

Cartels and Ownership Concentration

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Controlling Shareholders in Cartels

The Case of Goldman Sachs

European Commission (EC) 2014

Prysmian fined EUR104.6 million by EU antitrust regulators in 2014 for participating in a cable makers cartel. Penalty included a joint fine of EUR37.3 million euros with Goldman Sachs, acquired Italian company via its private equity funds in 2005.

Court of Justice of the European Union (CJEU) 2018

“The General Court did not err in law in finding that, in the present case, the Commission was entitled to rely on a presumption of actual exercise of decisive influence in order to establish the appellant’s liability for the infringement at issue in relation to the pre-IPO period,” CJEU (2018).

Source: Reuters (Jan 27, 2021)

Literature

- Reynolds and Snapp (1986)
- Farrell and Shapiro (1990)
- Flath (1991)
- Malueg (1992)
- Reitman (1994)
- Gilo (2000)
- Gilo, Moshe, and Spiegel (2006)
- Heim, Hüschelrath, Laitenberger, Spiegel (2021)

Data Overview (1997-2014)

- Uncovered and Convicted Cartels in European Union from 1964 to 2011
- Average duration 4 years (Bryant and Eckard (1991), Levenstein and Suslow (2006) and Combe et al. (2008))
- Duration of the cartel (Pre-, during and post-cartel period)
- 72 Firm observation (63 after correcting for missing observations)
- Firms from 17 different countries (Most frequent countries US and Japan about 20%, Germany (11%) and France (7%), remaining below 5%)
- OECD Sector Manufacturers of consumer goods and manufacturers of industrial products (Carree, Günster and Schinkel (2010)), Transport, Banking, Energy and Electricity

Cartel Types

	Mean	Median	Min.	Max.	Std. Dev.	# Obs.
Year of formation	1992	1992	1983	2004	5.37	67
Year of termination	1999	1999	1988	2006	4.24	67
Duration (years)	7.45	6	1	21	4.66	67
Number of firms	9.82	7	2	42	7.95	67
Number of firms in sample	3.72	3	0	10	2.57	67
Ringleader identified	0.21	0	0	1	0.41	67
Only European firms	0.48	0	0	1	0.50	67
International	0.48	0	0	1	0.50	67
Only non-European firms	0.04	0	0	1	0.21	67
Price fixing	0.46	0.5	0	1	0.30	67
Market sharing	0.34	0.3	0	1	0.32	67
Information exchange	0.13	0	0	0.5	0.19	67
Standard setting & advertising	0.04	0	0	0.5	0.12	67
Bid rigging	0.01	0	0	0.25	0.05	67
Export	0.01	0	0	1	0.12	67

Cartel - Industry and Geographic Scope

	Mean	Median	Min.	Max.	Std. Dev.	# Obs.
Chemicals	0.25	0	0	1	0.44	67
Plastics, rubber & glass	0.27	0	0	1	0.45	67
Food & drinks	0.12	0	0	1	0.33	67
Metal products & engineering	0.19	0	0	1	0.40	67
Transportation	0.10	0	0	1	0.31	67
Banking	0.04	0	0	1	0.21	67
Electricity & gas	0.01	0	0	1	0.12	67
National market	0.10	0	0	1	0.31	67
European market	0.79	1	0	1	0.41	67
Global market	0.10	0	0	1	0.31	67

Shareholder Information

- Worldscope (Thomson One)
- Main source of Thomson official are SEC filings (20F, 13D, 13F)
 - ① 20F form with SEC by foreign private issuers of securities in US
 - ② 13D schedule is called beneficial ownership report ($> 5\%$ ownership)
 - ③ 13F schedule requirement for institutional investment manager (financial institutions $\geq \$100mio$)
- Firms included if at least 20% of shares identifiable
- Worldscope lists different investor types
- Worldscope starts 1997
- 31 cartels remain with 645 firm-years observations

Controlling Shareholders

	Cartel	Pre-Cartel	Post-Cartel
Top 1	17.15%	13.68%	16.22%
Top 5	30.98%	25.92%	30.54%
Top 20	40.30%	33.50%	42.19%
HERF	7.34%	5.38%	6.59%
Active	6.38%	5.06%	7.37%
Corp.	15.72%	12.86%	15.02%
Indiv.	6.24%	9.88%	5.57%
Gov.	14.64%	4.61%	12.15%
Passive	12.62%	13.03%	14.12%
ROA	4.27%	2.81%	4.34%
Total Assets (in million USD)	29052.41	24820.89	37145.56
Tobin's Q	0.998	1.114	0.907

Methodology

- Panel data fixed effects cross-section (firm level)
- Fixed effects time (calendar years)
- Take out all firm and year heterogeneity
- Dummy (trend) variable identifying cartel stage
- Restrict sample to 5 years before and after the cartel
- Worldscope (Thomson One Banker) Shares Controlling Shareholder

Cartels Controlling Shareholders

Variable	Top1	Top5	Top20
PreCartel	-3.064 (2.044)	-4.432* (2.591)	-3.589 (2.827)
Carteltrend	-1.078** (0.555)	-2.098*** (0.705)	-2.341*** (0.769)
Cartel*Firms	-0.134 (0.137)	-0.244 (0.175)	-0.185 (0.191)
PostCartel	-5.676** (2.560)	-10.342*** (3.244)	-10.327*** (3.540)
Year Fixed Effects	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes
Number of Observations	640	640	640
R ²	0.780	0.735	0.725
Adj. R ²	0.748	0.698	0.687

Note: *, ** and *** indicate significance at 10%, 5% and 1% significance levels, respectively. We estimate a Tobit model censoring left at 0.

