Statistics of Corporate Governance and Financials (3)

	Mean	Median	St. dev.	N of obs	N of firms
Panel C. Summary statistics for companies with ADR					
Revenue, \$000's	\$ 4,235,368	\$ 1,072,100	\$ 6,710,728	45	13
Assets \$000's	\$ 9,199,321	\$ 1,779,458	\$ 19,685,980	45	13
Bank receipts \$000's	\$ 4,603,213	\$ 669,044	\$ 10,182,055	45	13
EBITDA, \$000's	\$ 1,061,749	\$ 244,233	\$ 1,677,518	45	13
EBITDA / Revenue	0.286	0.287	0.136	45	13
Debt / Assets	0.176	0.175	0.125	45	13
Market cap	\$ 7,215,699	\$ 1,677,592	\$ 12,764,289	45	13
Tobin Q	1.168	1.039	0.625	45	13
Audit by Big 5	0.622	1.000	0.490	45	13
Board size	9.600	10.000	2.209	45	13
Ceo ownership	0.004	0.001	0.013	45	13
Ceo on board	0.844	1.000	0.367	45	13
Foreigner on board	0.356	0.000	0.484	45	13
Government ownership>20%	0.400	0.000	0.495	45	13

Hypotheses Tested

H0: Better governance is positively associated to higher firm market value through the total or partial transfer of the private benefits to minority shareholders. In this scenario, governance mechanisms are negatively correlated with income diversion and, simultaneously, positively correlated with the firm's operating margin.

Hypotheses Tested (2)

H1: Better governance is positively associated to higher firm market value through channels unrelated to the mitigation of income diversion. In this scenario, value-enhancing governance mechanisms are uncorrelated with income diversion and, possibly, positively correlated with the firm's operating margin.

Tobin Q and Corporate Governance

Dependent var:	Tobin Q						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ADR	0.1481 (0.1629)						0.0393 (0.1167)
Audit by big 5		0.2499 (0.0969)***					0.2397 (0.0815)***
Foreigner serves on board			0.3596 (0.136)***			0.3573 (0.1273)***	0.3491 (0.1197)***
Log (Board size)				-0.2230 (0.1537)		-0.2029 (0.1429)	-0.2049 (0.1391)
Ceo on board					-0.1130 (0.0753)	-0.0914 (0.0692)	-0.0923 (0.0657)
Owned by government	-0.267 (0.077)***	-0.266 (0.071)***	-0.242 (0.08)***	-0.245 (0.079)***	-0.260 (0.078)***	-0.218 (0.079)***	-0.220 (0.073)***
Log(Revenue)	0.0684 (0.0282)**	0.0538 (0.0262)**	0.0570 (0.0259)**	0.0926 (0.0311)***	0.0801 (0.0287)***	0.0695 (0.0277)**	0.0425 (0.0256)*
Debt/Assets	0.5957 (0.2001)***	0.4835 (0.1941)**	0.6192 (0.1911)***	0.6112 (0.2037)***	0.5961 (0.2032)***	0.6234 (0.1931)***	0.5083 (0.1865)***
Year dummy	Y	Y	Y	Y	Y	Y	Y
R-sq	0.197	0.229	0.255	0.204	0.197	0.274	0.312
Number of obs	441	441	441	441	441	441	441
Number of firms	112	112	112	112	112	112	112

Income Diversion and Corporate Governance

Dependent var:	ShadowR							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Publicly traded	-0.0063 (0.0028)**	-0.0063 (0.0028)**						-0.0070 (0.0029)**
ADR		-0.0052 (0.0033)						-0.0077 (0.0039)**
Audit by big 5			0.0039 (0.0036)					0.0050 (0.0035)
Foreigner serves on board				0.0048 (0.0034)			0.0052 (0.0034)	0.0053 (0.0033)
Log (Board size)					0.0040 (0.0041)		0.0048 (0.0042)	0.0062 (0.0042)
Ceo on board						-0.0017 (0.0028)	-0.0021 (0.0028)	-0.0019 (0.0027)
Owned by government	-0.0040 (0.0029)	-0.0038 (0.0029)	-0.0046 (0.0029)	-0.0041 (0.003)	-0.0051 (0.003)*	-0.0045 (0.003)	-0.0047 (0.003)	-0.0040 (0.003)
Log(Revenue)	0.0005 (0.0009)	0.0007 (0.001)	-0.0004 (0.001)	-0.0003 (0.001)	-0.0003 (0.001)	-0.0002 (0.001)	-0.0006 (0.001)	0.0001 (0.0011)
Revenue growth	-0.0092 (0.0055)*	-0.0092 (0.0055)*	-0.0090 (0.0057)	-0.0086 (0.0055)	-0.0081 (0.0056)	-0.0084 (0.0055)	-0.0076 (0.0054)	-0.0084 (0.0054)
Debt/Assets	0.0280 (0.0079)***	0.0279 (0.0079)***	0.0264 (0.0084)***	0.0274 (0.008)***	0.0276 (0.0082)***	0.0275 (0.0082)***	0.0270 (0.0081)***	0.0256 (0.0081)***
Year dummy	Y	Y	Y	Y	Y	Y	Y	Y
R-sq	0.067	0.070	0.058	0.060	0.057	0.055	0.064	0.087
Number of obs	627	627	627	627	627	627	627	627
Number of firms	0	156	156	156	156	156	156	156

EBITDA Margin and Corporate Governance

Dependent var:	EBITDA margin						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Publicly traded	-0.0128 (0.016)	-0.0179 (0.0162)	-0.0126 (0.0169)	-0.0138 (0.0165)	-0.0129 (0.0168)	-0.0136 (0.0164)	-0.0170 (0.0155)
ADR	0.1296 (0.0348)***						0.1033 (0.0359)***
Audit by big 5		0.0866 (0.0247)***					0.0694 (0.0248)***
Foreigner serves on board			0.0313 (0.023)			0.0320 (0.0237)	0.0197 (0.0193)
Log (Board size)				0.0088 (0.0265)		0.0102 (0.0264)	0.0047 (0.0238)
Ceo on board					0.0141 (0.0142)	0.0137 (0.0137)	0.0139 (0.0125)
Owned by government	-0.027 (0.017)	-0.024 (0.018)	-0.020 (0.019)	-0.023 (0.019)	-0.023 (0.019)	-0.021 (0.02)	-0.027 (0.017)
Log(Revenue)	0.0100 (0.0048)**	0.0103 (0.0053)*	0.0147 (0.0053)***	0.0155 (0.0055)***	0.0159 (0.0053)***	0.0144 (0.0054)***	0.0059 (0.005)
Debt/Assets	-0.1247 (0.047)***	-0.1581 (0.044)***	-0.1261 (0.0479)***	-0.1249 (0.0484)***	-0.1233 (0.0476)***	-0.1243 (0.0476)***	-0.1502 (0.0432)***
Year dummy	Y	Y	Y	Y	Y	Y	Y
R-sq	0.141	0.138	0.089	0.082	0.084	0.091	0.179
Number of obs	682	682	682	682	682	682	682
Number of firms	156	156	156	156	156	156	156

Main challenge

- How to deal with endogeneity?
 - Small sample (in observations and years)
 - No exogenous shock
- Heckman self-selection correction?
- Any alternatives?

Conclusion

- We measure income diversion for 156 large corporations
- An average company diverts
 - 1.8% of revenue per year
 - 1.7% of assets per year
- External governance mechanisms and income diversion are negatively related:
 - Listing and cross-listing
- Internal governance mechanisms are not correlated with income diversion
 - Audit, board composition