Standard Errors are in Parenthesis.

Cartels Controlling Shareholders Type

Variable	Corporation	Active
PreCartel	-4.606* (2.827)	0.981 (0.840)
CartelTrend	-2.215*** (0.773)	-0.436** (0.232)
Cartel*Firms	-0.179 (0.192)	0.029 (0.056)
PostCartel	-9.448*** (3.664)	-1.542 (1.048)
Year Fixed Effects	Yes	Yes
Firm Fixed Effects	Yes	Yes
Number of Observations	502	563
R ²	0.793	0.909
Adj. R ²	0.762	0.896

Note: *, ** and *** indicate significance at 10%, 5% and 1% significance levels, respectively. We estimate a Tobit model censoring left at 0. Standard Errors are in Parenthesis.

Cartels, Controlling Shareholders Type and Profits

Variable	Tobin's Q	ROA	ROA (Top 1)	ROA (Top 5)	ROA (Top 20)
PreCartel	-5.04 (6.01)	-1.37 (1.89)	-1.40 (2.49)	-0.20 (2.63)	0.29 (2.74)
Carteltrend	-3.75** (1.62)	-0.15 (0.49)	-0.45 (0.65)	-0.52 (0.65)	-0.54 (0.65)
Cartel*Firms	0.09 (0.40)	0.02 (0.14)	-0.03 (0.18)	-0.02 (0.18)	-0.04 (0.18)
PostCartel	-15.42** (7.48)	-1.26 (2.26)	-1.07 (2.91)	-0.05 (3.02)	0.37 (3.10)
Top 1, 5, 20 or H			-0.08 (0.05)	-0.07 (0.04)	-0.06 (0.04)
Cartel*Top 1, 5, 20 or H			0.10** (0.05)	0.10** (0.04)	0.09** (0.04)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	640	640	640	640	640
R ²	0.747	0.314	0.307	0.309	0.309
Adj. R ²	0.712	0.221	0.202	0.204	0.204

Note: *, ** and *** indicate significance at 10%, 5% and 1% significance levels, respectively. We estimate a Tobit model censoring left at 0. Standard Errors are in Parenthesis.

Total SA (Hydrogen/Methacrylates Cartel) - Example 1

Cartel	Top1	Top2	Top3	Top4	Top5
No	Areva SA	Total Employees	Société Générale	BNP Paribas	Allianz Global
No	Areva SA	NPM/CNP	Total Employees	GDF Suez SA	Electrabel NV
Yes	Total Employees	NPM/CNP	Electricite de France	Areva SA	BNP Paribas
Yes	Total Employees	Electricite de France	Areva SA	Ecureuil Gestion	Deka Investment
Yes	JPMorgan	Total Employees	Ecureuil Gestion FCP	Areva SA	Deka Investment
No	NPM/CNP	Total Employees	Areva SA	Natixis	Ecureuil Gestion FCP
No	Total Employees	Groupe Bruxelles Lambert	CM-CIC	Natixis	Amundi

Qantas (Air Cargo Cartel): Example II(a)

Cartel	Top1	Top2	Top3	Top4	Top5
No	British Airways	BT Investment	Capital R&M	MLC Investment	AMP Capital
Yes	British Airways	Capital R&M	DWS Investments	Capital International	AMP Capital
Yes	British Airways	Principal Mutual	Capital International	AMP Capital	QIC
Yes	British Airways	QIC Limited	AMP Capital	ING Investment.	BT Investment
Yes	British Airways	Capital International	Capital International	QIC Limited	AMP Capital
Yes	Capital R&M	Capital International	AMP Capital Investors	Capital International	Capital Guardian Trust
Yes	Capital R&M	Capital International	Templeton	Capital Guardian Trust	Franklin Templeton
No	Capital R&M	BlackRock	Templeton	Capital International	Capital Guardian

British Airways (Air Cargo Cartel): Example II(b)

Cartel	Top1	Top2	Top3	Top4	Top5
No	Franklin Templeton.	Legal & General Investment	Scottish Widows	Standard Life Investments	BlackRock Advisors
Yes	Franklin Templeton	Capital R&M	BlackRock	Standard Life Investments	Legal & General Investment
Yes	Capital R&M	Franklin Templeton	Management (Global)	Fidelity	F&C Asset Management
Yes	Capital R&M	Capital International	Franklin Templeton	Wellington Management	BlackRock
Yes	Wellington Management	Franklin Templeton	Capital International Ltd.	BlackRock	BlackRock
Yes	Franklin Templeton	Capital International Ltd.	BlackRock	Legal & General Investment	Wellington Management
Yes	BlackRock	Goldman Sachs	Franklin Templeton	Capital World Investors	Legal & General Investment
No	INVESCO	BlackRock	Goldman Sachs	Standard Life Investments	JPMorgan

SAS, Singapore Airlines, Cathay Pacific are additional listed cartel members

Alstom (Power Transformer Cartel): Example III

Cartel	Top1	Top2	Top3	Top4	Top5
No	Marconi Plc	Alcatel Lucent	DWS	Alstom Employees	Société Générale
Yes	Marconi Plc	Alcatel Lucent	Société Générale	BNP Paribas	Amundi Asset
Yes	Marconi Plc	Alcatel Lucent	Franklin Mutual	Alstom Employees	Société Générale
Yes	Franklin Mutual	Amundi Asset	Alstom Employees	Generali	Natexis
Yes	Franklin Mutual	Amundi Asset	Alstom Employees	Generali	Natexis
No	NA	NA	NA	NA	NA
No	Government of France	Universal-Investment	Natexis	Allianz	BNP Paribas

ENI (Electricity Cartel): Example IV

Cartel	Top1	Top2	Top3	Top4	Top5
No	Italian Government	Allianz	PIM	CAAM SGR	Arca SGR
Yes	Italian Government		Eurizon Capital	Arca SGR.	CAAM SGR S.p.A.
Yes	Italian Government	Pioneer Investment Management (PIM)	CAAM SGR	Eurizon Capital.	Arca SGR.
Yes	Italian Government		BlackRock.	Deka Investment	Deutsche Asset Management
Yes	Italian Government	Goldman Sachs	Deka Investment	PIM	Fideuram Investimenti.
Yes	Italian Government	Goldman Sachs	Deka Investment	CAAM SGR	UBS Global
Yes	Italian Government	Deka Investment	Union Investment	PIM	UBS Global
Yes	Italian Government	Capital R&M	Fidelity	PIM	Fidelity
No	Italian Government	Intesa Sanpaolo	Prima sgr	DWS.	Capital R&M

Butadine Rubber Cartel: Example V (I)

Butadine Rubber Cartel

ENI has also pointed to the fact that during the duration of the infringement, a significant part of Enichem's shares were controlled through other group companies (Agip and Snam) and this circumstance made the exercise of effective control even more difficult. This argument is not further substantiated and cannot be relevant, as the presumption of exercise of full control equally applies where a subsidiary is indirectly fully owned. It should also be observed that ENI kept direct control over the majority of Enichem's shares at all times.

Butadine Rubber Cartel: Example V (II)

Butadine Rubber Cartel

It also appears that the senior management of the parent and the subsidiary overlapped to a significant extent during the duration of the infringement, as both [deleted] and Mr [deleted] held senior executive positions on the boards of both Unipetrol and Kaucuk. [deleted] was also a member of Unipetrol's Supervisory Board during the period January – April 1999 and acted as Unipetrol's Project Manager between June 2002 and June 2003. Unipetrol's and Kaucuk's registered offices were also located at the same address at least from 1999 until 2002.

Butadine Rubber Cartel: Example V (III)

Butadine Rubber Cartel

In its reply to the Second Statement of Objections, Unipetrol has claimed that the nature of its shareholding in Kaucuk was purely financial, as Unipetrol was set up for the sole purpose of facilitating the privatisation process of a range of companies. This claim must be rejected since the mere fact of being a holding company would not, as such, be sufficient to rebut the presumption concerning its effective control over Kaucuk. The elements highlighted indicate, however, that the management of Kaucuk was far from being removed from the control of its parent company.

Preliminary Findings

- Significant relationship between controlling shareholders and cartel activity
- Decrease in the controllers' stake during the cartel with a drop at the end
- Corporations and active investors this pattern most strongly
- Reduction in stakes cannot be explained by decreasing profitability

Limitations

- Only uncovered cartels (sample selection)
- Only listed firms (sample selection)
- Causality
- Endogeneity
- Linear relationship, especially in FE

Future Research

- Networks of Controlling Shareholders
- List of Top Controlling Shareholders (e.g., Active and Industrial Investors)
- Matched sample of non-cartel firms ✓
- Decompose the trend ✓
- Extend the cartel set for US cases (Miller (2009)) ✓
- Probit on cartel formation to test for reversed causality
- Dynamic hazard on duration to test for reversed causality
- Estimation in differences
- Investor Identification (by name):
 - Identify crossholdings by other cartel members
 - Identify crossholdings in other cartel members by the same investor
 - Identify active investors (e.g., black roch, Goldman Sachs)